APPENDIX A – ENGINEERING LAYOUT

GENERAL NOTES

1. Do Not Scale.
2. The contractor is to check and verify all buildings and site dimensions all levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
3. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
4. This drawing is to be read in conjunction with and checked against all other drawings, Engineering Details, Specification and any structural, geotechnical or other specialist document provided.
5. Any anomaly or contradiction between any of the above is to be reported to GreenSquare Accord.
6. This drawing is schematic for clarity only, positions of pipes and manholes may vary due to site conditions.

ROAD AND SEWER ADOPTION NOTES

1. All works for adoption under a Section 38 agreement shall be carried out to the approval of Oxfordshire County Council.
2. All works for adoption under a Section 104 agreement shall be carried out to the National Water Council guide 'Sewers for Adoption' 8th edition and Thames Water requirements.
3. Streetlighting positions to be pegged on site and agreed by the Local Authority PRIOR to erection commencing.

DRAINAGE NOTES

1. All private drainage shall be in accordance with BS8301 and relevant sections of Approved Document H of the Building Regulations.
2. The contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs PRIOR to laying any pipes. Any discrepancies are to be reported to the Engineer
3. Private house drainage will be flexibly jointed plastic or clay pipework. Diameter 100mm unless shown otherwise.
4. All connections for House Drainage shall be 100mm unless noted otherwise and must extend 500mm behind the back of footway/homezone road. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.
5. For private drains where cover to pipes is less than 900mm in vehicular areas or 600mm in other areas protection in the form of a 100mm thick concrete pad shall be provided over the pipe granular surround.
6. Where pipes pass through screen walls, footings or retaining walls lintels are to be provided over. Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe.
7. Where drains do not exceed 600mm deep, plastic or clay access fittings minimum diameter 225mm shall be used. Elsewhere proprietary plastic or precast concrete inspection chambers shall be used. Unless shown otherwise FW inspection chambers are to be 750mm below dpc level and SW chambers and rodding eyes to be 600mm below dpc.
8. All gullies and rainwater downpipes connected directly to drains are to be roddable.
9. House levels shown are dpc and adjacent garage floors are to be 150mm lower unless shown otherwise. Levels at drainage access points are inverts.
10. Drainage runs should be laid at a minimum of 5.0m form the rear of properties where practical to allow for future extensions.
11. All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical trial holes or other means of identifying the line and level of services shall be carried out prior to works commencing.
12. All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.
13. All low spots on hardstanding areas to have yard gullies/ACO.

LEGEND

- Foul Water Sewer/Lateral Drain (adoptable)
- Foul Water Manhole (adoptable)
- Adopted Foul Water Sewer (existing)
- 134.50 — Building D.P.C. Level
- 135.50 — Proposed Finished Ground Level
- 450dB — Additional Underbuild (below d.p.c. as shown)
- 300RW — Retaining Wall - (Height shows difference in levels - finished level at bottom and top).
- 04S — Steps (to be Part M Compliant)
- Porous Paving (adoptable under S38)
- Porous Paving (private drive)
- Porous Paving (private parking bays)
- Impermeable no-dig footway construction (adoptable under S38)
- Cellular Storage System
- RE| — Private Surface Water Rodding Eye
- C (SP) — ø450mm catchpit inspection chamber
- Polypipe Diffuser Units
- Private storm drain (100 Ø unless shown otherwise)
- Private foul access chamber <0.6m deep
- Private foul inspection chamber <3.0m deep

Rev.	Date:	Details	By:	Chk:
C	23.05.22	Updated site layout following consultation.	KF	SJD
B	16.02.22	Minor amendment to Site Layout following further consultation.	KF	SJD
A	24.01.22	Updated following site replan and planning consultation.	KF	SJD
-	11.08.21	First Issue.	KF	SJD

Amendments

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Project:
GreenSquare Accord
Oxford Road
Bodicote

Drawing Title:
Engineering Layout

Drawn:	Chk:	Status:	Scale:
TL	SJD	Planning	1:500 @ A1

Date:	Job No.	Drg. No.	Rev.
May-21	2192	100	C

APPENDIX B – SITE INVESTIGATION EXTRACTS

PADDOCK GEO ENGINEERING

Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN

GROUND INVESTIGATION – BRE365 INFILTRATION TESTING

Green Square Group

September 2021

P21-264inf

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ISSUE	DATE	Written by:	Comment
1	23/09/2021	Stephen Fisk BSc FGS **Reviewed and approved by** Matt Paddock MSc FGS	-
For and on behalf of Paddock Geo Engineering Limited			

CONTENTS **Ground Investigation – Infiltration Testing**

APPENDICES

GROUND INVESTIGATION – BRE365 INFILTRATION TESTING

TAPPERS FARM, OFF OXFORD ROAD, BODICOTE, BANBURY, OX15 4BN

Further to instructions received from PHG Consulting Engineers on behalf of Green Square Space; the Client, infiltration has been carried out to the BRE365 methodologies at the above site in relation to assessing the infiltration properties of the underlying ground.

Objectives

This assessment has been carried out to a scope of works as detailed by the Client prior to commencement. The assessment has been designed to assess the infiltration properties of the near surface strata.

Scope of Works

The works comprised the forming of 8no. machine excavated trial pits, with infiltration testing within all trial pits to the BRE365 methodology.

Terms of Reference

The assessment has been carried out generally in accordance with the following guidance.

- Code of Practice for Site Investigations, British Standards Institution BS5930: 2015
- BRE Digest 365 – Soakaway Design 2016

Sitework

The sitework was carried out on the 16th and 17th August 2021 and comprised the forming of 8no. machine excavated trial pits to depths of between 0.50m and 1.70m below ground level (bgl) for infiltration testing to the BRE 365 methodology.

The trial pit positions were undertaken on site in an area clear of obstruction and any buried services following a Cable Avoidance Tool (CAT) and Signal Generator survey and inspection of service plans, where available. The test location is indicated on the enclosed Exploratory Location Plan presented in Appendix B and were located on the edges of the site to allow the continued use of the site.

The trial pit arisings were logged by a Geotechnical Engineer generally in accordance with BS5930:2015. No samples were recovered from the trial pits.

The trial pit was reinstated with compacted arisings to make safe on completion of the logging and testing.

Encountered Strata

A log of the Trial Pit and an Exploratory Location Plan showing the positions investigated are presented in Appendix C and B, respectively.

The strata encountered within the Trial Pit is summarised in the table below. These details are also included on the Logs presented in Appendix C.

Encountered Strata

Encountered Strata – Trial Pit Strata	Exploratory Hole and Basal Depth (m begl)							
	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8
MADE GROUND Hardcore over pale grey mottled orange red very sandy cobbly very angular to angular fine to coarse GRAVEL of brick, slab, concrete, flint, igneous rock, clinker and macadam,. Cobbles are very angular to angular brick and concrete.	0.40	-	-	-	-	-	-	-
TOPSOIL TYPE MADE GROUND Grass onto orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular fine to coarse brick, flint and limestone.	-	0.20	0.30	0.35	0.30	0.30	0.20	0.20
MARLSTONE ROCK FORMATION Firm orange brown very sandy CLAY.	0.90	-	-	-	-	-	-	-
Medium dense orange brown slightly to very gravelly slightly to very clayey fine to coarse SAND.	-	0.70	1.30	1.10	0.90	-	0.50	0.70
Medium dense orange brown clayey GRAVEL with high cobble content.	-	-	1.70	1.40	1.30	1.00	-	-
Total Depth (m bgl)	**0.90**	**0.70**	**1.70**	**1.40**	**1.30**	**1.00**	**0.50**	**0.70**

Groundwater Details

No ground water was encountered within any of the exploratory position to the maximum depth investigated of 1.70m bgl.

Laboratory Analysis

No lab analysis was carried out.

Surface Water Soakaways

Infiltration testing was carried out within all eight trial pits to the BRE365 methodology to provide an estimate infiltration factor for the subject site.

All of the trial pits tested soils which were considered to be Marlstone Rock Formation deposits and three cycles were undertaken within each trial pit.

The trial pits were formed to a depth of between 0.50m and 1.70m bgl and filled with between 0.40m and 0.50m of water at the base to limit the water used and trial pit instability. Therefore, for the infiltration calculations an invert incoming pipe level slightly above the filled water level was employed.

The results are presented in Appendix E and are summarised in the table below.

Infiltration Factors

Trial Pit	Soil Tested	Test Depth	Infiltration Factor (ms^{-1})			
			Cycle 1	Cycle 2	Cycle 3	Mean
SA1	Marlstone Rock Formation	0.40-0.90	1.31E-05	8.72E-06	8.61E-06	1.01E-05
SA2		0.30-0.70	3.64E-05	3.13E-05	1.32E-05	2.70E-05
SA3		1.20-1.70	1.48E-04	8.98E-05	5.59E-05	9.79E-05
SA4		1.00-1.40	1.53E-04	1.19E-04	9.80E-05	1.23E-04
SA5		0.80-1.30	1.99E-04	8.93E-05	7.48E-05	1.21E-04
SA6		0.50-1.00	5.34E-05	4.99E-05	3.56E-05	4.63E-05
SA7		0.00-0.50	4.58E-05	4.44E-05	3.57E-05	4.20E-05
SA8		0.20-0.70	4.88E-05	3.41E-05	2.25E-05	3.51E-05

Given the infiltration testing results, the tested shallow and deeper Marlstone Rock Formation are considered to be suitable for the construction of effective infiltration features.

General Notes

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it.

The conclusions and recommendations given in this report are based on our understanding of the future plans for the site and based on a scope of works agreed by the Client and afforded by the agreed budget. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.

The report has been prepared following the guidelines and principles established in the British Standards, BS 5930, CIRIA Guidance and NHBC Standards. It necessarily relies on the co-operation of other organisations and the free availability of information and total access. No responsibility can, therefore, be accepted for conditions arising from information that was inaccurate or not available to the investigating team as a result of information being withheld or access being denied.

This report may suggest an opinion on a possible configuration of strata or conditions between exploratory points and below the maximum depth of investigation. However, this is for guidance only and no liability can be accepted for its accuracy.

APPENDIX A

Site Plan (After PGH Consulting Engineers)

GENERAL NOTES

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6. This drawing is schematic for clarity only, positions of pipes and manholes may vary due to site conditions.

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LEGEND

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- Foul Water Manhole (adoptable)
- Adopted Foul Water Sewer (existing)
- Surface Water Sewer (adoptable)
- Surface Water Manhole (adoptable)
- 134.50 — Building D.P.C. Level
- 135.50* — Proposed Finished Ground Level
- 600dp — Additional Underbuild (below d.p.c. as shown)
- 500dp — Retaining Wall - (Height shows difference in levels - finished level at bottom and top).
- Steps (to be Part M Compliant)
- Porous Paving (adoptable)

Rev.	Date	Details	By.	Chk.

Amendments

Client:

GreenSquare

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Project:

GreenSquare Group
Oxford Road
Bodicote

Drawing title:

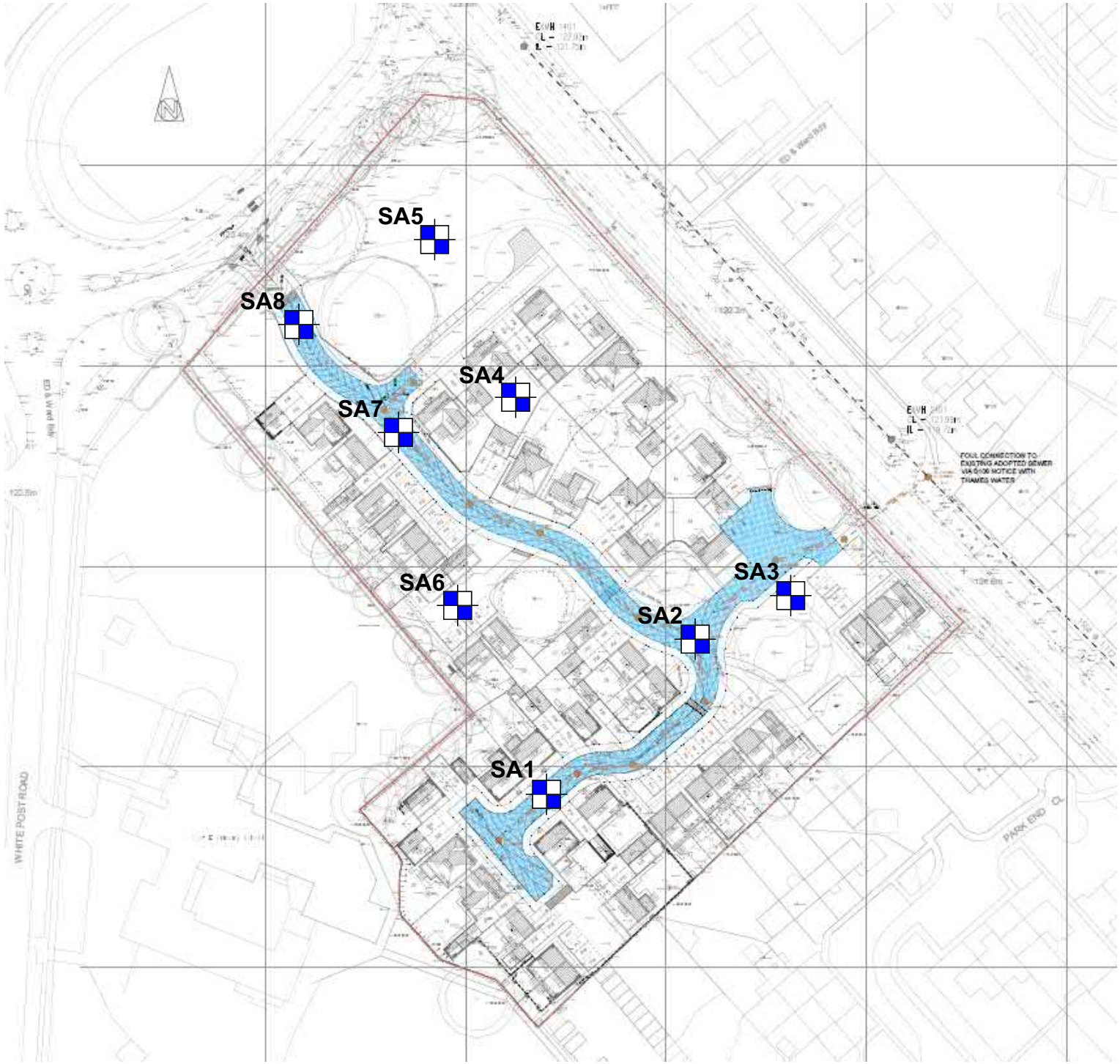
Engineering Layout

Drawn:	Chk:	Status:	Scale:
TL	SJD	Planning	1:500 @ A1

Date:	Job No.	Drg. No.	Rev.
May-21	2192	100	

APPENDIX B

Exploratory Point Location Plan



PADDOCK GEO ENGINEERING

Exploratory Point Location Plan

**Tappers Farm,
off Oxford Road,
Bodicote,
Banbury,
OX15 4BN.**

Green Square Group

September 2021

Infiltration testing Locations

**Not to scale.
All positions are approximate.
Based on
Engineering Layout
by PHG Consulting Engineers
Job No. 2192 Drawing No. 100**

APPENDIX C

Trial Pit Logs

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA1

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.20m		Green Square Group	P21-264
	Location	**Dates** 16/08/2021-17/08/2021	**Project Contractor** PGE	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Hardcore over pale grey brown mottled orange red very sandy cobbly very angular to angular fine to coarse GRAVEL of brick, slate, concrete, flint, igneous rock, clinker and macadam. Cobbles are very angular to angular brick and concrete. (MADE GROUND)		
					0.40	Firm orange brown very sandy CLAY. Sand is fine to coarse. (MARLSTONE ROCK FORMATION)		
					(0.50)			
					0.90	Complete at 0.90m		

Remarks

No groundwater encountered.
Trial pit sides upright and stable.
Infiltration testing undertaken.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA1

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA2

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.20m		Green Square Group	P21-264
	Location	**Dates** 16/08/2021-17/08/2021	**Project Contractor** PGE	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Grass onto orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular fine to coarse brick, flint and limestone. Sand is fine to coarse. (TOPSOIL TYPE MADE GROUND)		
					0.20			
					(0.50)	Medium dense orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					0.70	Complete at 0.70m		

Remarks

Infiltration testing undertaken.
Trial pit sides upright and stable.
No groundwater encountered.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA2

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA3

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.30m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Grass onto orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular fine to caorse brick, flint and limestone. Sand is fine to coarse. (TOPSOIL TYPE MADE GROUND)		
					0.30	Medium dense orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					(1.00)	... becoming very gravelly very clayey from 1.1m depth.		
					1.30	Medium dense orange brown clayey GRAVEL with high cobble content. Gravel is angular to sub-rounded limestone. Cobbles are angular tabular limestone. (MARLSTONE ROCK FORMATION)		
					(0.40)			

