



Flood Risk Assessment

Land South of Barnham Road, Eastergate, PO20 3RT

Client

Landacre (Eastergate) Ltd
Stockers Farm
Salthill Road,
Chichester
West Sussex, PO19 3PY
Ref: 10635
Date: November 2020

Consulting Engineers

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Issue	Issue date	Compiled	Checked
Preliminary Issue	16 November 2020	JP	MR
Second Issue	23 April 2021	JR	MR

1 Introduction

- 1.1 This report has been prepared for Landacre (Eastergate) Ltd in relation to land south of Barnham Road, Eastergate, PO20 3RT. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.
- 1.2 GTA Civils & Transport Limited was appointed by the client to provide a Flood Risk Assessment (FRA) as requested by the Environment Agency (EA) and Arun District Council in order to achieve Planning Approval at said property.
- 1.3 This report has been prepared in accordance with the 2019 National Planning Policy Framework (NPPF) and the current Planning Practice Guidance (PPG).

2 Existing Site and Current Flood Conditions

- 2.1 This greenfield application site lies in the area administered by Arun District Council (ADC), with a site area of 3.78ha. It is centred at 494970E, 105100N. Site location maps and an aerial view are shown in Appendix A.
- 2.2 Hydrology: The nearest Main River is the Arun, which is approximately 6km to the east. This site is in the catchment of the Lidsey Rife. There are a number of drains to the west and south, with a ditch along the south boundary, linking to the closest marked drain on the OS explorer map - to the southwest.
- 2.3 A topographical survey is contained in Appendix B. The survey shows the land as having a gentle slope from north to south, with ground levels to AOD ranging from +10.36m to +11.82m. There is a ditch watercourse on the south boundary that flows to the SE and onwards to the English Channel via the Ryebank Rife to the south.
- 2.4 Geology: the BGS's online map indicates the solid geology is London Clay Formation (clay, silt and sand), with River Terrace Deposits (drift sand, silt and clay) overlying.
- 2.5 A series of 3 windowless soil samples was taken and winter groundwater monitoring undertaken between 25/11/19 and 03/03/20. The highest level recorded level was in WS1, namely 0.42m bgl. Otherwise the recorded levels were, in the main over 1m bgl – or significantly greater. When the highest recorded depths are subtracted from the ground level at each well location, the groundwater level to OD is quite consistent across the site at approximately +10.00m AOD. Refer to Appendix F for these graphs and borehole locations.
- 2.6 The EA's Online Flood Map for Planning (Rivers and Seas) (see Appendix C) shows the site lying in Flood Zone 1 (FZ1) – Low Risk. Inland sites in FZ1 have less than a 1 in 1000 annual probability (1 in 1000 years) of fluvial flooding. There is no risk of tidal/coastal flooding as the site is many kilometres from the coast.
- 2.7 Surface water flooding: The EA's online Surface Water Flood Depth Map for the 'Low Risk Scenario' (1 in 1000 years storm event) - in Appendix C - shows the site to be removed from this source of flooding.
- 2.8 Groundwater flooding: There are no records of groundwater flooding in this vicinity according to ADC's SFRA. Appendix C shows the SFRA's Indicative Risk of Groundwater Flooding Map (G1). The site is in the lowest risk area, namely 'Medium'.

- 2.9 Groundwater aquifers: The site overlies a Low Groundwater Vulnerability Zone and is removed from all Source Protection Zones – refer to the EA online map excerpts in Appendix C.
- 2.10 Artificial flooding: The site is outside of any risk area associated with reservoir failure flooding (see the EA's Online 'Risk of Flooding from Reservoirs' Map in Appendix C). There are no docks or canals in this area.
- 2.11 Historical flooding: This site is removed from the nearest historically affected area.
- 2.12 In conclusion, the site's flood risk profile is Low. It is removed from *all* known sources of flooding.

3 Proposed Development & Drainage Strategy

- 3.1 The proposal is to build 44 new dwelling houses. The proposed site layout is included in Appendix D.
- 3.2 Vulnerability: Table 2 of the PPG for 'Flood risk and coastal change' indicates dwelling units are classed as 'More vulnerable'.
- 3.3 As concluded in Section 2.11, the flood risk of this site is Low. No flood mitigation is necessary or proposed as More Vulnerable uses are appropriate development in FZ1.
- 3.4 SuDS Hierarchy: Soakage testing to BRE365 has been undertaken during the winter months above the highest groundwater level taken from winter groundwater monitoring – refer to Appendix F for this data. The results range from 9.92×10^{-6} m/s to 1.99×10^{-5} m/s based on the 3rd test carried out in each pit.
- 3.5 As the soakage test results are high enough to permit infiltration, development runoff will be disposed to ground using the following infiltration methods:
- Permeable paving to all shared surfaces and private driveways;
 - Properties to drain to individual cellular soakaways located in each rear garden;
 - Main road to drain to infiltration blanket and basin.
- 3.6 A Site Drainage Strategy drawing showing these SuDS elements in plan is in Appendix D. All of the infiltration devices are set above the highest recorded winter groundwater level of approximately +10.000. To achieve this, the open space area adjacent to the southern boundary in which the infiltration blanket and pond are to be sited will require land raising of 250-500mm above existing ground levels. To allow sufficient fall to connect the road drainage into the infiltration blanket and basin, raising of land up to a potential maximum of 1m will be required in the southern third of the site, however, this land raising can be tapered to the boundaries so the adjacent land will not be affected.
- 3.7 The infiltration blanket and basin, which are located within raised ground, will be lined to the sides to prevent unintended flow into the nearby watercourse by lateral infiltration.
- 3.8 Micro Drainage output sheets included in Appendix E demonstrate that sufficient storage capacity is available within each of the infiltration devices (permeable pavings, cellular soakaways, infiltration blanket and basin) for all events up to the '1 in 100 annual probability'

with 40% allowance included for climate change. FEH Rainfall data was used in this calculation. The results also show that the maximum water level from the 1 in 10 year event does not exceed the inlet's invert level to the basin.

- 3.9 Pollution control: runoff from the north-south stretch of the main site road will be intercepted by a filter drain which will provide water treatment via gravel strip/trench . All runoff from the main road is shown routed through the infiltration basin prior to discharging to the blanket. The basin will provide treatment by virtue of it being an open SuDS feature.
- 3.10 Exceedance event: the resulting flow would be south – southwest, into the ditch and onwards into the Rife.
- 3.11 Ownership and maintenance responsibilities for the proposed drainage system will remain with the applicant. A Management and Maintenance Plan will be drawn up at the next stage. Each SuDS component (feature) will be listed with inspection periods and maintenance regime, in line with industry standards – compliant with CIRIA guidelines as set out in the SuDS Manual (C753).
- 3.12 Lidsey Foul Water Environmental Assessment: the strategy layout in Appendix D illustrates the proposed foul layout with connection shown to the existing public sewer at MH ref 9202. This new connection will be subject to a Section 106 Agreement with Southern Water.
- 3.13 The Arun Strategic Surface Water Management Study (2015) states that there was insufficient capacity at Lidsey Wastewater Treatment Works (WWTW) at that time and it was not viable to increase loads into the WWTW. Southern Water stated their determination to use their AMP 7 funding to increase this WWTW's capacity during 2020 and 2025. As there will be a lag between now and the development's completion, it would be unwise to propose installing a bespoke sewage treatment plant on this site, if additional capacity is only a few months away.
- 3.14 The fall back (alternative) option to routing the development's foul effluent to the WWTW, is to install an underground sewage treatment plant near to the south boundary. This will be subject to the EA's Standard Environmental Permit as the daily volume will exceed 5m³. Any STP will conform to BS/EN 12566 pt3 with the treated water routed into the watercourse. The outfall headwall will be subject to Ordinary Watercourse consent from the LLFA.

4 Conclusions

- 4.1 The application site lies within FZ1 and the site's overall flood risk profile is Low.
- 4.2 A SuDS strategy for the development has been prepared in which all surface water runoff is shown discharging to ground via permeable pavings, cellular soakaways and an infiltration blanket and basin. The infiltration storage has been sized for the the 1 in 100 annual probability events plus 40% with results winter soakage testing to BRE365. The highest winter groundwater level has been taken into account with all infiltration devices set above this.
- 4.3 The first option for the development's foul effluent is to route it to the local Lidsey Wastewater Treatment Works, whose capacity is due to be enlarged, certainly prior to 2015, according to the 2015 Arun Strategic Surface Water Management Study.
- 4.4 If this is not viable the alternative is to install an underground sewage treatment plant near to the south boundary.
- 4.5 The proposed development complies with the NPPF/PPG in terms of flood risk and drainage.

- End of Report -

Appendix A

Site Location Maps & Aerial Photo







Appendix B

Topographic Survey and Sewer Records

Year	Series	Topic	Source	Method	Sample	Depth	Width	Height
1990-1991	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
1992-1993	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
1994-1995	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
1996-1997	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
1998-1999	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
2000-2001	USPS	ACS	1	1	1	1	1	1
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2002-2003	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2004-2005	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2006-2007	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2008-2009	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2010-2011	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2012-2013	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2014-2015	USPS	ACS	1	1	1	1	1	1
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2016-2017	USPS	ACS	1	1	1	1	1	1
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	USPS	ACS	1	1	1	1	1	1
2018-2019	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
2020-2021	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1
	USPS	ACS	1	1	1	1	1	1

Year	Series	Topic	Source	Method	Sample	Depth	Width	Height
1990-1995	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
1996-2000	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
2001-2005	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
2006-2010	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
2011-2015	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
2016-2020	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1
	USPS	Mail	ACS	1	1	1	1	1

[illegible][illegible][illegible][illegible]

Diagram illustrating the components of a multi-directional tree canopy measurement:

- Fences
- Kerb
- Walls
- Stairs
- Change of Surface
- Footpath
- Bank Top
- Bank Bottom
- Building
- Building Overhead
- Roof heights
- Flower Bed
- Overhead Cable
- Road Edge
- Hedge Row
- Canopy
- Edge of vegetation

Multi directional tree canopy

Trunk position at ground level

Multi hole

No. 38

Tree number

Edge of canopy

Diagram illustrating the components of a multi-directional tree canopy measurement:

- Fences
- Kerb
- Walls
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- Change of Surface
- Footpath
- Bank Top
- Bank Bottom
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- Roof heights
- Flower Bed
- Overhead Cable
- Road Edge
- Hedge Row
- Canopy
- Edge of vegetation

Multi directional tree canopy

Trunk position at ground level

Multi hole

No. 38

Tree number

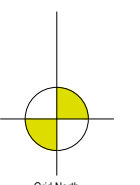
Edge of canopy

Tree species should be confirmed by an arboricultural consultant if critical
Trunk sizes are measured at 1.5m above ground level

Eaves heights (where shown) are taken at the end of the tile / top of guttering.
Ridge heights are taken at the top of the ridge tile.
Service covers indicated where visible at time of survey

Tree species should be confirmed by an arboricultural consultant if critical
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Eaves heights (where shown) are taken at the end of the tile / top of guttering.
Ridge heights are taken at the top of the ridge tile.
Service covers indicated where visible at time of survey



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Client	Landacre (Eastergate) Ltd
Drawing Title	Topographic Land Survey

Location
Barnham Road, Eastinggate, Chichester, West Sussex, PO20 3RT

The grid and datum for this survey is based on the

Ordinance Survey grid USGB36, site centered on control station GPS1 with a scale factor of 1.00

LEVELS BASED ON	CGGB36	Surveyor:-	SB	Assistant:-	TC
GRID BASED ON	CGGB36	Drawn By:-	SB	Checked by:-	JB

Drawing & CAD Ref. 20346	REVISIONS
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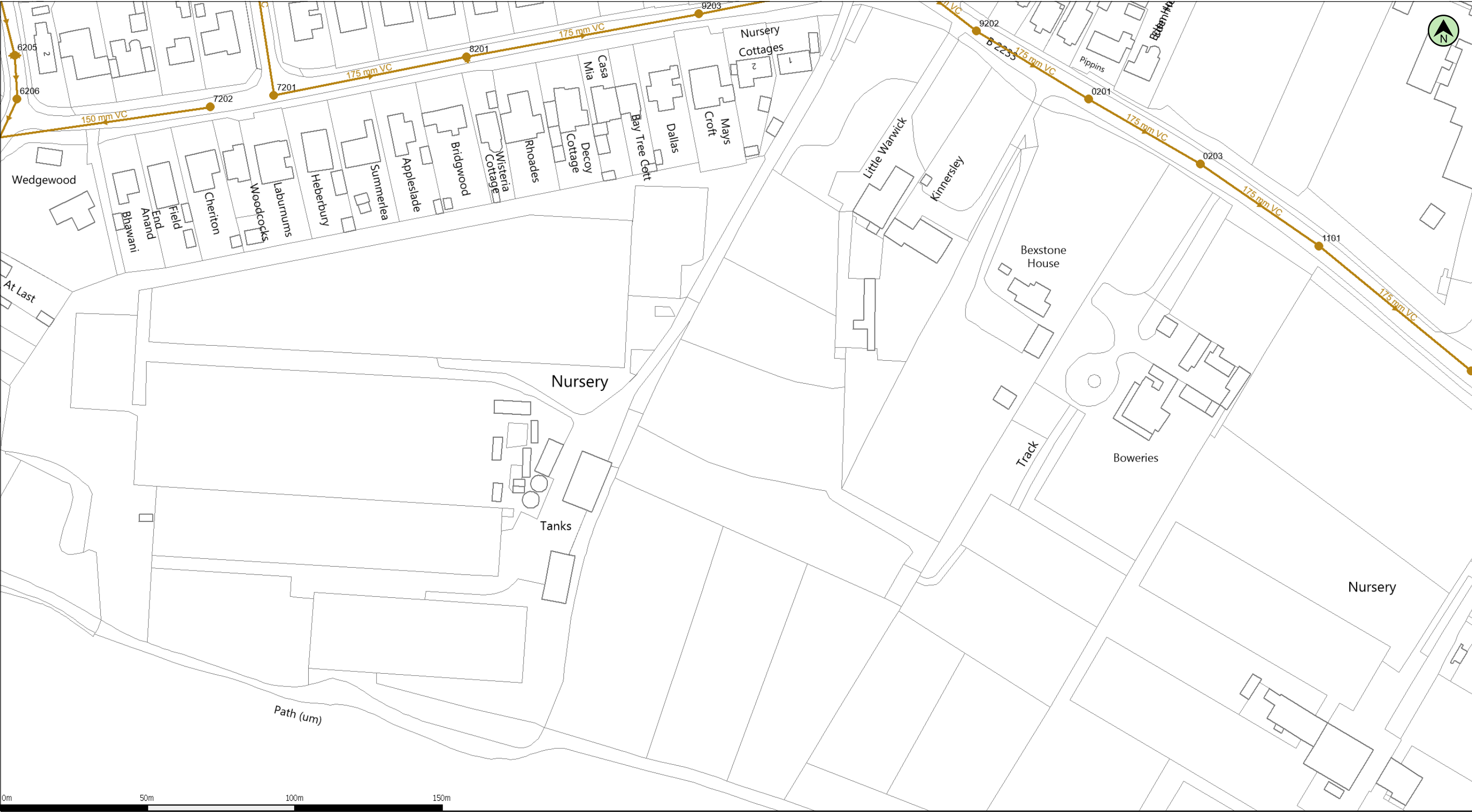
SCALE (when printed) 1:500 @ A1	Date 6th May 2020	MEMBERS OF
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Removal of this block also removes all warranties
This drawing has been created for use at a scale of 1:500
All critical dimensions, positions and levels to be checked on site

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Date: 04/05/20

Scale: 1:1250

Map Centre: 494917,105140

Data updated: 01/04/20

Our Ref: 386029 - 1

Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2020 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

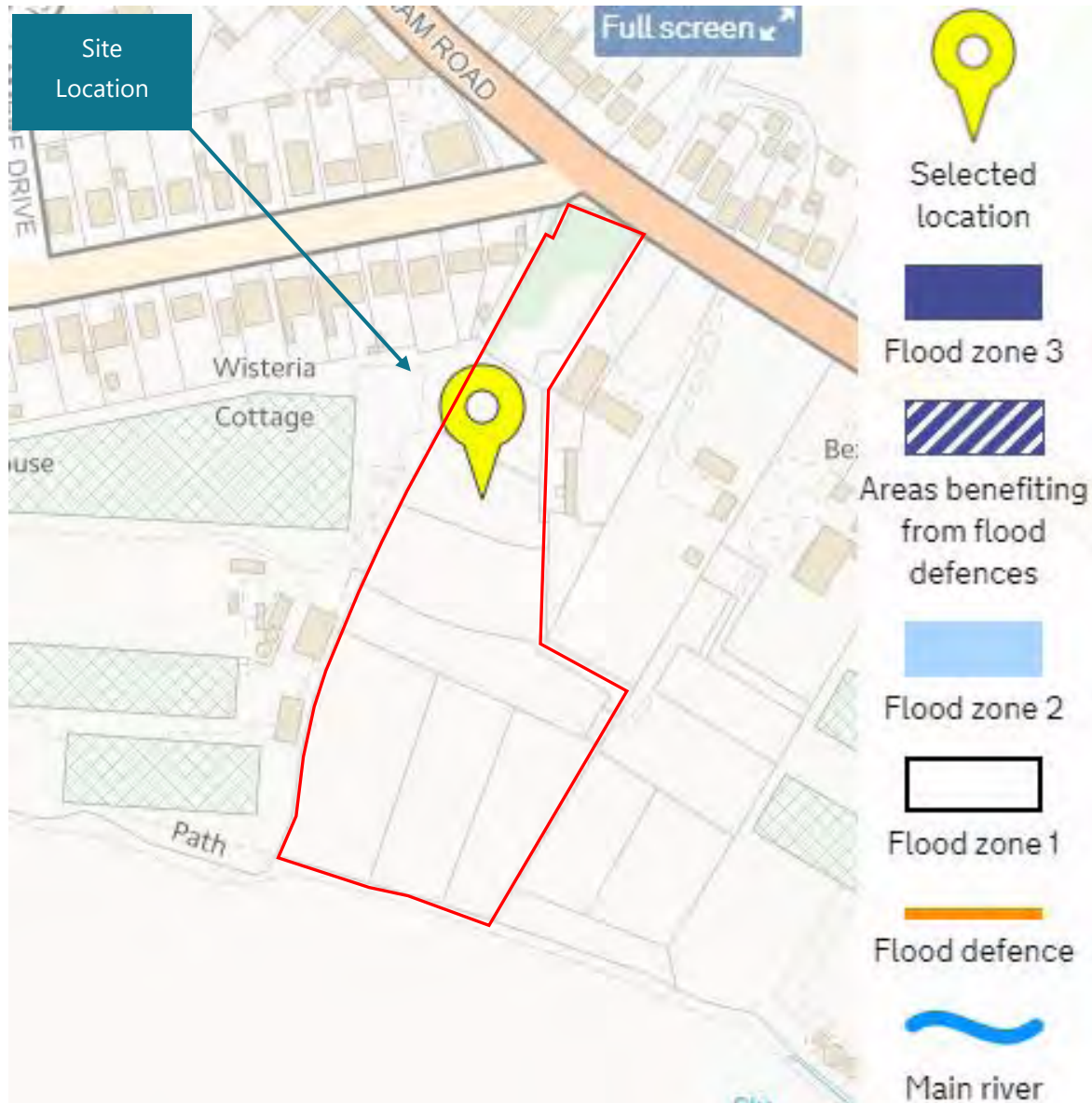
duncan@cornerstoneprojects.co.uk

U06-20



Appendix C

Environment Agency & SFRA Flood and Groundwater Maps

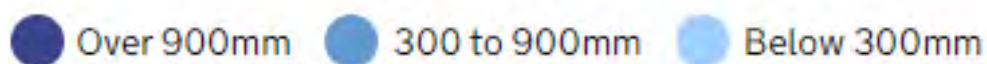


EA's Online Flood Map for Planning (Rivers and Seas)

The site falls within Flood Zone 1 (FZ1)



Surface water flood risk: water depth in a low risk scenario
Flood depth (millimetres)

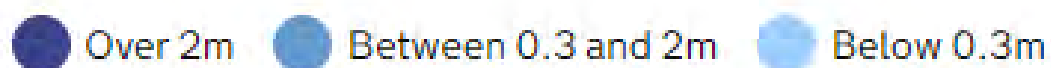


EA's Online Surface Water Flood Depth Map in the 'Low Risk Scenario'
(1 in 1000 years storm event)

