



DRAINAGE STRATEGY

NORTH FARM STONESFIELD, OXON

EMPIRE HOMES

JUNE 2021

4456-NFSO-ICS-XX-RP-C-07.001

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REPORT ISSUE

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1 DRAINAGE STRATEGY

Item	Details	Reference /comment
Method of Foul Water Discharge	<p>Foul water flows are to drain to the existing sewer connection via gravity.</p> <p>Foul water flows are to drain to the existing on-site foul water drain via gravity, subject to a Section 106 agreement from Thames Water.</p>	The new connection will be subject to S106 indirect connection consent from Thames Water Utilities Ltd
Method of Surface Water Discharge	<p>The surface water drainage design proposed for the new dwellings is to follow the drainage hierarchy to ensure the site reflects the natural flows from site as closely as possible:</p> <ol style="list-style-type: none"> 1. Rainwater reuse 2. Infiltration 3. Discharge to Surface Water or a Watercourse 4. Discharge to a Surface Water sewer or a Highway Drain 5. Discharge to a Foul Sewer <p>Surface water falling onto the roof and hardstanding areas is to be drained via infiltration, using permeable driveways, perforated ring and modular/crate soakaways.</p>	
Infiltration Rate	A soakage rate of 1.01×10^{-4} m/s has been used for design calculations based on the lowest rate recorded by infiltration testing undertaken by T & P Regeneration Report (Ref: P0455 CS-J-1070, Dated 20/05/2021) .	The Infiltration Rate used for the design is 1.01×10^{-4} m/s
Surface Water Calculations	The surface water drainage system has been designed for a 1 in 100 year event, plus an allowance of 40% for climate change.	Microdrainage calculations are attached
Ground Water	The site investigation report did not encounter, the natural water table was not encountered.	
Water Quality	Driveways are permeable gravel construction to filter out suspended solids and capture hydrocarbons. Maintainable silt traps and soakaways are proposed to suspended silt . The access road gully is trapped to collect hydrocarbon runoff.	
Exceedance Flows	It is proposed that finished floor levels will be raised 150mm above the average ground level to mitigate against the risk of any surface water flooding.	

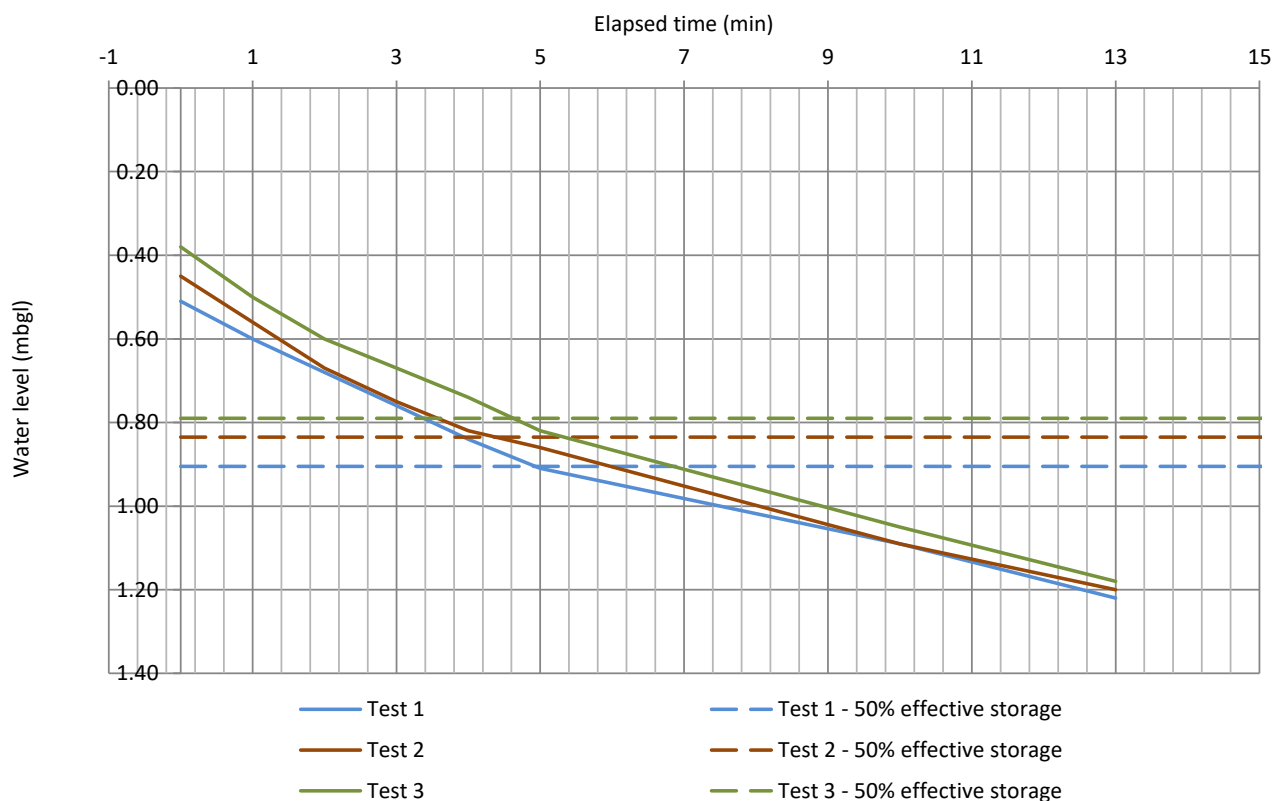
	<p>Exceedance flows will be directed to the landscape buffer zone on the western boundary. Potential greenfield runoff from adjacent arable land will be prevented from entering the site by means of a shallow raised berm around the perimeter</p> <p>The proposed surface water drainage measures will, however, be designed to contain the peak storm event that can be expected for a 1 in 100 year situation. A 40% allowance has already been applied to the site to account for future climate change.</p>	
Green & Brown field runoff	<p>Greenfield runoff rates</p> <p>QBAR rural 0.1 L/S</p> <p>1 in 30 year 0.3 L/S</p> <p>1 in 100 year 0.4 L/S</p> <p>Brownfield runoff rate</p> <p>1 in 1 year = 12.8 L/S</p> <p>1 in 30 year = 29.7 L/S</p> <p>1 in 100 year = 37.2 L/S</p>	
Proposed runoff rates	No offsite flows all runoff discharged into soakaways.	
Other		