Remarks

Infiltration testing undertaken.
Trial pit sides upright and stable.
No groundwater encountered.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA3

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA3

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.30m		Green Square Group	P21-264
	Location	**Dates** 16/08/2021-17/08/2021	**Project Contractor** PGE	**Sheet** 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					1.70	Complete at 1.70m		

Plan

Remarks

Infiltration testing undertaken.
Trial pit sides upright and stable.
No groundwater encountered.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA3

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA4

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.30m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35)	Grass onto pale orange brown gravelly fine to coarse SAND with frequent roots and rootlets. Gravel is angular to sub-angular fine to coarse limestone. (TOPSOIL TYPE MADE GROUND)		
					0.35	Medium dense orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					(0.75)	... becoming very gravelly very clayey from 0.80m depth.		
					1.10	Medium dense orange brown clayey GRAVEL with high cobble content. Gravel is angular to sub-rounded limestone. Cobbles are angular tabular limestone. (MARLSTONE ROCK FORMATION)		
					(0.30)			
					1.40	Complete at 1.40m		

Remarks

No groundwater encountered.
Trial pit sides upright and stable.
Infiltration testing undertaken.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA4

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA5

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.40m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Grass onto pale orange brown gravelly fine to coarse SAND with frequent roots and rootlets. Gravel is angular to sub-angular fine to coarse limestone. (TOPSOIL TYPE MADE GROUND)		
					0.30	Medium dense orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					(0.60)	... becoming very clayey very gravelly from 0.60m depth.		
					0.90	Medium dense orange brown clayey GRAVEL with high cobble content. Gravel is angular to sub-rounded limestone. Cobbles are angular tabular limestone. (MARLSTONE ROCK FORMATION)		
					(0.40)			
					1.30	Complete at 1.30m		

Remarks

Trial pit sides upright and stable.
Infiltration testing undertaken.
No groundwater encountered.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA5

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA6

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.40m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Grass onto pale orange brown gravelly fine to coarse SAND with frequent roots and rootlets. Gravel is angular to sub-angular fine to coarse limestone. (TOPSOIL TYPE MADE GROUND)		
					0.30	Medium dense orange brown clayey GRAVEL with high cobble content. Gravel is angular to sub-rounded limestone. Cobbles are angular tabular limestone. (MARLSTONE ROCK FORMATION)		
					(0.70)	... becoming very clayey very gravelly from 0.60m depth.		
					1.00	Complete at 1.00m		

Remarks

Trial pit sides upright and stable.
Infiltration testing undertaken.
No groundwater encountered.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA6

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA7

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.20m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Grass onto pale orange brown gravelly fine to coarse SAND with frequent roots and rootlets. Gravel is angular to sub-angular fine to coarse limestone. (TOPSOIL TYPE MADE GROUND)		
					0.20			
					(0.30)	Medium dense orange brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					0.50	Complete at 0.50m		

Remarks

No groundwater encountered.
Trial pit sides upright and stable.
Infiltration testing undertaken.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA7

PADDOCK GEO ENGINEERING

Site	Trial Pit Number
Tappers Farm, off Oxford Road, Bodicote, Banbury, OX15 4BN	SA8

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
3 Tonne Tracked excavator	0.35m x 1.20m		Green Square Group	P21-264
	Location	**Dates**	**Project Contractor**	**Sheet**
		16/08/2021-17/08/2021	PGE	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Grass onto pale orange brown gravelyl fine to coarse SAND with frequent roots and rootlets. Gravel is angular to sub-angular fine to coarse limestone. (TOPSOIL TYPE MADE GROUND)		
					0.20			
					(0.50)	Medium dense orange brown very gravelly very clayey fine to coarse SAND. Gravel is angular to sub-angular limestone. (MARLSTONE ROCK FORMATION)		
					0.70	Complete at 0.70m		

Remarks

No groundwater encountered.
Trial pit sides upright and stable.
Infiltration testing undertaken.

Scale (approx)	Logged By	Figure No.
1:10	TN	P21-264.SA8

APPENDIX D

Laboratory Analysis Results – Not Used

APPENDIX E

Infiltration Testing Results

Infiltration Test to BRE365 - SA1 TEST 1

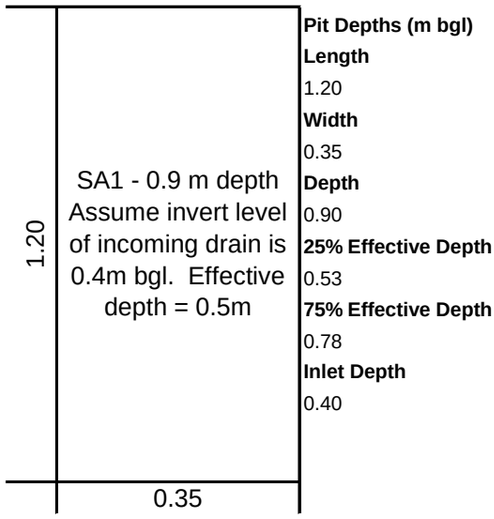
Field Data

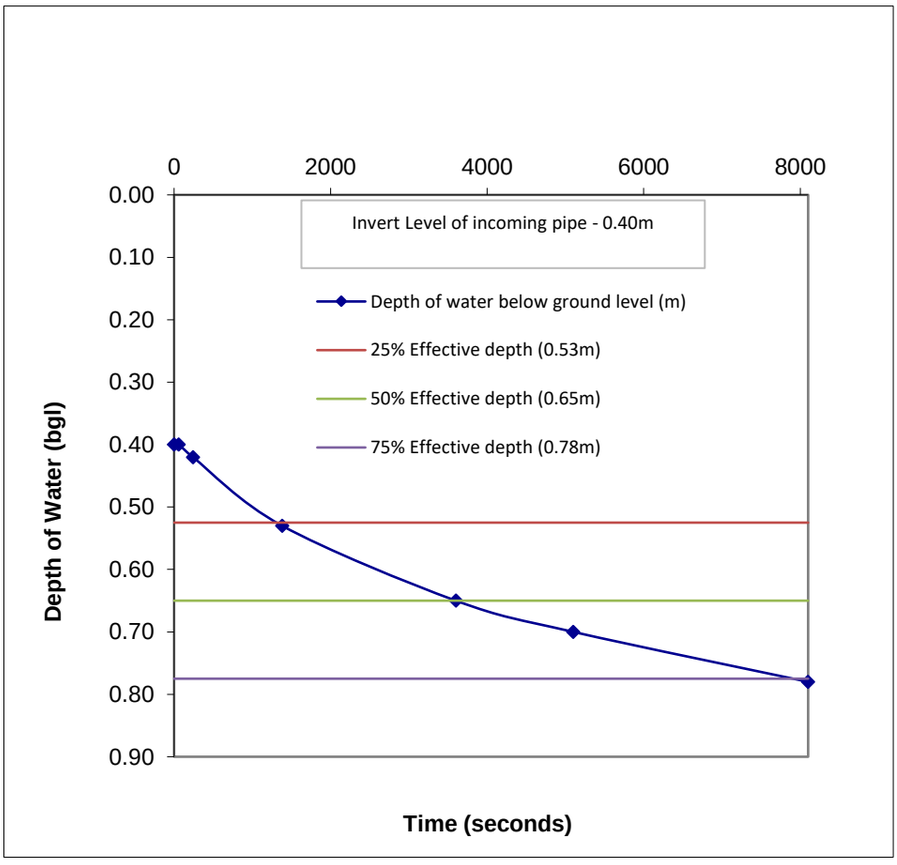
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.40
	1.0	60	0.40
	4.0	240	0.42
	23.0	1380	0.53
	60.0	3600	0.65
	85.0	5100	0.70
	135.0	8100	0.78

Linear extrapolated values for calculation

Location: SA1 **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.775-0.525)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **6720** secs

f= **1.31E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA1 TEST 2

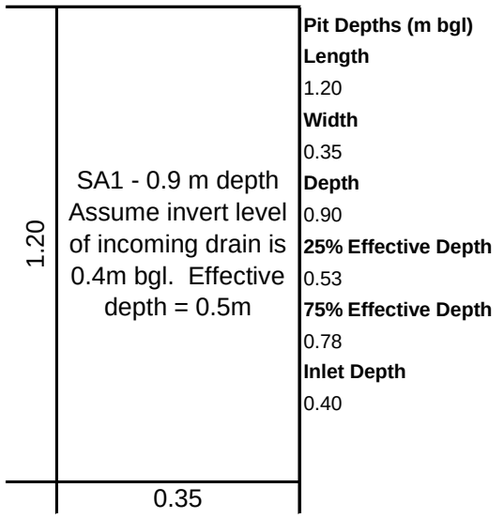
Field Data

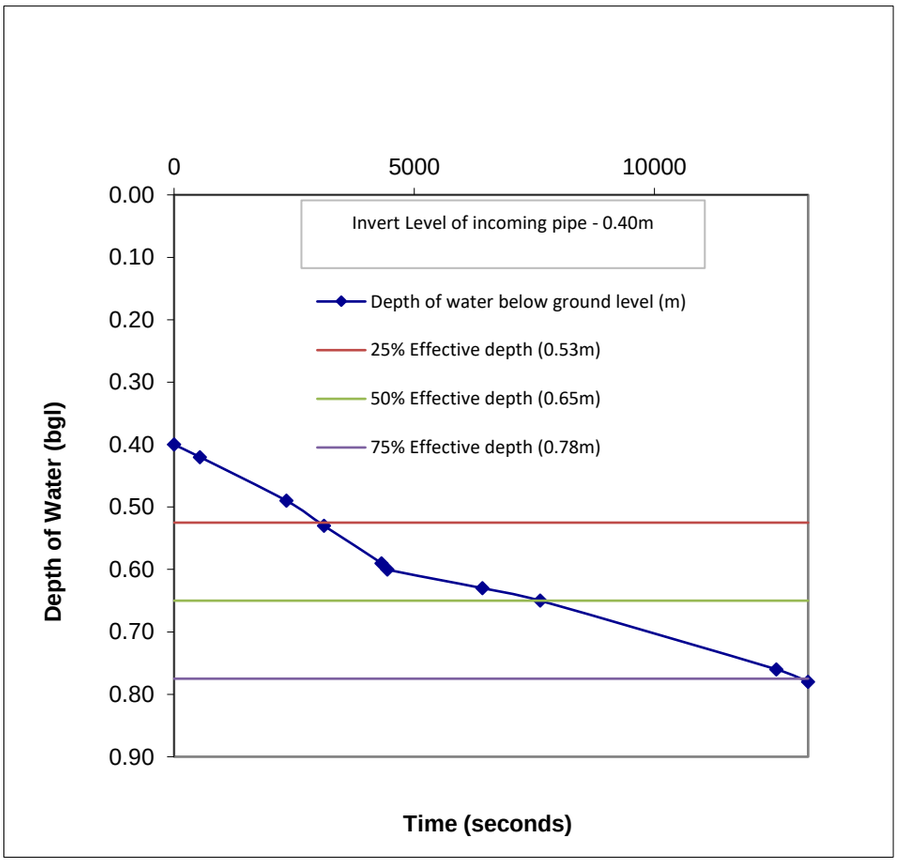
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.40
	9.0	540	0.42
	39.0	2340	0.49
	52.0	3120	0.53
	72.0	4320	0.59
	74.0	4440	0.60
	107.0	6420	0.63
	127.0	7620	0.65
	209.0	12540	0.76
	220.0	13200	0.78

Linear extrapolated values for calculation

Location: **SA1** **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.775-0.525)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **10080** secs

f= **8.72E-06** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA1 TEST 3

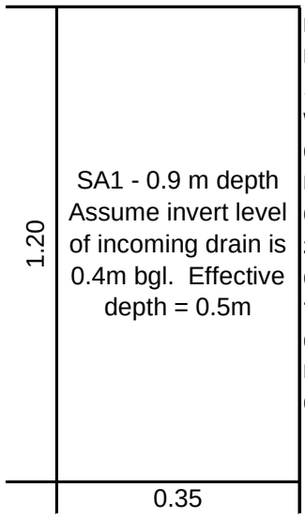
Field Data

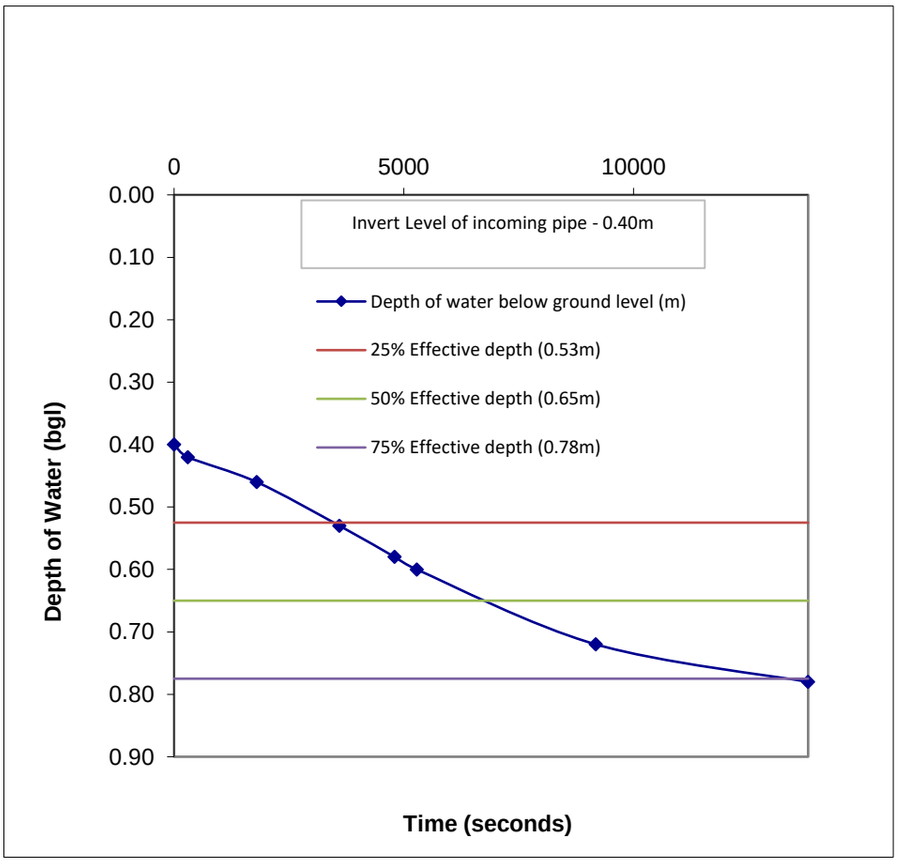
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.40
	5.0	300	0.42
	30.0	1800	0.46
	60.0	3600	0.53
	80.0	4800	0.58
	88.0	5280	0.60
	153.0	9180	0.72
	230.0	13800	0.78