The site is removed from this source of flooding

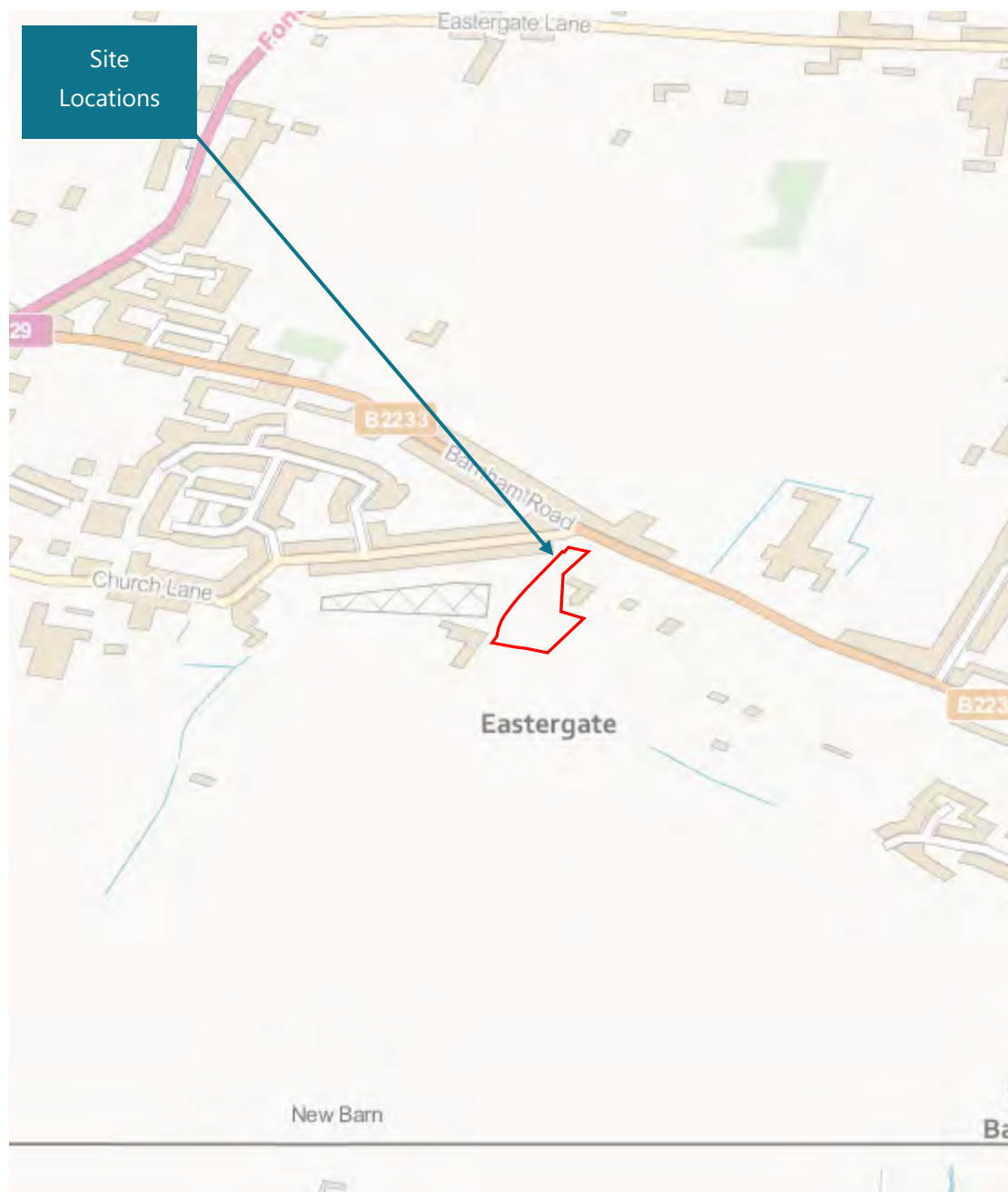


Reservoir flood risk: flood water depth



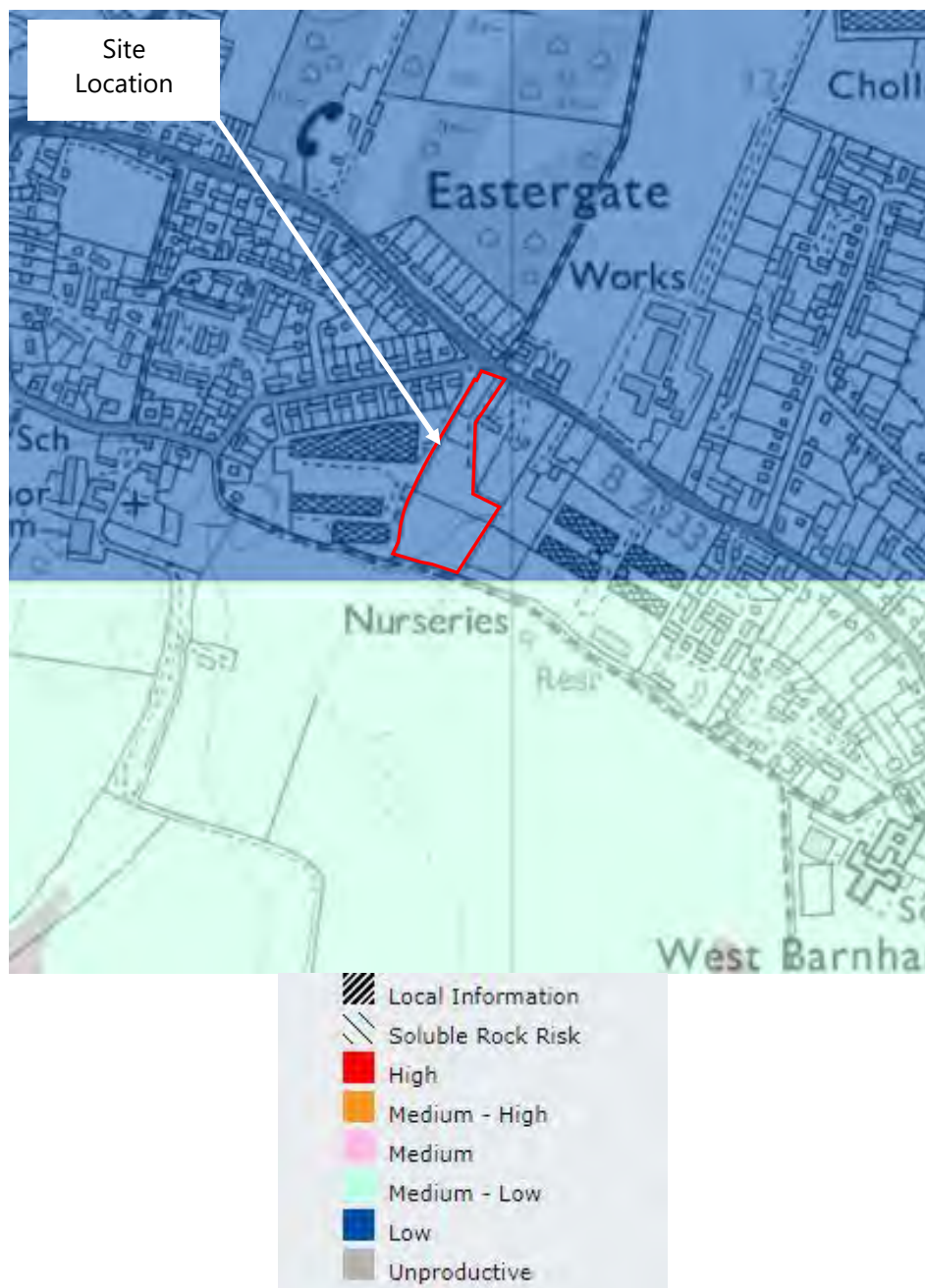
EA's Online 'Risk of Flooding from Reservoirs' Map

The site is removed from this source of flooding



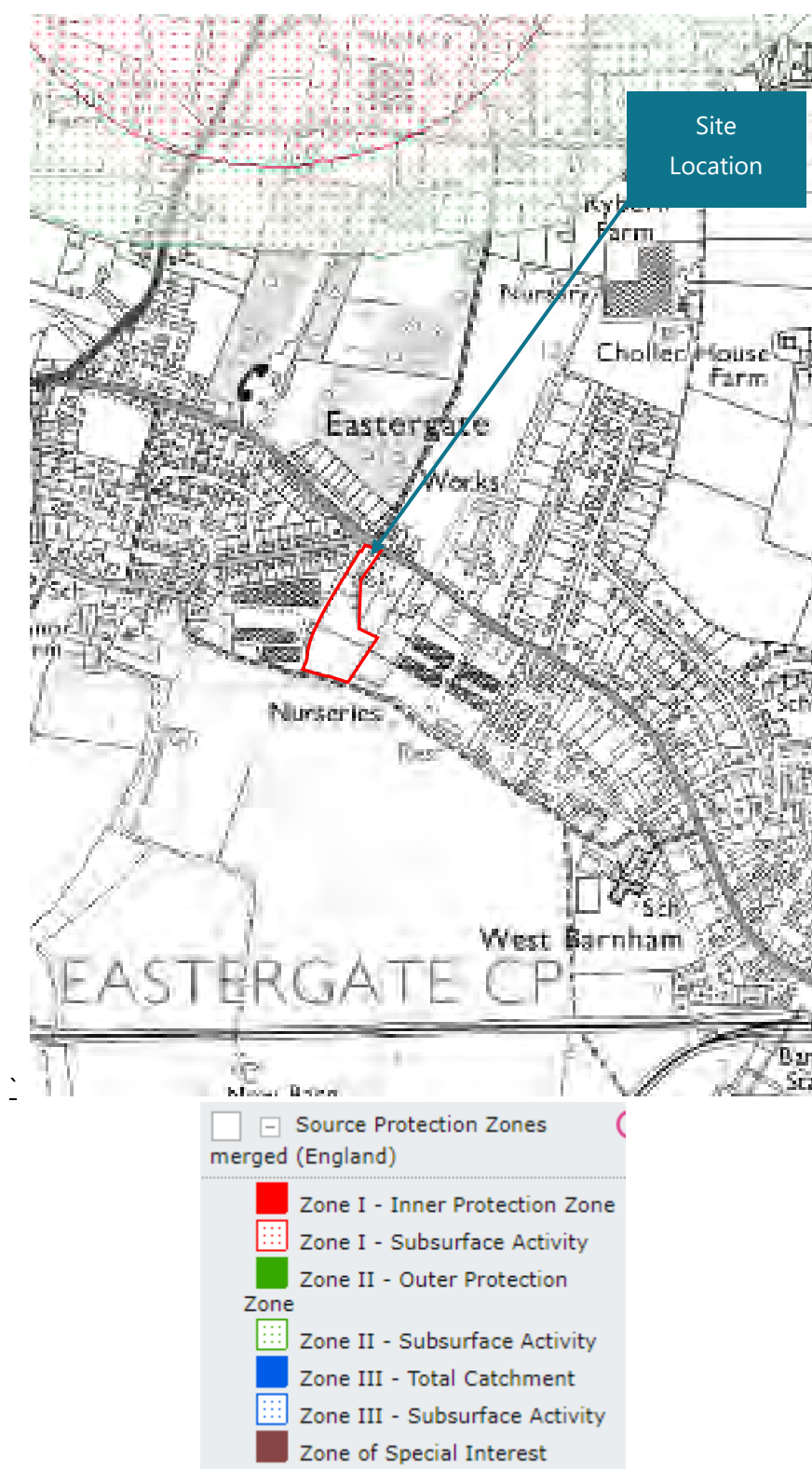
EA's Historic Flood Map

This site is removed from the nearest affected area



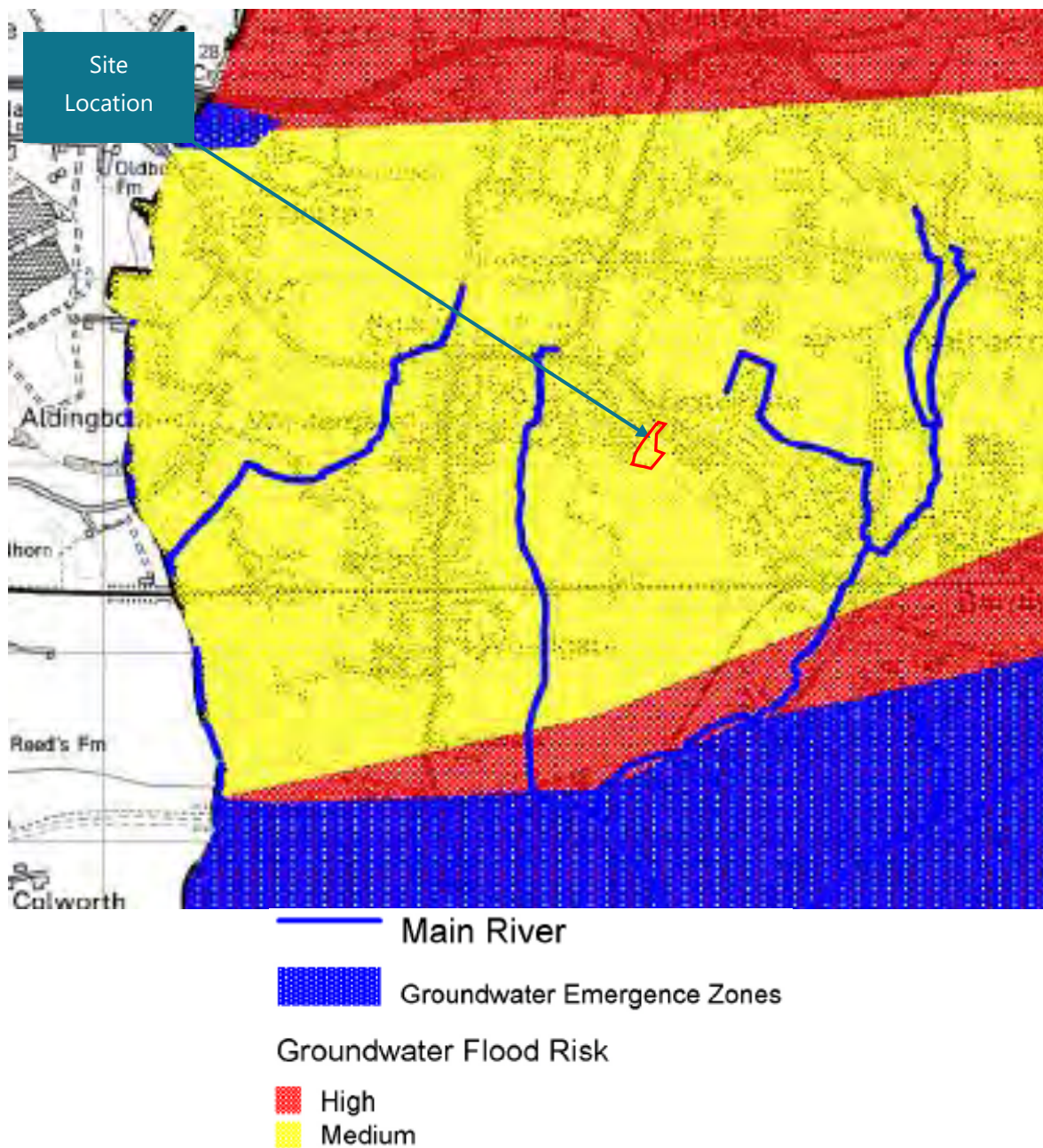
EA's Groundwater Vulnerability Map

This site overlies a "Low" GWV Zone



EA's Source Protection Zone Map

The site is removed from the nearest Source Protection Zone



Excerpt from SFRA's "Map G1: Indicative Risk of Groundwater Flooding"

The site is in the Medium risk zone – the lowest risk area

Appendix D

Proposed Scheme Drawings



ACCOMMODATION SCHEDULE

Affordable Provision		13 Dwellings
Affordable Rent		
2no.	1-Bed Flats	
2no.	2-Bed Flats	
2no.	2-Bed Flats Part M4(3)	
1no.	3-Bed Houses	
Shared Ownership		
3no.	2-Bed Houses	80sqm
3no.	3-Bed Houses	92sqm
Open Market Provision		31 Dwellings
6no.	2-Bed Houses	
13no.	3-Bed Houses	
2no.	3-Bed Townhouses	
10no.	4-Bed Houses	
Total:		44 Dwellings [1.72 Ha - 25.6 Dw/Ha]
Car Parking:		2 spaces per 1, 2 & 3-Bed dwellings 2/3 spaces per 4 bed dwelling 15 visitor spaces within lay-bys (0.34 per dwelling)
Cycle Parking:		2 spaces per dwelling within garden sheds
Refuse Storage:		Within rear gardens to be brought to property fronts on collection days only
Public Open Space		Arun Requirement 44 dwellings = 3630sqm
Provision		
Frontage Open Space		310sqm
Central / Incidental Open Spaces		1313sqm
Southern Open Space		2105sqm
Total		3728sqm Open Space
(includes existing ditch, hedges & trees, excludes attenuation basin)		

F	23.04.21	Amended To Comments	KE	AK
E	21.04.21	Highways & Drainage info updated	KE	AK
D	19.01.21	Tenure annotation updated	SLG	KE
C	11.12.20	POS figures updated	PB	SL
B	03.11.20	Drainage basin and swale updated	PB	KE
A	10.09.20	Amended To Comments	JW	SLG
Rev	Date	Revision Details	Dr	Ch



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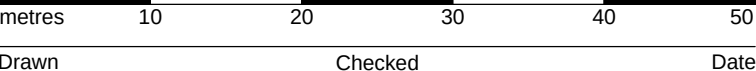
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Client's Name
Landacre (Eastergate) Ltd.

Job Title
Warwick Nursery, Barnham Road,
Eastergate, PO20 3RT

Drawing Title
Proposed Site Layout

Scale
1:500 @ A1 / 1:1000 @ A3



Drawn
AK

Checked
KE

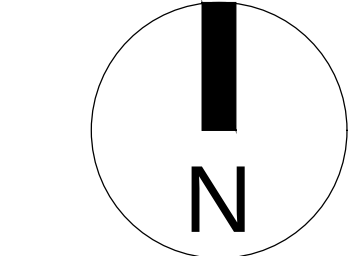
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Job No
6710

Drawing No
PL-005

Rev
F

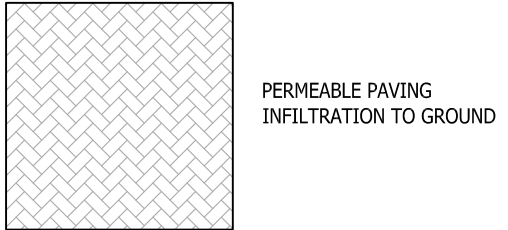
Status
APPROVAL





- GENERAL NOTES**
- The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
 - Tender or billing drawings shall not be used for construction or the ordering of materials.
 - Do not scale. All dimensions and levels to be site confirmed.
 - This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
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 - All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

- KEY**
- Existing Foul Sewer
 - Private surface water drain
 - Private foul drain
 - Private foul sewer
 - Private foul pump main
 - Private filter drain
 - Existing ditch
 - ExFSMH
 - Existing foul sewer manhole
 - FWMH
 - Proposed foul sewer manhole
 - FMH
 - Proposed private foul manhole
 - SMH
 - Proposed surface water manhole
 - RG
 - Road gully
 - DT
 - Distribution block



- ABBREVIATIONS**
- | CL | COVER LEVEL |
|--------|---------------------------------|
| DT | DISTRIBUTION BLOCK |
| ExFSMH | EXISTING FOUL SEWER MANHOLE |
| FSMH | FOUL SEWER MANHOLE |
| FWD | FOUL DRAIN |
| FWS | FOUL SEWER |
| IL | INVERT LEVEL |
| PP | PERMEABLE PAVING |
| RG | ROAD GULLY |
| SL | SUMP LEVEL |
| SMH | SURFACE WATER MANHOLE |
| SWD | SURFACE WATER DRAIN |
| TL | TOP OF STORAGE STRUCTURE LEVEL |
| BL | BASE OF STORAGE STRUCTURE LEVEL |

P9	SW DESIGN CHANGED TO INFILTRATION	21/04/2021	JR	MR
P8	PROPOSED TREE PLAN ADDED	11/11/2020	JR	MR
P7	REVISED TO CLIENT'S COMMENTS 28/10	02/11/2020	JR	MR
P6	SUDS AMENDED TO MISS EXISTING TREES	01/09/2020	JR	
P5	REVISED TO LATEST SITE LAYOUT	17/08/2020	JR	MR
P4	REVISED TO LATEST SITE LAYOUT. MORE DETAIL ADDED TO STORM SYSTEM INCLUDING STORAGE SIZING.	11/08/2020	JR	
P3	REVERSION BACK TO POND AND SWALE WITH PP SYSTEMS RETAINED	10/07/2020	JR	MR
P2	POND REPLACED BY TANK SWALE REPLACED BY TRENCH PP SYSTEMS SHOWN LINED	10/07/2020	JR	MR
P1	INITIAL ISSUE	09/07/2020	JR	MR
Rev	Amendments	Date	Dsn	Chk
Status				
PLANNING				
Client				
LANDACRE (EASTERGATE) LTD.				
Architect				
ECE ARCHITECTURE				
Project				
WARWICK NURSERY EASTERGATE				
Title				
DRAINAGE STRATEGY				
Date		Scale @ A1	1 : 500	
JULY 2020				
Clients Ref.		Project Ref.	10635	
 Civils & Transport Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS Tel.01444 871444 Web: www.gtacivils.co.uk				
Drawing Number			10635/1101	Rev.
				P9

DESIGN SUMMARY

FOUL

FOUL DRAINAGE FROM DWELLINGS A1 - A25 TO GRAVITATE TO EXISTING PUBLIC SEWER ALONG BARNHAM ROAD.