Table 1 Drainage Strategy

Appendix A - Infiltration Testing

Infiltration Test Results in Accordance with BRE Digest 365:2016

Project Name:		North Farm 2							Project ID:		P0455 CS-J-1070											
Client:		Empire Homes LTD																				
Hole ID:		TP101				Test Date:		20/05/2021		Logged:		JO		Checked:		JD						
Test 1		Test 2		Test 3		Soakaway Dimensions:							Length (m)		1.50							
Time (mins)		Depth (m)		Time (mins)									Depth (m)		Time (mins)		Depth (m)		Width (m)		0.60	
0		0.51		0									0.45		0		0.38		Test 1 - Depth (m)		1.30	
1		0.60		1									0.56		1		0.50		Test 2 - Depth (m)		1.22	
2		0.68		2									0.67		2		0.60		Test 3 - Depth (m)		1.20	
3		0.76		3		0.75		3		0.67				Test 1		Test 2		Test 3				
4		0.84		4		0.82		4		0.74		Depth to water at start of test (m)		0.51		0.45		0.38				
5		0.91		5		0.86		5		0.82		Depth to water at end of test (m)		1.22		1.20		1.18				
10		1.09		10		1.09		10		1.05		Total head drop (m)		0.71		0.75		0.80				
13		1.22		13		1.20		13		1.18		Depth to water at 75% level (m)		0.71		0.64		0.59				
20				20				20				Depth to water at 50% level (m)		0.91		0.84		0.79				
30				30				30				Depth to water at 25% level (m)		1.10		1.03		1.00				
45				45				45														
60				60				60				Base area of pit (m ²)		0.90		0.90		0.90				
120				120				120				Computed Internal Surface Area A _{p50} (m ²)		2.56		2.52		2.62				
180				180				180				Effective Storage Volume V _{p75-25} (m ³)		0.36		0.35		0.37				
240				240				240														
300				300				300				Elapsed time at 75% level (mins)		2		2		2				
360				360				360				Elapsed time at 25% level (mins)		10		9		9				
420				420				420				Total discharge during test		90%		97%		98%				
												50% discharge in 24 Hours		Yes		Yes		Yes				
												Soil infiltration rate <i>f</i> (m/s)		2.91E-04		3.33E-04		3.37E-04				
												Design soil infiltration rate <i>f</i> (m/s)		2.91E-04								



Remarks:

Where highlighted in red, calculations have been inferred from the graph.

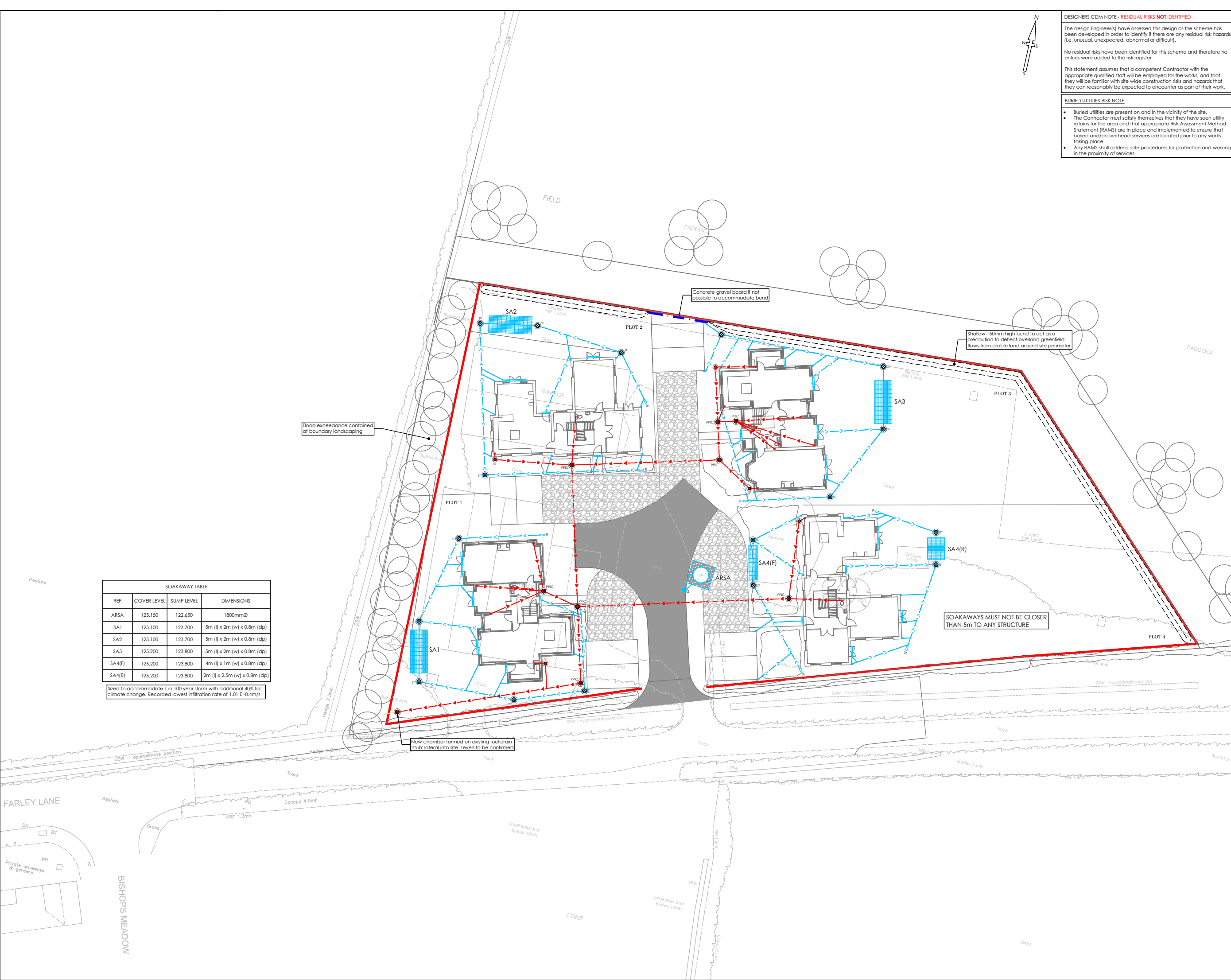


Figure 10 is a line graph showing the water level (mbgl) versus elapsed time (min) for three tests (Test 1, Test 2, Test 3) and their corresponding 50% effective storage scenarios. The y-axis is inverted, with 0.00 at the top and 1.60 at the bottom. The x-axis ranges from 0 to 50 minutes. Test 1 (blue solid line) drops from 0.40 to 1.40 mbgl in 17 minutes. Test 2 (brown solid line) drops from 0.40 to 1.40 mbgl in 22 minutes. Test 3 (green solid line) drops from 0.25 to 1.35 mbgl in 45 minutes. The 50% effective storage scenarios (dashed lines) show a constant water level of 0.90 mbgl for Test 1, 0.90 mbgl for Test 2, and 0.80 mbgl for Test 3.