Linear extrapolated values for calculation

Location: SA1 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.775-0.525)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **10200** secs

f= **8.61E-06** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA2 TEST 1

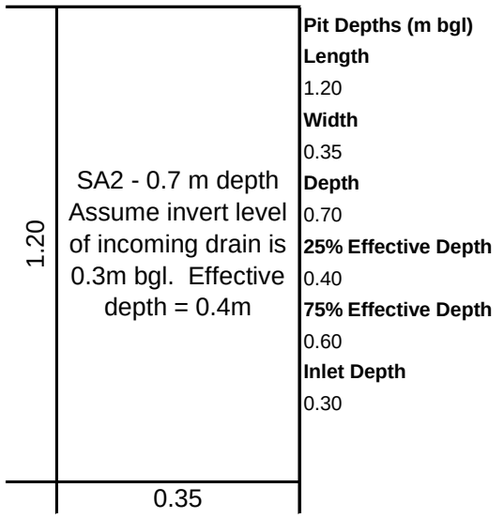
Field Data

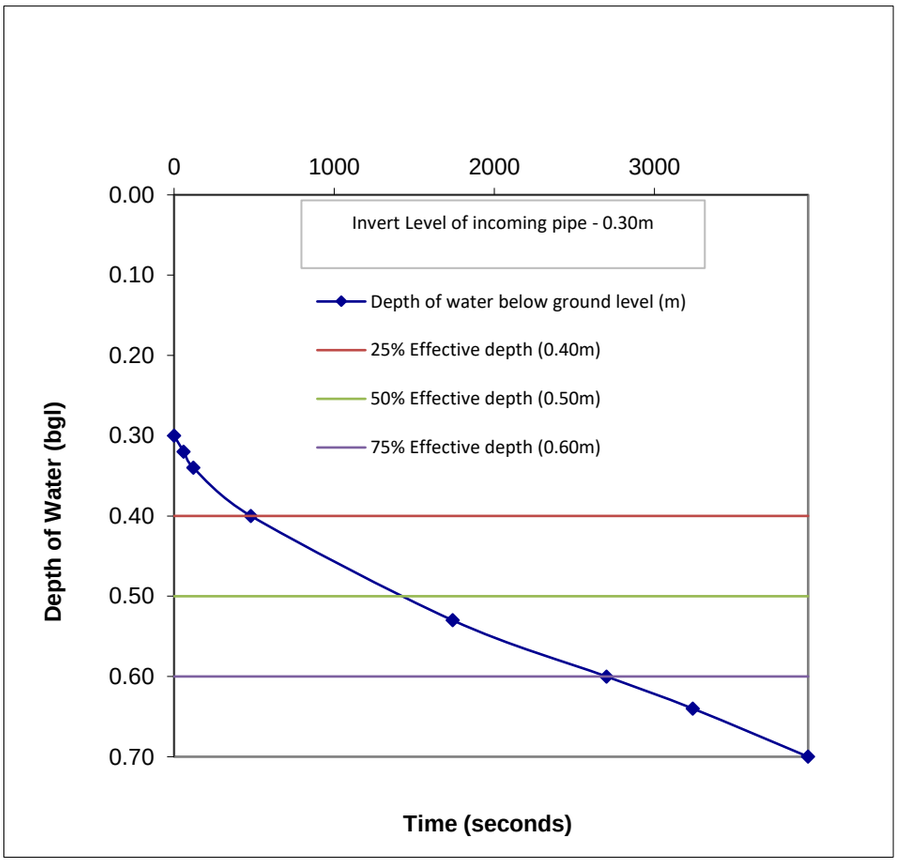
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.30
	1.0	60	0.32
	2.0	120	0.34
	8.0	480	0.40
	29.0	1740	0.53
	45.0	2700	0.60
	54.0	3240	0.64
	66.0	3960	0.70

Linear extrapolated values for calculation

Location: **SA2** **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.6-0.4)
= **0.084**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.04

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **2220** secs

f= **3.64E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA2 TEST 2

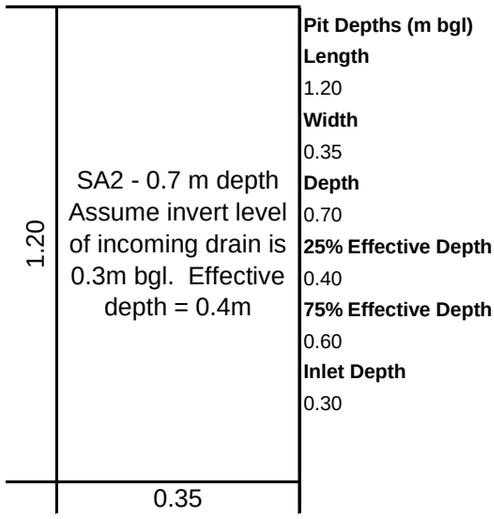
Field Data

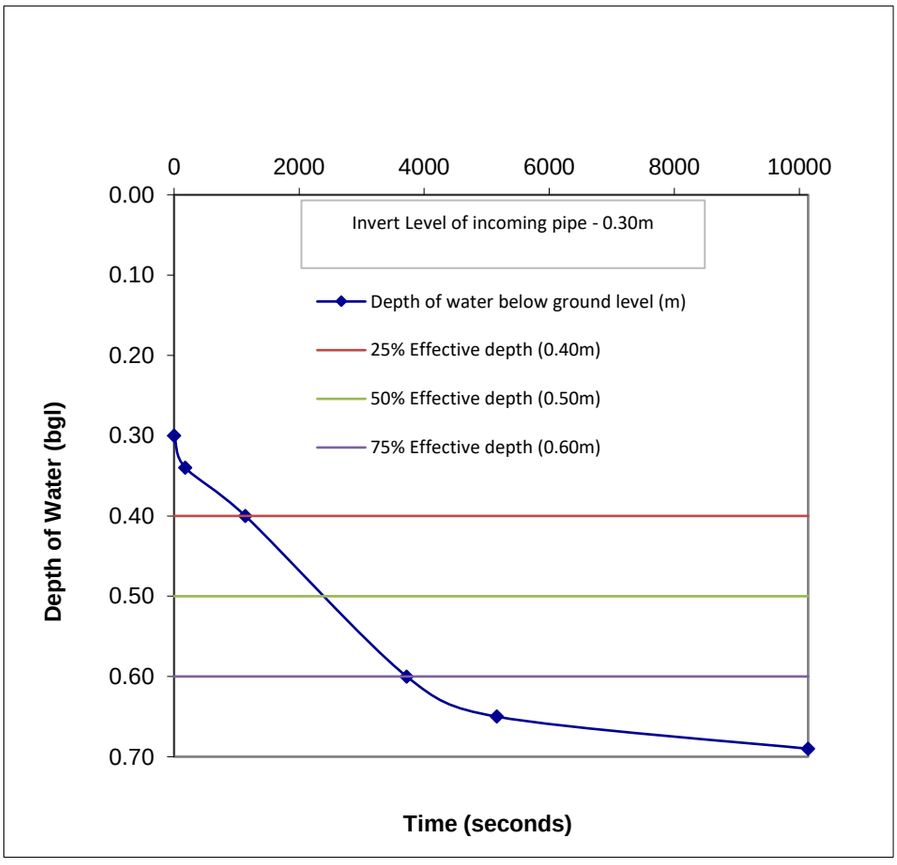
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.30
	3.0	180	0.34
	19.0	1140	0.40
	62.0	3720	0.60
	86.0	5160	0.65
	169.0	10140	0.69

Linear extrapolated values for calculation

Location: SA2 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.6-0.4)
= **0.084**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.04

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **2580** secs

f= **3.13E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA2 TEST 3

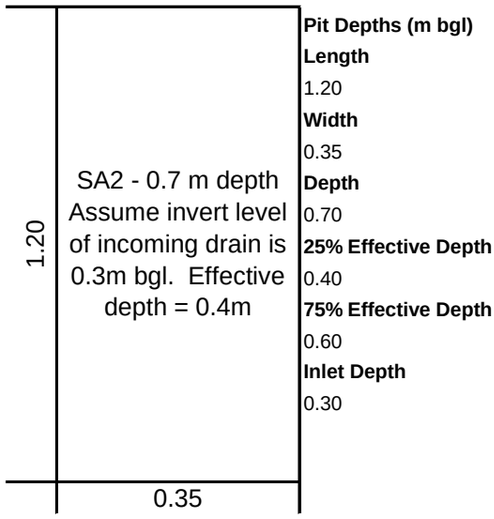
Field Data

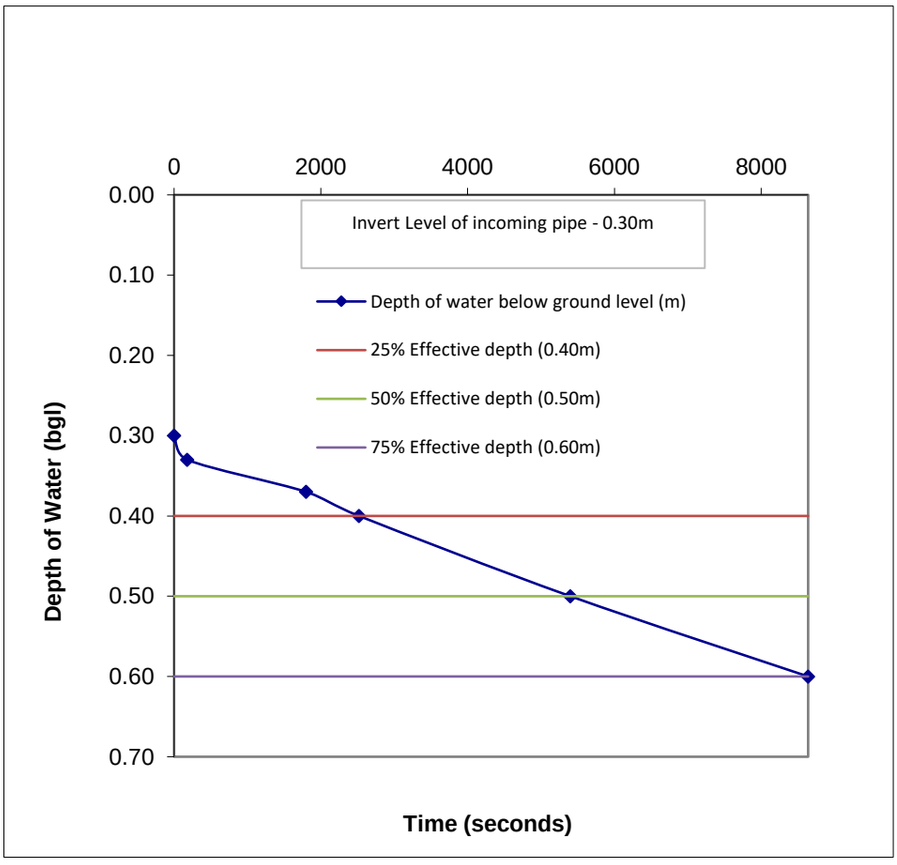
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.30
	3.0	180	0.33
	30.0	1800	0.37
	42.0	2520	0.40
	90.0	5400	0.50
	144.0	8640	0.60

Linear extrapolated values for calculation

Location: SA2 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.6-0.4)
= **0.084**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.04

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **6120** secs

f= **1.32E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA3 TEST 1

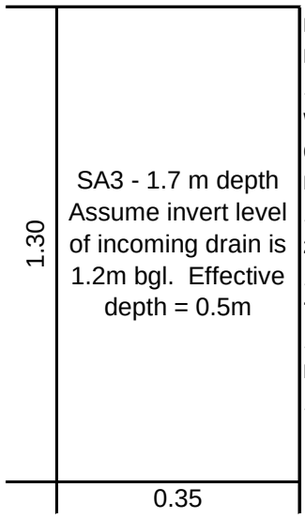
Field Data

Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.20
	1.0	60	1.33
	3.0	180	1.42
	6.0	360	1.55
	11.0	660	1.58

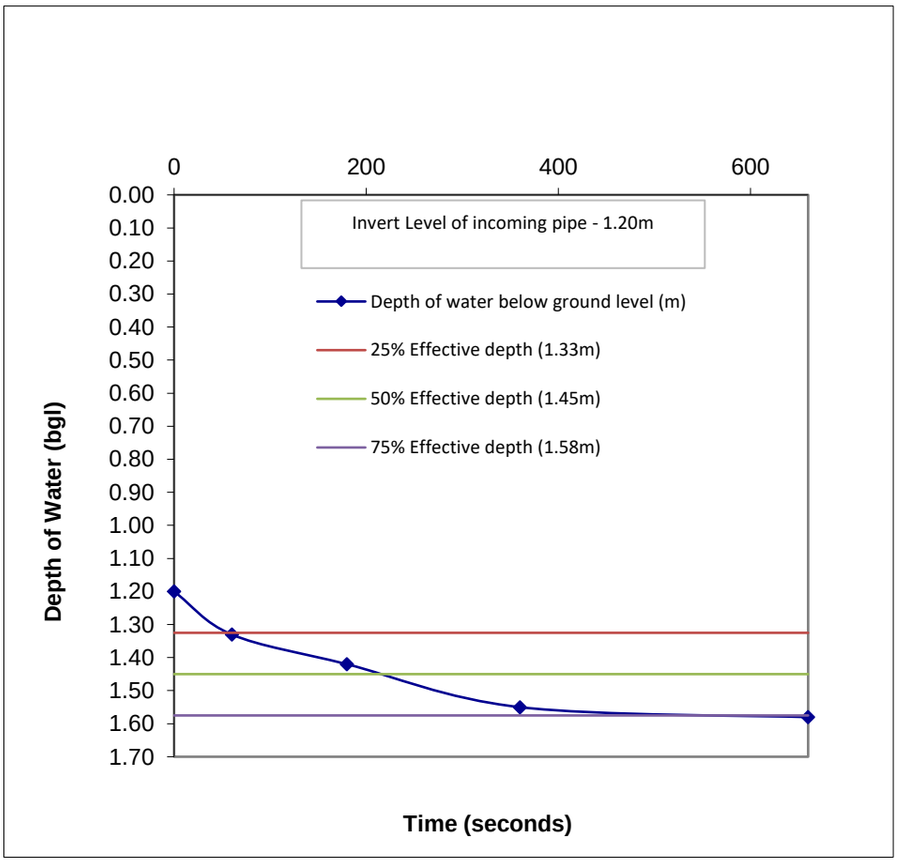
Linear extrapolated values for calculation

Location: SA3 **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation



Pit Depths (m bgl)
Length
1.30
Width
0.35
Depth
1.70
25% Effective Depth
1.33
75% Effective Depth
1.58
Inlet Depth
1.20



CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.3x0.35x(1.575-1.325)
= **0.11375**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.3 x) + 2(0.35 x) + (1.3 x 0.35)
= 1.28

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **600** secs

f= **1.48E-04** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA3 TEST 2

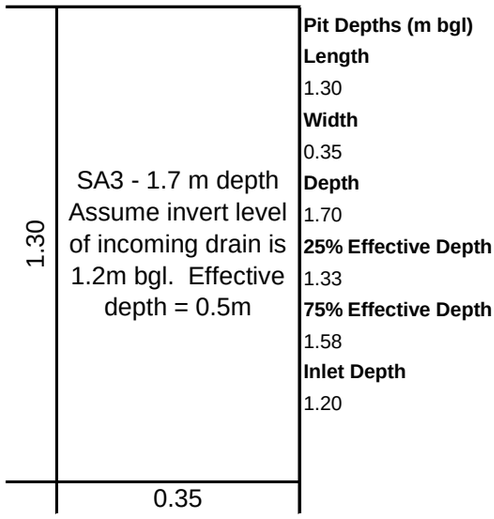
Field Data

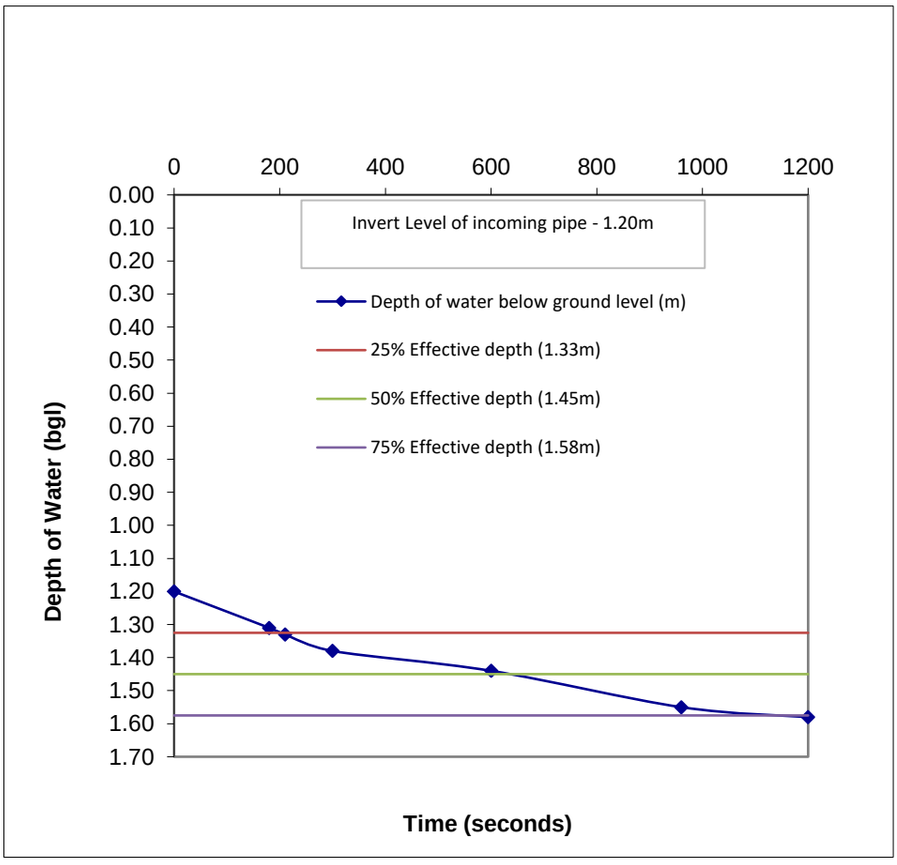
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.20
	3.0	180	1.31
	3.5	210	1.33
	5.0	300	1.38
	10.0	600	1.44
	16.0	960	1.55
	20.0	1200	1.58

Linear extrapolated values for calculation

Location: SA3 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.3x0.35x(1.575-1.325)
= **0.11375**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.3 x) + 2(0.35 x) + (1.3 x 0.35)
= 1.28