FOUL DRAINAGE FROM DWELLINGS A26 - A44 TO PUMPING STATION WITH PUMPED CONNECTION TO GRAVITY SEWER SERVING DWELLINGS A1 - A26.

SURFACE WATER

ALL IMPERMEABLE SURFACES TO INFILTRATE TO GROUND; SHARED SURFACES AND DRIVEWAYS VIA POROUS PAVING, ROOFS TO CELLULAR SOAKAWAYS OR ADJACENT POROUS PAVINGS, MAIN ROAD TO INFILTRATION BLANKET.

MEASURED WINTER SOAKAGE RATES USED FOR THE DESIGN ARE TAKEN FROM ADDITIONAL INFILTRATION TESTING REPORT REF 21.1012 BY CONSTRUCTIVE EVALUATION. RATES RANGE FROM 9.92 X 10⁻³ m/s TO 1.57x10⁻³ m/s DEPENDING ON TEST LOCATION AND DEPTH.

THE HIGHEST RECORDED WINTER GROUNDWATER LEVEL IS APPROXIMATELY +10.00. ALL INFILTRATION DEVICES ARE SET ABOVE THIS LEVEL.

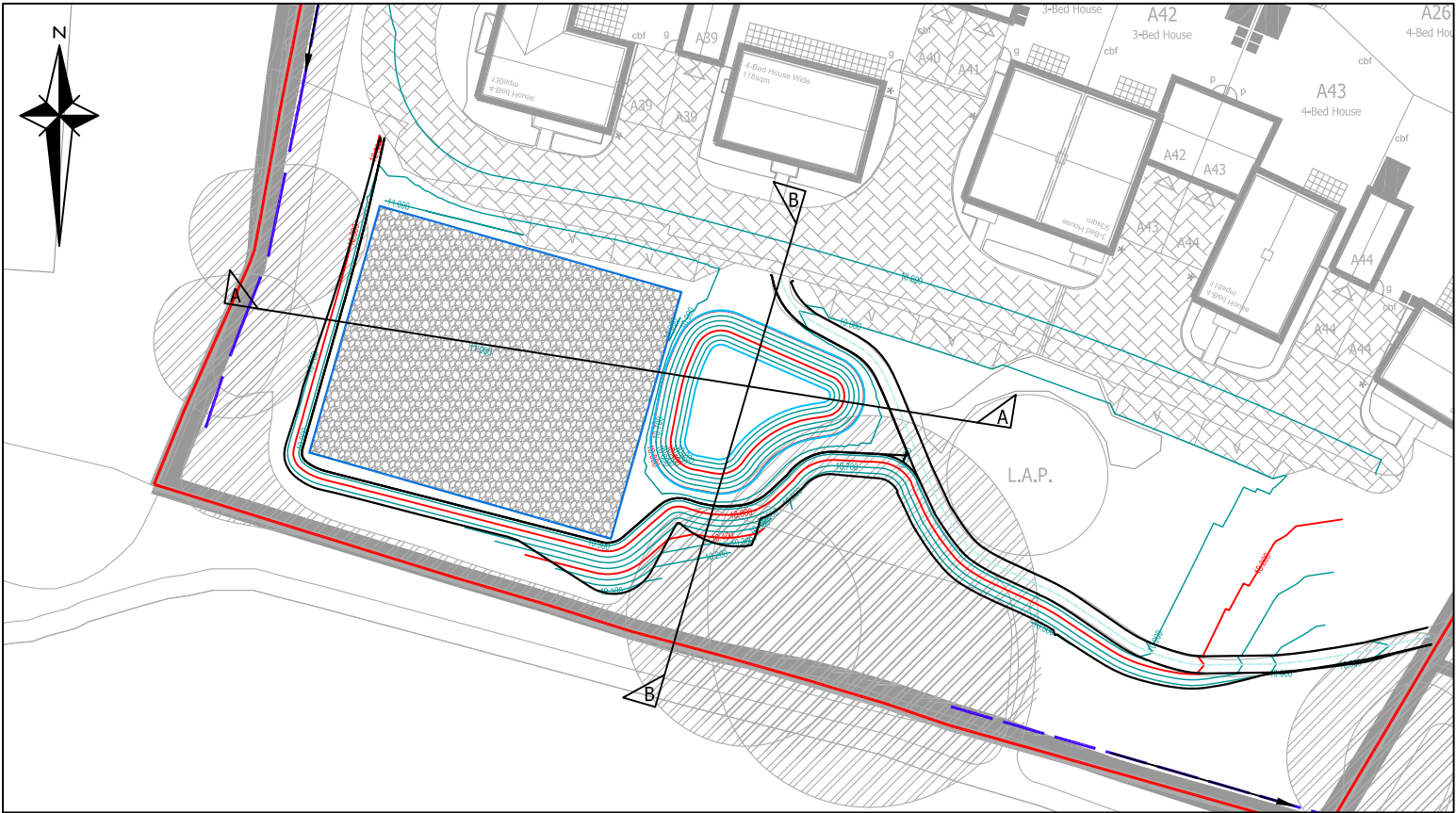
ALL INFILTRATION STORAGE IS SIZED FOR THE 1 IN 100 YEAR EVENT + 40% FOR CLIMATE CHANGE.

POLLUTION CONTROL PROVIDED BY FILTER DRAIN AND INFILTRATION BASIN.

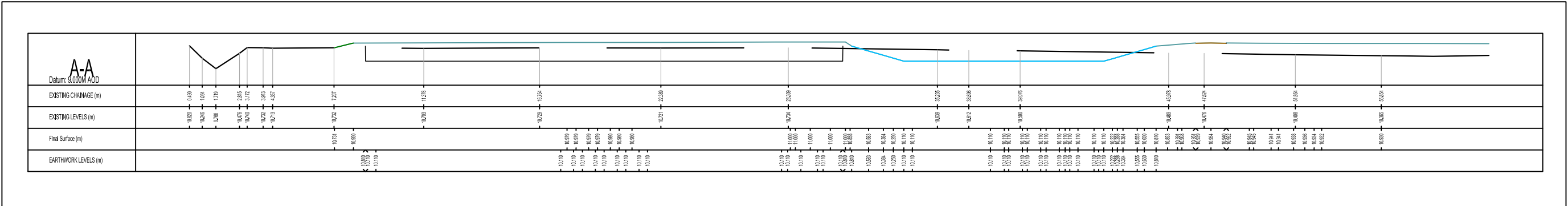
GENERAL NOTES

1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations , record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
2. Tender or billing drawings shall not be used for construction or the ordering of materials.
3. Do not scale. All dimensions and levels to be site confirmed.
4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

Rev	Amendments	Date	Dsn	Chk
P1	INITIAL ISSUE	07/04/21	JR	MR



PLAN OF INFILTRATION BLANKET AND BASIN - 1:500



Appendix E

Micro Drainage Calculations

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
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Summer</td><td>10.778</td><td>0.278</td><td>0.4</td><td>5.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.757</td><td>0.257</td><td>0.4</td><td>5.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.737</td><td>0.237</td><td>0.4</td><td>4.7</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.700</td><td>0.200</td><td>0.4</td><td>4.0</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.641</td><td>0.141</td><td>0.3</td><td>2.8</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.583</td><td>0.083</td><td>0.3</td><td>1.7</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.554</td><td>0.054</td><td>0.3</td><td>1.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.540</td><td>0.040</td><td>0.3</td><td>0.8</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.533</td><td>0.033</td><td>0.2</td><td>0.7</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.528</td><td>0.028</td><td>0.2</td><td>0.6</td><td>O K</td></tr><tr><td>8640 min 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min Summer</td><td>10.122</td><td>0.0</td><td>384</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>450</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>580</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>824</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1168</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1496</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2204</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4400</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5112</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.698	0.198	0.4	4.0	O K	30 min 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Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular soakaway A1-A4 1 in 100 year + 40%			
Date 06/04/2021 File A1-A4 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.792	0.292	0.4	5.8	O K
60 min Winter	10.855	0.355	0.4	7.1	O K
120 min Winter	10.880	0.380	0.4	7.6	O K
180 min Winter	10.879	0.379	0.4	7.6	O K
240 min Winter	10.869	0.369	0.4	7.4	O K
360 min Winter	10.843	0.343	0.4	6.8	O K
480 min Winter	10.812	0.312	0.4	6.2	O K
600 min Winter	10.781	0.281	0.4	5.6	O K
720 min Winter	10.751	0.251	0.4	5.0	O K
960 min Winter	10.697	0.197	0.4	3.9	O K
1440 min Winter	10.613	0.113	0.3	2.3	O K
2160 min Winter	10.550	0.050	0.3	1.0	O K
2880 min Winter	10.540	0.040	0.3	0.8	O K
4320 min Winter	10.529	0.029	0.2	0.6	O K
5760 min Winter	10.524	0.024	0.2	0.5	O K
7200 min Winter	10.521	0.021	0.1	0.4	O K
8640 min Winter	10.518	0.018	0.1	0.4	O K
10080 min Winter	10.517	0.017	0.1	0.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	60		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	170		
240 min Winter	21.265	0.0	194		
360 min Winter	15.394	0.0	270		
480 min Winter	12.172	0.0	344		
600 min Winter	10.122	0.0	416		
720 min Winter	8.696	0.0	486		
960 min Winter	6.832	0.0	624		
1440 min Winter	4.865	0.0	866		
2160 min Winter	3.484	0.0	1124		
2880 min Winter	2.767	0.0	1496		
4320 min Winter	2.029	0.0	2208		
5760 min Winter	1.648	0.0	2936		
7200 min Winter	1.417	0.0	3624		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5072		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A1-A4 1 in 100 year + 40%	
Date 06/04/2021 File A1-A4 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.016

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.016

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A1-A4 1 in 100 year + 40%	
Date 06/04/2021 File A1-A4 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	21.0	40.0	1.300	0.0	50.1
0.100	21.0	42.5	1.400	0.0	50.1
0.200	21.0	45.1	1.500	0.0	50.1
0.300	21.0	47.6	1.600	0.0	50.1
0.400	21.0	50.1	1.700	0.0	50.1
0.500	0.0	50.1	1.800	0.0	50.1
0.600	0.0	50.1	1.900	0.0	50.1
0.700	0.0	50.1	2.000	0.0	50.1
0.800	0.0	50.1	2.100	0.0	50.1
0.900	0.0	50.1	2.200	0.0	50.1
1.000	0.0	50.1	2.300	0.0	50.1
1.100	0.0	50.1	2.400	0.0	50.1
1.200	0.0	50.1	2.500	0.0	50.1

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Summer	11.181	0.251	0.5	4.4	O K	60 min Summer	11.232	0.302	0.5	5.3	O K	120 min Summer	11.239	0.309	0.5	5.4	O K	180 min Summer	11.232	0.302	0.5	5.3	O K	240 min Summer	11.220	0.290	0.5	5.1	O K	360 min Summer	11.191	0.261	0.5	4.6	O K	480 min Summer	11.160	0.230	0.5	4.0	O K	600 min Summer	11.132	0.202	0.5	3.5	O K	720 min Summer	11.105	0.175	0.5	3.1	O K	960 min Summer	11.060	0.130	0.5	2.3	O K	1440 min Summer	11.001	0.071	0.5	1.2	O K	2160 min Summer	10.974	0.044	0.4	0.8	O K	2880 min Summer	10.966	0.036	0.3	0.6	O K	4320 min Summer	10.957	0.027	0.2	0.5	O K	5760 min Summer	10.952	0.022	0.2	0.4	O K	7200 min Summer	10.949	0.019	0.2	0.3	O K	8640 min Summer	10.947	0.017	0.2	0.3	O K	10080 min Summer	10.945	0.015	0.1	0.3	O K	15 min Winter	11.147	0.217	0.5	3.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	32	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	104	180 min Summer	26.572	0.0	134	240 min Summer	21.265	0.0	168	360 min Summer	15.394	0.0	236	480 min Summer	12.172	0.0	302	600 min Summer	10.122	0.0	368	720 min Summer	8.696	0.0	432	960 min Summer	6.832	0.0	550	1440 min Summer	4.865	0.0	768	2160 min Summer	3.484	0.0	1104	2880 min Summer	2.767	0.0	1468	4320 min Summer	2.029	0.0	2200	5760 min Summer	1.648	0.0	2936	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4384	10080 min Summer	1.147	0.0	5032	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
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Date 06/04/2021 File A5-A6 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	11.217	0.287	0.5	5.0	O K
60 min Winter	11.277	0.347	0.5	6.1	O K
120 min Winter	11.290	0.360	0.5	6.3	O K
180 min Winter	11.279	0.349	0.5	6.1	O K
240 min Winter	11.262	0.332	0.5	5.8	O K
360 min Winter	11.219	0.289	0.5	5.1	O K
480 min Winter	11.174	0.244	0.5	4.3	O K
600 min Winter	11.130	0.200	0.5	3.5	O K
720 min Winter	11.091	0.161	0.5	2.8	O K
960 min Winter	11.027	0.097	0.5	1.7	O K
1440 min Winter	10.976	0.046	0.4	0.8	O K
2160 min Winter	10.963	0.033	0.3	0.6	O K
2880 min Winter	10.956	0.026	0.2	0.5	O K
4320 min Winter	10.949	0.019	0.2	0.3	O K
5760 min Winter	10.946	0.016	0.1	0.3	O K
7200 min Winter	10.944	0.014	0.1	0.2	O K
8640 min Winter	10.942	0.012	0.1	0.2	O K
10080 min Winter	10.941	0.011	0.1	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	60		
120 min Winter	36.152	0.0	116		
180 min Winter	26.572	0.0	144		
240 min Winter	21.265	0.0	182		
360 min Winter	15.394	0.0	258		
480 min Winter	12.172	0.0	328		
600 min Winter	10.122	0.0	394		
720 min Winter	8.696	0.0	456		
960 min Winter	6.832	0.0	568		
1440 min Winter	4.865	0.0	750		
2160 min Winter	3.484	0.0	1100		
2880 min Winter	2.767	0.0	1472		
4320 min Winter	2.029	0.0	2204		
5760 min Winter	1.648	0.0	2872		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4376		
10080 min Winter	1.147	0.0	5112		
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min Summer</td><td>10.122</td><td>0.0</td><td>410</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>478</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>616</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>880</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1260</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1620</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2332</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3000</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5136</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.688	0.188	0.1	1.5	O K	30 min Summer	10.748	0.248	0.1	2.0	O K	60 min Summer	10.807	0.307	0.1	2.5	O K	120 min Summer	10.839	0.339	0.1	2.7	O K	180 min Summer	10.848	0.348	0.1	2.8	O K	240 min Summer	10.846	0.346	0.1	2.8	O K	360 min Summer	10.837	0.337	0.1	2.7	O K	480 min Summer	10.824	0.324	0.1	2.6	O K	600 min Summer	10.810	0.310	0.1	2.5	O K	720 min Summer	10.796	0.296	0.1	2.4	O K	960 min Summer	10.770	0.270	0.1	2.2	O K	1440 min Summer	10.725	0.225	0.1	1.8	O K	2160 min Summer	10.673	0.173	0.1	1.4	O K	2880 min Summer	10.634	0.134	0.1	1.1	O K	4320 min Summer	10.583	0.083	0.1	0.7	O K	5760 min Summer	10.556	0.056	0.1	0.5	O K	7200 min Summer	10.547	0.047	0.1	0.4	O K	8640 min Summer	10.542	0.042	0.1	0.3	O K	10080 min Summer	10.539	0.039	0.1	0.3	O K	15 min Winter	10.712	0.212	0.1	1.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	180	240 min Summer	21.265	0.0	218	360 min Summer	15.394	0.0	278	480 min Summer	12.172	0.0	342	600 min Summer	10.122	0.0	410	720 min Summer	8.696	0.0	478	960 min Summer	6.832	0.0	616	1440 min Summer	4.865	0.0	880	2160 min Summer	3.484	0.0	1260	2880 min Summer	2.767	0.0	1620	4320 min Summer	2.029	0.0	2332	5760 min Summer	1.648	0.0	3000	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A7-A9 1 in 100 year + 40%			
Date 06/04/2021 File A7-A9 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.779	0.279	0.1	2.3	O K
60 min Winter	10.847	0.347	0.1	2.8	O K
120 min Winter	10.886	0.386	0.1	3.1	O K
180 min Winter	10.899	0.399	0.1	3.2	O K
240 min Winter	10.900	0.400	0.1	3.2	O K
360 min Winter	10.886	0.386	0.1	3.1	O K
480 min Winter	10.870	0.370	0.1	3.0	O K
600 min Winter	10.852	0.352	0.1	2.8	O K
720 min Winter	10.833	0.333	0.1	2.7	O K
960 min Winter	10.796	0.296	0.1	2.4	O K
1440 min Winter	10.731	0.231	0.1	1.9	O K
2160 min Winter	10.657	0.157	0.1	1.3	O K
2880 min Winter	10.604	0.104	0.1	0.8	O K
4320 min Winter	10.549	0.049	0.1	0.4	O K
5760 min Winter	10.541	0.041	0.1	0.3	O K
7200 min Winter	10.535	0.035	0.0	0.3	O K
8640 min Winter	10.531	0.031	0.0	0.3	O K
10080 min Winter	10.528	0.028	0.0	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	176		
240 min Winter	21.265	0.0	230		
360 min Winter	15.394	0.0	292		
480 min Winter	12.172	0.0	366		
600 min Winter	10.122	0.0	442		
720 min Winter	8.696	0.0	520		
960 min Winter	6.832	0.0	666		
1440 min Winter	4.865	0.0	950		
2160 min Winter	3.484	0.0	1340		
2880 min Winter	2.767	0.0	1696		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2968		
7200 min Winter	1.417	0.0	3680		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5144		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A7-A9 1 in 100 year + 40%	
Date 06/04/2021 File A7-A9 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.006

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.006

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A7-A9 1 in 100 year + 40%	
Date 06/04/2021 File A7-A9 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.500

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	8.5	8.5	1.300	0.0	13.7
0.100	8.5	9.7	1.400	0.0	13.7
0.200	8.5	10.8	1.500	0.0	13.7
0.300	8.5	12.0	1.600	0.0	13.7
0.400	8.5	13.2	1.700	0.0	13.7
0.500	0.0	13.7	1.800	0.0	13.7
0.600	0.0	13.7	1.900	0.0	13.7
0.700	0.0	13.7	2.000	0.0	13.7
0.800	0.0	13.7	2.100	0.0	13.7
0.900	0.0	13.7	2.200	0.0	13.7
1.000	0.0	13.7	2.300	0.0	13.7
1.100	0.0	13.7	2.400	0.0	13.7
1.200	0.0	13.7	2.500	0.0	13.7

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 239 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.689</td><td>0.189</td><td>0.1</td><td>1.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.748</td><td>0.248</td><td>0.1</td><td>1.6</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.804</td><td>0.304</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.831</td><td>0.331</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.834</td><td>0.334</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.831</td><td>0.331</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.819</td><td>0.319</td><td>0.1</td><td>2.1</td><td>O K</td></tr><tr><td>480 min 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Summer	10.748	0.248	0.1	1.6	O K	60 min Summer	10.804	0.304	0.1	2.0	O K	120 min Summer	10.831	0.331	0.1	2.2	O K	180 min Summer	10.834	0.334	0.1	2.2	O K	240 min Summer	10.831	0.331	0.1	2.2	O K	360 min Summer	10.819	0.319	0.1	2.1	O K	480 min Summer	10.803	0.303	0.1	2.0	O K	600 min Summer	10.787	0.287	0.1	1.9	O K	720 min Summer	10.772	0.272	0.1	1.8	O K	960 min Summer	10.743	0.243	0.1	1.6	O K	1440 min Summer	10.694	0.194	0.1	1.3	O K	2160 min Summer	10.639	0.139	0.1	0.9	O K	2880 min Summer	10.601	0.101	0.1	0.7	O K	4320 min Summer	10.558	0.058	0.1	0.4	O K	5760 min Summer	10.545	0.045	0.1	0.3	O K	7200 min Summer	10.540	0.040	0.1	0.3	O K	8640 min Summer	10.536	0.036	0.1	0.2	O K	10080 min Summer	10.533	0.033	0.0	0.2	O K	15 min Winter	10.713	0.213	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	120	180 min Summer	26.572	0.0	170	240 min Summer	21.265	0.0	198	360 min Summer	15.394	0.0	260	480 min Summer	12.172	0.0	328	600 min Summer	10.122	0.0	398	720 min Summer	8.696	0.0	464	960 min Summer	6.832	0.0	598	1440 min Summer	4.865	0.0	864	2160 min Summer	3.484	0.0	1232	2880 min Summer	2.767	0.0	1584	4320 min Summer	2.029	0.0	2248	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A10, A11 1 in 100 year + 40%			
Date 06/04/2021 File A10&A11 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.779	0.279	0.1	1.9	O K
60 min Winter	10.844	0.344	0.1	2.3	O K
120 min Winter	10.878	0.378	0.1	2.5	O K
180 min Winter	10.886	0.386	0.1	2.6	O K
240 min Winter	10.881	0.381	0.1	2.5	O K
360 min Winter	10.865	0.365	0.1	2.4	O K
480 min Winter	10.844	0.344	0.1	2.3	O K
600 min Winter	10.822	0.322	0.1	2.1	O K
720 min Winter	10.800	0.300	0.1	2.0	O K
960 min Winter	10.758	0.258	0.1	1.7	O K
1440 min Winter	10.688	0.188	0.1	1.3	O K
2160 min Winter	10.613	0.113	0.1	0.7	O K
2880 min Winter	10.565	0.065	0.1	0.4	O K
4320 min Winter	10.541	0.041	0.1	0.3	O K
5760 min Winter	10.534	0.034	0.0	0.2	O K
7200 min Winter	10.529	0.029	0.0	0.2	O K
8640 min Winter	10.526	0.026	0.0	0.2	O K
10080 min Winter	10.524	0.024	0.0	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	174		
240 min Winter	21.265	0.0	224		
360 min Winter	15.394	0.0	278		
480 min Winter	12.172	0.0	356		
600 min Winter	10.122	0.0	430		
720 min Winter	8.696	0.0	506		
960 min Winter	6.832	0.0	646		
1440 min Winter	4.865	0.0	920		
2160 min Winter	3.484	0.0	1280		
2880 min Winter	2.767	0.0	1588		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2944		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4368		
10080 min Winter	1.147	0.0	5080		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A10, A11 1 in 100 year + 40%	
Date 06/04/2021 File A10&A11 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.005