Elapsed time (min)	Test 1 (mbgl)	Test 2 (mbgl)	Test 3 (mbgl)	Test 1 - 50% effective storage (mbgl)	Test 2 - 50% effective storage (mbgl)	Test 3 - 50% effective storage (mbgl)
0	0.40	0.40	0.25	0.90	0.90	0.80
5	0.90	0.90	0.50	0.90	0.90	0.80
10	1.10	1.00	0.65	0.90	0.90	0.80
15	1.25	1.15	0.80	0.90	0.90	0.80
20	-	1.30	0.95	0.90	0.90	0.80
25	-	-	1.10	0.90	0.90	0.80
30	-	-	1.20	0.90	0.90	0.80
35	-	-	1.30	0.90	0.90	0.80
40	-	-	1.40	0.90	0.90	0.80
45	-	-	1.45	0.90	0.90	0.80

Where highlighted in red, calculations have been inferred from the graph.

Appendix B - Drainage Layout



DESIGNERS CDM NOTE - RESIDUAL RISKS NOT IDENTIFIED

The design Engineer(s) have assessed this design as the scheme has been developed in order to identify if there are any residual risk hazards (i.e. unusual, unexpected, abnormal or difficult).

No residual risks have been identified for this scheme and therefore no entries were added to the risk register.

This statement assumes that a competent Contractor with the appropriate qualified staff will be employed for the works, and that they will be familiar with site wide construction risks and hazards that they can reasonably be expected to encounter as part of their work.

BURIED UTILITIES RISK NOTE

- Buried utilities are present on and in the vicinity of the site.
- The Contractor must satisfy themselves that they have seen utility returns for the area and that appropriate Risk Assessment Method Statement (RAMS) are in place and implemented to ensure that buried and/or overhead services are located prior to any works taking place.
- Any RAMS shall address safe procedures for protection and working in the proximity of services.

Survey: 8161071-4100
Site Plan: pl772517
Rec'd: 19.04.2021
Rec'd: 26.04.2021

NOTES

- All dimensions and levels are in metres unless otherwise noted
- This drawing is to be read in conjunction with the relevant Architect's/Engineer's drawings, specifications and CDM documentation
- This drawings has been produced electronically and may have been photo reduced or enlarged when copied. Work to figured dimensions only (DO NOT SCALE). All dimensions to be checked on site. Any errors or omissions to be reported to the engineer immediately.
- This drawing contains coloured lines / information that may not be clear if reproduced in black and white.
- Digital copies of this plan can only be considered accurate if supplied directly by Infrastruct CS Ltd.

Construction Note

It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions where encountered (such as services). If the drainage is laid from the site out to the outfall it can result in significant abortive works to relay and overcome such obstructions.

Location of Public Sewers have been taken from record drawings which should be fully substantiated by the contractor prior to commencing works on site

All manholes covers located within carriageways shall have no slip covers to prevent motorcycles/cycles losing control

Manhole schedules - Invert level shown related to the deepest pipe within the chamber

Drainage Key	
Sewers	
	Foul water drain (private/non adoptable)
	Surface water drain (private/non adoptable)
Chamber Key	
FW/SW	
	Mini access chamber (mac) - 300mmØ
	PPIC - 475mmØ*
* General note (Refer to standard details & longitudinal sections for chamber sizes. Size may need to increase dependant on number of incoming pipes/size of incoming pipes)	
	Surface water rodding eye
	Rain water down pipe (roddable access)
	Soil vent pipe/soil stack
	Silt Trap (ST) with removable silt bucket
	Road gully (trapped) D400
	Surface water sump unit
	Linear drainage channel
	Cellular storage (refer to drawing for sizes)
S1/F1	
	Manhole reference number
	Non-permeable asphalt access road
	Gravel driveway

Note
All drainage pipework to be 100mmØ unless otherwise stated on drawing

SOAKAWAY TABLE			
REF	COVER LEVEL	SUMP LEVEL	DIMENSIONS
ARSA	125.150	122.650	1800mmØ
SA1	125.100	123.700	5m (l) x 2m (w) x 0.8m (dp)
SA2	125.100	123.700	5m (l) x 2m (w) x 0.8m (dp)
SA3	125.200	123.800	5m (l) x 2m (w) x 0.8m (dp)
SA4(F)	125.200	123.800	4m (l) x 1m (w) x 0.8m (dp)
SA4(R)	125.200	123.800	2m (l) x 2.5m (w) x 0.8m (dp)
Sized to accommodate 1 in 100 year storm with additional 40% for climate change. Recorded lowest infiltration rate of 1.01 E-0.4m/s			

Appendix C - Maintenance Schedule


Item	Required Maintenance	Frequency
Pipe and chambers	CCTV camera survey, flush, descale, repair as necessary	5 Years or upon poor performance
Infiltration Blanket/Rubble Filled Soakaway	CCTV from silt trap along perforated pipe to assess silt build up and condition of pipework	5 Years or upon poor performance
Pervious Pavements (Gravels)	Inspect gravel for siltation and weed growth	As required or upon poor performance
	Remove Weeds and rake	As required or upon poor performance
	For heavy siltation or petrochemical spills lift surface gravel, wash and replace	As required or upon poor performance
	Stabilise and mow contributing and adjacent areas.	As required.
	Initial inspection.	Monthly for 3 months after installation
	Inspect for evidence of poor operation and/or weed growth. If required, take remedial action.	3-monthly, 48 h after large storms.
	Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually.
Pervious pavements (Block Paving)	Monitor inspection chambers.	Annually.
	Brushing and vacuuming.	Three times/year at end of winter, mid-summer, after autumn leaf fall, or as required based on site-specific observations of clogging or manufacturers' recommendations.
	Stabilise and mow contributing and adjacent areas.	As required.
	Removal of weed.	As required.
	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving.	As required.
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users.	As required.
	Rehabilitation of surface and upper sub-structure.	As required (if infiltration performance is reduced as a result of significant clogging).
	Initial inspection.	Monthly for 3 months after installation
	Inspect for evidence of poor operation and/or weed growth. If required, take remedial action.	3-monthly, 48 h after large storms.
	Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually.
	Monitor inspection chambers.	Annually.
	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly