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **990** secs

f= **8.98E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA3 TEST 3

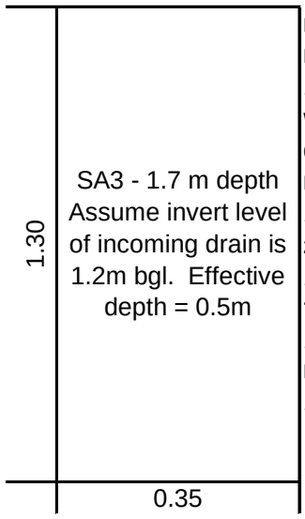
Field Data

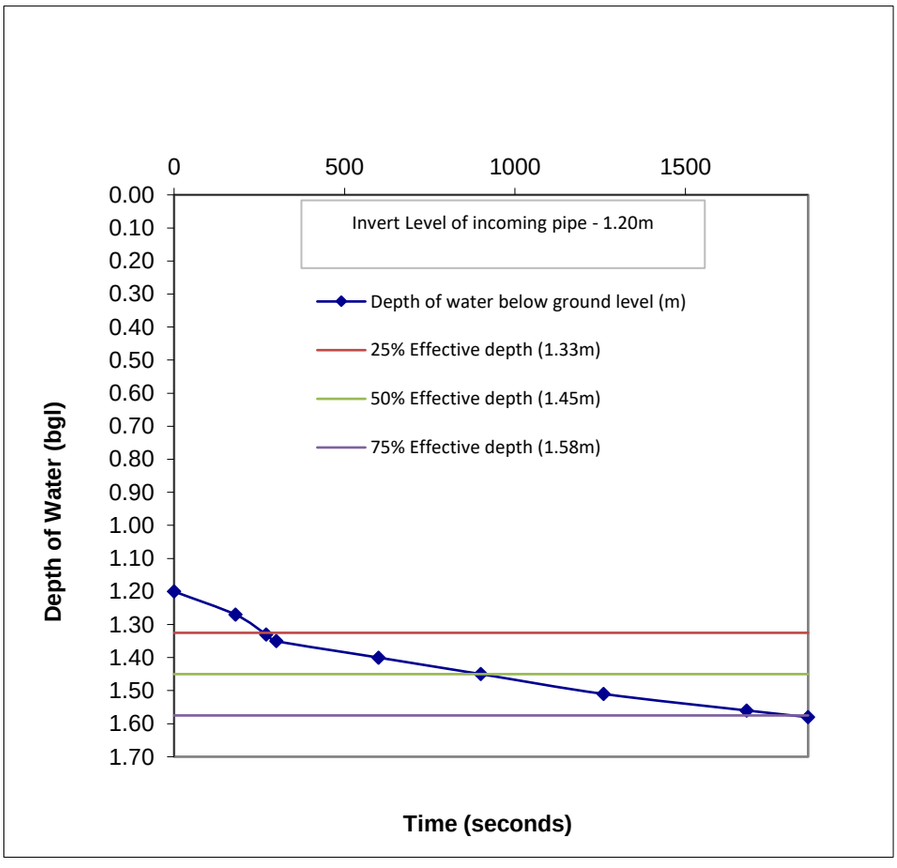
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.20
	3.0	180	1.27
	4.5	270	1.33
	5.0	300	1.35
	10.0	600	1.40
	15.0	900	1.45
	21.0	1260	1.51
	28.0	1680	1.56
	31.0	1860	1.58

Linear extrapolated values for calculation

Location: SA3 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.3x0.35x(1.575-1.325)
= **0.11375**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.3 x) + 2(0.35 x) + (1.3 x 0.35)
= 1.28

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1590** secs

f= **5.59E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA4 TEST 1

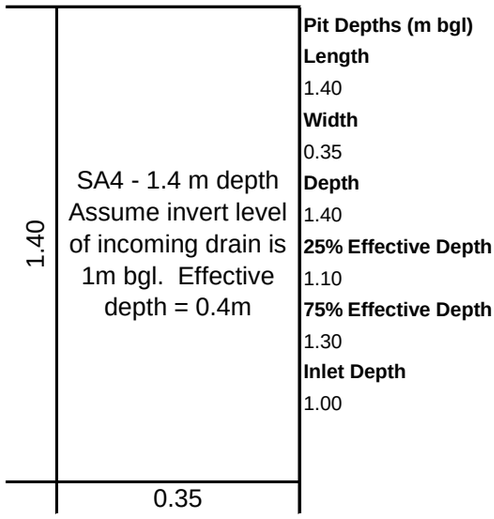
Field Data

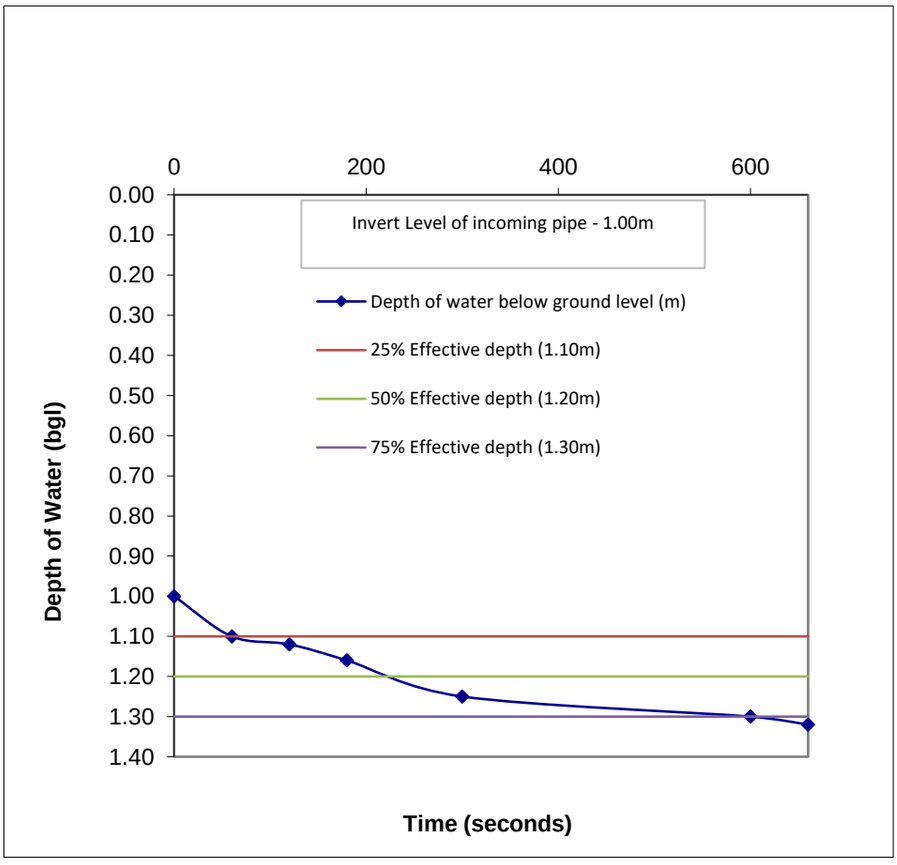
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.00
	1.0	60	1.10
	2.0	120	1.12
	3.0	180	1.16
	5.0	300	1.25
	10.0	600	1.30
	11.0	660	1.32

Linear extrapolated values for calculation

Location: SA4 **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.3-1.1)
= **0.098**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.19

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **540** secs

f= **1.53E-04** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA4 TEST 2

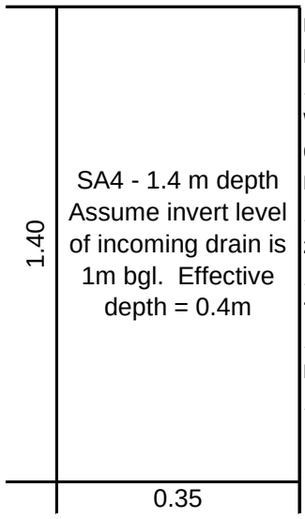
Field Data

Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.00
	1.0	60	1.09
	1.5	90	1.10
	2.0	120	1.11
	3.0	180	1.14
	5.0	300	1.22
	10.0	600	1.28
	13.0	780	1.30
	15.0	900	1.33

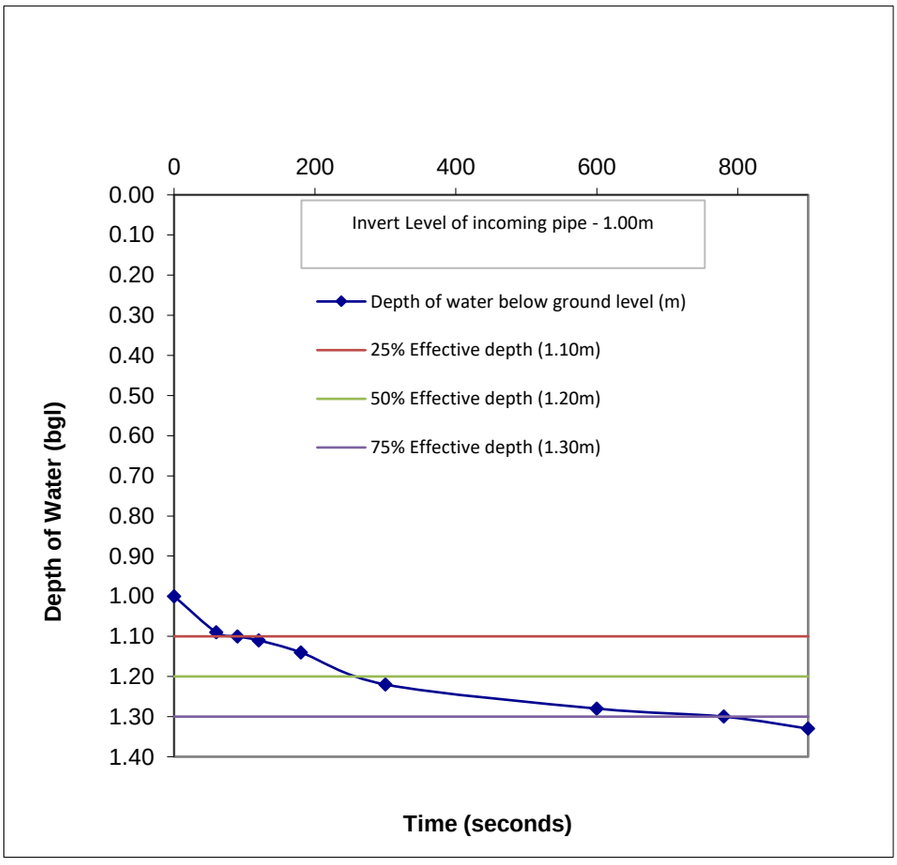
Linear extrapolated values for calculation

Location: SA4 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation



Pit Depths (m bgl)
Length
1.40
Width
0.35
Depth
1.40
25% Effective Depth
1.10
75% Effective Depth
1.30
Inlet Depth
1.00



CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.3-1.1)
= **0.098**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.19

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **690** secs

f= **1.19E-04** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA4 TEST 3

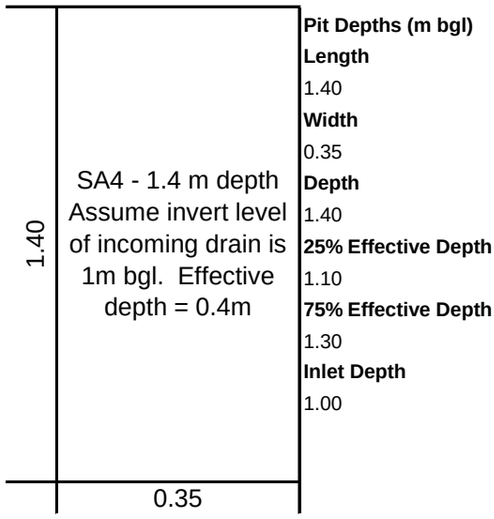
Field Data

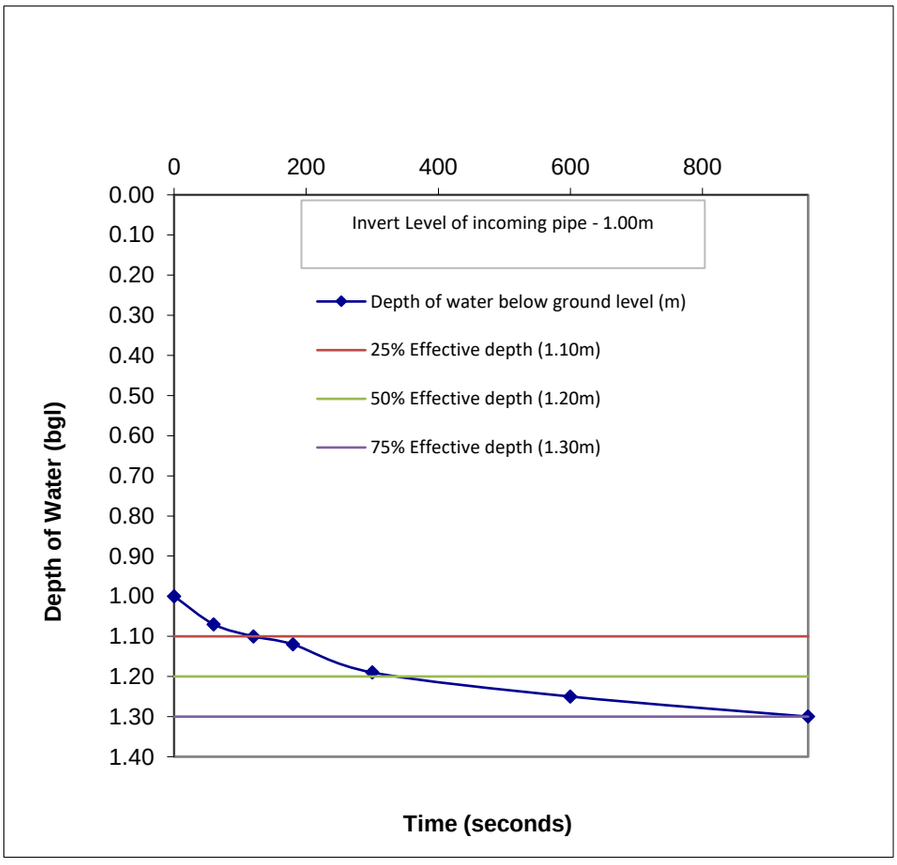
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	1.00
	1.0	60	1.07
	2.0	120	1.10
	3.0	180	1.12
	5.0	300	1.19
	10.0	600	1.25
	16.0	960	1.30

Linear extrapolated values for calculation

Location: SA4 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.3-1.1)
= **0.098**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.19

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **840** secs

f= **9.80E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA5 TEST 1

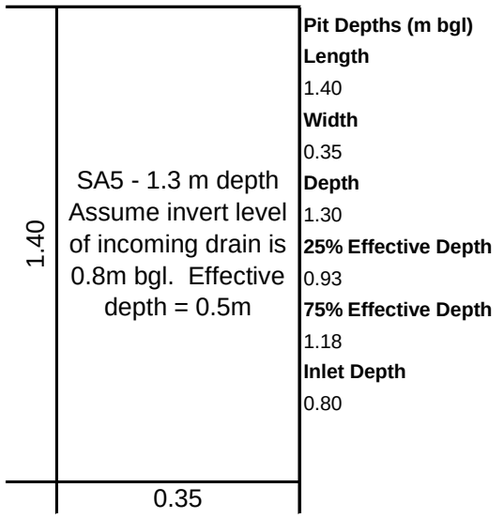
Field Data

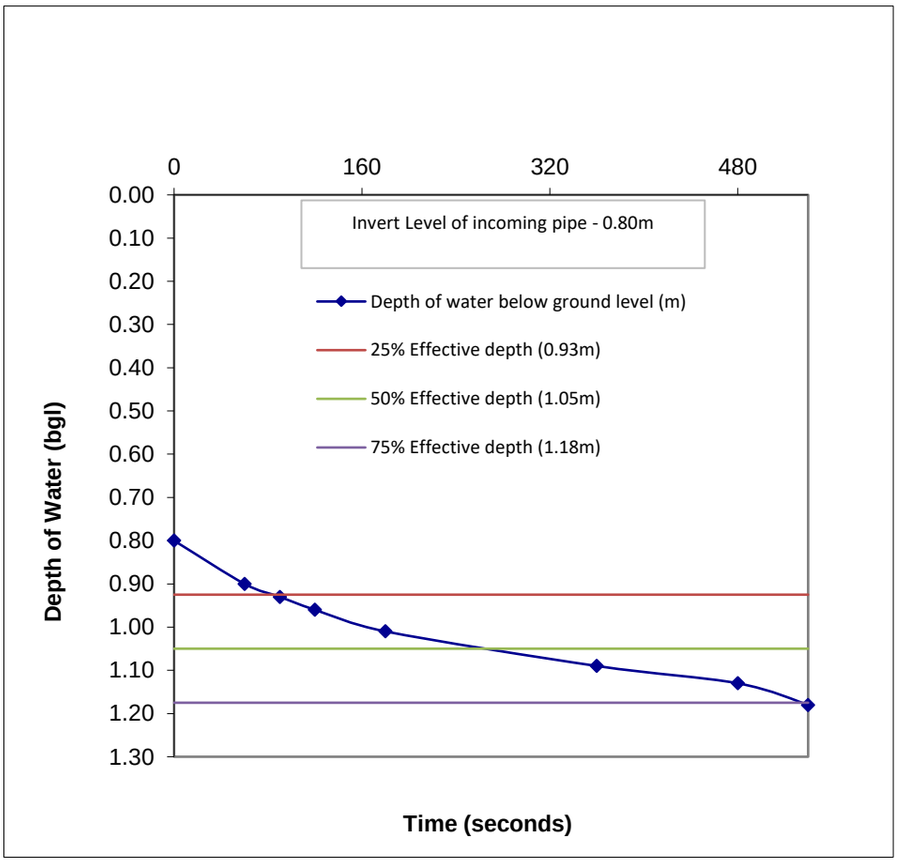
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.80
	1.0	60	0.90
	1.5	90	0.93
	2.0	120	0.96
	3.0	180	1.01
	6.0	360	1.09
	8.0	480	1.13
	9.0	540	1.18