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A10, A11 1 in 100 year + 40%	
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Model Details

Storage is Online Cover Level (m) 11.500

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	7.0	8.5	1.300	0.0	13.7
0.100	7.0	9.7	1.400	0.0	13.7
0.200	7.0	10.8	1.500	0.0	13.7
0.300	7.0	12.0	1.600	0.0	13.7
0.400	7.0	13.2	1.700	0.0	13.7
0.500	0.0	13.7	1.800	0.0	13.7
0.600	0.0	13.7	1.900	0.0	13.7
0.700	0.0	13.7	2.000	0.0	13.7
0.800	0.0	13.7	2.100	0.0	13.7
0.900	0.0	13.7	2.200	0.0	13.7
1.000	0.0	13.7	2.300	0.0	13.7
1.100	0.0	13.7	2.400	0.0	13.7
1.200	0.0	13.7	2.500	0.0	13.7

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Summer	10.748	0.248	0.1	1.6	O K	60 min Summer	10.804	0.304	0.1	2.0	O K	120 min Summer	10.831	0.331	0.1	2.2	O K	180 min Summer	10.834	0.334	0.1	2.2	O K	240 min Summer	10.831	0.331	0.1	2.2	O K	360 min Summer	10.819	0.319	0.1	2.1	O K	480 min Summer	10.803	0.303	0.1	2.0	O K	600 min Summer	10.787	0.287	0.1	1.9	O K	720 min Summer	10.772	0.272	0.1	1.8	O K	960 min Summer	10.743	0.243	0.1	1.6	O K	1440 min Summer	10.694	0.194	0.1	1.3	O K	2160 min Summer	10.639	0.139	0.1	0.9	O K	2880 min Summer	10.601	0.101	0.1	0.7	O K	4320 min Summer	10.558	0.058	0.1	0.4	O K	5760 min Summer	10.545	0.045	0.1	0.3	O K	7200 min Summer	10.540	0.040	0.1	0.3	O K	8640 min Summer	10.536	0.036	0.1	0.2	O K	10080 min Summer	10.533	0.033	0.0	0.2	O K	15 min Winter	10.713	0.213	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	120	180 min Summer	26.572	0.0	170	240 min Summer	21.265	0.0	198	360 min Summer	15.394	0.0	260	480 min Summer	12.172	0.0	328	600 min Summer	10.122	0.0	398	720 min Summer	8.696	0.0	464	960 min Summer	6.832	0.0	598	1440 min Summer	4.865	0.0	864	2160 min Summer	3.484	0.0	1232	2880 min Summer	2.767	0.0	1584	4320 min Summer	2.029	0.0	2248	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%			
Date 06/04/2021 File A12&A13 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.779	0.279	0.1	1.9	O K
60 min Winter	10.844	0.344	0.1	2.3	O K
120 min Winter	10.878	0.378	0.1	2.5	O K
180 min Winter	10.886	0.386	0.1	2.6	O K
240 min Winter	10.881	0.381	0.1	2.5	O K
360 min Winter	10.865	0.365	0.1	2.4	O K
480 min Winter	10.844	0.344	0.1	2.3	O K
600 min Winter	10.822	0.322	0.1	2.1	O K
720 min Winter	10.800	0.300	0.1	2.0	O K
960 min Winter	10.758	0.258	0.1	1.7	O K
1440 min Winter	10.688	0.188	0.1	1.3	O K
2160 min Winter	10.613	0.113	0.1	0.7	O K
2880 min Winter	10.565	0.065	0.1	0.4	O K
4320 min Winter	10.541	0.041	0.1	0.3	O K
5760 min Winter	10.534	0.034	0.0	0.2	O K
7200 min Winter	10.529	0.029	0.0	0.2	O K
8640 min Winter	10.526	0.026	0.0	0.2	O K
10080 min Winter	10.524	0.024	0.0	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	174		
240 min Winter	21.265	0.0	224		
360 min Winter	15.394	0.0	278		
480 min Winter	12.172	0.0	356		
600 min Winter	10.122	0.0	430		
720 min Winter	8.696	0.0	506		
960 min Winter	6.832	0.0	646		
1440 min Winter	4.865	0.0	920		
2160 min Winter	3.484	0.0	1280		
2880 min Winter	2.767	0.0	1588		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2944		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4368		
10080 min Winter	1.147	0.0	5080		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%	
Date 06/04/2021 File A12&A13 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

Time (mins)	Area
From:	To: (ha)
0	4 0.005

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%	
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Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	7.0	8.5	1.300	0.0	13.7
0.100	7.0	9.7	1.400	0.0	13.7
0.200	7.0	10.8	1.500	0.0	13.7
0.300	7.0	12.0	1.600	0.0	13.7
0.400	7.0	13.2	1.700	0.0	13.7
0.500	0.0	13.7	1.800	0.0	13.7
0.600	0.0	13.7	1.900	0.0	13.7
0.700	0.0	13.7	2.000	0.0	13.7
0.800	0.0	13.7	2.100	0.0	13.7
0.900	0.0	13.7	2.200	0.0	13.7
1.000	0.0	13.7	2.300	0.0	13.7
1.100	0.0	13.7	2.400	0.0	13.7
1.200	0.0	13.7	2.500	0.0	13.7

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min Summer</td><td>10.122</td><td>0.0</td><td>398</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>464</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>598</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>864</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1232</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1588</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2252</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5136</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.689	0.189	0.1	1.3	O K	30 min Summer	10.748	0.248	0.1	1.6	O K	60 min Summer	10.804	0.304	0.1	2.0	O K	120 min Summer	10.831	0.331	0.1	2.2	O K	180 min Summer	10.834	0.334	0.1	2.2	O K	240 min Summer	10.831	0.331	0.1	2.2	O K	360 min Summer	10.819	0.319	0.1	2.1	O K	480 min Summer	10.804	0.304	0.1	2.0	O K	600 min Summer	10.788	0.288	0.1	1.9	O K	720 min Summer	10.773	0.273	0.1	1.8	O K	960 min Summer	10.744	0.244	0.1	1.6	O K	1440 min Summer	10.696	0.196	0.1	1.3	O K	2160 min Summer	10.642	0.142	0.1	0.9	O K	2880 min Summer	10.604	0.104	0.1	0.7	O K	4320 min Summer	10.560	0.060	0.1	0.4	O K	5760 min Summer	10.546	0.046	0.1	0.3	O K	7200 min Summer	10.540	0.040	0.1	0.3	O K	8640 min Summer	10.536	0.036	0.1	0.2	O K	10080 min Summer	10.533	0.033	0.0	0.2	O K	15 min Winter	10.713	0.213	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	120	180 min Summer	26.572	0.0	168	240 min Summer	21.265	0.0	196	360 min Summer	15.394	0.0	260	480 min Summer	12.172	0.0	328	600 min Summer	10.122	0.0	398	720 min Summer	8.696	0.0	464	960 min Summer	6.832	0.0	598	1440 min Summer	4.865	0.0	864	2160 min Summer	3.484	0.0	1232	2880 min Summer	2.767	0.0	1588	4320 min Summer	2.029	0.0	2252	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A14,A15 1 in 100 year + 40%			
Date 06/04/2021 File A14&A15 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.779	0.279	0.1	1.9	O K
60 min Winter	10.844	0.344	0.1	2.3	O K
120 min Winter	10.878	0.378	0.1	2.5	O K
180 min Winter	10.885	0.385	0.1	2.6	O K
240 min Winter	10.881	0.381	0.1	2.5	O K
360 min Winter	10.865	0.365	0.1	2.4	O K
480 min Winter	10.845	0.345	0.1	2.3	O K
600 min Winter	10.823	0.323	0.1	2.1	O K
720 min Winter	10.801	0.301	0.1	2.0	O K
960 min Winter	10.760	0.260	0.1	1.7	O K
1440 min Winter	10.691	0.191	0.1	1.3	O K
2160 min Winter	10.617	0.117	0.1	0.8	O K
2880 min Winter	10.569	0.069	0.1	0.5	O K
4320 min Winter	10.542	0.042	0.1	0.3	O K
5760 min Winter	10.535	0.035	0.0	0.2	O K
7200 min Winter	10.530	0.030	0.0	0.2	O K
8640 min Winter	10.527	0.027	0.0	0.2	O K
10080 min Winter	10.524	0.024	0.0	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	174		
240 min Winter	21.265	0.0	224		
360 min Winter	15.394	0.0	278		
480 min Winter	12.172	0.0	354		
600 min Winter	10.122	0.0	430		
720 min Winter	8.696	0.0	504		
960 min Winter	6.832	0.0	646		
1440 min Winter	4.865	0.0	920		
2160 min Winter	3.484	0.0	1280		
2880 min Winter	2.767	0.0	1612		
4320 min Winter	2.029	0.0	2244		
5760 min Winter	1.648	0.0	2936		
7200 min Winter	1.417	0.0	3680		
8640 min Winter	1.261	0.0	4352		
10080 min Winter	1.147	0.0	5136		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A14,A15 1 in 100 year + 40%	
Date 06/04/2021 File A14&A15 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.005

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A14,A15 1 in 100 year + 40%	
Date 06/04/2021 File A14&A15 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.07164 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.07164

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	7.0	6.5	1.300	0.0	19.8
0.100	7.0	7.5	1.400	0.0	20.8
0.200	7.0	8.5	1.500	0.0	21.8
0.300	7.0	9.6	1.600	0.0	22.8
0.400	7.0	10.6	1.700	0.0	23.8
0.500	0.0	11.6	1.800	0.0	24.9
0.600	0.0	12.6	1.900	0.0	25.9
0.700	0.0	13.6	2.000	0.0	26.9
0.800	0.0	14.7	2.100	0.0	27.9
0.900	0.0	15.7	2.200	0.0	28.9
1.000	0.0	16.7	2.300	0.0	30.0
1.100	0.0	17.7	2.400	0.0	31.0
1.200	0.0	18.7	2.500	0.0	32.0

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 45 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.296</td><td>0.096</td><td>4.8</td><td>13.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.323</td><td>0.123</td><td>4.8</td><td>17.8</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.341</td><td>0.141</td><td>4.8</td><td>20.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.336</td><td>0.136</td><td>4.8</td><td>19.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.325</td><td>0.125</td><td>4.8</td><td>17.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.311</td><td>0.111</td><td>4.8</td><td>16.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.285</td><td>0.085</td><td>4.8</td><td>12.3</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.265</td><td>0.065</td><td>4.8</td><td>9.4</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.252</td><td>0.052</td><td>4.8</td><td>7.5</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.246</td><td>0.046</td><td>4.4</td><td>6.6</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.238</td><td>0.038</td><td>3.6</td><td>5.4</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.228</td><td>0.028</td><td>2.7</td><td>4.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.221</td><td>0.021</td><td>2.0</td><td>3.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.217</td><td>0.017</td><td>1.6</td><td>2.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.212</td><td>0.012</td><td>1.2</td><td>1.7</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.210</td><td>0.010</td><td>1.0</td><td>1.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.209</td><td>0.009</td><td>0.8</td><td>1.2</td><td>O K</td></tr><tr><td>8640 min 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Summer	10.323	0.123	4.8	17.8	O K	60 min Summer	10.341	0.141	4.8	20.3	O K	120 min Summer	10.336	0.136	4.8	19.6	O K	180 min Summer	10.325	0.125	4.8	17.9	O K	240 min Summer	10.311	0.111	4.8	16.0	O K	360 min Summer	10.285	0.085	4.8	12.3	O K	480 min Summer	10.265	0.065	4.8	9.4	O K	600 min Summer	10.252	0.052	4.8	7.5	O K	720 min Summer	10.246	0.046	4.4	6.6	O K	960 min Summer	10.238	0.038	3.6	5.4	O K	1440 min Summer	10.228	0.028	2.7	4.0	O K	2160 min Summer	10.221	0.021	2.0	3.0	O K	2880 min Summer	10.217	0.017	1.6	2.4	O K	4320 min Summer	10.212	0.012	1.2	1.7	O K	5760 min Summer	10.210	0.010	1.0	1.4	O K	7200 min Summer	10.209	0.009	0.8	1.2	O K	8640 min Summer	10.208	0.008	0.7	1.1	O K	10080 min Summer	10.207	0.007	0.7	1.0	O K	15 min Winter	10.311	0.111	4.8	16.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	17	30 min Summer	94.437	0.0	30	60 min Summer	60.674	0.0	48	120 min Summer	36.152	0.0	82	180 min Summer	26.572	0.0	114	240 min 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Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Permeable Paving A16,A23,A24 1 in 100 year + 40%			
Date 06/04/2021 File A16 23 24 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.343	0.143	4.8	20.6	O K
60 min Winter	10.362	0.162	4.8	23.3	O K
120 min Winter	10.351	0.151	4.8	21.8	O K
180 min Winter	10.332	0.132	4.8	19.0	O K
240 min Winter	10.311	0.111	4.8	15.9	O K
360 min Winter	10.273	0.073	4.8	10.5	O K
480 min Winter	10.250	0.050	4.8	7.2	O K
600 min Winter	10.242	0.042	4.0	6.1	O K
720 min Winter	10.237	0.037	3.5	5.3	O K
960 min Winter	10.229	0.029	2.8	4.2	O K
1440 min Winter	10.221	0.021	2.0	3.0	O K
2160 min Winter	10.215	0.015	1.5	2.2	O K
2880 min Winter	10.212	0.012	1.2	1.7	O K
4320 min Winter	10.209	0.009	0.8	1.3	O K
5760 min Winter	10.207	0.007	0.7	1.0	O K
7200 min Winter	10.206	0.006	0.6	0.9	O K
8640 min Winter	10.206	0.006	0.5	0.8	O K
10080 min Winter	10.205	0.005	0.5	0.7	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	30		
60 min Winter	60.674	0.0	52		
120 min Winter	36.152	0.0	88		
180 min Winter	26.572	0.0	124		
240 min Winter	21.265	0.0	158		
360 min Winter	15.394	0.0	218		
480 min Winter	12.172	0.0	262		
600 min Winter	10.122	0.0	324		
720 min Winter	8.696	0.0	384		
960 min Winter	6.832	0.0	504		
1440 min Winter	4.865	0.0	738		
2160 min Winter	3.484	0.0	1104		
2880 min Winter	2.767	0.0	1452		
4320 min Winter	2.029	0.0	2208		
5760 min Winter	1.648	0.0	2912		
7200 min Winter	1.417	0.0	3568		
8640 min Winter	1.261	0.0	4472		
10080 min Winter	1.147	0.0	5224		
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Date 06/04/2021	Designed by JR																															
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Summer</td><td>10.995</td><td>0.295</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.978</td><td>0.278</td><td>0.1</td><td>1.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.962</td><td>0.262</td><td>0.1</td><td>1.7</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.933</td><td>0.233</td><td>0.1</td><td>1.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.883</td><td>0.183</td><td>0.1</td><td>1.2</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.829</td><td>0.129</td><td>0.1</td><td>0.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.792</td><td>0.092</td><td>0.1</td><td>0.6</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.753</td><td>0.053</td><td>0.1</td><td>0.4</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.743</td><td>0.043</td><td>0.1</td><td>0.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.738</td><td>0.038</td><td>0.1</td><td>0.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.734</td><td>0.034</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.731</td><td>0.031</td><td>0.0</td><td>0.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.912</td><td>0.212</td><td>0.1</td><td>1.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>120</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>162</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>192</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>256</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>324</td></tr><tr><td>600 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Summer	10.947	0.247	0.1	1.6	O K	60 min Summer	11.002	0.302	0.1	2.0	O K	120 min Summer	11.026	0.326	0.1	2.2	O K	180 min Summer	11.028	0.328	0.1	2.2	O K	240 min Summer	11.024	0.324	0.1	2.2	O K	360 min Summer	11.011	0.311	0.1	2.1	O K	480 min Summer	10.995	0.295	0.1	2.0	O K	600 min Summer	10.978	0.278	0.1	1.9	O K	720 min Summer	10.962	0.262	0.1	1.7	O K	960 min Summer	10.933	0.233	0.1	1.5	O K	1440 min Summer	10.883	0.183	0.1	1.2	O K	2160 min Summer	10.829	0.129	0.1	0.9	O K	2880 min Summer	10.792	0.092	0.1	0.6	O K	4320 min Summer	10.753	0.053	0.1	0.4	O K	5760 min Summer	10.743	0.043	0.1	0.3	O K	7200 min Summer	10.738	0.038	0.1	0.3	O K	8640 min Summer	10.734	0.034	0.1	0.2	O K	10080 min Summer	10.731	0.031	0.0	0.2	O K	15 min Winter	10.912	0.212	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	120	180 min Summer	26.572	0.0	162	240 min Summer	21.265	0.0	192	360 min Summer	15.394	0.0	256	480 min Summer	12.172	0.0	324	600 min Summer	10.122	0.0	392	720 min Summer	8.696	0.0	462	960 min Summer	6.832	0.0	596	1440 min Summer	4.865	0.0	852	2160 min Summer	3.484	0.0	1216	2880 min Summer	2.767	0.0	1560	4320 min Summer	2.029	0.0	2244	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A17 1 in 100 year + 40%			
Date 06/04/2021 File A17 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.978	0.278	0.1	1.8	O K
60 min Winter	11.042	0.342	0.1	2.3	O K
120 min Winter	11.073	0.373	0.1	2.5	O K
180 min Winter	11.078	0.378	0.1	2.5	O K
240 min Winter	11.072	0.372	0.1	2.5	O K
360 min Winter	11.056	0.356	0.1	2.4	O K
480 min Winter	11.034	0.334	0.1	2.2	O K
600 min Winter	11.010	0.310	0.1	2.1	O K
720 min Winter	10.987	0.287	0.1	1.9	O K
960 min Winter	10.945	0.245	0.1	1.6	O K
1440 min Winter	10.874	0.174	0.1	1.2	O K
2160 min Winter	10.800	0.100	0.1	0.7	O K
2880 min Winter	10.757	0.057	0.1	0.4	O K
4320 min Winter	10.739	0.039	0.1	0.3	O K
5760 min Winter	10.732	0.032	0.0	0.2	O K
7200 min Winter	10.728	0.028	0.0	0.2	O K
8640 min Winter	10.725	0.025	0.0	0.2	O K
10080 min Winter	10.723	0.023	0.0	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	172		
240 min Winter	21.265	0.0	218		
360 min Winter	15.394	0.0	274		
480 min Winter	12.172	0.0	352		
600 min Winter	10.122	0.0	426		
720 min Winter	8.696	0.0	500		
960 min Winter	6.832	0.0	642		
1440 min Winter	4.865	0.0	908		
2160 min Winter	3.484	0.0	1272		
2880 min Winter	2.767	0.0	1560		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2944		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5112		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A17 1 in 100 year + 40%	
Date 06/04/2021 File A17 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.005