Geocellular/ modular systems (Crates)	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface of filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre-treatment structures	Annually, or as required
	Repair/rehabilitation of inlets, outlet, overflows and vents	As required
	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms
Perforated ring soakaways	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface of filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre-treatment structures	Annually, or as required
	Repair/rehabilitation of inlets, outlet, overflows and vents	As required
	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms
Rainwater gardens	Litter and debris removal.	Monthly (or as required).
	Grass cutting – to retain grass height within specified design range.	Monthly (during growing season), or as required.
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
	Check for poor vegetation growth due to lack of sunlight or dropping of leaf litter and cut back adjacent vegetation where possible.	Annually.
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required.	Annually, or if bare soil is exposed over 10 % or more of the swale treatment area.
	Repair erosion or other damage by re-turfing or reseeded.	As required.
	Re-level uneven surfaces and reinstate design levels.	As required.
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required.
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices.	As required.
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly.
	Inspect infiltration surfaces for ponding, compaction, silt accumulation. Record areas where water is ponding for > 48 hours.	Monthly, or when required.
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Half yearly.
	Grass cutting – to retain grass height within specified design range.	Monthly (during growing season), or as required.


	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
	Check for poor vegetation growth due to lack of sunlight or dropping of leaf litter and cut back adjacent vegetation where possible.	Annually.
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required.	Annually, or if bare soil is exposed over 10 % or more of the swale treatment area.
	Repair erosion or other damage by re-turfing or reseeding.	As required.
	Re-level uneven surfaces and reinstate design levels.	As required.
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required.
	Remove build up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices.	As required.
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly.
	Inspect infiltration surfaces for ponding, compaction, silt accumulation. Record areas where water is ponding for > 48 hours.	Monthly, or when required.
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Half yearly.
Silt traps and catchpits	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Inspection of silt traps and catch pits to assess silt accumulation	Monthly (and after large storms)
	Removal of accumulated silt from silt trap and catch pit sumps	Annually, or as required
	Repair/rehabilitation of inlets, outlet, overflows and vents	As required
	Inspect/check all inlets, outlets, and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms


Table 2 SuDS Maintenance

Appendix D - Microdrainage Calculations

Infrastruct CS Ltd			Page 1																																																																																																																																																																																															
The Stables High Cogges, Witney Oxfordshire, OX29 6UN		North Farm, Stonesfield Access road soakaway																																																																																																																																																																																																
Date 07/06/2021 09:17 File Access road soakaways.SRCX		Designed by DJ Checked by																																																																																																																																																																																																
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<p><u>Summary of Results for 100 year Return Period (+40%)</u></p> <p>Half Drain Time : 54 minutes.</p> <table><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><tr><td>15 min Summer</td><td>124.342</td><td>1.692</td><td>1.3</td><td>5.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>124.734</td><td>2.084</td><td>1.5</td><td>7.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>124.933</td><td>2.283</td><td>1.6</td><td>7.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>124.935</td><td>2.285</td><td>1.6</td><td>7.8</td><td>O K</td></tr><tr><td>180 min Summer</td><td>124.820</td><td>2.170</td><td>1.6</td><td>7.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>124.682</td><td>2.032</td><td>1.5</td><td>7.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>124.441</td><td>1.791</td><td>1.3</td><td>6.1</td><td>O K</td></tr><tr><td>480 min Summer</td><td>124.248</td><td>1.598</td><td>1.2</td><td>5.5</td><td>O K</td></tr><tr><td>600 min Summer</td><td>124.087</td><td>1.437</td><td>1.2</td><td>4.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>123.949</td><td>1.299</td><td>1.1</td><td>4.4</td><td>O K</td></tr><tr><td>960 min Summer</td><td>123.727</td><td>1.077</td><td>1.0</td><td>3.7</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>123.415</td><td>0.765</td><td>0.8</td><td>2.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>123.124</td><td>0.474</td><td>0.6</td><td>1.6</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>122.942</td><td>0.292</td><td>0.5</td><td>1.0</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>122.737</td><td>0.087</td><td>0.4</td><td>0.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>122.693</td><td>0.043</td><td>0.3</td><td>0.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>122.686</td><td>0.036</td><td>0.3</td><td>0.1</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>122.681</td><td>0.031</td><td>0.2</td><td>0.1</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>138.153</td><td>0.0</td><td>22</td></tr><tr><td>30 min Summer</td><td>90.705</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>56.713</td><td>0.0</td><td>52</td></tr><tr><td>120 min Summer</td><td>34.246</td><td>0.0</td><td>86</td></tr><tr><td>180 min Summer</td><td>25.149</td><td>0.0</td><td>120</td></tr><tr><td>240 min Summer</td><td>20.078</td><td>0.0</td><td>154</td></tr><tr><td>360 min Summer</td><td>14.585</td><td>0.0</td><td>220</td></tr><tr><td>480 min Summer</td><td>11.622</td><td>0.0</td><td>286</td></tr><tr><td>600 min Summer</td><td>9.738</td><td>0.0</td><td>350</td></tr><tr><td>720 min Summer</td><td>8.424</td><td>0.0</td><td>412</td></tr><tr><td>960 min Summer</td><td>6.697</td><td>0.0</td><td>536</td></tr><tr><td>1440 min Summer</td><td>4.839</td><td>0.0</td><td>780</td></tr><tr><td>2160 min Summer</td><td>3.490</td><td>0.0</td><td>1148</td></tr><tr><td>2880 min Summer</td><td>2.766</td><td>0.0</td><td>1504</td></tr><tr><td>4320 min Summer</td><td>1.989</td><td>0.0</td><td>2208</td></tr><tr><td>5760 min Summer</td><td>1.573</td><td>0.0</td><td>2904</td></tr><tr><td>7200 min Summer</td><td>1.311</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.129</td><td>0.0</td><td>4392</td></tr></table>					Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	124.342	1.692	1.3	5.8	O K	30 min Summer	124.734	2.084	1.5	7.1	O K	60 min Summer	124.933	2.283	1.6	7.8	O K	120 min Summer	124.935	2.285	1.6	7.8	O K	180 min Summer	124.820	2.170	1.6	7.4	O K	240 min Summer	124.682	2.032	1.5	7.0	O K	360 min Summer	124.441	1.791	1.3	6.1	O K	480 min Summer	124.248	1.598	1.2	5.5	O K	600 min Summer	124.087	1.437	1.2	4.9	O K	720 min Summer	123.949	1.299	1.1	4.4	O K	960 min Summer	123.727	1.077	1.0	3.7	O K	1440 min Summer	123.415	0.765	0.8	2.6	O K	2160 min Summer	123.124	0.474	0.6	1.6	O K	2880 min Summer	122.942	0.292	0.5	1.0	O K	4320 min Summer	122.737	0.087	0.4	0.3	O K	5760 min Summer	122.693	0.043	0.3	0.1	O K	7200 min Summer	122.686	0.036	0.3	0.1	O K	8640 min Summer	122.681	0.031	0.2	0.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	138.153	0.0	22	30 min Summer	90.705	0.0	33	60 min Summer	56.713	0.0	52	120 min Summer	34.246	0.0	86	180 min Summer	25.149	0.0	120	240 min Summer	20.078	0.0	154	360 min Summer	14.585	0.0	220	480 min Summer	11.622	0.0	286	600 min Summer	9.738	0.0	350	720 min Summer	8.424	0.0	412	960 min Summer	6.697	0.0	536	1440 min Summer	4.839	0.0	780	2160 min Summer	3.490	0.0	1148	2880 min Summer	2.766	0.0	1504	4320 min Summer	1.989	0.0	2208	5760 min Summer	1.573	0.0	2904	7200 min Summer	1.311	0.0	3672	8640 min Summer	1.129	0.0	4392
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Infrastruct CS Ltd				Page 2	
The Stables High Cogges, Witney Oxfordshire, OX29 6UN		North Farm, Stonesfield Access road soakaway			
Date 07/06/2021 09:17		Designed by DJ			
File Access road soakaways.SRCX		Checked by			
Innovyze		Source Control 2019.1			
<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
10080 min Summer	122.678	0.028	0.2	0.1	O K
15 min Winter	124.343	1.693	1.3	5.8	O K
30 min Winter	124.740	2.090	1.5	7.2	O K
60 min Winter	124.934	2.284	1.6	7.8	O K
120 min Winter	124.889	2.239	1.6	7.7	O K
180 min Winter	124.724	2.074	1.5	7.1	O K
240 min Winter	124.544	1.894	1.4	6.5	O K
360 min Winter	124.235	1.585	1.2	5.4	O K
480 min Winter	124.000	1.350	1.1	4.6	O K
600 min Winter	123.809	1.159	1.0	4.0	O K
720 min Winter	123.652	1.002	0.9	3.4	O K
960 min Winter	123.409	0.759	0.8	2.6	O K
1440 min Winter	123.093	0.443	0.6	1.5	O K
2160 min Winter	122.826	0.176	0.5	0.6	O K
2880 min Winter	122.699	0.049	0.4	0.2	O K
4320 min Winter	122.685	0.035	0.3	0.1	O K
5760 min Winter	122.678	0.028	0.2	0.1	O K
7200 min Winter	122.673	0.023	0.2	0.1	O K
8640 min Winter	122.670	0.020	0.2	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Summer	0.994	0.0	5096		
15 min Winter	138.153	0.0	23		
30 min Winter	90.705	0.0	34		
60 min Winter	56.713	0.0	56		
120 min Winter	34.246	0.0	92		
180 min Winter	25.149	0.0	128		
240 min Winter	20.078	0.0	164		
360 min Winter	14.585	0.0	234		
480 min Winter	11.622	0.0	300		
600 min Winter	9.738	0.0	364		
720 min Winter	8.424	0.0	428		
960 min Winter	6.697	0.0	554		
1440 min Winter	4.839	0.0	798		
2160 min Winter	3.490	0.0	1156		
2880 min Winter	2.766	0.0	1464		
4320 min Winter	1.989	0.0	2232		
5760 min Winter	1.573	0.0	2888		
7200 min Winter	1.311	0.0	3576		
8640 min Winter	1.129	0.0	4400		
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Access road soakaway																					
Date 07/06/2021 09:17 File Access road soakaways.SRCX	Designed by DJ Checked by																					
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Access road soakaway	
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Innovyze Source Control 2019.1		

Rainfall Details


Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.950
Region	England and Wales	Cv (Winter)	0.950
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40


Time Area Diagram

Total Area (ha) 0.021

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To: (ha)	From:	To: (ha)	From:	To: (ha)
0	4 0.007	4	8 0.007	8	12 0.007