Linear extrapolated values for calculation

Location: **SA5** **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.175-0.925)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **450** secs

f= **1.99E-04** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA5 TEST 2

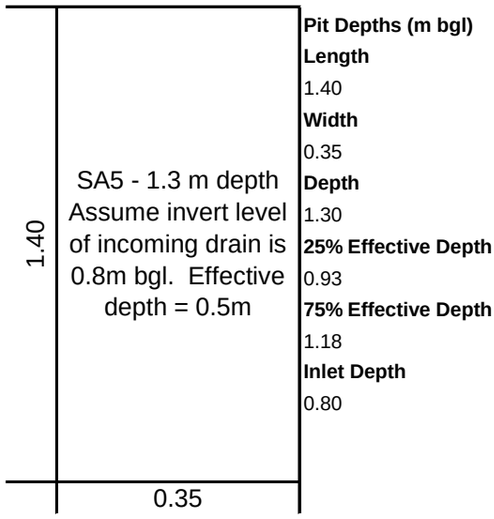
Field Data

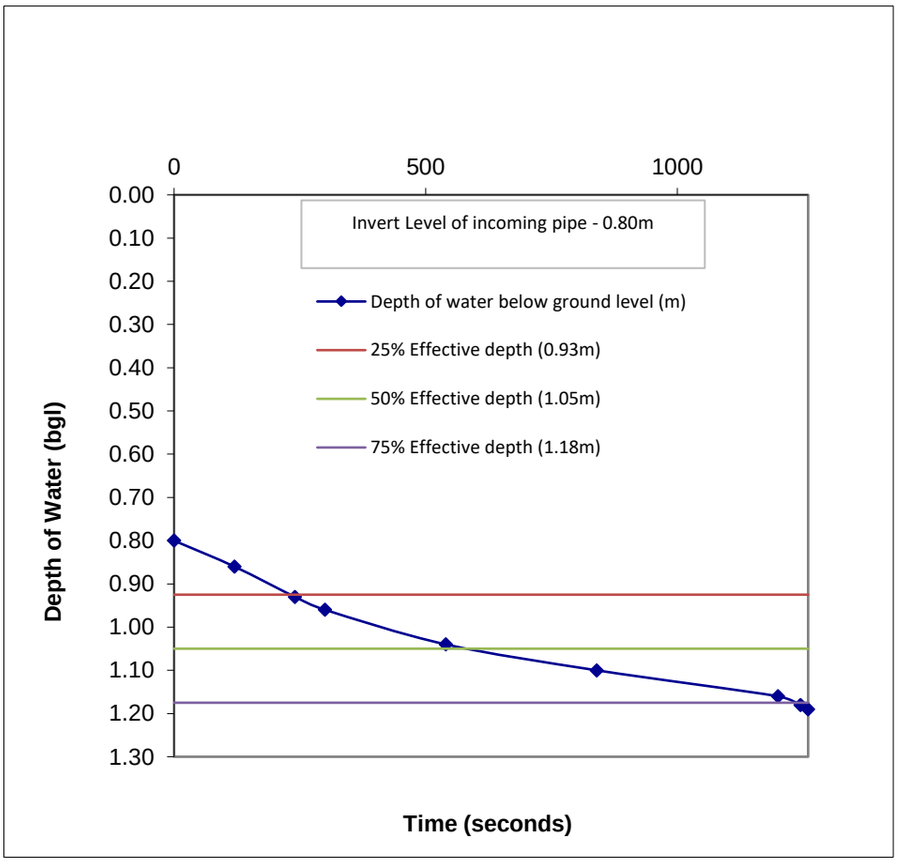
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.80
	2.0	120	0.86
	4.0	240	0.93
	5.0	300	0.96
	9.0	540	1.04
	14.0	840	1.10
	20.0	1200	1.16
	20.8	1245	1.18
	21.0	1260	1.19

Linear extrapolated values for calculation

Location: SA5 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.175-0.925)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1005** secs

f= **8.93E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA5 TEST 3

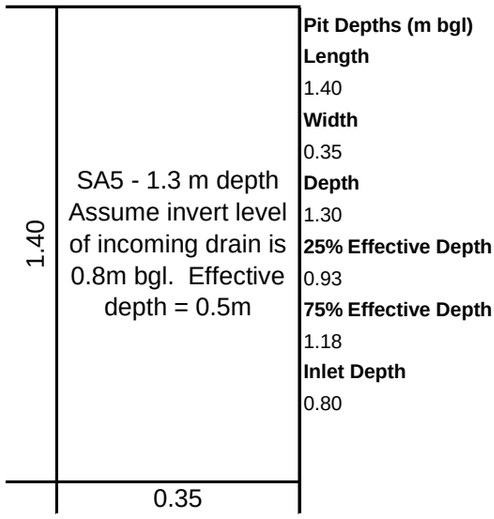
Field Data

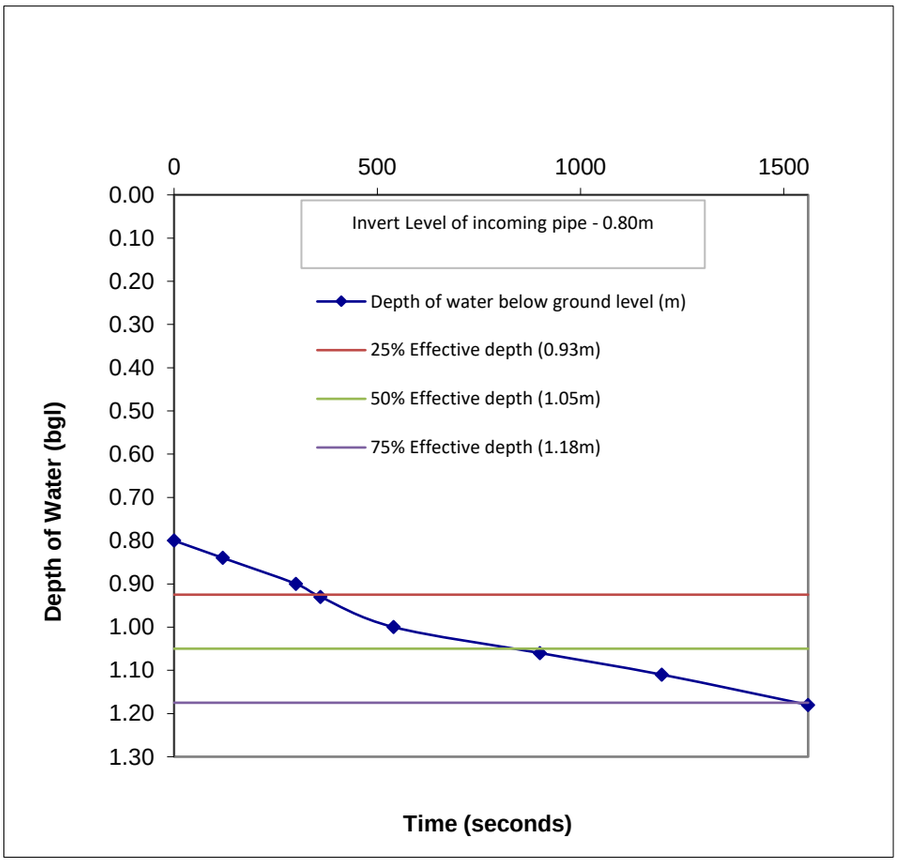
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.80
	2.0	120	0.84
	5.0	300	0.90
	6.0	360	0.93
	9.0	540	1.00
	15.0	900	1.06
	20.0	1200	1.11
	26.0	1560	1.18

Linear extrapolated values for calculation

Location: **SA5** **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(1.175-0.925)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1200** secs

f= **7.48E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA6 TEST 1

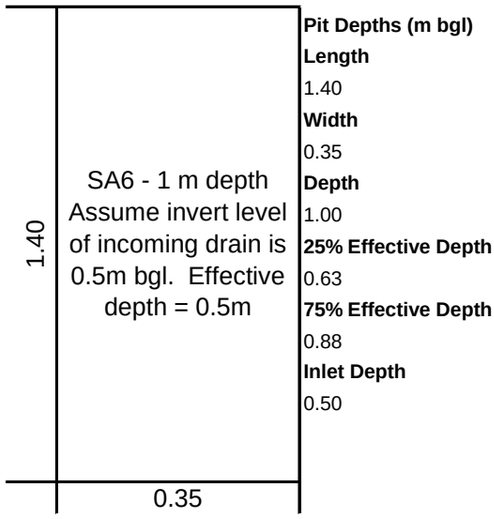
Field Data

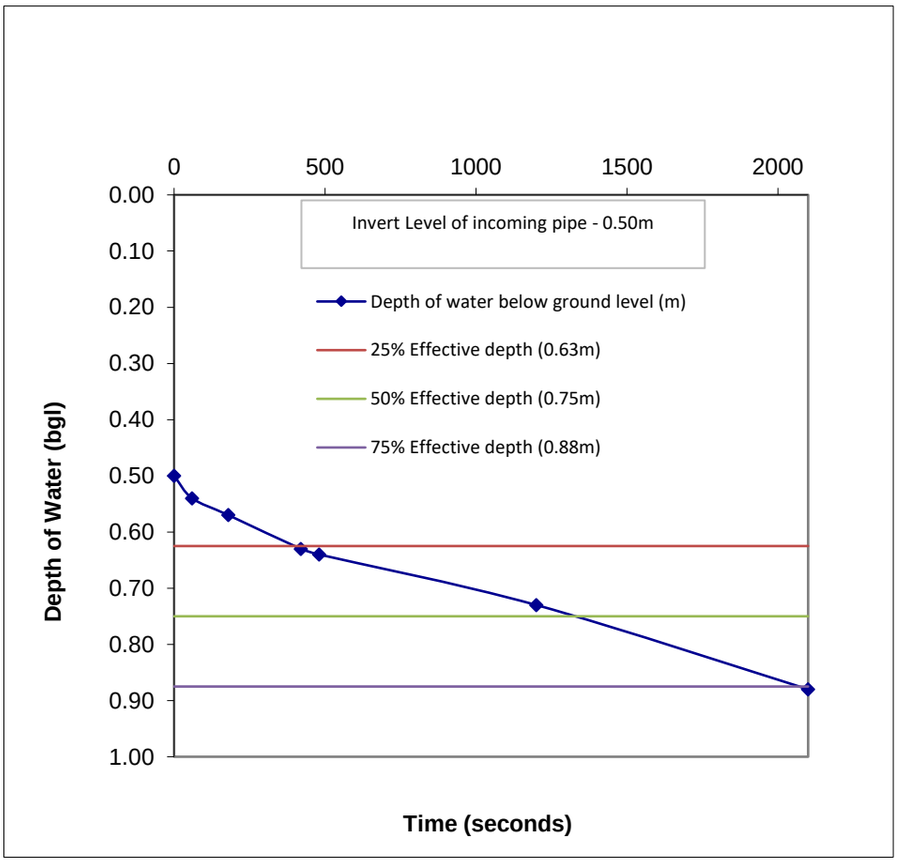
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.50
	1.0	60	0.54
	3.0	180	0.57
	7.0	420	0.63
	8.0	480	0.64
	20.0	1200	0.73
	35.0	2100	0.88

Linear extrapolated values for calculation

Location: **SA6** **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(0.875-0.625)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1680** secs

f= **5.34E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA6 TEST 2

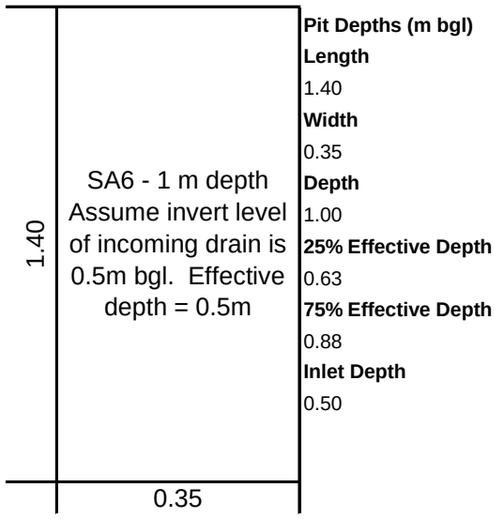
Field Data

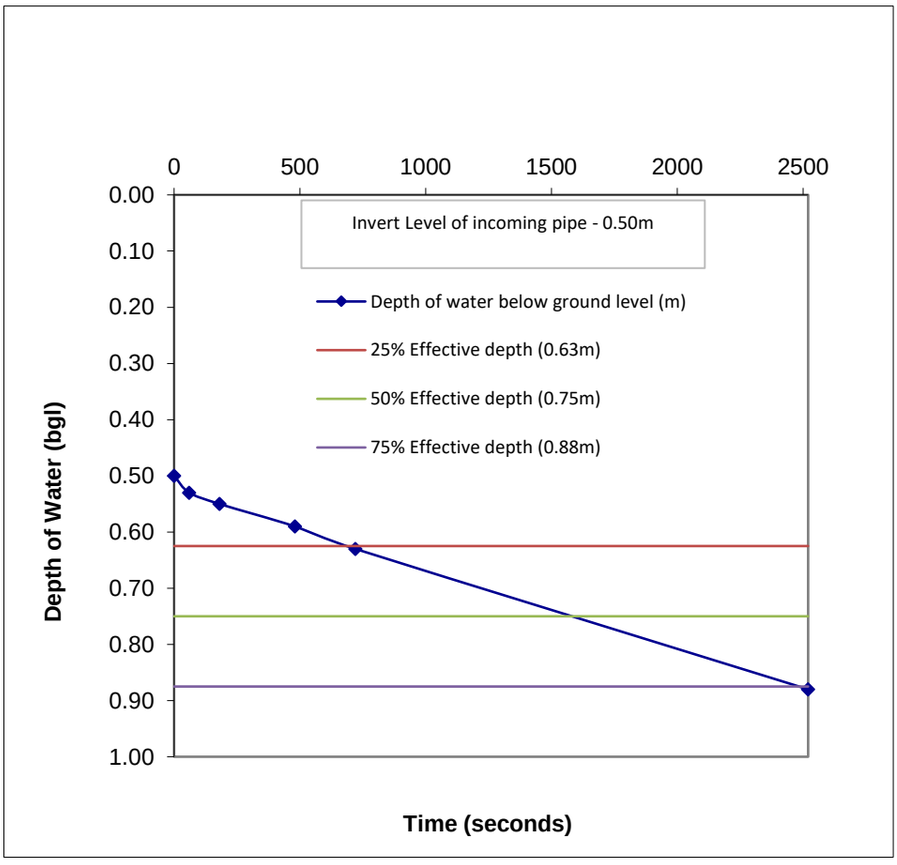
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.50
	1.0	60	0.53
	3.0	180	0.55
	8.0	480	0.59
	12.0	720	0.63
	42.0	2520	0.88