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<u>Model Details</u> Storage is Online Cover Level (m) 11.600 <u>Cellular Storage Structure</u> Invert Level (m) 10.700 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.07164 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.07164 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>7.0</td><td>7.0</td><td>1.300</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.100</td><td>7.0</td><td>8.1</td><td>1.400</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.200</td><td>7.0</td><td>9.1</td><td>1.500</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.300</td><td>7.0</td><td>10.2</td><td>1.600</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.400</td><td>7.0</td><td>11.2</td><td>1.700</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.500</td><td>0.0</td><td>11.8</td><td>1.800</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.600</td><td>0.0</td><td>11.8</td><td>1.900</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.700</td><td>0.0</td><td>11.8</td><td>2.000</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.800</td><td>0.0</td><td>11.8</td><td>2.100</td><td>0.0</td><td>11.8</td></tr> <tr><td>0.900</td><td>0.0</td><td>11.8</td><td>2.200</td><td>0.0</td><td>11.8</td></tr> <tr><td>1.000</td><td>0.0</td><td>11.8</td><td>2.300</td><td>0.0</td><td>11.8</td></tr> <tr><td>1.100</td><td>0.0</td><td>11.8</td><td>2.400</td><td>0.0</td><td>11.8</td></tr> <tr><td>1.200</td><td>0.0</td><td>11.8</td><td>2.500</td><td>0.0</td><td>11.8</td></tr> </tbody> </table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	7.0	7.0	1.300	0.0	11.8	0.100	7.0	8.1	1.400	0.0	11.8	0.200	7.0	9.1	1.500	0.0	11.8	0.300	7.0	10.2	1.600	0.0	11.8	0.400	7.0	11.2	1.700	0.0	11.8	0.500	0.0	11.8	1.800	0.0	11.8	0.600	0.0	11.8	1.900	0.0	11.8	0.700	0.0	11.8	2.000	0.0	11.8	0.800	0.0	11.8	2.100	0.0	11.8	0.900	0.0	11.8	2.200	0.0	11.8	1.000	0.0	11.8	2.300	0.0	11.8	1.100	0.0	11.8	2.400	0.0	11.8	1.200	0.0	11.8	2.500	0.0	11.8
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 284 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.652</td><td>0.352</td><td>0.1</td><td>1.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.763</td><td>0.463</td><td>0.1</td><td>1.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.872</td><td>0.572</td><td>0.1</td><td>2.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.931</td><td>0.631</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.946</td><td>0.646</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.945</td><td>0.645</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.930</td><td>0.630</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.908</td><td>0.608</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.884</td><td>0.584</td><td>0.1</td><td>2.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.861</td><td>0.561</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.817</td><td>0.517</td><td>0.1</td><td>1.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.743</td><td>0.443</td><td>0.1</td><td>1.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.660</td><td>0.360</td><td>0.1</td><td>1.3</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.597</td><td>0.297</td><td>0.1</td><td>1.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.510</td><td>0.210</td><td>0.1</td><td>0.8</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.452</td><td>0.152</td><td>0.0</td><td>0.5</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.413</td><td>0.113</td><td>0.0</td><td>0.4</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.385</td><td>0.085</td><td>0.0</td><td>0.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.365</td><td>0.065</td><td>0.0</td><td>0.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.695</td><td>0.395</td><td>0.1</td><td>1.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Time- Volume (m³)</th><th>Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>208</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>270</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>336</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>406</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>476</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>614</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>880</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1276</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1648</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2380</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3112</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3816</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4496</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5152</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.652	0.352	0.1	1.3	O K	30 min Summer	10.763	0.463	0.1	1.7	O K	60 min Summer	10.872	0.572	0.1	2.1	O K	120 min Summer	10.931	0.631	0.1	2.3	O K	180 min Summer	10.946	0.646	0.1	2.3	O K	240 min Summer	10.945	0.645	0.1	2.3	O K	360 min Summer	10.930	0.630	0.1	2.3	O K	480 min Summer	10.908	0.608	0.1	2.2	O K	600 min Summer	10.884	0.584	0.1	2.1	O K	720 min Summer	10.861	0.561	0.1	2.0	O K	960 min Summer	10.817	0.517	0.1	1.9	O K	1440 min Summer	10.743	0.443	0.1	1.6	O K	2160 min Summer	10.660	0.360	0.1	1.3	O K	2880 min Summer	10.597	0.297	0.1	1.1	O K	4320 min Summer	10.510	0.210	0.1	0.8	O K	5760 min Summer	10.452	0.152	0.0	0.5	O K	7200 min Summer	10.413	0.113	0.0	0.4	O K	8640 min Summer	10.385	0.085	0.0	0.3	O K	10080 min Summer	10.365	0.065	0.0	0.2	O K	15 min Winter	10.695	0.395	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Time- Volume (m³)	Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	180	240 min Summer	21.265	0.0	208	360 min Summer	15.394	0.0	270	480 min Summer	12.172	0.0	336	600 min Summer	10.122	0.0	406	720 min Summer	8.696	0.0	476	960 min Summer	6.832	0.0	614	1440 min Summer	4.865	0.0	880	2160 min Summer	3.484	0.0	1276	2880 min Summer	2.767	0.0	1648	4320 min Summer	2.029	0.0	2380	5760 min Summer	1.648	0.0	3112	7200 min Summer	1.417	0.0	3816	8640 min Summer	1.261	0.0	4496	10080 min Summer	1.147	0.0	5152	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A18 1 in 100 year + 40%			
Date 06/04/2021 File A18 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.821	0.521	0.1	1.9	O K
60 min Winter	10.946	0.646	0.1	2.3	O K
120 min Winter	11.018	0.718	0.1	2.6	O K
180 min Winter	11.040	0.740	0.1	2.7	O K
240 min Winter	11.040	0.740	0.1	2.7	O K
360 min Winter	11.020	0.720	0.1	2.6	O K
480 min Winter	10.992	0.692	0.1	2.5	O K
600 min Winter	10.961	0.661	0.1	2.4	O K
720 min Winter	10.929	0.629	0.1	2.3	O K
960 min Winter	10.868	0.568	0.1	2.1	O K
1440 min Winter	10.765	0.465	0.1	1.7	O K
2160 min Winter	10.650	0.350	0.1	1.3	O K
2880 min Winter	10.566	0.266	0.1	1.0	O K
4320 min Winter	10.454	0.154	0.0	0.6	O K
5760 min Winter	10.385	0.085	0.0	0.3	O K
7200 min Winter	10.350	0.050	0.0	0.2	O K
8640 min Winter	10.345	0.045	0.0	0.2	O K
10080 min Winter	10.341	0.041	0.0	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	174		
240 min Winter	21.265	0.0	228		
360 min Winter	15.394	0.0	282		
480 min Winter	12.172	0.0	360		
600 min Winter	10.122	0.0	436		
720 min Winter	8.696	0.0	512		
960 min Winter	6.832	0.0	662		
1440 min Winter	4.865	0.0	940		
2160 min Winter	3.484	0.0	1344		
2880 min Winter	2.767	0.0	1732		
4320 min Winter	2.029	0.0	2464		
5760 min Winter	1.648	0.0	3168		
7200 min Winter	1.417	0.0	3680		
8640 min Winter	1.261	0.0	4392		
10080 min Winter	1.147	0.0	5112		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A18 1 in 100 year + 40%	
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Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

Time (mins)	Area
From:	To: (ha)
0	4 0.005

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A18 1 in 100 year + 40%	
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Model Details

Storage is Online Cover Level (m) 11.600

Cellular Storage Structure

Invert Level (m) 10.300 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.07164 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.07164

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	3.8	3.8	1.300	0.0	10.4
0.100	3.8	4.6	1.400	0.0	10.4
0.200	3.8	5.4	1.500	0.0	10.4
0.300	3.8	6.1	1.600	0.0	10.4
0.400	3.8	6.9	1.700	0.0	10.4
0.500	3.8	7.7	1.800	0.0	10.4
0.600	3.8	8.5	1.900	0.0	10.4
0.700	3.8	9.3	2.000	0.0	10.4
0.800	3.8	10.0	2.100	0.0	10.4
0.900	0.0	10.4	2.200	0.0	10.4
1.000	0.0	10.4	2.300	0.0	10.4
1.100	0.0	10.4	2.400	0.0	10.4
1.200	0.0	10.4	2.500	0.0	10.4

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Summary of Results for 100 year Return Period (+40%) Half Drain Time : 332 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.358</td><td>0.358</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.472</td><td>0.472</td><td>0.1</td><td>2.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.585</td><td>0.585</td><td>0.1</td><td>3.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.651</td><td>0.651</td><td>0.1</td><td>3.7</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.671</td><td>0.671</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.671</td><td>0.671</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.657</td><td>0.657</td><td>0.1</td><td>3.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.636</td><td>0.636</td><td>0.1</td><td>3.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.613</td><td>0.613</td><td>0.1</td><td>3.5</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.590</td><td>0.590</td><td>0.1</td><td>3.4</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.547</td><td>0.547</td><td>0.1</td><td>3.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.474</td><td>0.474</td><td>0.1</td><td>2.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.389</td><td>0.389</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.324</td><td>0.324</td><td>0.1</td><td>1.8</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.232</td><td>0.232</td><td>0.1</td><td>1.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.170</td><td>0.170</td><td>0.1</td><td>1.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.126</td><td>0.126</td><td>0.1</td><td>0.7</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.095</td><td>0.095</td><td>0.1</td><td>0.5</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.073</td><td>0.073</td><td>0.1</td><td>0.4</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.402</td><td>0.402</td><td>0.1</td><td>2.3</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>226</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>284</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>346</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>416</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>484</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>620</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>894</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1296</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1672</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2420</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3120</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3824</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4504</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5240</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.358	0.358	0.1	2.0	O K	30 min Summer	10.472	0.472	0.1	2.7	O K	60 min Summer	10.585	0.585	0.1	3.3	O K	120 min Summer	10.651	0.651	0.1	3.7	O K	180 min Summer	10.671	0.671	0.1	3.8	O K	240 min Summer	10.671	0.671	0.1	3.8	O K	360 min Summer	10.657	0.657	0.1	3.7	O K	480 min Summer	10.636	0.636	0.1	3.6	O K	600 min Summer	10.613	0.613	0.1	3.5	O K	720 min Summer	10.590	0.590	0.1	3.4	O K	960 min Summer	10.547	0.547	0.1	3.1	O K	1440 min Summer	10.474	0.474	0.1	2.7	O K	2160 min Summer	10.389	0.389	0.1	2.2	O K	2880 min Summer	10.324	0.324	0.1	1.8	O K	4320 min Summer	10.232	0.232	0.1	1.3	O K	5760 min Summer	10.170	0.170	0.1	1.0	O K	7200 min Summer	10.126	0.126	0.1	0.7	O K	8640 min Summer	10.095	0.095	0.1	0.5	O K	10080 min Summer	10.073	0.073	0.1	0.4	O K	15 min Winter	10.402	0.402	0.1	2.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	180	240 min Summer	21.265	0.0	226	360 min Summer	15.394	0.0	284	480 min Summer	12.172	0.0	346	600 min Summer	10.122	0.0	416	720 min Summer	8.696	0.0	484	960 min Summer	6.832	0.0	620	1440 min Summer	4.865	0.0	894	2160 min Summer	3.484	0.0	1296	2880 min Summer	2.767	0.0	1672	4320 min Summer	2.029	0.0	2420	5760 min Summer	1.648	0.0	3120	7200 min Summer	1.417	0.0	3824	8640 min Summer	1.261	0.0	4504	10080 min Summer	1.147	0.0	5240	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular Soakaway A19,A20 1 in 100 year + 40%			
Date 06/04/2021 File A19&A20 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.531	0.531	0.1	3.0	O K
60 min Winter	10.660	0.660	0.1	3.8	O K
120 min Winter	10.739	0.739	0.1	4.2	O K
180 min Winter	10.767	0.767	0.1	4.4	O K
240 min Winter	10.773	0.773	0.1	4.4	O K
360 min Winter	10.753	0.753	0.1	4.3	O K
480 min Winter	10.728	0.728	0.1	4.1	O K
600 min Winter	10.699	0.699	0.1	4.0	O K
720 min Winter	10.668	0.668	0.1	3.8	O K
960 min Winter	10.609	0.609	0.1	3.5	O K
1440 min Winter	10.506	0.506	0.1	2.9	O K
2160 min Winter	10.387	0.387	0.1	2.2	O K
2880 min Winter	10.298	0.298	0.1	1.7	O K
4320 min Winter	10.176	0.176	0.1	1.0	O K
5760 min Winter	10.099	0.099	0.1	0.6	O K
7200 min Winter	10.055	0.055	0.1	0.3	O K
8640 min Winter	10.046	0.046	0.1	0.3	O K
10080 min Winter	10.042	0.042	0.1	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	176		
240 min Winter	21.265	0.0	230		
360 min Winter	15.394	0.0	294		
480 min Winter	12.172	0.0	368		
600 min Winter	10.122	0.0	446		
720 min Winter	8.696	0.0	522		
960 min Winter	6.832	0.0	674		
1440 min Winter	4.865	0.0	964		
2160 min Winter	3.484	0.0	1364		
2880 min Winter	2.767	0.0	1760		
4320 min Winter	2.029	0.0	2508		
5760 min Winter	1.648	0.0	3176		
7200 min Winter	1.417	0.0	3752		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5144		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A19,A20 1 in 100 year + 40%	
Date 06/04/2021 File A19&A20 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.008

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.008

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular Soakaway A19,A20 1 in 100 year + 40%	
Date 06/04/2021 File A19&A20 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.300

Cellular Storage Structure

Invert Level (m) 10.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.07164 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.07164

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	6.0	6.0	1.300	0.0	14.3
0.100	6.0	7.0	1.400	0.0	14.3
0.200	6.0	8.0	1.500	0.0	14.3
0.300	6.0	8.9	1.600	0.0	14.3
0.400	6.0	9.9	1.700	0.0	14.3
0.500	6.0	10.9	1.800	0.0	14.3
0.600	6.0	11.9	1.900	0.0	14.3
0.700	6.0	12.9	2.000	0.0	14.3
0.800	6.0	13.8	2.100	0.0	14.3
0.900	0.0	14.3	2.200	0.0	14.3
1.000	0.0	14.3	2.300	0.0	14.3
1.100	0.0	14.3	2.400	0.0	14.3
1.200	0.0	14.3	2.500	0.0	14.3

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 217 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.489</td><td>0.189</td><td>0.1</td><td>1.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.547</td><td>0.247</td><td>0.1</td><td>1.6</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.602</td><td>0.302</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.626</td><td>0.326</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.628</td><td>0.328</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.624</td><td>0.324</td><td>0.1</td><td>2.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.611</td><td>0.311</td><td>0.1</td><td>2.1</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.595</td><td>0.295</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.578</td><td>0.278</td><td>0.1</td><td>1.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.562</td><td>0.262</td><td>0.1</td><td>1.7</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.533</td><td>0.233</td><td>0.1</td><td>1.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.483</td><td>0.183</td><td>0.1</td><td>1.2</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.429</td><td>0.129</td><td>0.1</td><td>0.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.392</td><td>0.092</td><td>0.1</td><td>0.6</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.353</td><td>0.053</td><td>0.1</td><td>0.4</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.343</td><td>0.043</td><td>0.1</td><td>0.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.338</td><td>0.038</td><td>0.1</td><td>0.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.334</td><td>0.034</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.331</td><td>0.031</td><td>0.0</td><td>0.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.512</td><td>0.212</td><td>0.1</td><td>1.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>120</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>162</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>192</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>256</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>324</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>392</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>462</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>596</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>852</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1216</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1560</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2244</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5136</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.489	0.189	0.1	1.3	O K	30 min Summer	10.547	0.247	0.1	1.6	O K	60 min Summer	10.602	0.302	0.1	2.0	O K	120 min Summer	10.626	0.326	0.1	2.2	O K	180 min Summer	10.628	0.328	0.1	2.2	O K	240 min Summer	10.624	0.324	0.1	2.2	O K	360 min Summer	10.611	0.311	0.1	2.1	O K	480 min Summer	10.595	0.295	0.1	2.0	O K	600 min Summer	10.578	0.278	0.1	1.9	O K	720 min Summer	10.562	0.262	0.1	1.7	O K	960 min Summer	10.533	0.233	0.1	1.5	O K	1440 min Summer	10.483	0.183	0.1	1.2	O K	2160 min Summer	10.429	0.129	0.1	0.9	O K	2880 min Summer	10.392	0.092	0.1	0.6	O K	4320 min Summer	10.353	0.053	0.1	0.4	O K	5760 min Summer	10.343	0.043	0.1	0.3	O K	7200 min Summer	10.338	0.038	0.1	0.3	O K	8640 min Summer	10.334	0.034	0.1	0.2	O K	10080 min Summer	10.331	0.031	0.0	0.2	O K	15 min Winter	10.512	0.212	0.1	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	120	180 min Summer	26.572	0.0	162	240 min Summer	21.265	0.0	192	360 min Summer	15.394	0.0	256	480 min Summer	12.172	0.0	324	600 min Summer	10.122	0.0	392	720 min Summer	8.696	0.0	462	960 min Summer	6.832	0.0	596	1440 min Summer	4.865	0.0	852	2160 min Summer	3.484	0.0	1216	2880 min Summer	2.767	0.0	1560	4320 min Summer	2.029	0.0	2244	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular soakaway A21,A22 1 in 100 year + 40%			
Date 06/04/2021 File A21&A22 soakaways.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.578	0.278	0.1	1.8	O K
60 min Winter	10.642	0.342	0.1	2.3	O K
120 min Winter	10.673	0.373	0.1	2.5	O K
180 min Winter	10.678	0.378	0.1	2.5	O K
240 min Winter	10.672	0.372	0.1	2.5	O K
360 min Winter	10.656	0.356	0.1	2.4	O K
480 min Winter	10.634	0.334	0.1	2.2	O K
600 min Winter	10.610	0.310	0.1	2.1	O K
720 min Winter	10.587	0.287	0.1	1.9	O K
960 min Winter	10.545	0.245	0.1	1.6	O K
1440 min Winter	10.474	0.174	0.1	1.2	O K
2160 min Winter	10.400	0.100	0.1	0.7	O K
2880 min Winter	10.357	0.057	0.1	0.4	O K
4320 min Winter	10.339	0.039	0.1	0.3	O K
5760 min Winter	10.332	0.032	0.0	0.2	O K
7200 min Winter	10.328	0.028	0.0	0.2	O K
8640 min Winter	10.325	0.025	0.0	0.2	O K
10080 min Winter	10.323	0.023	0.0	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	172		
240 min Winter	21.265	0.0	218		
360 min Winter	15.394	0.0	274		
480 min Winter	12.172	0.0	352		
600 min Winter	10.122	0.0	426		
720 min Winter	8.696	0.0	500		
960 min Winter	6.832	0.0	642		
1440 min Winter	4.865	0.0	908		
2160 min Winter	3.484	0.0	1272		
2880 min Winter	2.767	0.0	1560		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2944		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5112		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A21,A22 1 in 100 year + 40%																													
Date 06/04/2021	Designed by JR																													
File A21&A22 soakaways.SRCX	Checked by																													
Micro Drainage		Source Control 2020.1																												
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.005 <table> <thead> <tr> <th>Time (mins)</th> <th>Area (ha)</th> </tr> </thead> <tbody> <tr> <td>From: 0</td> <td>To: 4 0.005</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area (ha)	From: 0	To: 4 0.005
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©1982-2020 Innovyze																														

GTA Civils Ltd		Page 4
Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A21,A22 1 in 100 year + 40%	
Date 06/04/2021 File A21&A22 soakaways.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.600

Cellular Storage Structure

Invert Level (m) 10.300 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.07164 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.07164

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	7.0	7.0	1.300	0.0	11.8
0.100	7.0	8.1	1.400	0.0	11.8
0.200	7.0	9.1	1.500	0.0	11.8
0.300	7.0	10.2	1.600	0.0	11.8
0.400	7.0	11.2	1.700	0.0	11.8
0.500	0.0	11.8	1.800	0.0	11.8
0.600	0.0	11.8	1.900	0.0	11.8
0.700	0.0	11.8	2.000	0.0	11.8
0.800	0.0	11.8	2.100	0.0	11.8
0.900	0.0	11.8	2.200	0.0	11.8
1.000	0.0	11.8	2.300	0.0	11.8
1.100	0.0	11.8	2.400	0.0	11.8
1.200	0.0	11.8	2.500	0.0	11.8