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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Access road soakaway																					
Date 07/06/2021 09:17 File Access road soakaways.SRCX	Designed by DJ Checked by																					
Innovyze Source Control 2019.1																						
<p style="text-align: center;"><u>Model Details</u></p> <p style="text-align: center;">Storage is Online Cover Level (m) 125.150</p> <p style="text-align: center;"><u>Lined Soakaway Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.36360</td> <td>Ring Diameter (m)</td> <td>1.50</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.36360</td> <td>Pit Multiplier</td> <td>1.8</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>0.000</td> </tr> <tr> <td>Invert Level (m)</td> <td>122.650</td> <td>Cap Infiltration Depth (m)</td> <td>0.000</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.36360	Ring Diameter (m)	1.50	Infiltration Coefficient Side (m/hr)	0.36360	Pit Multiplier	1.8	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	0.000	Invert Level (m)	122.650	Cap Infiltration Depth (m)	0.000
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Date 07/06/2021 10:02 File Plot 21 Soakaway.SRCX	Designed by DJ Checked by	
Innovyze	Source Control 2019.1	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 74 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	124.234	0.534	0.8	5.1	O K
30 min Summer	124.369	0.669	0.9	6.4	O K
60 min Summer	124.449	0.749	1.0	7.1	O K
120 min Summer	124.451	0.751	1.0	7.1	O K
180 min Summer	124.417	0.717	1.0	6.8	O K
240 min Summer	124.377	0.677	0.9	6.4	O K
360 min Summer	124.303	0.603	0.9	5.7	O K
480 min Summer	124.238	0.538	0.8	5.1	O K
600 min Summer	124.179	0.479	0.8	4.5	O K
720 min Summer	124.126	0.426	0.8	4.0	O K
960 min Summer	124.035	0.335	0.7	3.2	O K
1440 min Summer	123.903	0.203	0.6	1.9	O K
2160 min Summer	123.788	0.088	0.6	0.8	O K
2880 min Summer	123.748	0.048	0.5	0.5	O K
4320 min Summer	123.735	0.035	0.4	0.3	O K
5760 min Summer	123.727	0.027	0.3	0.3	O K
7200 min Summer	123.723	0.023	0.2	0.2	O K
8640 min Summer	123.720	0.020	0.2	0.2	O K
10080 min Summer	123.717	0.017	0.2	0.2	O K
15 min Winter	124.235	0.535	0.8	5.1	O K
30 min Winter	124.371	0.671	0.9	6.4	O K
60 min Winter	124.453	0.753	1.0	7.2	O K
120 min Winter	124.448	0.748	1.0	7.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	138.153	0.0	23
30 min Summer	90.705	0.0	35
60 min Summer	56.713	0.0	60
120 min Summer	34.246	0.0	92
180 min Summer	25.149	0.0	128
240 min Summer	20.078	0.0	162
360 min Summer	14.585	0.0	230
480 min Summer	11.622	0.0	296
600 min Summer	9.738	0.0	362
720 min Summer	8.424	0.0	426
960 min Summer	6.697	0.0	550
1440 min Summer	4.839	0.0	788
2160 min Summer	3.490	0.0	1132
2880 min Summer	2.766	0.0	1468
4320 min Summer	1.989	0.0	2188
5760 min Summer	1.573	0.0	2936
7200 min Summer	1.311	0.0	3576
8640 min Summer	1.129	0.0	4296
10080 min Summer	0.994	0.0	5096
15 min Winter	138.153	0.0	23
30 min Winter	90.705	0.0	35
60 min Winter	56.713	0.0	60
120 min Winter	34.246	0.0	98

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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 1 Soakaway	
Date 07/06/2021 10:02 File Plot 21 Soakaway.SRCX	Designed by DJ Checked by	
Innovyze	Source Control 2019.1	

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
180 min Winter	124.402	0.702	1.0	6.7	O K
240 min Winter	124.347	0.647	0.9	6.1	O K
360 min Winter	124.243	0.543	0.9	5.2	O K
480 min Winter	124.154	0.454	0.8	4.3	O K
600 min Winter	124.077	0.377	0.7	3.6	O K
720 min Winter	124.010	0.310	0.7	2.9	O K
960 min Winter	123.902	0.202	0.6	1.9	O K
1440 min Winter	123.767	0.067	0.5	0.6	O K
2160 min Winter	123.739	0.039	0.4	0.4	O K
2880 min Winter	123.731	0.031	0.3	0.3	O K
4320 min Winter	123.722	0.022	0.2	0.2	O K
5760 min Winter	123.718	0.018	0.2	0.2	O K
7200 min Winter	123.715	0.015	0.2	0.1	O K
8640 min Winter	123.713	0.013	0.1	0.1	O K
10080 min Winter	123.711	0.011	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
180 min Winter	25.149	0.0	136
240 min Winter	20.078	0.0	172
360 min Winter	14.585	0.0	244
480 min Winter	11.622	0.0	312
600 min Winter	9.738	0.0	380
720 min Winter	8.424	0.0	442
960 min Winter	6.697	0.0	566
1440 min Winter	4.839	0.0	778
2160 min Winter	3.490	0.0	1096
2880 min Winter	2.766	0.0	1468
4320 min Winter	1.989	0.0	2212
5760 min Winter	1.573	0.0	2856
7200 min Winter	1.311	0.0	3592
8640 min Winter	1.129	0.0	4416
10080 min Winter	0.994	0.0	5144

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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 1 Soakaway	
Date 07/06/2021 10:02	Designed by DJ	
File Plot 21 Soakaway.SRCX	Checked by	
Innovyze		Source Control 2019.1


Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.950
Region	England and Wales	Cv (Winter)	0.950
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.018

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)		From: To: (ha)	
0 4	0.006	4 8	0.006	8 12	0.006

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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 1 Soakaway	
Date 07/06/2021 10:02 File Plot 21 Soakaway.SRCX	Designed by DJ Checked by	
Innovyze	Source Control 2019.1	


Model Details


Storage is Online Cover Level (m) 125.100


Cellular Storage Structure


Invert Level (m) 123.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.36360 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.36360

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	10.0	10.0	1.800	0.0	21.4	3.600	0.0	21.4
0.200	10.0	12.5	2.000	0.0	21.4	3.800	0.0	21.4
0.400	10.0	15.1	2.200	0.0	21.4	4.000	0.0	21.4
0.600	10.0	17.6	2.400	0.0	21.4	4.200	0.0	21.4
0.800	10.0	20.1	2.600	0.0	21.4	4.400	0.0	21.4
1.000	0.0	21.4	2.800	0.0	21.4	4.600	0.0	21.4
1.200	0.0	21.4	3.000	0.0	21.4	4.800	0.0	21.4
1.400	0.0	21.4	3.200	0.0	21.4	5.000	0.0	21.4
1.600	0.0	21.4	3.400	0.0	21.4			