Linear extrapolated values for calculation

Location: SA6 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(0.875-0.625)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1800** secs

f= **4.99E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA6 TEST 3

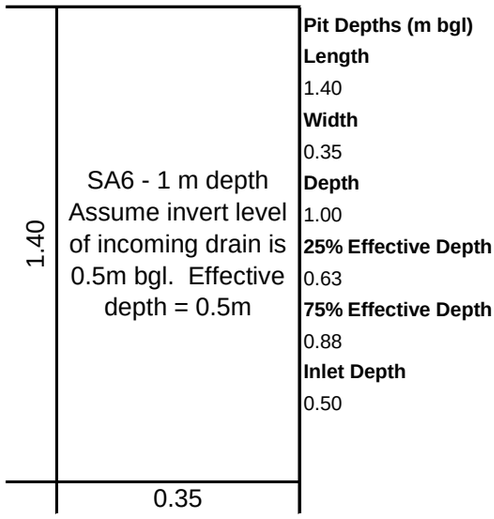
Field Data

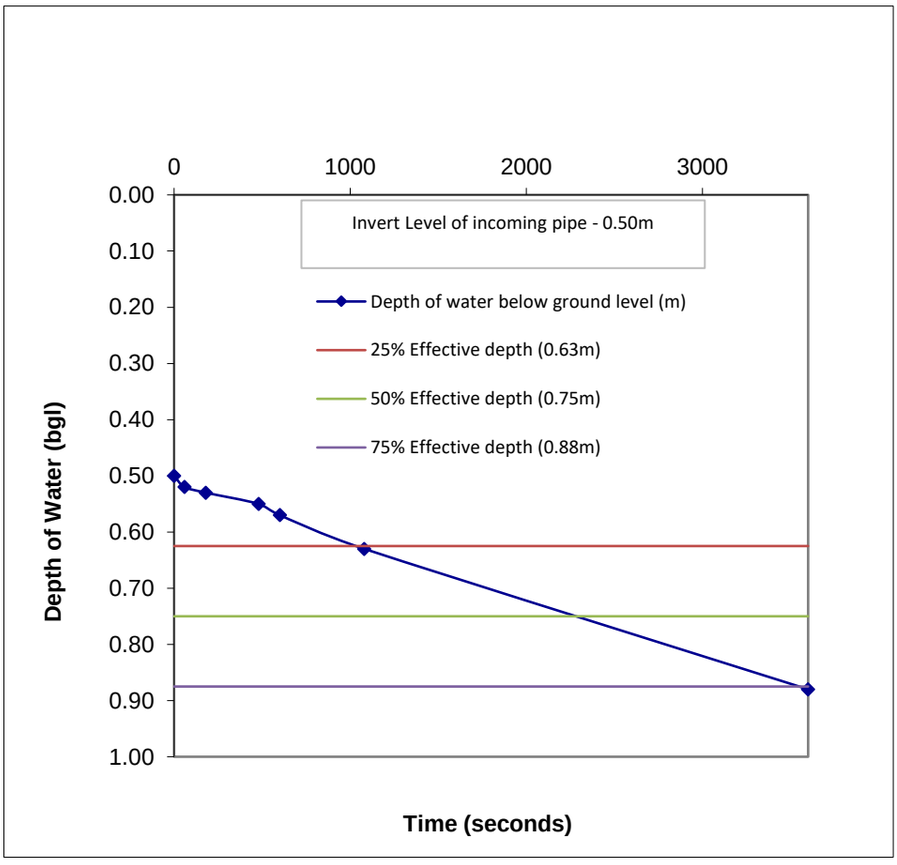
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.50
	1.0	60	0.52
	3.0	180	0.53
	8.0	480	0.55
	10.0	600	0.57
	18.0	1080	0.63
	60.0	3600	0.88

Linear extrapolated values for calculation

Location: SA6 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.4x0.35x(0.875-0.625)
= **0.1225**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.4 x) + 2(0.35 x) + (1.4 x 0.35)
= 1.365

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **2520** secs

f= **3.56E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA7 TEST 1

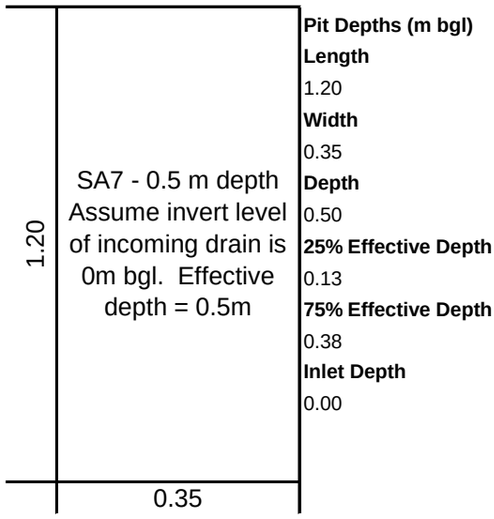
Field Data

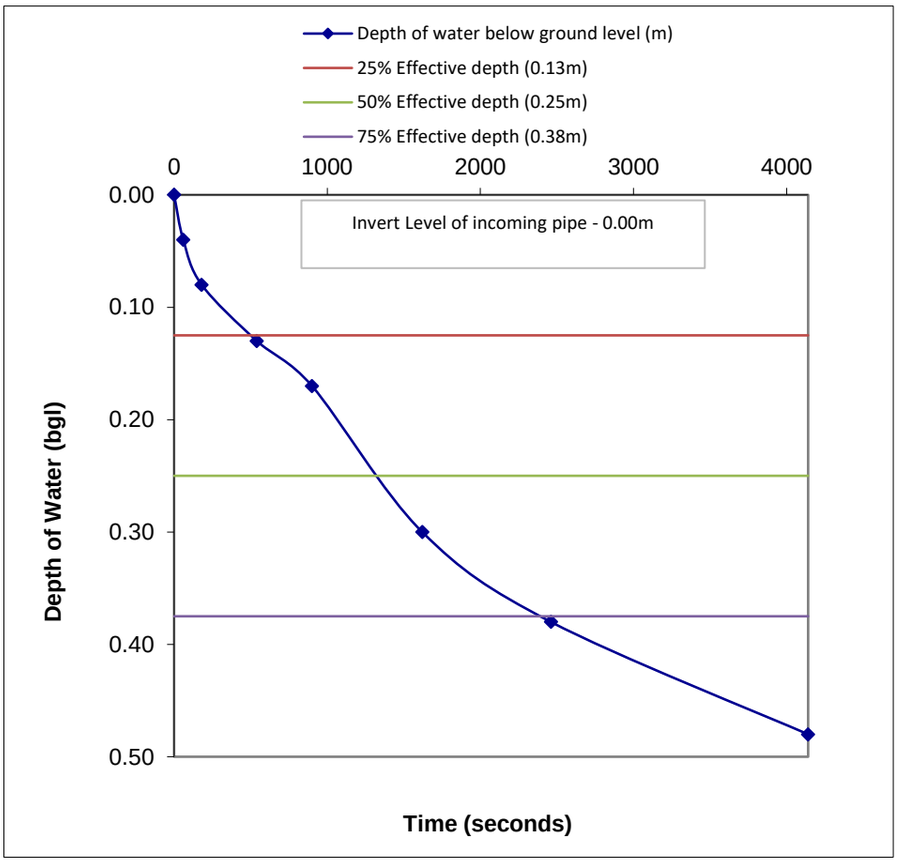
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.00
	1.0	60	0.04
	3.0	180	0.08
	9.0	540	0.13
	15.0	900	0.17
	27.0	1620	0.30
	41.0	2460	0.38
	69.0	4140	0.48

Linear extrapolated values for calculation

Location: **SA7** **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.375-0.125)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1920** secs

f= **4.58E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA7 TEST 2

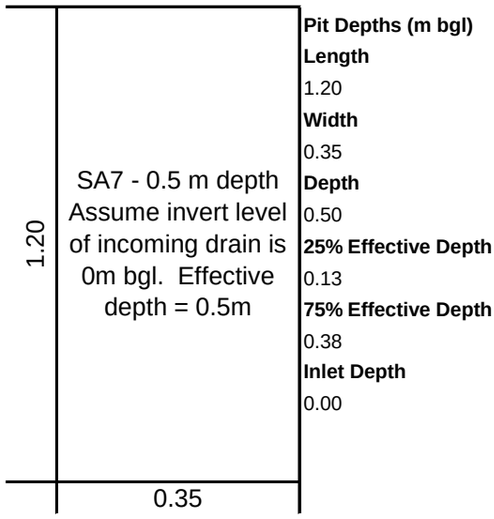
Field Data

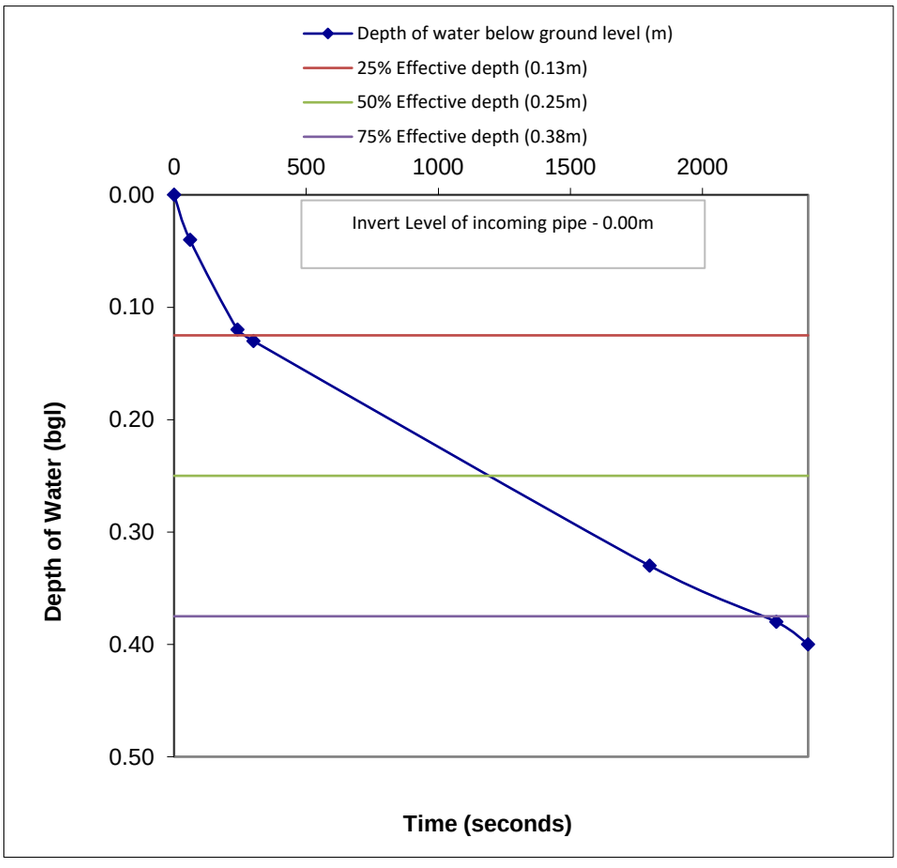
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.00
	1.0	60	0.04
	4.0	240	0.12
	5.0	300	0.13
	30.0	1800	0.33
	38.0	2280	0.38
	40.0	2400	0.40

Linear extrapolated values for calculation

Location: SA7 **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.375-0.125)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1980** secs

f= **4.44E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA7 TEST 3

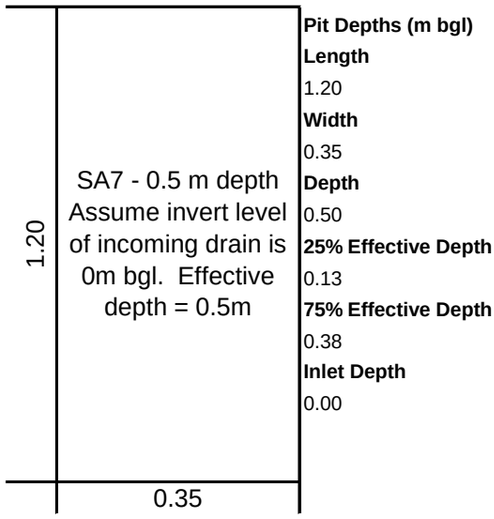
Field Data

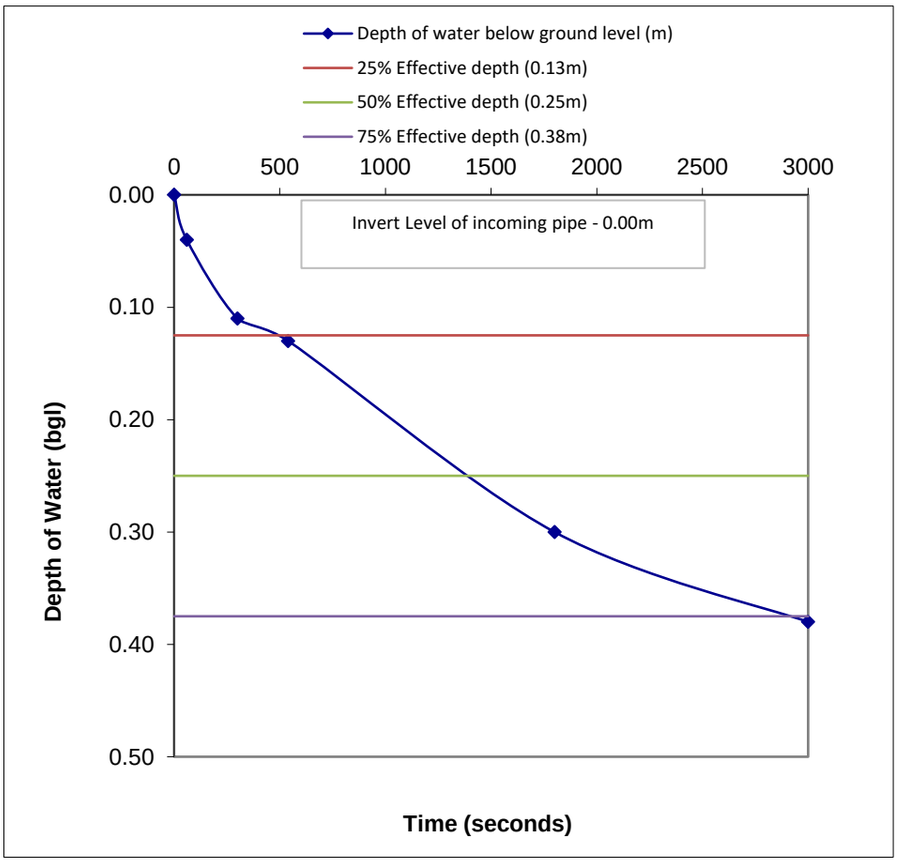
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.00
	1.0	60	0.04
	5.0	300	0.11
	9.0	540	0.13
	30.0	1800	0.30
	50.0	3000	0.38

Linear extrapolated values for calculation

Location: SA7 **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.375-0.125)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **2460** secs

f= **3.57E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA8 TEST 1

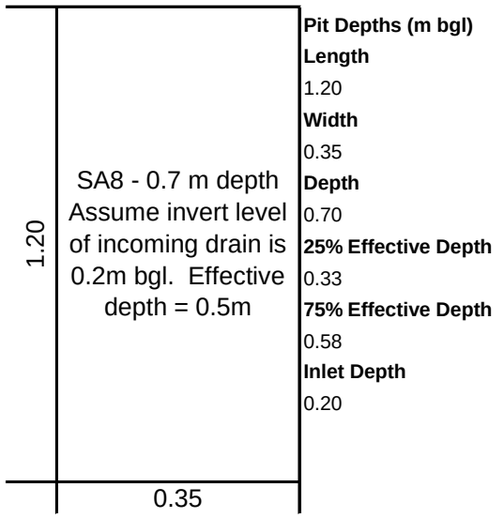
Field Data

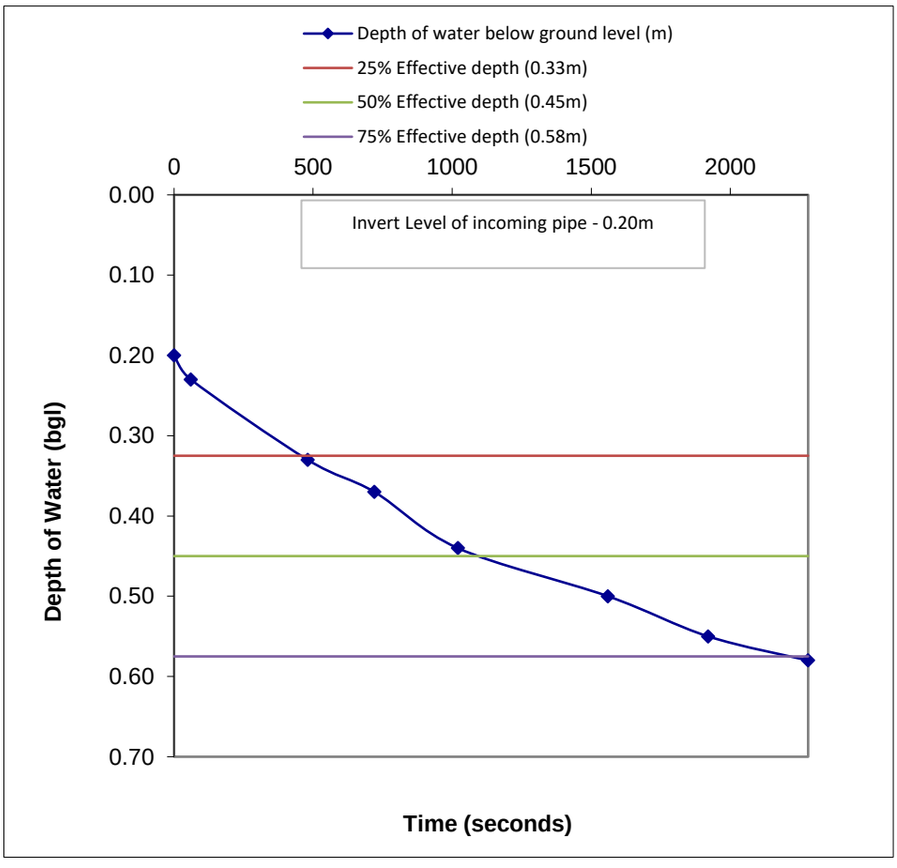
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.20
	1.0	60	0.23
	8.0	480	0.33
	12.0	720	0.37
	17.0	1020	0.44
	26.0	1560	0.50
	32.0	1920	0.55
	38.0	2280	0.58