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 425 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.447</td><td>0.347</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.560</td><td>0.460</td><td>0.1</td><td>3.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.674</td><td>0.574</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.749</td><td>0.649</td><td>0.1</td><td>4.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.779</td><td>0.679</td><td>0.1</td><td>4.5</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.789</td><td>0.689</td><td>0.1</td><td>4.6</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.779</td><td>0.679</td><td>0.1</td><td>4.5</td><td>O K</td></tr><tr><td>480 min 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Summer</td><td>10.256</td><td>0.156</td><td>0.1</td><td>1.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.229</td><td>0.129</td><td>0.1</td><td>0.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.490</td><td>0.390</td><td>0.1</td><td>2.6</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>314</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>376</td></tr><tr><td>600 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Summer	10.560	0.460	0.1	3.1	O K	60 min Summer	10.674	0.574	0.1	3.8	O K	120 min Summer	10.749	0.649	0.1	4.3	O K	180 min Summer	10.779	0.679	0.1	4.5	O K	240 min Summer	10.789	0.689	0.1	4.6	O K	360 min Summer	10.779	0.679	0.1	4.5	O K	480 min Summer	10.763	0.663	0.1	4.4	O K	600 min Summer	10.745	0.645	0.1	4.3	O K	720 min Summer	10.726	0.626	0.1	4.2	O K	960 min Summer	10.688	0.588	0.1	3.9	O K	1440 min Summer	10.624	0.524	0.1	3.5	O K	2160 min Summer	10.548	0.448	0.1	3.0	O K	2880 min Summer	10.489	0.389	0.1	2.6	O K	4320 min Summer	10.401	0.301	0.1	2.0	O K	5760 min Summer	10.338	0.238	0.1	1.6	O K	7200 min Summer	10.292	0.192	0.1	1.3	O K	8640 min Summer	10.256	0.156	0.1	1.0	O K	10080 min Summer	10.229	0.129	0.1	0.9	O K	15 min Winter	10.490	0.390	0.1	2.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	240	360 min Summer	15.394	0.0	314	480 min Summer	12.172	0.0	376	600 min Summer	10.122	0.0	438	720 min Summer	8.696	0.0	506	960 min Summer	6.832	0.0	644	1440 min Summer	4.865	0.0	922	2160 min Summer	3.484	0.0	1320	2880 min Summer	2.767	0.0	1728	4320 min Summer	2.029	0.0	2468	5760 min Summer	1.648	0.0	3224	7200 min Summer	1.417	0.0	3960	8640 min Summer	1.261	0.0	4664	10080 min Summer	1.147	0.0	5352	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular soakaway A25 1 in 100 year + 40%			
Date 06/04/2021 File A25 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.617	0.517	0.1	3.4	O K
60 min Winter	10.747	0.647	0.1	4.3	O K
120 min Winter	10.835	0.735	0.1	4.9	O K
180 min Winter	10.873	0.773	0.1	5.1	O K
240 min Winter	10.888	0.788	0.1	5.2	O K
360 min Winter	10.883	0.783	0.1	5.2	O K
480 min Winter	10.860	0.760	0.1	5.1	O K
600 min Winter	10.839	0.739	0.1	4.9	O K
720 min Winter	10.816	0.716	0.1	4.8	O K
960 min Winter	10.766	0.666	0.1	4.4	O K
1440 min Winter	10.677	0.577	0.1	3.8	O K
2160 min Winter	10.569	0.469	0.1	3.1	O K
2880 min Winter	10.485	0.385	0.1	2.6	O K
4320 min Winter	10.363	0.263	0.1	1.7	O K
5760 min Winter	10.279	0.179	0.1	1.2	O K
7200 min Winter	10.219	0.119	0.1	0.8	O K
8640 min Winter	10.178	0.078	0.1	0.5	O K
10080 min Winter	10.152	0.052	0.1	0.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	234		
360 min Winter	15.394	0.0	340		
480 min Winter	12.172	0.0	390		
600 min Winter	10.122	0.0	464		
720 min Winter	8.696	0.0	542		
960 min Winter	6.832	0.0	694		
1440 min Winter	4.865	0.0	994		
2160 min Winter	3.484	0.0	1408		
2880 min Winter	2.767	0.0	1820		
4320 min Winter	2.029	0.0	2596		
5760 min Winter	1.648	0.0	3344		
7200 min Winter	1.417	0.0	4040		
8640 min Winter	1.261	0.0	4672		
10080 min Winter	1.147	0.0	5240		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A25 1 in 100 year + 40%	
Date 06/04/2021 File A25 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.009

Time (mins)	Area
From:	To: (ha)
0	4 0.009

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A25 1 in 100 year + 40%	
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Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

Invert Level (m) 10.100 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05700 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05700

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	7.0	7.0	1.300	0.0	16.0
0.100	7.0	8.1	1.400	0.0	16.0
0.200	7.0	9.1	1.500	0.0	16.0
0.300	7.0	10.2	1.600	0.0	16.0
0.400	7.0	11.2	1.700	0.0	16.0
0.500	7.0	12.3	1.800	0.0	16.0
0.600	7.0	13.3	1.900	0.0	16.0
0.700	7.0	14.4	2.000	0.0	16.0
0.800	7.0	15.5	2.100	0.0	16.0
0.900	0.0	16.0	2.200	0.0	16.0
1.000	0.0	16.0	2.300	0.0	16.0
1.100	0.0	16.0	2.400	0.0	16.0
1.200	0.0	16.0	2.500	0.0	16.0

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 690 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.807</td><td>0.307</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.908</td><td>0.408</td><td>0.1</td><td>3.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>11.015</td><td>0.515</td><td>0.1</td><td>3.9</td><td>O K</td></tr><tr><td>120 min Summer</td><td>11.092</td><td>0.592</td><td>0.1</td><td>4.5</td><td>O K</td></tr><tr><td>180 min Summer</td><td>11.131</td><td>0.631</td><td>0.1</td><td>4.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>11.152</td><td>0.652</td><td>0.1</td><td>5.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>11.163</td><td>0.663</td><td>0.1</td><td>5.0</td><td>O K</td></tr><tr><td>480 min Summer</td><td>11.155</td><td>0.655</td><td>0.1</td><td>5.0</td><td>O K</td></tr><tr><td>600 min Summer</td><td>11.143</td><td>0.643</td><td>0.1</td><td>4.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>11.131</td><td>0.631</td><td>0.1</td><td>4.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>11.106</td><td>0.606</td><td>0.1</td><td>4.6</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>11.060</td><td>0.560</td><td>0.1</td><td>4.3</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>11.004</td><td>0.504</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.959</td><td>0.459</td><td>0.1</td><td>3.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.892</td><td>0.392</td><td>0.1</td><td>3.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.840</td><td>0.340</td><td>0.1</td><td>2.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.801</td><td>0.301</td><td>0.1</td><td>2.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.768</td><td>0.268</td><td>0.1</td><td>2.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.741</td><td>0.241</td><td>0.1</td><td>1.8</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.844</td><td>0.344</td><td>0.1</td><td>2.6</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>468</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>516</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>574</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>702</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>978</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1384</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1788</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2592</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3352</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4112</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4848</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5640</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.807	0.307	0.1	2.3	O K	30 min Summer	10.908	0.408	0.1	3.1	O K	60 min Summer	11.015	0.515	0.1	3.9	O K	120 min Summer	11.092	0.592	0.1	4.5	O K	180 min Summer	11.131	0.631	0.1	4.8	O K	240 min Summer	11.152	0.652	0.1	5.0	O K	360 min Summer	11.163	0.663	0.1	5.0	O K	480 min Summer	11.155	0.655	0.1	5.0	O K	600 min Summer	11.143	0.643	0.1	4.9	O K	720 min Summer	11.131	0.631	0.1	4.8	O K	960 min Summer	11.106	0.606	0.1	4.6	O K	1440 min Summer	11.060	0.560	0.1	4.3	O K	2160 min Summer	11.004	0.504	0.1	3.8	O K	2880 min Summer	10.959	0.459	0.1	3.5	O K	4320 min Summer	10.892	0.392	0.1	3.0	O K	5760 min Summer	10.840	0.340	0.1	2.6	O K	7200 min Summer	10.801	0.301	0.1	2.3	O K	8640 min Summer	10.768	0.268	0.1	2.0	O K	10080 min Summer	10.741	0.241	0.1	1.8	O K	15 min Winter	10.844	0.344	0.1	2.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	360	480 min Summer	12.172	0.0	468	600 min Summer	10.122	0.0	516	720 min Summer	8.696	0.0	574	960 min Summer	6.832	0.0	702	1440 min Summer	4.865	0.0	978	2160 min Summer	3.484	0.0	1384	2880 min Summer	2.767	0.0	1788	4320 min Summer	2.029	0.0	2592	5760 min Summer	1.648	0.0	3352	7200 min Summer	1.417	0.0	4112	8640 min Summer	1.261	0.0	4848	10080 min Summer	1.147	0.0	5640	15 min Winter	140.714	0.0	19
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular soakaway A26 1 in 100 year + 40%			
Date 06/04/2021 File A26 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.958	0.458	0.1	3.5	O K
60 min Winter	11.079	0.579	0.1	4.4	O K
120 min Winter	11.168	0.668	0.1	5.1	O K
180 min Winter	11.214	0.714	0.1	5.4	O K
240 min Winter	11.240	0.740	0.1	5.6	O K
360 min Winter	11.258	0.758	0.1	5.8	O K
480 min Winter	11.254	0.754	0.1	5.7	O K
600 min Winter	11.242	0.742	0.1	5.6	O K
720 min Winter	11.224	0.724	0.1	5.5	O K
960 min Winter	11.195	0.695	0.1	5.3	O K
1440 min Winter	11.136	0.636	0.1	4.8	O K
2160 min Winter	11.058	0.558	0.1	4.2	O K
2880 min Winter	10.993	0.493	0.1	3.7	O K
4320 min Winter	10.893	0.393	0.1	3.0	O K
5760 min Winter	10.818	0.318	0.1	2.4	O K
7200 min Winter	10.760	0.260	0.1	2.0	O K
8640 min Winter	10.714	0.214	0.1	1.6	O K
10080 min Winter	10.676	0.176	0.0	1.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	236		
360 min Winter	15.394	0.0	350		
480 min Winter	12.172	0.0	460		
600 min Winter	10.122	0.0	566		
720 min Winter	8.696	0.0	650		
960 min Winter	6.832	0.0	742		
1440 min Winter	4.865	0.0	1052		
2160 min Winter	3.484	0.0	1496		
2880 min Winter	2.767	0.0	1932		
4320 min Winter	2.029	0.0	2764		
5760 min Winter	1.648	0.0	3568		
7200 min Winter	1.417	0.0	4328		
8640 min Winter	1.261	0.0	5096		
10080 min Winter	1.147	0.0	5848		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A26 1 in 100 year + 40%																															
Date 06/04/2021	Designed by JR																															
File A26 soakaway.SRCX	Checked by																															
Micro Drainage		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.009 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.009</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.009
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A26 1 in 100 year + 40%	
Date 06/04/2021 File A26 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.03571 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.03571

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	8.0	8.0	1.300	0.0	17.6
0.100	8.0	9.1	1.400	0.0	17.6
0.200	8.0	10.3	1.500	0.0	17.6
0.300	8.0	11.4	1.600	0.0	17.6
0.400	8.0	12.5	1.700	0.0	17.6
0.500	8.0	13.7	1.800	0.0	17.6
0.600	8.0	14.8	1.900	0.0	17.6
0.700	8.0	15.9	2.000	0.0	17.6
0.800	8.0	17.1	2.100	0.0	17.6
0.900	0.0	17.6	2.200	0.0	17.6
1.000	0.0	17.6	2.300	0.0	17.6
1.100	0.0	17.6	2.400	0.0	17.6
1.200	0.0	17.6	2.500	0.0	17.6

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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 116 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>11.261</td><td>0.113</td><td>0.7</td><td>5.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>11.299</td><td>0.151</td><td>0.7</td><td>6.8</td><td>O K</td></tr><tr><td>60 min Summer</td><td>11.332</td><td>0.184</td><td>0.7</td><td>8.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>11.340</td><td>0.192</td><td>0.7</td><td>8.7</td><td>O K</td></tr><tr><td>180 min Summer</td><td>11.338</td><td>0.190</td><td>0.7</td><td>8.6</td><td>O K</td></tr><tr><td>240 min Summer</td><td>11.333</td><td>0.185</td><td>0.7</td><td>8.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>11.317</td><td>0.169</td><td>0.7</td><td>7.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>11.299</td><td>0.151</td><td>0.7</td><td>6.8</td><td>O K</td></tr><tr><td>600 min Summer</td><td>11.282</td><td>0.134</td><td>0.7</td><td>6.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>11.266</td><td>0.118</td><td>0.7</td><td>5.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>11.239</td><td>0.091</td><td>0.7</td><td>4.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>11.205</td><td>0.057</td><td>0.7</td><td>2.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>11.189</td><td>0.041</td><td>0.6</td><td>1.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>11.182</td><td>0.034</td><td>0.5</td><td>1.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>11.173</td><td>0.025</td><td>0.4</td><td>1.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>11.169</td><td>0.021</td><td>0.3</td><td>0.9</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>11.166</td><td>0.018</td><td>0.3</td><td>0.8</td><td>O K</td></tr><tr><td>8640 min 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Summer	11.299	0.151	0.7	6.8	O K	60 min Summer	11.332	0.184	0.7	8.3	O K	120 min Summer	11.340	0.192	0.7	8.7	O K	180 min Summer	11.338	0.190	0.7	8.6	O K	240 min Summer	11.333	0.185	0.7	8.4	O K	360 min Summer	11.317	0.169	0.7	7.7	O K	480 min Summer	11.299	0.151	0.7	6.8	O K	600 min Summer	11.282	0.134	0.7	6.1	O K	720 min Summer	11.266	0.118	0.7	5.3	O K	960 min Summer	11.239	0.091	0.7	4.1	O K	1440 min Summer	11.205	0.057	0.7	2.6	O K	2160 min Summer	11.189	0.041	0.6	1.9	O K	2880 min Summer	11.182	0.034	0.5	1.5	O K	4320 min Summer	11.173	0.025	0.4	1.2	O K	5760 min Summer	11.169	0.021	0.3	0.9	O K	7200 min Summer	11.166	0.018	0.3	0.8	O K	8640 min Summer	11.164	0.016	0.2	0.7	O K	10080 min Summer	11.163	0.015	0.2	0.7	O K	15 min Winter	11.277	0.129	0.7	5.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	32	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	102	180 min Summer	26.572	0.0	134	240 min Summer	21.265	0.0	168	360 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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Porous paving A27 1 in 100 year + 40%			
Date 06/04/2021 File A27 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	11.321	0.173	0.7	7.8	O K
60 min Winter	11.360	0.212	0.7	9.6	O K
120 min Winter	11.370	0.222	0.7	10.1	O K
180 min Winter	11.366	0.218	0.7	9.9	O K
240 min Winter	11.358	0.210	0.7	9.5	O K
360 min Winter	11.334	0.186	0.7	8.4	O K
480 min Winter	11.307	0.159	0.7	7.2	O K
600 min Winter	11.281	0.133	0.7	6.0	O K
720 min Winter	11.257	0.109	0.7	5.0	O K
960 min Winter	11.220	0.072	0.7	3.3	O K
1440 min Winter	11.192	0.044	0.7	2.0	O K
2160 min Winter	11.180	0.032	0.5	1.4	O K
2880 min Winter	11.173	0.025	0.4	1.2	O K
4320 min Winter	11.167	0.019	0.3	0.8	O K
5760 min Winter	11.163	0.015	0.2	0.7	O K
7200 min Winter	11.161	0.013	0.2	0.6	O K
8640 min Winter	11.160	0.012	0.2	0.5	O K
10080 min Winter	11.159	0.011	0.2	0.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	60		
120 min Winter	36.152	0.0	114		
180 min Winter	26.572	0.0	144		
240 min Winter	21.265	0.0	182		
360 min Winter	15.394	0.0	256		
480 min Winter	12.172	0.0	326		
600 min Winter	10.122	0.0	392		
720 min Winter	8.696	0.0	454		
960 min Winter	6.832	0.0	566		
1440 min Winter	4.865	0.0	764		
2160 min Winter	3.484	0.0	1124		
2880 min Winter	2.767	0.0	1500		
4320 min Winter	2.029	0.0	2204		
5760 min Winter	1.648	0.0	2856		
7200 min Winter	1.417	0.0	3616		
8640 min Winter	1.261	0.0	4320		
10080 min Winter	1.147	0.0	5040		
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Date 06/04/2021	Designed by JR																															
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Summer</td><td>10.740</td><td>0.240</td><td>0.0</td><td>1.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.715</td><td>0.215</td><td>0.0</td><td>0.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.839</td><td>0.339</td><td>0.0</td><td>1.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>420</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>482</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>542</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>674</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>952</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1364</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1760</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2552</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3336</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4040</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4840</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5544</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.802	0.302	0.0	1.3	O K	30 min Summer	10.902	0.402	0.0	1.7	O K	60 min Summer	11.006	0.506	0.0	2.2	O K	120 min Summer	11.079	0.579	0.0	2.5	O K	180 min Summer	11.115	0.615	0.0	2.6	O K	240 min Summer	11.132	0.632	0.0	2.7	O K	360 min Summer	11.137	0.637	0.0	2.7	O K	480 min Summer	11.127	0.627	0.0	2.7	O K	600 min Summer	11.115	0.615	0.0	2.6	O K	720 min Summer	11.103	0.603	0.0	2.6	O K	960 min Summer	11.077	0.577	0.0	2.5	O K	1440 min Summer	11.030	0.530	0.0	2.3	O K	2160 min Summer	10.973	0.473	0.0	2.0	O K	2880 min Summer	10.928	0.428	0.0	1.8	O K	4320 min Summer	10.860	0.360	0.0	1.5	O K	5760 min Summer	10.809	0.309	0.0	1.3	O K	7200 min Summer	10.770	0.270	0.0	1.2	O K	8640 min Summer	10.740	0.240	0.0	1.0	O K	10080 min Summer	10.715	0.215	0.0	0.9	O K	15 min Winter	10.839	0.339	0.0	1.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	360	480 min Summer	12.172	0.0	420	600 min Summer	10.122	0.0	482	720 min Summer	8.696	0.0	542	960 min Summer	6.832	0.0	674	1440 min Summer	4.865	0.0	952	2160 min Summer	3.484	0.0	1364	2880 min Summer	2.767	0.0	1760	4320 min Summer	2.029	0.0	2552	5760 min Summer	1.648	0.0	3336	7200 min Summer	1.417	0.0	4040	8640 min Summer	1.261	0.0	4840	10080 min Summer	1.147	0.0	5544	15 min Winter	140.714	0.0	19
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GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Cellular soakaway A28, A29 1 in 100 year + 40%			
Date 06/04/2021 File A28&A29 soakaways.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.951	0.451	0.0	1.9	O K
60 min Winter	11.069	0.569	0.0	2.4	O K
120 min Winter	11.154	0.654	0.0	2.8	O K
180 min Winter	11.196	0.696	0.1	3.0	O K
240 min Winter	11.218	0.718	0.1	3.1	O K
360 min Winter	11.229	0.729	0.1	3.1	O K
480 min Winter	11.221	0.721	0.1	3.1	O K
600 min Winter	11.204	0.704	0.1	3.0	O K
720 min Winter	11.189	0.689	0.1	2.9	O K
960 min Winter	11.159	0.659	0.1	2.8	O K
1440 min Winter	11.096	0.596	0.0	2.5	O K
2160 min Winter	11.015	0.515	0.0	2.2	O K
2880 min Winter	10.950	0.450	0.0	1.9	O K
4320 min Winter	10.852	0.352	0.0	1.5	O K
5760 min Winter	10.780	0.280	0.0	1.2	O K
7200 min Winter	10.726	0.226	0.0	1.0	O K
8640 min Winter	10.684	0.184	0.0	0.8	O K
10080 min Winter	10.650	0.150	0.0	0.6	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	236		
360 min Winter	15.394	0.0	348		
480 min Winter	12.172	0.0	454		
600 min Winter	10.122	0.0	542		
720 min Winter	8.696	0.0	570		
960 min Winter	6.832	0.0	722		
1440 min Winter	4.865	0.0	1026		
2160 min Winter	3.484	0.0	1468		
2880 min Winter	2.767	0.0	1900		
4320 min Winter	2.029	0.0	2720		
5760 min Winter	1.648	0.0	3512		
7200 min Winter	1.417	0.0	4256		
8640 min Winter	1.261	0.0	5008		
10080 min Winter	1.147	0.0	5744		
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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A28, A29 1 in 100 year + 40%	
Date 06/04/2021 File A28&A29 soakaways.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.005

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Gloucester House 66a Church Walk Burgess Hill RH15 9AS	Warwick Nursery Cellular soakaway A28, A29 1 in 100 year + 40%	
Date 06/04/2021 File A28&A29 soakaways.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.800

Cellular Storage Structure

Invert Level (m) 10.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.03571 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.03571

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	4.5	4.5	1.300	0.0	11.7
0.100	4.5	5.3	1.400	0.0	11.7
0.200	4.5	6.2	1.500	0.0	11.7
0.300	4.5	7.0	1.600	0.0	11.7
0.400	4.5	7.9	1.700	0.0	11.7
0.500	4.5	8.7	1.800	0.0	11.7
0.600	4.5	9.6	1.900	0.0	11.7
0.700	4.5	10.4	2.000	0.0	11.7
0.800	4.5	11.3	2.100	0.0	11.7
0.900	0.0	11.7	2.200	0.0	11.7
1.000	0.0	11.7	2.300	0.0	11.7
1.100	0.0	11.7	2.400	0.0	11.7
1.200	0.0	11.7	2.500	0.0	11.7