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The Stables High Cogges, Witney Oxfordshire, OX29 6UN		North Farm, Stonesfield Plot 2 Soakaway																																																																																																																																																																																																	
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<p><u>Summary of Results for 100 year Return Period (+40%)</u></p> <p>Half Drain Time : 74 minutes.</p> <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>124.234</td><td>0.534</td><td>0.8</td><td>5.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>124.369</td><td>0.669</td><td>0.9</td><td>6.4</td><td>O K</td></tr><tr><td>60 min Summer</td><td>124.449</td><td>0.749</td><td>1.0</td><td>7.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>124.451</td><td>0.751</td><td>1.0</td><td>7.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>124.417</td><td>0.717</td><td>1.0</td><td>6.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>124.377</td><td>0.677</td><td>0.9</td><td>6.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>124.303</td><td>0.603</td><td>0.9</td><td>5.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>124.238</td><td>0.538</td><td>0.8</td><td>5.1</td><td>O K</td></tr><tr><td>600 min Summer</td><td>124.179</td><td>0.479</td><td>0.8</td><td>4.5</td><td>O K</td></tr><tr><td>720 min Summer</td><td>124.126</td><td>0.426</td><td>0.8</td><td>4.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>124.035</td><td>0.335</td><td>0.7</td><td>3.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>123.903</td><td>0.203</td><td>0.6</td><td>1.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>123.788</td><td>0.088</td><td>0.6</td><td>0.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>123.748</td><td>0.048</td><td>0.5</td><td>0.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>123.735</td><td>0.035</td><td>0.4</td><td>0.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>123.727</td><td>0.027</td><td>0.3</td><td>0.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>123.723</td><td>0.023</td><td>0.2</td><td>0.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>123.720</td><td>0.020</td><td>0.2</td><td>0.2</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>138.153</td><td>0.0</td><td>23</td></tr><tr><td>30 min Summer</td><td>90.705</td><td>0.0</td><td>35</td></tr><tr><td>60 min Summer</td><td>56.713</td><td>0.0</td><td>60</td></tr><tr><td>120 min Summer</td><td>34.246</td><td>0.0</td><td>92</td></tr><tr><td>180 min Summer</td><td>25.149</td><td>0.0</td><td>128</td></tr><tr><td>240 min Summer</td><td>20.078</td><td>0.0</td><td>162</td></tr><tr><td>360 min Summer</td><td>14.585</td><td>0.0</td><td>230</td></tr><tr><td>480 min Summer</td><td>11.622</td><td>0.0</td><td>296</td></tr><tr><td>600 min Summer</td><td>9.738</td><td>0.0</td><td>362</td></tr><tr><td>720 min Summer</td><td>8.424</td><td>0.0</td><td>426</td></tr><tr><td>960 min Summer</td><td>6.697</td><td>0.0</td><td>550</td></tr><tr><td>1440 min Summer</td><td>4.839</td><td>0.0</td><td>788</td></tr><tr><td>2160 min Summer</td><td>3.490</td><td>0.0</td><td>1132</td></tr><tr><td>2880 min Summer</td><td>2.766</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.989</td><td>0.0</td><td>2188</td></tr><tr><td>5760 min Summer</td><td>1.573</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.311</td><td>0.0</td><td>3576</td></tr><tr><td>8640 min Summer</td><td>1.129</td><td>0.0</td><td>4296</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	124.234	0.534	0.8	5.1	O K	30 min Summer	124.369	0.669	0.9	6.4	O K	60 min Summer	124.449	0.749	1.0	7.1	O K	120 min Summer	124.451	0.751	1.0	7.1	O K	180 min Summer	124.417	0.717	1.0	6.8	O K	240 min Summer	124.377	0.677	0.9	6.4	O K	360 min Summer	124.303	0.603	0.9	5.7	O K	480 min Summer	124.238	0.538	0.8	5.1	O K	600 min Summer	124.179	0.479	0.8	4.5	O K	720 min Summer	124.126	0.426	0.8	4.0	O K	960 min Summer	124.035	0.335	0.7	3.2	O K	1440 min Summer	123.903	0.203	0.6	1.9	O K	2160 min Summer	123.788	0.088	0.6	0.8	O K	2880 min Summer	123.748	0.048	0.5	0.5	O K	4320 min Summer	123.735	0.035	0.4	0.3	O K	5760 min Summer	123.727	0.027	0.3	0.3	O K	7200 min Summer	123.723	0.023	0.2	0.2	O K	8640 min Summer	123.720	0.020	0.2	0.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	138.153	0.0	23	30 min Summer	90.705	0.0	35	60 min Summer	56.713	0.0	60	120 min Summer	34.246	0.0	92	180 min Summer	25.149	0.0	128	240 min Summer	20.078	0.0	162	360 min Summer	14.585	0.0	230	480 min Summer	11.622	0.0	296	600 min Summer	9.738	0.0	362	720 min Summer	8.424	0.0	426	960 min Summer	6.697	0.0	550	1440 min Summer	4.839	0.0	788	2160 min Summer	3.490	0.0	1132	2880 min Summer	2.766	0.0	1468	4320 min Summer	1.989	0.0	2188	5760 min Summer	1.573	0.0	2936	7200 min Summer	1.311	0.0	3576	8640 min Summer	1.129	0.0	4296
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																														
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN			North Farm, Stonesfield Plot 2 Soakaway		
Date 07/06/2021 09:58 File Plot 2 Soakaway.SRCX			Designed by DJ Checked by		
Innovyze			Source Control 2019.1		
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
10080 min Summer	123.717	0.017	0.2	0.2	O K
15 min Winter	124.235	0.535	0.8	5.1	O K
30 min Winter	124.371	0.671	0.9	6.4	O K
60 min Winter	124.453	0.753	1.0	7.2	O K
120 min Winter	124.448	0.748	1.0	7.1	O K
180 min Winter	124.402	0.702	1.0	6.7	O K
240 min Winter	124.347	0.647	0.9	6.1	O K
360 min Winter	124.243	0.543	0.9	5.2	O K
480 min Winter	124.154	0.454	0.8	4.3	O K
600 min Winter	124.077	0.377	0.7	3.6	O K
720 min Winter	124.010	0.310	0.7	2.9	O K
960 min Winter	123.902	0.202	0.6	1.9	O K
1440 min Winter	123.767	0.067	0.5	0.6	O K
2160 min Winter	123.739	0.039	0.4	0.4	O K
2880 min Winter	123.731	0.031	0.3	0.3	O K
4320 min Winter	123.722	0.022	0.2	0.2	O K
5760 min Winter	123.718	0.018	0.2	0.2	O K
7200 min Winter	123.715	0.015	0.2	0.1	O K
8640 min Winter	123.713	0.013	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Summer	0.994	0.0	5096		
15 min Winter	138.153	0.0	23		
30 min Winter	90.705	0.0	35		
60 min Winter	56.713	0.0	60		
120 min Winter	34.246	0.0	98		
180 min Winter	25.149	0.0	136		
240 min Winter	20.078	0.0	172		
360 min Winter	14.585	0.0	244		
480 min Winter	11.622	0.0	312		
600 min Winter	9.738	0.0	380		
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2880 min Winter	2.766	0.0	1468		
4320 min Winter	1.989	0.0	2212		
5760 min Winter	1.573	0.0	2856		
7200 min Winter	1.311	0.0	3592		
8640 min Winter	1.129	0.0	4416		
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Date 07/06/2021 09:58 File Plot 2 Soakaway.SRCX		Designed by DJ Checked by			
Innovyze		Source Control 2019.1			
<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
10080 min Winter	123.711	0.011	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Winter	0.994	0.0	5144		
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 2 Soakaway	
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Innovyze		Source Control 2019.1