Linear extrapolated values for calculation

Location: **SA8** **TEST 1**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.575-0.325)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **1800** secs

f= **4.88E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA8 TEST 2

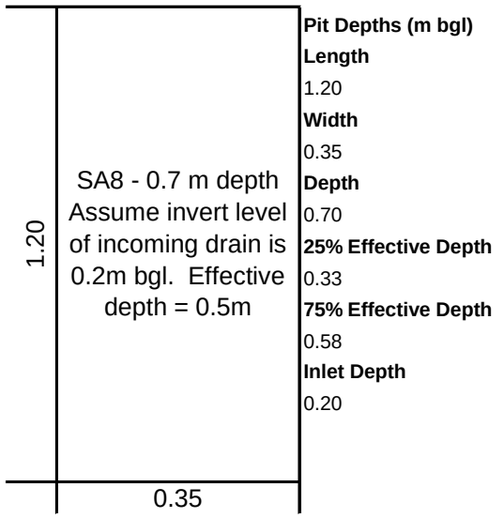
Field Data

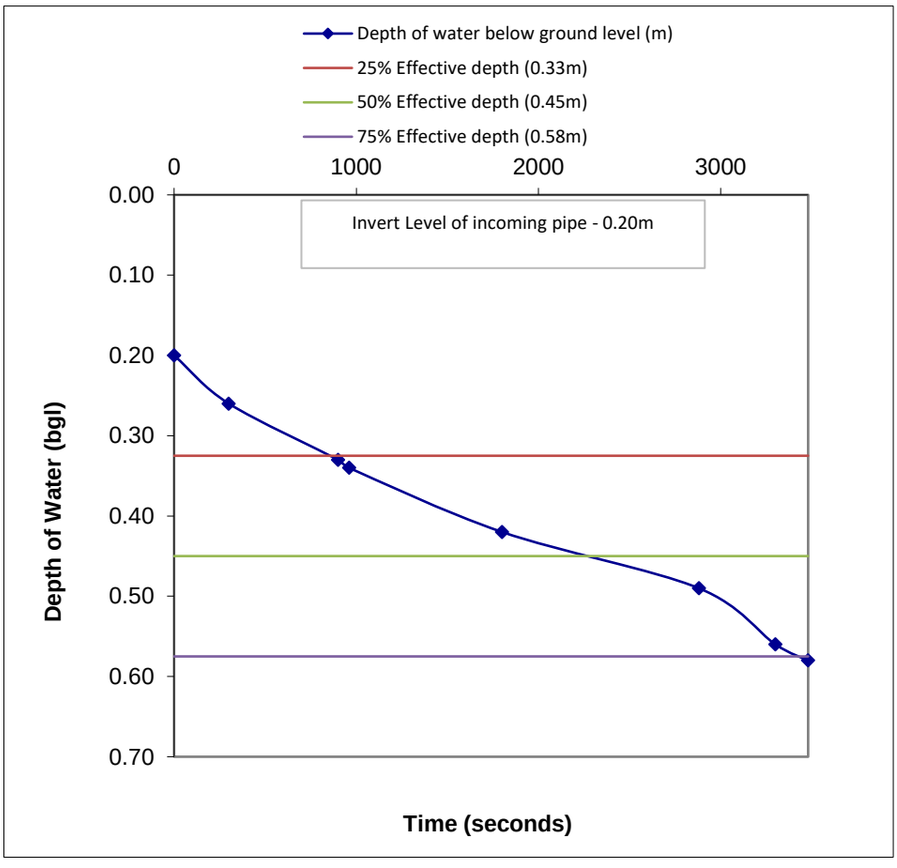
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.20
	5.0	300	0.26
	15.0	900	0.33
	16.0	960	0.34
	30.0	1800	0.42
	48.0	2880	0.49
	55.0	3300	0.56
	58.0	3480	0.58

Linear extrapolated values for calculation

Location: **SA8** **TEST 2**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.575-0.325)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **2580** secs

f= **3.41E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

Infiltration Test to BRE365 - SA8 TEST 3

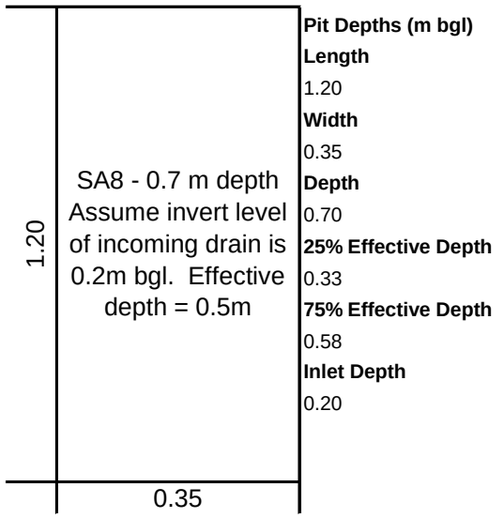
Field Data

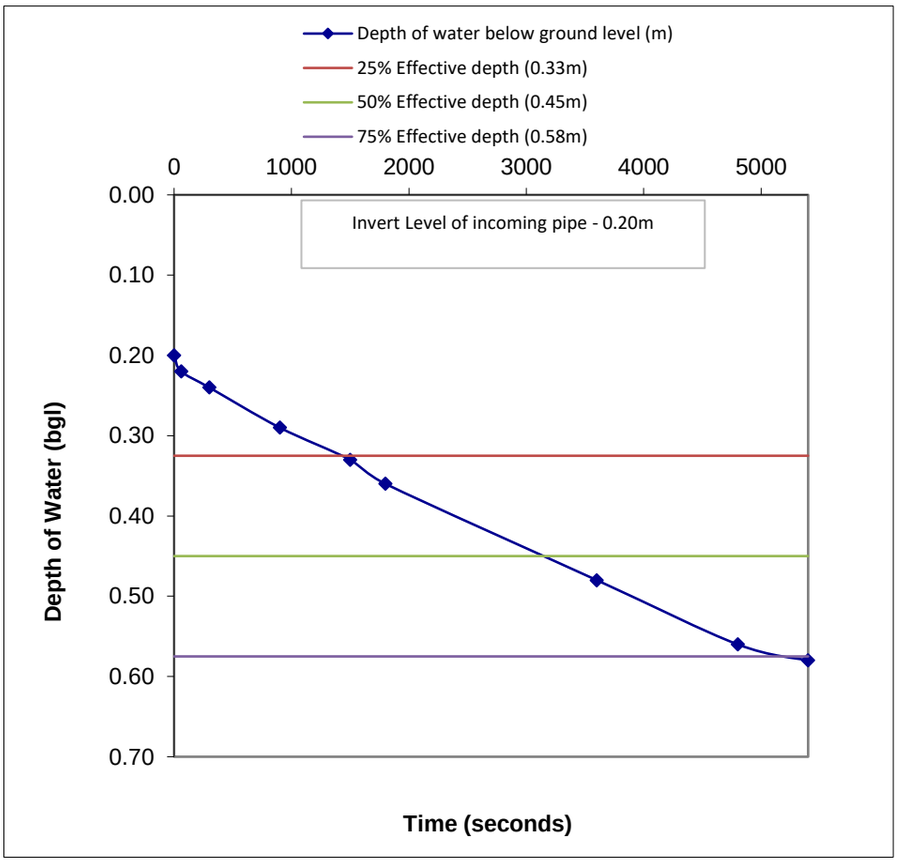
Time	Time Elapsed (min)	Time Elapsed (sec)	Depth of Water below GL (m)
	0.0	0	0.20
	1.0	60	0.22
	5.0	300	0.24
	15.0	900	0.29
	25.0	1500	0.33
	30.0	1800	0.36
	60.0	3600	0.48
	80.0	4800	0.56
	90.0	5400	0.58

Linear extrapolated values for calculation

Location: **SA8** **TEST 3**
Weather: Bright and sunny
Engineer: TN
Date: 16/08/2021

Strata Tested Marlstone Rock Formation





CALCULATION:

Soil Infiltration Rate(f) =
Vp75-25 / (ap50 x tp75-25)

Where:
Vp75-25 = effective storage volume between 75% and 25% effective depth
1.2x0.35x(0.575-0.325)
= **0.105**

ap50 = internal area of TP upto 50% effective depth + base of TP
2(1.2 x) + 2(0.35 x) + (1.2 x 0.35)
= 1.195

Tp75-25 = the time for water level to fall from 75% - 25% effective depth
= **3900** secs

f= **2.25E-05** m/s

Comment

PADDOCK GEO ENGINEERING

Client: Green Square Group
Project No: P21-264
Project: Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN

APPENDIX F

Site Photographs

Photograph of trial pit SA1.

Photograph of arisings from trial pit SA1.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA2.

Photograph of arisings from trial pit SA2.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA3.

Photograph of arisings from trial pit SA3.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA4.

Photograph of arisings from trial pit SA4.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA5.

Photograph of arisings from trial pit SA5.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA6.

Photograph of arisings from trial pit SA6.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA7.

Photograph of arisings from trial pit SA7.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

Photograph of trial pit SA8.

Photograph of arisings from trial pit SA8.

PADDOCK GEO ENGINEERING

Client:	**Green Square Group**
Project No:	**P21-264**
Project Title:	**Tappers Farm, Off Oxford Road, Bodicote, Banbury, OX15 4BN**
Date Taken:	**September 2021**

EXECUTIVE SUMMARY	
Location and Brief Site Description	The site is located off Oxford Road, Bodicote, OX15 4BN. The site comprises predominantly an open field with a farm shop, barns and caravan storage present in the southern corner of the site. No potential sources of contamination were noted on-site.
Ground Conditions	Generalised ground conditions from the ground investigation comprise (top down): • Made ground encountered from ground level to between 0.15m and 0.25m bgl. • Natural strata encountered from 0.15mbgl to between 0.45m and 4.00m bgl. • Solid geology encountered from 0.2m bgl to between 0.65m and 4.00m bgl. • No groundwater was encountered during the investigation, but groundwater was recorded in two boreholes between 2.53m and 3.41m bgl.
Human Health - Soils Contamination	• Arsenic (total) was encountered in all tested samples of made ground and natural soils, above residential screening values with home grown produce, however background soil chemistry showed that elevated arsenic is naturally occurring and an area wide issue. The arsenic concentrations identified on site are not uncommon and can be much higher within the District. • The EHO at the local council advised that concentrations such as the ones recorded are not atypical for the area. They stated that often no remedial measures are required in this situation, as background levels are so elevated, and it would not be cost-beneficial [or sustainable] to enforce a requirement for clean cover / removal of soils across the entirety of the Bodicote area. • The EHO made an outline recommendation that supplementary bioaccessibility testing for the arsenic be carried out. • PBET testing revealed the bioaccessible fraction of arsenic was max. 5.3%and therefore adopting this maximum fraction to convert all total concentrations to bioavailable concentrations, the bioavailable arsenic concentrations are all below the residential screening value of 37mg/kg and no further action is considered to be required. • Localised lead and nickel contamination was encountered in one sample of made ground and one sample of natural clay respectively, above residential screening values with home grown produce. • No other determinands were encountered above their respective screening values. • No asbestos was encountered in any samples. • Statistical analysis found the lead exceedance to be an outlier or hotspot.
Ground Gas	Based on the monitoring to date, the site is classified as Green under the NHBC traffic light classification system. Full radon protection measures are required on-site, which will mitigate against any ground gas. Ground gas monitoring is ongoing, and a full assessment will be undertaken on completion of the scheduled monitoring.
Outline Remedial Strategy	The lead in WS01 is a hotspot which should be mitigated by removal of the source or pathway. The nickel exceedance, when compared with the generic screening criteria for public open space was not found to be in exceedance and therefore based on the current development layout, is not considered a significant risk. Preliminary discussions with the Contaminated Land officer indicate that this is a known issue in the general area and they take a pragmatic view. Physiologically-Based Extraction Testing (PBET) has been undertaken for arsenic, showing that the bioavailable fraction of arsenic is generally very low (5.3% max) and therefore risks are considered to be low, and no further remediation is considered to be required. Full radon protective measures are necessary according to current guidance. Verification of the above will be required, with validation reports produced.
Waste	All samples were screened against the HazWasteOnline screening tool and were all found to be Non-Hazardous. Waste acceptance criteria (WAC) testing was outside of the scope of this investigation. If it is anticipated that the gravel strata in the vicinity of WS01 is to be removed from site or re-used on-site, that this material is segregated for additional testing. It should not be utilised in any areas where contact with site end-users is possible due to elevated lead concentrations.

EXECUTIVE SUMMARY	
Foundations and Floor Slabs	Strip foundations are considered suitable. In the northern and eastern areas of the site, these can found on natural limestone gravel at a minimum of 0.45m bgl, providing allowable bearing capacities of upwards of 250kN/m^2. In the southern area, bearing on the weathered marlstone will be required at a minimum of 0.90m bgl, providing an allowable bearing capacity of 110kN/m^2. Localised deepening to 2.00m bgl in the area of WS01 and WS02 will be required, providing at bearing capacity of 140kN/m^2 at this depth. In WS07, where interbedded clay and gravel was encountered, foundations can found on the first gravel layer at 1.0m bgl, providing a bearing capacity of at least 150kN/m^2. The foundation solutions detailed above would keep total settlement within acceptable limits, although in transitional areas foundations would need adequate reinforcement to mitigate against differential settlement. Suspended floor slabs are recommended, however ground bearing floor slabs may be adopted.
Concrete Classification	DS-1 AC-1 conditions prevail.
Highways Design	Superficial Strata CBR – cohesive/fine soils– 3-5% Superficial Strata CBR – granular/coarse soils– up to 60% The above should be confirmed by in-situ testing at formation level by a specialist geotechnical engineer during construction.
Sustainable Drainage Systems (SUDS)	Drainage to soakaways is considered potentially suitable for this site. Indicative soil infiltration rates range from 1.43x10^{-5}m/s to 1.46x10^{-4}m/s.
Further Work	The following further works will be required to progress to the construction phase: • Completion of ground gas monitoring programme. • Issue gas assessment / update gas assessment within this report. • Design of Remedial Strategy and confirmation with the Local Authority, if required. • Demolition Asbestos survey. • Tree survey by qualified arboriculturist. • Detailed foundation design by a structural engineer, including foundation zonation plan and depth schedule. • Production of Ground Gas Protection Measures Verification Plan, if required. • Production of Materials Management Plan (MMP) under the CL:AIRE DoWCoP, if required. • Implementation of the Remedial Strategy and verification of the remedial works.

This executive summary should be read in conjunction with the full report, reference JW/C3797/9600 and not as a standalone document.

PROJECT QUALITY CONTROL DATA SHEET

Site Name:	Oxford Road, Bodicote		
Document Name:	Geo-Environmental Assessment Report		
Reference:	JW/C3797/9600		
Status:	-	06/11/2020	Interim.
	-	01/12/2020	Final.

Issued By:	**Client:**	**Engineer:**
Brownfield Solutions Ltd Unit 5 Alfred Court Saxon Business Park Stoke Prior Bromsgrove Worcestershire B60 4AD Tel: 01215 729014 brownfield-solutions.com	Hollins Strategic Land Suite 4 1 King Street Manchester M2 6AW	
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Director

4.0 METHOD OF INVESTIGATION

4.1 Objectives

To confirm the risks to the identified receptors and confirm the ground conditions in respect to the identified geotechnical and geo-environmental risks, an appropriate intrusive investigation was undertaken as per the recommendations of the Phase I Desk Study Assessment.

The aim of the fieldwork was to:

- Investigate ground conditions on the site.
- Install standpipes to allow future monitoring.
- Assess the potential contamination on the site and obtain samples for contamination screening.
- Assess the potential impact of any contamination on controlled waters.
- Obtain geotechnical information on the ground conditions at the site for preliminary foundation design and preliminary pavement design purposes.
- Give an assessment of the geo-environmental risks associated with redevelopment of the site.