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Summary of Results for 100 year Return Period (+40%) Half Drain Time : 151 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>11.225</td><td>0.140</td><td>1.1</td><td>9.5</td><td>O K</td></tr><tr><td>30 min Summer</td><td>11.273</td><td>0.188</td><td>1.1</td><td>12.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>11.316</td><td>0.231</td><td>1.1</td><td>15.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>11.329</td><td>0.244</td><td>1.1</td><td>16.5</td><td>O K</td></tr><tr><td>180 min Summer</td><td>11.328</td><td>0.243</td><td>1.1</td><td>16.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>11.323</td><td>0.238</td><td>1.1</td><td>16.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>11.306</td><td>0.221</td><td>1.1</td><td>14.9</td><td>O K</td></tr><tr><td>480 min Summer</td><td>11.286</td><td>0.201</td><td>1.1</td><td>13.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>11.267</td><td>0.182</td><td>1.1</td><td>12.3</td><td>O K</td></tr><tr><td>720 min Summer</td><td>11.249</td><td>0.164</td><td>1.1</td><td>11.1</td><td>O K</td></tr><tr><td>960 min Summer</td><td>11.216</td><td>0.131</td><td>1.1</td><td>8.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>11.168</td><td>0.083</td><td>1.1</td><td>5.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>11.135</td><td>0.050</td><td>1.1</td><td>3.3</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>11.126</td><td>0.041</td><td>0.9</td><td>2.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>11.116</td><td>0.031</td><td>0.7</td><td>2.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>11.110</td><td>0.025</td><td>0.6</td><td>1.7</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>11.107</td><td>0.022</td><td>0.5</td><td>1.5</td><td>O K</td></tr><tr><td>8640 min 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Summer	11.273	0.188	1.1	12.7	O K	60 min Summer	11.316	0.231	1.1	15.6	O K	120 min Summer	11.329	0.244	1.1	16.5	O K	180 min Summer	11.328	0.243	1.1	16.4	O K	240 min Summer	11.323	0.238	1.1	16.0	O K	360 min Summer	11.306	0.221	1.1	14.9	O K	480 min Summer	11.286	0.201	1.1	13.6	O K	600 min Summer	11.267	0.182	1.1	12.3	O K	720 min Summer	11.249	0.164	1.1	11.1	O K	960 min Summer	11.216	0.131	1.1	8.9	O K	1440 min Summer	11.168	0.083	1.1	5.6	O K	2160 min Summer	11.135	0.050	1.1	3.3	O K	2880 min Summer	11.126	0.041	0.9	2.7	O K	4320 min Summer	11.116	0.031	0.7	2.1	O K	5760 min Summer	11.110	0.025	0.6	1.7	O K	7200 min Summer	11.107	0.022	0.5	1.5	O K	8640 min Summer	11.104	0.019	0.4	1.3	O K	10080 min Summer	11.103	0.018	0.4	1.2	O K	15 min Winter	11.245	0.160	1.1	10.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	32	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	116	180 min Summer	26.572	0.0	144	240 min Summer	21.265	0.0	176	360 min Summer	15.394	0.0	242	480 min Summer	12.172	0.0	310	600 min Summer	10.122	0.0	376	720 min Summer	8.696	0.0	442	960 min Summer	6.832	0.0	568	1440 min Summer	4.865	0.0	794	2160 min Summer	3.484	0.0	1112	2880 min Summer	2.767	0.0	1472	4320 min Summer	2.029	0.0	2204	5760 min Summer	1.648	0.0	2936	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5064	15 min Winter	140.714	0.0	18
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GTA Civils Ltd			Page 2		
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Date 06/04/2021 File A30 A31 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	11.299	0.214	1.1	14.5	O K
60 min Winter	11.350	0.265	1.1	17.9	O K
120 min Winter	11.369	0.284	1.1	19.1	O K
180 min Winter	11.366	0.281	1.1	19.0	O K
240 min Winter	11.358	0.273	1.1	18.4	O K
360 min Winter	11.334	0.249	1.1	16.8	O K
480 min Winter	11.305	0.220	1.1	14.9	O K
600 min Winter	11.277	0.192	1.1	12.9	O K
720 min Winter	11.249	0.164	1.1	11.1	O K
960 min Winter	11.201	0.116	1.1	7.9	O K
1440 min Winter	11.140	0.055	1.1	3.7	O K
2160 min Winter	11.123	0.038	0.9	2.6	O K
2880 min Winter	11.116	0.031	0.7	2.1	O K
4320 min Winter	11.108	0.023	0.5	1.5	O K
5760 min Winter	11.103	0.018	0.4	1.2	O K
7200 min Winter	11.101	0.016	0.4	1.1	O K
8640 min Winter	11.099	0.014	0.3	0.9	O K
10080 min Winter	11.098	0.013	0.3	0.8	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	60		
120 min Winter	36.152	0.0	116		
180 min Winter	26.572	0.0	168		
240 min Winter	21.265	0.0	188		
360 min Winter	15.394	0.0	264		
480 min Winter	12.172	0.0	338		
600 min Winter	10.122	0.0	408		
720 min Winter	8.696	0.0	474		
960 min Winter	6.832	0.0	596		
1440 min Winter	4.865	0.0	792		
2160 min Winter	3.484	0.0	1128		
2880 min Winter	2.767	0.0	1472		
4320 min Winter	2.029	0.0	2192		
5760 min Winter	1.648	0.0	2944		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4328		
10080 min Winter	1.147	0.0	5064		
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Volume (m³)	Status	15 min Summer	10.708	0.372	4.0	44.7	O K	30 min Summer	10.766	0.430	4.6	59.9	O K	60 min Summer	10.814	0.478	5.1	73.9	O K	120 min Summer	10.831	0.495	5.3	79.2	O K	180 min Summer	10.834	0.498	5.3	80.2	O K	240 min Summer	10.833	0.497	5.3	80.0	O K	360 min Summer	10.825	0.489	5.2	77.3	O K	480 min Summer	10.812	0.476	5.1	73.5	O K	600 min Summer	10.799	0.463	5.0	69.4	O K	720 min Summer	10.786	0.450	4.8	65.5	O K	960 min Summer	10.760	0.424	4.5	58.3	O K	1440 min Summer	10.717	0.381	4.1	47.1	O K	2160 min Summer	10.669	0.333	3.6	35.9	O K	2880 min Summer	10.633	0.297	3.2	28.6	O K	4320 min Summer	10.584	0.248	2.7	19.9	O K	5760 min Summer	10.552	0.216	2.3	15.1	O K	7200 min Summer	10.529	0.193	2.1	12.0	O K	8640 min Summer	10.512	0.176	1.9	10.0	O K	10080 min Summer	10.499	0.163	1.7	8.6	O K	15 min Winter	10.732	0.396	4.2	50.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min 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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill RH15 9AS		Warwick Nursery Permeable paving A32-A44 1 in 100 year + 40%			
Date 06/04/2021 File A32-A44 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.795	0.459	4.9	68.1	O K
60 min Winter	10.846	0.510	5.4	84.2	O K
120 min Winter	10.869	0.533	5.4	91.5	O K
180 min Winter	10.870	0.534	5.4	92.0	O K
240 min Winter	10.868	0.532	5.4	91.3	O K
360 min Winter	10.854	0.518	5.4	86.8	O K
480 min Winter	10.836	0.500	5.3	80.8	O K
600 min Winter	10.817	0.481	5.2	75.0	O K
720 min Winter	10.799	0.463	5.0	69.4	O K
960 min Winter	10.765	0.429	4.6	59.5	O K
1440 min Winter	10.708	0.372	4.0	44.7	O K
2160 min Winter	10.645	0.309	3.3	30.8	O K
2880 min Winter	10.600	0.264	2.8	22.6	O K
4320 min Winter	10.543	0.207	2.2	13.8	O K
5760 min Winter	10.508	0.172	1.8	9.6	O K
7200 min Winter	10.485	0.149	1.6	7.2	O K
8640 min Winter	10.469	0.133	1.4	5.8	O K
10080 min Winter	10.458	0.122	1.3	4.8	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	60		
120 min Winter	36.152	0.0	116		
180 min Winter	26.572	0.0	164		
240 min Winter	21.265	0.0	188		
360 min Winter	15.394	0.0	264		
480 min Winter	12.172	0.0	336		
600 min Winter	10.122	0.0	408		
720 min Winter	8.696	0.0	478		
960 min Winter	6.832	0.0	616		
1440 min Winter	4.865	0.0	878		
2160 min Winter	3.484	0.0	1252		
2880 min Winter	2.767	0.0	1612		
4320 min Winter	2.029	0.0	2296		
5760 min Winter	1.648	0.0	3000		
7200 min Winter	1.417	0.0	3744		
8640 min Winter	1.261	0.0	4416		
10080 min Winter	1.147	0.0	5144		
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Date 06/04/2021	Designed by JR																															
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Micro Drainage		Source Control 2020.1																														
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Summer</td><td>10.271</td><td>0.171</td><td>2.2</td><td>27.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.257</td><td>0.157</td><td>2.2</td><td>25.0</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.244</td><td>0.144</td><td>2.2</td><td>22.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.220</td><td>0.120</td><td>2.2</td><td>18.8</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.183</td><td>0.083</td><td>2.2</td><td>12.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.153</td><td>0.053</td><td>2.1</td><td>7.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.144</td><td>0.044</td><td>1.9</td><td>6.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.134</td><td>0.034</td><td>1.4</td><td>5.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.129</td><td>0.029</td><td>1.2</td><td>4.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.126</td><td>0.026</td><td>1.1</td><td>3.6</td><td>O K</td></tr><tr><td>8640 min 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Summer	10.252	0.152	2.2	24.0	O K	60 min Summer	10.277	0.177	2.2	28.3	O K	120 min Summer	10.295	0.195	2.2	31.3	O K	180 min Summer	10.297	0.197	2.2	31.7	O K	240 min Summer	10.295	0.195	2.2	31.3	O K	360 min Summer	10.285	0.185	2.2	29.6	O K	480 min Summer	10.271	0.171	2.2	27.3	O K	600 min Summer	10.257	0.157	2.2	25.0	O K	720 min Summer	10.244	0.144	2.2	22.8	O K	960 min Summer	10.220	0.120	2.2	18.8	O K	1440 min Summer	10.183	0.083	2.2	12.7	O K	2160 min Summer	10.153	0.053	2.1	7.9	O K	2880 min Summer	10.144	0.044	1.9	6.5	O K	4320 min Summer	10.134	0.034	1.4	5.0	O K	5760 min Summer	10.129	0.029	1.2	4.2	O K	7200 min Summer	10.126	0.026	1.1	3.6	O K	8640 min Summer	10.123	0.023	1.0	3.2	O K	10080 min Summer	10.122	0.022	0.9	3.0	O K	15 min Winter	10.236	0.136	2.2	21.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	62.033	0.0	18	30 min Summer	40.693	0.0	32	60 min Summer	25.838	0.0	62	120 min Summer	16.263	0.0	110	180 min Summer	12.210	0.0	142	240 min Summer	9.889	0.0	174	360 min Summer	7.263	0.0	242	480 min Summer	5.789	0.0	310	600 min Summer	4.841	0.0	376	720 min Summer	4.176	0.0	442	960 min Summer	3.301	0.0	568	1440 min Summer	2.374	0.0	806	2160 min Summer	1.721	0.0	1128	2880 min Summer	1.382	0.0	1472	4320 min Summer	1.034	0.0	2204	5760 min Summer	0.854	0.0	2936	7200 min Summer	0.745	0.0	3672	8640 min Summer	0.672	0.0	4400	10080 min Summer	0.618	0.0	5136	15 min Winter	62.033	0.0	18
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8640 min Winter	10.117	0.017	0.7	2.3	O K																																																																																																																																																																																														
10080 min Winter	10.116	0.016	0.6	2.1	O K																																																																																																																																																																																														
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																
30 min Winter	40.693	0.0	32																																																																																																																																																																																																
60 min Winter	25.838	0.0	60																																																																																																																																																																																																
120 min Winter	16.263	0.0	116																																																																																																																																																																																																
180 min Winter	12.210	0.0	162																																																																																																																																																																																																
240 min Winter	9.889	0.0	188																																																																																																																																																																																																
360 min Winter	7.263	0.0	264																																																																																																																																																																																																
480 min Winter	5.789	0.0	338																																																																																																																																																																																																
600 min Winter	4.841	0.0	408																																																																																																																																																																																																
720 min Winter	4.176	0.0	476																																																																																																																																																																																																
960 min Winter	3.301	0.0	598																																																																																																																																																																																																
1440 min Winter	2.374	0.0	808																																																																																																																																																																																																
2160 min Winter	1.721	0.0	1128																																																																																																																																																																																																
2880 min Winter	1.382	0.0	1496																																																																																																																																																																																																
4320 min Winter	1.034	0.0	2204																																																																																																																																																																																																
5760 min Winter	0.854	0.0	2928																																																																																																																																																																																																
7200 min Winter	0.745	0.0	3664																																																																																																																																																																																																
8640 min Winter	0.672	0.0	4320																																																																																																																																																																																																
10080 min Winter	0.618	0.0	5144																																																																																																																																																																																																
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GTA Civils Ltd		Page 3																														
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File infiltration blanket	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+0</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.177 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.177</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+0	Time (mins)	Area	From:	To: (ha)	0	4 0.177
Rainfall Model	FEH																															
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Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery 1 in 10 year Blanket and basin	
Date 06/04/2021	Designed by JR	
File infiltration blanket	Checked by	
XP Solutions		Source Control 2020.1

Model Details

Storage is Online Cover Level (m) 10.810

Complex Structure

Infiltration Blanket

Infiltration Coefficient Base (m/hr) 0.03571 Diameter/Width (m) 18.0
 Safety Factor 2.0 Length (m) 22.0
 Porosity 0.30 Cap Volume Depth (m) 0.000
 Invert Level (m) 10.100

Infiltration Basin

Invert Level (m) 10.110 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.03571 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	36.9	0.700	104.6	1.400	0.0	2.100	0.0
0.100	44.8	0.800	116.1	1.500	0.0	2.200	0.0
0.200	53.1	0.900	0.0	1.600	0.0	2.300	0.0
0.300	61.9	1.000	0.0	1.700	0.0	2.400	0.0
0.400	71.1	1.100	0.0	1.800	0.0	2.500	0.0
0.500	82.8	1.200	0.0	1.900	0.0		
0.600	93.5	1.300	0.0	2.000	0.0		

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Summary of Results for 100 year Return Period (+40%) Half Drain Time : 351 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.372</td><td>0.272</td><td>2.3</td><td>44.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.451</td><td>0.351</td><td>2.3</td><td>59.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.527</td><td>0.427</td><td>2.3</td><td>73.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.570</td><td>0.470</td><td>2.4</td><td>81.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.583</td><td>0.483</td><td>2.4</td><td>84.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.583</td><td>0.483</td><td>2.4</td><td>84.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.567</td><td>0.467</td><td>2.3</td><td>81.1</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.549</td><td>0.449</td><td>2.3</td><td>77.5</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.530</td><td>0.430</td><td>2.3</td><td>73.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.512</td><td>0.412</td><td>2.3</td><td>70.5</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.478</td><td>0.378</td><td>2.3</td><td>64.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.418</td><td>0.318</td><td>2.3</td><td>53.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.342</td><td>0.242</td><td>2.2</td><td>39.5</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.282</td><td>0.182</td><td>2.2</td><td>29.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.200</td><td>0.100</td><td>2.2</td><td>15.6</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.160</td><td>0.060</td><td>2.2</td><td>9.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.148</td><td>0.048</td><td>2.0</td><td>7.1</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.143</td><td>0.043</td><td>1.8</td><td>6.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.139</td><td>0.039</td><td>1.7</td><td>5.7</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.404</td><td>0.304</td><td>2.3</td><td>50.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>304</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>364</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>428</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>494</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>628</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>896</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1280</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1644</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2332</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2992</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4400</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5136</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.372	0.272	2.3	44.8	O K	30 min Summer	10.451	0.351	2.3	59.1	O K	60 min Summer	10.527	0.427	2.3	73.3	O K	120 min Summer	10.570	0.470	2.4	81.6	O K	180 min Summer	10.583	0.483	2.4	84.2	O K	240 min Summer	10.583	0.483	2.4	84.2	O K	360 min Summer	10.567	0.467	2.3	81.1	O K	480 min Summer	10.549	0.449	2.3	77.5	O K	600 min Summer	10.530	0.430	2.3	73.9	O K	720 min Summer	10.512	0.412	2.3	70.5	O K	960 min Summer	10.478	0.378	2.3	64.1	O K	1440 min Summer	10.418	0.318	2.3	53.0	O K	2160 min Summer	10.342	0.242	2.2	39.5	O K	2880 min Summer	10.282	0.182	2.2	29.1	O K	4320 min Summer	10.200	0.100	2.2	15.6	O K	5760 min Summer	10.160	0.060	2.2	9.0	O K	7200 min Summer	10.148	0.048	2.0	7.1	O K	8640 min Summer	10.143	0.043	1.8	6.3	O K	10080 min Summer	10.139	0.039	1.7	5.7	O K	15 min Winter	10.404	0.304	2.3	50.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	240	360 min Summer	15.394	0.0	304	480 min Summer	12.172	0.0	364	600 min Summer	10.122	0.0	428	720 min Summer	8.696	0.0	494	960 min Summer	6.832	0.0	628	1440 min Summer	4.865	0.0	896	2160 min Summer	3.484	0.0	1280	2880 min Summer	2.767	0.0	1644	4320 min Summer	2.029	0.0	2332	5760 min Summer	1.648	0.0	2992	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4400	10080 min Summer	1.147	0.0	5136	15 min Winter	140.714	0.0	18
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GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery 1 in 100 year+40% Blanket and basin			
Date 06/04/2021 File infiltration blanket		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.492	0.392	2.3	66.6	O K
60 min Winter	10.577	0.477	2.4	83.0	O K
120 min Winter	10.627	0.527	2.4	93.1	O K
180 min Winter	10.646	0.546	2.4	97.0	O K
240 min Winter	10.650	0.550	2.4	97.9	O K
360 min Winter	10.637	0.537	2.4	95.1	O K
480 min Winter	10.613	0.513	2.4	90.2	O K
600 min Winter	10.591	0.491	2.4	85.8	O K
720 min Winter	10.568	0.468	2.4	81.2	O K
960 min Winter	10.521	0.421	2.3	72.1	O K
1440 min Winter	10.433	0.333	2.3	55.6	O K
2160 min Winter	10.320	0.220	2.2	35.7	O K
2880 min Winter	10.233	0.133	2.2	20.9	O K
4320 min Winter	10.150	0.050	2.1	7.4	O K
5760 min Winter	10.141	0.041	1.7	6.0	O K
7200 min Winter	10.135	0.035	1.5	5.1	O K
8640 min Winter	10.131	0.031	1.3	4.5	O K
10080 min Winter	10.129	0.029	1.2	4.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	234		
360 min Winter	15.394	0.0	340		
480 min Winter	12.172	0.0	388		
600 min Winter	10.122	0.0	462		
720 min Winter	8.696	0.0	536		
960 min Winter	6.832	0.0	686		
1440 min Winter	4.865	0.0	968		
2160 min Winter	3.484	0.0	1360		
2880 min Winter	2.767	0.0	1700		
4320 min Winter	2.029	0.0	2204		
5760 min Winter	1.648	0.0	2936		
7200 min Winter	1.417	0.0	3656		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5136		
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GTA Civils Ltd		Page 3
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery 1 in 100 year+40% Blanket and basin	
Date 06/04/2021	Designed by JR	
File infiltration blanket	Checked by	
XP Solutions		Source Control 2020.1

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.177

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.177

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GTA Civils Ltd		Page 4																																																																
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery 1 in 100 year+40% Blanket and basin																																																																	
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XP Solutions		Source Control 2020.1																																																																
<u>Model Details</u> Storage is Online Cover Level (m) 10.810 <u>Complex Structure</u> <u>Infiltration Blanket</u> Infiltration Coefficient Base (m/hr) 0.03571 Diameter/Width (m) 18.0 Safety Factor 2.0 Length (m) 22.0 Porosity 0.30 Cap Volume Depth (m) 0.000 Invert Level (m) 10.100 <u>Infiltration Basin</u> Invert Level (m) 10.110 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.03571 Porosity 1.00 Infiltration Coefficient Side (m/hr) 0.00000 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>36.9</td><td>0.700</td><td>104.6</td><td>1.400</td><td>0.0</td><td>2.100</td><td>0.0</td></tr> <tr><td>0.100</td><td>44.8</td><td>0.800</td><td>116.1</td><td>1.500</td><td>0.0</td><td>2.200</td><td>0.0</td></tr> <tr><td>0.200</td><td>53.1</td><td>0.900</td><td>0.0</td><td>1.600</td><td>0.0</td><td>2.300</td><td>0.0</td></tr> <tr><td>0.300</td><td>61.9</td><td>1.000</td><td>0.0</td><td>1.700</td><td>0.0</td><td>2.400</td><td>0.0</td></tr> <tr><td>0.400</td><td>71.1</td><td>1.100</td><td>0.0</td><td>1.800</td><td>0.0</td><td>2.500</td><td>0.0</td></tr> <tr><td>0.500</td><td>82.8</td><td>1.200</td><td>0.0</td><td>1.900</td><td>0.0</td><td></td><td></td></tr> <tr><td>0.600</td><td>93.5</td><td>1.300</td><td>0.0</td><td>2.000</td><td>0.0</td><td></td><td></td></tr> </tbody> </table>			Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	0.000	36.9	0.700	104.6	1.400	0.0	2.100	0.0	0.100	44.8	0.800	116.1	1.500	0.0	2.200	0.0	0.200	53.1	0.900	0.0	1.600	0.0	2.300	0.0	0.300	61.9	1.000	0.0	1.700	0.0	2.400	0.0	0.400	71.1	1.100	0.0	1.800	0.0	2.500	0.0	0.500	82.8	1.200	0.0	1.900	0.0			0.600	93.5	1.300	0.0	2.000	0.0		
Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)																																																											
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Appendix F

Winter Groundwater Monitoring & Soakage Test Results, Borehole Records

Warwick Nursery, Eastergate Water Monitoring - LandAcre

REFER TO SITE PLAN FOR WS LOCATIONS

	Drilling Date							
Visit	1	2	3	4	5	6	7	8
	25/11/2019	09/12/2019	23/12/2019	06/01/2020	20/01/2020	06/02/2020	20/02/2020	03/03/2020
WS1								
Water level (mbgl)	1.34	1.18	0.42	1.16	1.04	1.06	1.03	0.94
Depth (mbgl)	3.40	2.39	2.58	2.19	2.20	2.23	2.23	2.21
WS2								
Water level (mbgl)	2.80	2.56	2.03	1.97	1.90	No Access	1.88	1.70
Depth (mbgl)	4.00	3.44	3.40	3.34	3.35	No Access	3.36	3.29
WS3								
Water level (mbgl)	1.62	1.89	1.35	1.86	1.81	1.81	1.81	1.72
Depth (mbgl)	3.00	2.68	2.68	2.68	2.69	2.68	2.68	2.66



J. Brotherton & Partners

Land Surveyors & Engineers

'Firdown' 113 Frogmore Lane
Waterlooville, Hampshire PO8 9RD

Tel: 023 9259 1979
Email: enquiries@jbpsurveys.co.uk
Web: www.jbpsurveys.co.uk

Client Landacre (Eastergate) Ltd

Drawing Title winter ground watering well locations

Location Barnham Road, Eastergate, Chichester, West Sussex, PO20 3RT

Revisions / Status / Notes

20346 B

winter ground watering well locations Provided by client.