4.2 Site Works

The following site works have been undertaken as part of the intrusive investigation between the dates of 16th and 18th September 2020. Supplementary hand dug trial pits were undertaken on 5th November 2020.

Method	No.	Range Depths (m bgl)	Purpose
Trial pits – JCB 3CX	7	2.05 – 2.75	Establish general ground conditions and gain good coverage. Allow hand shear vane tests (HSVs) to be carried out on suitable cohesive arisings and obtain samples for contamination and geotechnical testing.
Window sample boreholes – Tracked WS rig	8	0.90 – 4.00	Establish general ground conditions on site. Allow Standard Penetration Tests (SPTs) to be carried out and obtain samples for contamination and geotechnical testing. Installation of ground gas and water monitoring wells.
Infiltration tests (2 tests per location)	3	1.286 – 1.575	Obtain infiltration rates for drainage design.
Trial pits – hand dug	3	0.20 – 0.70	TP03A, TP06A and WS07A were undertaken as supplementary works on 5/11/20 to obtain additional targeted samples for total and bioaccessible arsenic analysis.

The surveyed locations of the exploratory holes are indicated on the Exploratory Hole Location Plan, Drawing No C3797/02. The exploratory hole logs are presented in Appendix B.

The exploratory holes were logged by an experienced geo-environmental engineer in general accordance with the following guidance:

- BS 5930:2015+A1:2020 Code of Practice for Site Investigations.
- BS EN 14688-1:2018 Geotechnical Investigation and Testing – Identification and classification of soil.
- BS EN ISO 14689:2018 Geotechnical investigation and testing – Identification and classification of rock.

In the south of the site (WS01, WS02, WS06, WS07, TP01, TP02) the topsoil or made ground was underlain by sand to depths of up to 0.8m bgl (TP01) and was underlain by thicker clay soils which were generally described as stiff, however locally soft and lower strength clays were encountered (low SPT values of 3 and 4 were recorded at 1.2m bgl in WS01 and WS02 respectively, and were in part described as damp and soft or firm). In WS01 and WS02 the SPT values improved below 2.0m bgl.

The shallow clay was present to depths of up to 3.0m bgl (WS02) in this area, and in WS02 and WS07, the thick clay was interbedded with thinner layers of gravel (sub 0.5m thick), ultimately refusing (SPT N-Value >50) in the weathered bedrock at circa 4.0m bgl.

In TP01, TP02 and WS01, located to the south of WS02 and WS07, the weathered bedrock (gravel/cobbles) was encountered between depths of 2.2m and 2.5m bgl.

The inferred boundary between the shallow bedrock and thicker clay deposits is shown on the attached Ground Conditions Plan, C3797/03.

5.5 Groundwater

No groundwater was encountered during the main investigation, although the strata was locally described as damp. Water was encountered during the monitoring programme from visit 2, however it's likely that this water was perched and has seeped into the boreholes. The depths and locations present are shown in the table below:

Location	Depth During Monitoring Period, where encountered (range) (m)
WS01	2.53
WS02	2.70 – 3.15
WS04	NGW
WS05	NGW
WS06	NGW
WS07	2.97 – 3.41

5.6 Observations

Contamination
During the works undertaken by BSL, no visual or olfactory evidence of contamination was observed.

Stability of Excavations/Boreholes
The sides of the trial pits were generally stable. Minor collapses occurred in the clay deposits when undertaking infiltration testing in SA01.

The majority of the exploratory holes refused on the limestone encountered across the site. The only two locations that penetrated the limestone gravel, cobbles and boulders were WS02 and WS07. As these locations were in close proximity of each other, it's likely that this area has undergone a higher degree of weathering than the rest of the site.

6.0 TEST RESULTS

6.1 Geotechnical Laboratory Testing

Plasticity Index Analysis
Plasticity index results ranged between 16% and 35%, indicating the cohesive soils to be generally of high to very high plasticity, with one sample of medium plasticity. Associated water contents ranged between 20% and 48%.

After modification of particle size in accordance with NHBC Chapter 4.2, the modified plasticity indices are in the range 8.96% to 30.10% indicating the cohesive soils to be of very low to medium volume change potential.

6.2 Aggressive Ground Conditions – Geotechnical Chemical Testing

The test results for the assessment of aggressive ground conditions are presented in Appendix D. The results are summarised and assessed within Section 8.0 of this report.

6.3 In Situ Geotechnical Testing

In Situ Hand Shear Vane Tests
In general, the cohesive soils were unsuitable for shear vanes due to the gravel content. However, four hand shear vane tests were carried out on suitable cohesive soils recovered from the trial pits. Each shear vane result recorded represents the mean value of three tests undertaken at the specified depth.

The results and distribution of the hand shear vane tests are recorded in kPa on the Exploratory Hole Logs which are presented in Appendix B.

In Situ Standard Penetration Tests
Standard Penetration Tests (SPTs) were carried out within the window sample and cable percussive boreholes at regular 1.0m to 1.5m intervals. The results of the individual blows and the N-values are recorded on the Exploratory Hole Logs in Appendix B.

All SPT N values are uncorrected. Density and strength descriptors are reported in accordance with the guidelines stated in BS 5930:2015+A1:2020, incorporating requirements of BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003.

Soil Infiltration Test Results
Soil infiltration test tests were undertaken within trial pits at 3 No. locations across site, a summary of the results is presented in the table below. These were carried out in general accordance with BRE Digest 365 (BRE 2016) where infiltration rates allow three test runs during a working day (or where there is no infiltration), but where low infiltration rates were encountered the available time may not have been sufficient to fully comply with the BRE test method.

Where less than three tests were possible in a particular location the results provided should be considered as indicative only. Further discussion concerning the suitability of infiltration testing at the site is provided in Section 7.9.

Location	Stratum Type	Depth (m)	Infiltration Rate (m/sec)	
			Test 1	Test 2
SA01	Sandy clayey GRAVEL with high cobble content	Test 1: 1.575 Test 2: 1.510	$2.23x10^{-5}$	$1.43x10^{-5}$

Location	Stratum Type	Depth (m)	Infiltration Rate (m/sec)	
			Test 1	Test 2
SA02	Sandy GRAVEL with high cobble content	Test 1: 1.507 Test 2: 1.405	$4.66x10^{-5}$	$8.93x10^{-5}$
SA01	Sandy GRAVEL with high cobble content	Test 1: 1.370 Test 2: 1.286	$1.46x10^{-4}$	$1.44x10^{-4}$

The full test results are presented in Appendix D.

6.4 Geo-Environmental Testing

Chemical Laboratory Testing
The chemical test results for soils are presented in Appendix C. The results are summarised and assessed within Section 8.0 of this report.

Ground Gas Monitoring
Monitoring installations have been monitored on 5 occasions to date out of 6 visits scheduled. The results are presented in Appendix E and are summarised and assessed within Section 8.0 of this report.

For the purposes of this assessment, it is likely that groundwater is present within the permeable bedrock and therefore the groundwater has been classed as mobile.

Stratum	No. Samples	Characteristic SO_4 (g/l)	Characteristic pH	DS Class	ACEC Class
Made Ground	2	0.034	7.1	DS-1	AC-1
Weathered Bedrock	8	0.0325	7.6	DS-1	AC-1
Solid Geology	2	0.018	7.9	DS-1	AC-1

Based on the above, the results of laboratory pH and sulphate content, alongside the BRE full suite tests, indicate that sulphate class DS-1 and ACEC Class AC-1 conditions prevail in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005.

The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site-specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

7.8 Highways

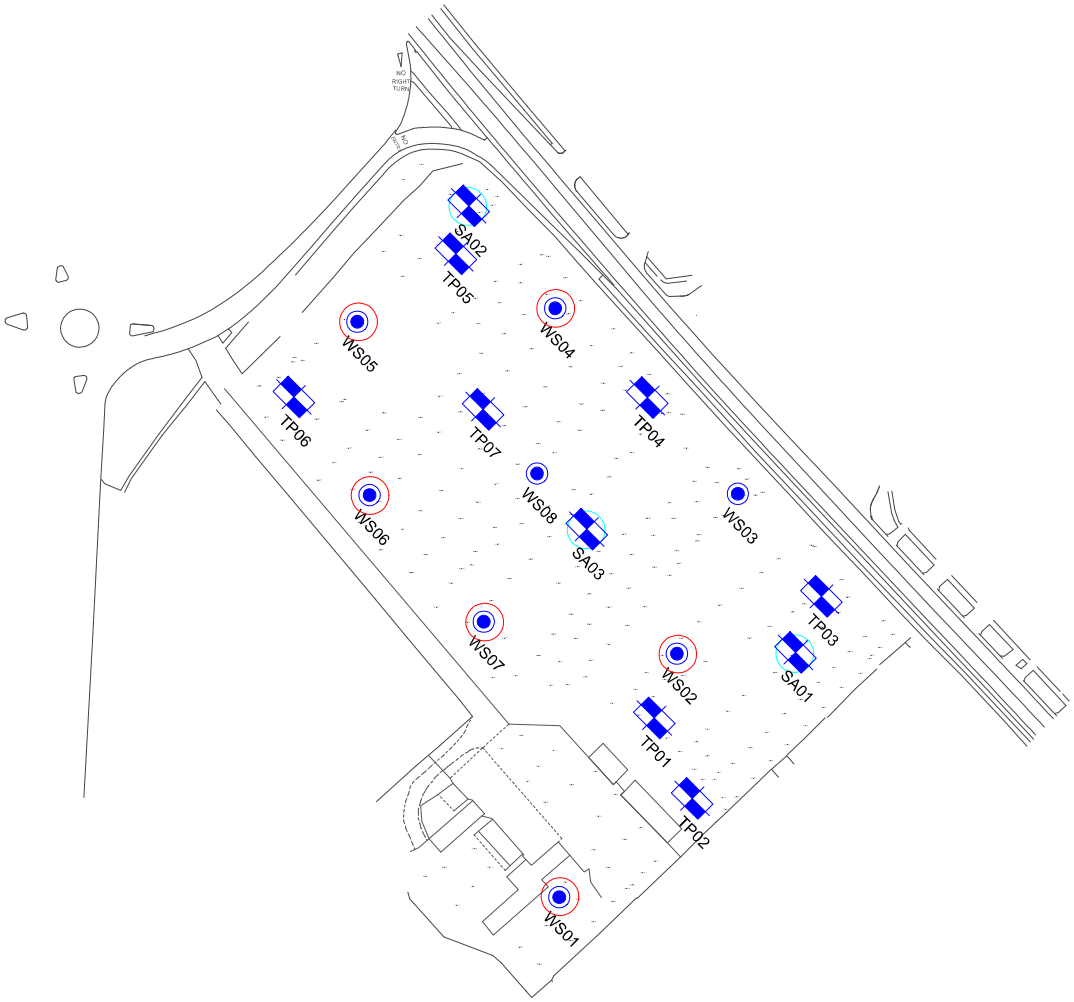
Based on Table 5.1 from DMRB IAN 73/06 Rev 1 equilibrium CBR values of up to 60% are likely to be achieved in undisturbed natural granular soils and 3-5% for natural clays soils for pavement design purposes, unless proven otherwise by in-situ testing at formation level by a specialist geotechnical engineer.

Based on the fines content of the soils, they are considered to be frost susceptible, therefore highway construction should be a minimum thickness of 450mm to mitigate against the risk.

Care should be taken to ensure the stratum at formation level is protected against inclement weather, as this is likely to lead to surface deterioration and a decrease in soils strengths.

7.9 Sustainable Drainage Systems (SUDS)

The tests undertaken across the site indicate good drainage conditions. Based on the infiltration rates obtained, in the order of 10^{-5} and 10^{-4} m/s, it is likely that drainage to soakaways will be feasible at the site. We recommend the design of soakaway drainage is carried out in accordance with BRE 365 and CIRIA C753. Consideration should also be given to future maintenance, as the infiltration capacity can be reduced over time as a result of blinding through ingress of fines.



KEY

- TRIAL PIT (TPXX)
- WINDOW SAMPLE BOREHOLE (WSXX)
- SOAKAWAY INFILTRATION TEST
- BOREHOLE INSTALLATION

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS REPORTS. THIS DRAWING IS COPYRIGHT OF BSL.
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REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD

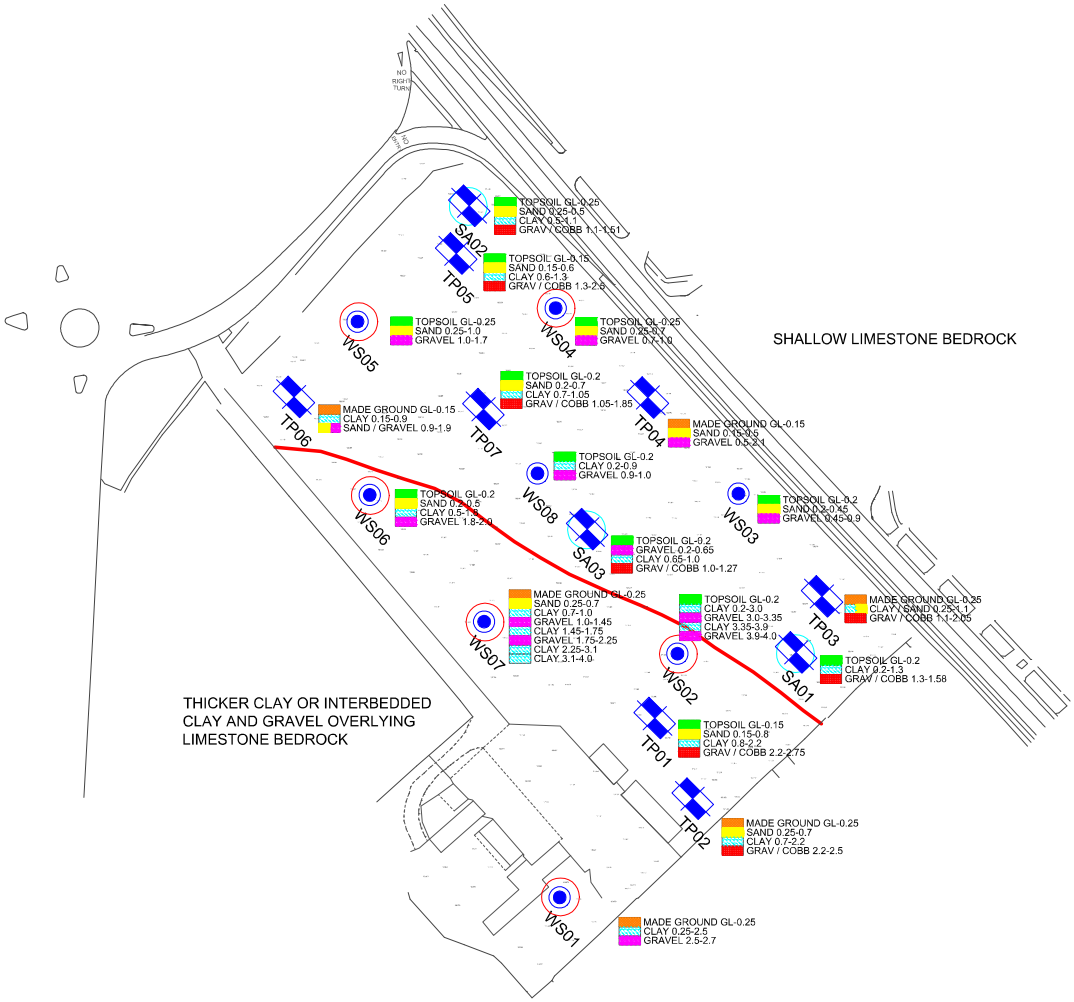
CLIENT
HOLLINS STRATEGIC LAND

PROJECT TITLE
BODICOTE, OXFORDSHIRE

DRAWING TITLE
EXPLORATORY HOLE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C3797/02	-	NTS	15/09/20

DRAWN BY	CHECKED BY
JW	WG



KEY

- TPXX — TRIAL PIT
- WSXX — WINDOW SAMPLE BOREHOLE
- SOAKAWAY INFILTRATION TEST
- BOREHOLE INSTALLATION
- INFERRED BOUNDARY BETWEEN SHALLOW BEDROCK AND THICKER CLAY DEPOSITS

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
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REV	DATE	DESCRIPTION	BY

BROWNFIEL
SOLUTIONS LT

CLIENT
HOLLINS STRATEGIC LAND

PROJECT TITLE
OXFORD ROAD, BODICOTE

DRAWING TITLE
GROUND CONDITIONS PLAN

DRAWING No.	REVISION	SCALE	DATE
C3797/03	-	NTS	20/10/2

DRAWN BY	CHECKED BY
JW	WG