LEVELS BASED ON	OSGB36	Surveyor:-	SB	Assistant:-	TC
GRID BASED ON	OSGB36	Drawn By:-	SB	Checked by:-	JB

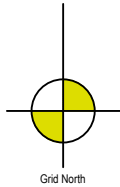
Drawing & CAD Ref.	REVISIONS
20346 B	

SCALE (when printed)	Date
1:1250 @ A4	23rd March 2021

Removal of this block also removes all warranties
This drawing has been created for use at a scale of 1:200
All critical dimensions, positions and levels to be checked on site



105200N



105175N

105150N

105125N

105100N

105075N

105050N

105025N

105000N

494875E

494900E

494925E

494950E

494975E

495000E

495025E

495050E

105000N

105025N

105050N

105075N

105100N

105125N

105150N

105175N

105200N

105225N

105250N

105275N

105300N

105325N

105300N

105275N

494952.800E
105234.963N

WS3

WS2

494915.687E
105136.230N

WS1

494908.475E
105058.129N



GROUNDWATER WELL LOCATIONS
AND DEPTHS TO OD
1:500



Mark Penfold
Landacre (Eastergate) Ltd
Stockers Farm
Salthill Road
Chichester
PO19 3PY

Units 15 & 16 • Ford Lane Business Park •
Ford • Arundel • West Sussex • BN18 0UZ

Tel: 01243 533499

Email: info@theconstructivegroup.com

Date: 05/03/2021
Our Ref: 21.1012

Dear Mark,

RE: Warwick Nursery – Additional Infiltration Testing

We are writing following the completion of the additional infiltration testing undertaken on March 04th 2021 at Warwick Nursery, Barnham Road, Eastergate, PO20 3RT. This testing was undertaken in response to comments from Arun District Council regarding the initial infiltration testing undertaken in February 2021. This letter report should be read in conjunction with the findings of the previous site investigation¹. Infiltration testing was undertaken following overnight rain and ground conditions were saturated prior to the excavation of pits.

Summary of Ground Conditions

The soil sequence encountered during the intrusive works is as follows:

Average Depth (m below ground level)	Description
0 – 0.2	Dark brown sandy gravelly CLAY (Topsoil)
0.2 – 0.4	Brown sandy slightly gravelly CLAY (Head Deposits)
0.2 – 1.2	Dark to orangish brown sandy gravelly CLAY (River Terrace Deposits)

Full stratigraphic logs of the materials encountered can be found in the attached documents.

¹ 20.1012. Warwick Nursery. Factual Site Investigation Report. Constructive Evaluation. February 2021.

Date: 05/03/2021

Ref. No: 21.1012

Page 2 of 3

Infiltration Testing Results

Infiltration testing was undertaken within the manually excavated trial pits TP1, TP2 and TP3 in locations and to depths specified by the Clients Civil Engineer and was undertaken in general accordance with BRE 365.

The table below summarises the results.

Trial Pit ID	Test no.	Pit Depth (m)	Time at 75% (mins)	Time at 25% (mins)	Permeability Coefficient (m/s)	Drainage Conditions
TP1	1	1.2	14	75	2.16×10^{-5}	Moderate
	2	1.2	25	90	2.19×10^{-5}	Moderate
	3	1.2	17	105	1.57×10^{-5}	Moderate
TP2	1	0.6	9	39	4.10×10^{-5}	Moderate
	2	0.6	16	41	4.07×10^{-5}	Moderate
	3	0.6	33	86	1.99×10^{-5}	Moderate
TP3	1	0.4	15	90	1.19×10^{-5}	Moderate
	2	0.4	43	125	1.03×10^{-5}	Moderate
	3	0.4	30	120	9.92×10^{-6}	Moderate

Testing in all trial pits was successful and water drained at a 'Moderate²' rate in all tests.

Full infiltration testing results can be found in the appended documents.

We trust this information meets with your expectations and should you require any further information or assistance, please do not hesitate to contact us.

² Soil Mechanics in Engineering Practice. 3rd Edition. 1996. Terzaghi, K. Peck, R.B., Mesri, G.

Date: 05/03/2021

Ref. No: 21.1012

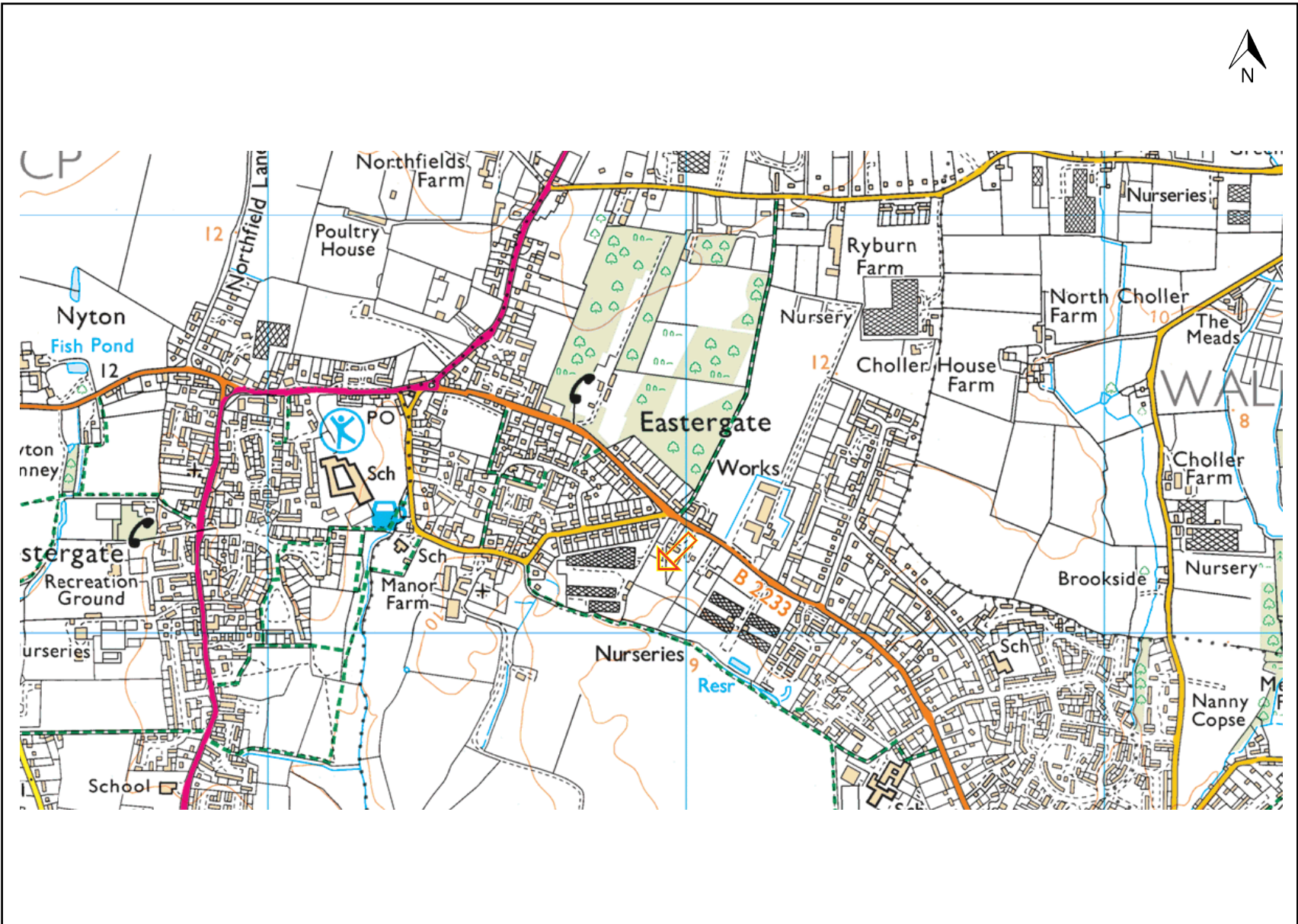
Page **3** of **3**

Kind Regards,



Michael Emery MSc BSc FGS IAEG
Senior Geo Environmental Consultant
Constructive Evaluation Limited

Attached: Site Location Plan, Site Investigation Plan, Site Investigation Photographs, Stratigraphic Logs, Infiltration Test Results



- Notes:
1. Do not scale from this drawing.
 2. All dimensions must be checked on site prior to commencement of work.
 3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
 4. This drawing is the copyright of Constructive Evaluation Ltd.

KEY

Drawing Title:
Site Location Plan

Project Reference:
21.1012

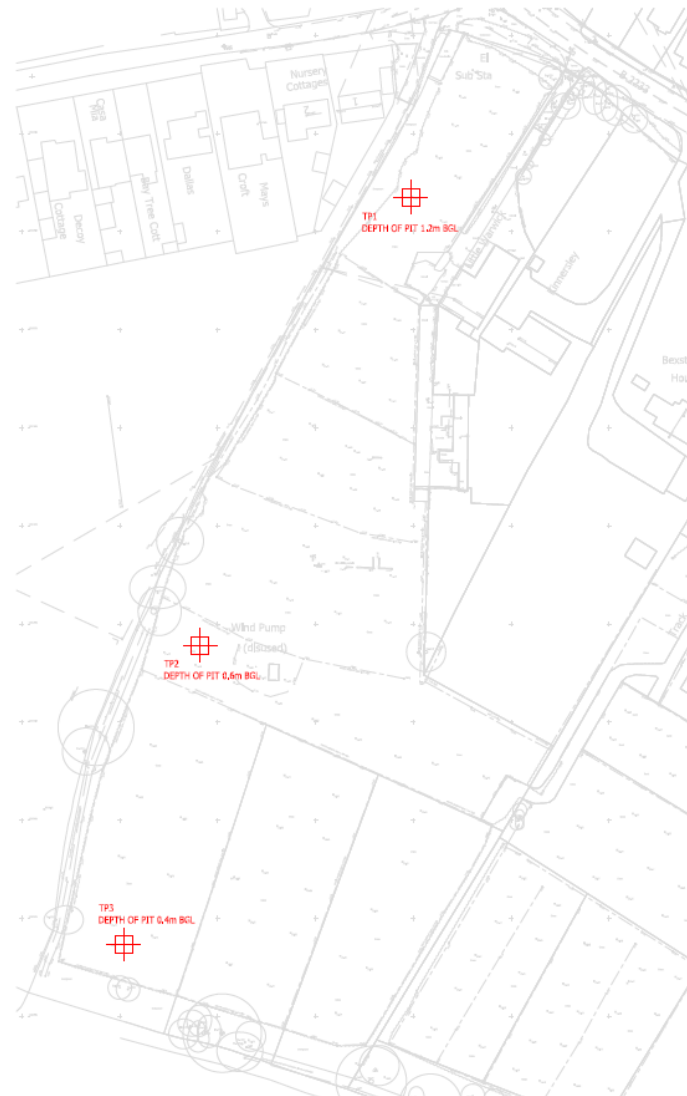
Site Name:
Warwick Nurseries

Revision: 0
Drawn by: ME
Scale: Not to Scale

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CHAS ceca

Figure 1:



- Notes:
1. Do not scale from this drawing.
 2. All dimensions must be checked on site prior to commencement of work.
 3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
 4. This drawing is the copyright of Constructive Evaluation Ltd.

KEY

Drawing Title:
Additional Site Investigation Plan

Project Reference:
21.1012

Site Name:
Warwick Nurseries

Revision: 0
 Drawn by: ME
 Scale: Not to Scale



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Figure 2:

Investigation Photographs

Project Ref: 21.1012

Site Name: Warwick Nurseries

1.



2.



- 1) Site Overview
- 2) Site Overview
- 3) Site Overview
- 4) Site Overview

3.



4.



Investigation Photographs

Project Ref: 21.1012

Site Name: Warwick Nurseries

5.



6.



7.



8.



- 5) TP1
- 6) TP2
- 7) TP3
- 8) TP2 Infiltration Testing

				Trial Pit Log			Trialpit No TP3 Sheet 1 of 1		
Project Name: Warwick Nurseries				Project No. 21.1012		Co-ords: 494872.02 - 105050.59 Level: 10.00		Date 04/03/2021	
Location: Warwick Nurseries, Barnham Road, PO20 3RT						Dimensions (m): 1 0.3		Scale 1:25	
Client: Landacre						Depth 0.40		Logged ME	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.20	9.80		Soft brown sandy CLAY. Sand is fine and medium. (TOPSOIL) Firm brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular and sub-rounded fine and medium flint. (HEAD DEPOSITS)		
				0.40	9.60				
							End of pit at 0.40 m		
							1		
							2		
							3		
							4		
							5		
Remarks: 1) CAT & Genny scan prior to excavation. 2) Soakaway Test carried out. 3) No groundwater encountered.									
Stability: Stable									



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Trial Hole: TP1

Test 1

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	2.15703E-05
		m/s



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Trial Hole: TP1

Test 2

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	2.19211E-05
		m/s



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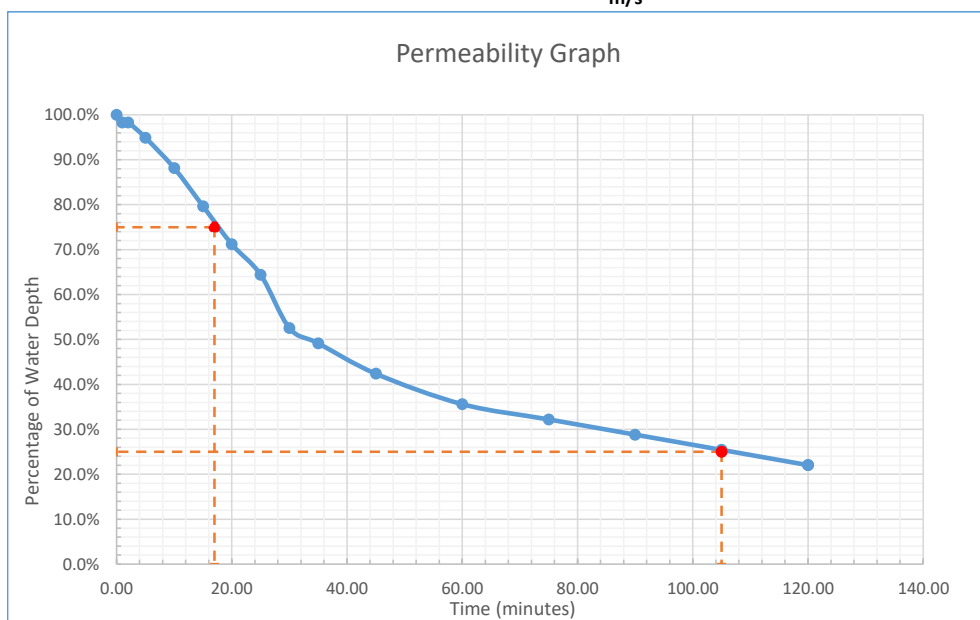
Test 3

[illegible]

Pit Size	
Length	1.00
Width	0.30
Depth	1.20

17	75%
105	25%

m/s



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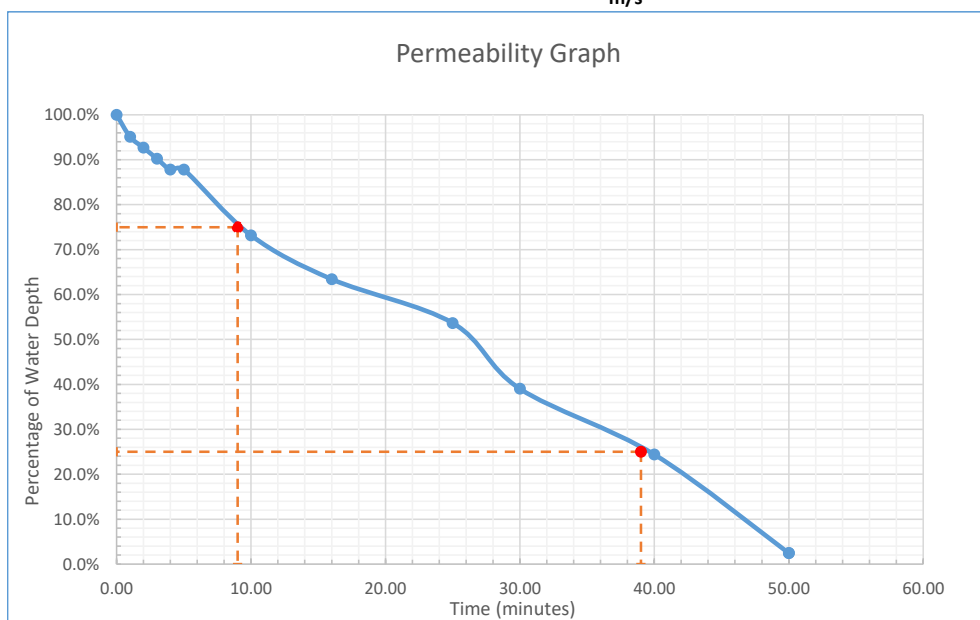
Test 1

[illegible]

Pit Size	
Length	1.00
Width	0.30
Depth	0.60

39 25%

m/s



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Trial Hole: TP2

Test 2

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	4.07524E-05
		m/s



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Trial Hole: TP2

Test 3

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	1.98909E-05
		m/s



Ref: 21.1012



Test 1

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

from 75%-25%

1.19048E-05

m/s



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Test 2

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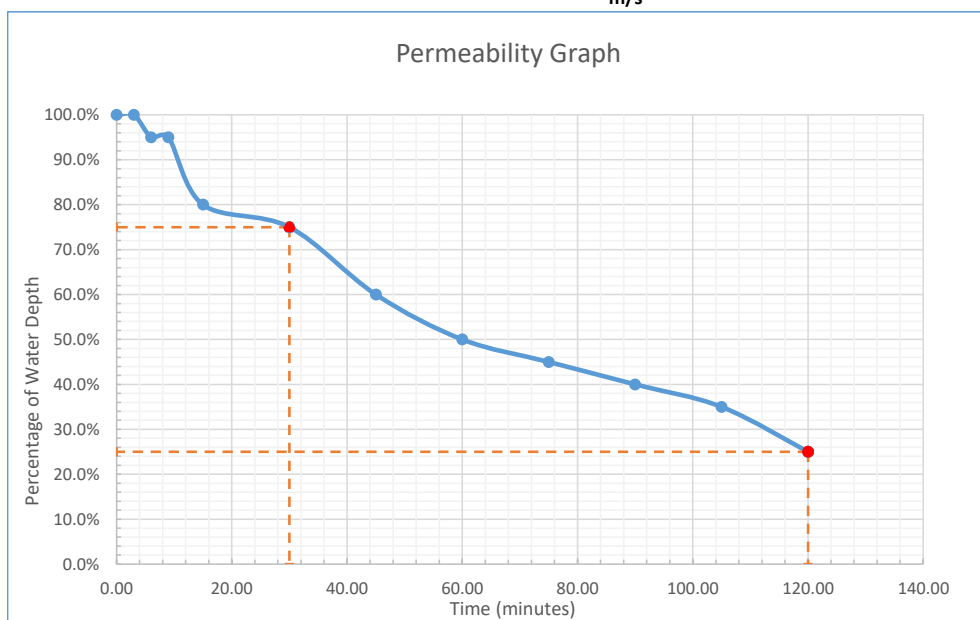
Test 3

[illegible]

Pit Size	
Length	1.00
Width	0.30
Depth	0.40

30	75%
120	25%

m/s





Civil Engineering - Transport Planning - Flood Risk

GTA Civils & Transport, Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS
T: 01444 871444 F: 01444 871401 E: enquiries@gtacivils.co.uk www: gtacivils.co.uk

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