Rainfall Details


Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.950
Region	England and Wales	Cv (Winter)	0.950
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40


Time Area Diagram


Total Area (ha) 0.018


Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To: (ha)	From:	To: (ha)	From:	To: (ha)
0	4 0.006	4	8 0.006	8	12 0.006


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<div>Model Details</div> <div>Storage is Online Cover Level (m) 125.100</div> <div>Cellular Storage Structure</div> <div>Invert Level (m) 123.700 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.36360 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.36360</div> <table><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><tr><td>0.000</td><td>10.0</td><td>10.0</td><td>2.600</td><td>0.0</td><td>21.4</td></tr><tr><td>0.200</td><td>10.0</td><td>12.5</td><td>2.800</td><td>0.0</td><td>21.4</td></tr><tr><td>0.400</td><td>10.0</td><td>15.1</td><td>3.000</td><td>0.0</td><td>21.4</td></tr><tr><td>0.600</td><td>10.0</td><td>17.6</td><td>3.200</td><td>0.0</td><td>21.4</td></tr><tr><td>0.800</td><td>10.0</td><td>20.1</td><td>3.400</td><td>0.0</td><td>21.4</td></tr><tr><td>1.000</td><td>0.0</td><td>21.4</td><td>3.600</td><td>0.0</td><td>21.4</td></tr><tr><td>1.200</td><td>0.0</td><td>21.4</td><td>3.800</td><td>0.0</td><td>21.4</td></tr><tr><td>1.400</td><td>0.0</td><td>21.4</td><td>4.000</td><td>0.0</td><td>21.4</td></tr><tr><td>1.600</td><td>0.0</td><td>21.4</td><td>4.200</td><td>0.0</td><td>21.4</td></tr><tr><td>1.800</td><td>0.0</td><td>21.4</td><td>4.400</td><td>0.0</td><td>21.4</td></tr><tr><td>2.000</td><td>0.0</td><td>21.4</td><td>4.600</td><td>0.0</td><td>21.4</td></tr><tr><td>2.200</td><td>0.0</td><td>21.4</td><td>4.800</td><td>0.0</td><td>21.4</td></tr><tr><td>2.400</td><td>0.0</td><td>21.4</td><td>5.000</td><td>0.0</td><td>21.4</td></tr></table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	10.0	10.0	2.600	0.0	21.4	0.200	10.0	12.5	2.800	0.0	21.4	0.400	10.0	15.1	3.000	0.0	21.4	0.600	10.0	17.6	3.200	0.0	21.4	0.800	10.0	20.1	3.400	0.0	21.4	1.000	0.0	21.4	3.600	0.0	21.4	1.200	0.0	21.4	3.800	0.0	21.4	1.400	0.0	21.4	4.000	0.0	21.4	1.600	0.0	21.4	4.200	0.0	21.4	1.800	0.0	21.4	4.400	0.0	21.4	2.000	0.0	21.4	4.600	0.0	21.4	2.200	0.0	21.4	4.800	0.0	21.4	2.400	0.0	21.4	5.000	0.0	21.4
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<p><u>Summary of Results for 100 year Return Period (+40%)</u></p> <p>Half Drain Time : 74 minutes.</p> <table><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><tr><td>15 min Summer</td><td>124.334</td><td>0.534</td><td>0.8</td><td>5.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>124.469</td><td>0.669</td><td>0.9</td><td>6.4</td><td>O K</td></tr><tr><td>60 min Summer</td><td>124.549</td><td>0.749</td><td>1.0</td><td>7.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>124.551</td><td>0.751</td><td>1.0</td><td>7.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>124.517</td><td>0.717</td><td>1.0</td><td>6.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>124.477</td><td>0.677</td><td>0.9</td><td>6.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>124.403</td><td>0.603</td><td>0.9</td><td>5.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>124.338</td><td>0.538</td><td>0.8</td><td>5.1</td><td>O K</td></tr><tr><td>600 min Summer</td><td>124.279</td><td>0.479</td><td>0.8</td><td>4.5</td><td>O K</td></tr><tr><td>720 min Summer</td><td>124.226</td><td>0.426</td><td>0.8</td><td>4.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>124.135</td><td>0.335</td><td>0.7</td><td>3.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>124.003</td><td>0.203</td><td>0.6</td><td>1.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>123.888</td><td>0.088</td><td>0.6</td><td>0.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>123.848</td><td>0.048</td><td>0.5</td><td>0.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>123.835</td><td>0.035</td><td>0.4</td><td>0.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>123.827</td><td>0.027</td><td>0.3</td><td>0.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>123.823</td><td>0.023</td><td>0.2</td><td>0.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>123.820</td><td>0.020</td><td>0.2</td><td>0.2</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>138.153</td><td>0.0</td><td>23</td></tr><tr><td>30 min Summer</td><td>90.705</td><td>0.0</td><td>35</td></tr><tr><td>60 min Summer</td><td>56.713</td><td>0.0</td><td>60</td></tr><tr><td>120 min Summer</td><td>34.246</td><td>0.0</td><td>92</td></tr><tr><td>180 min Summer</td><td>25.149</td><td>0.0</td><td>128</td></tr><tr><td>240 min Summer</td><td>20.078</td><td>0.0</td><td>162</td></tr><tr><td>360 min Summer</td><td>14.585</td><td>0.0</td><td>230</td></tr><tr><td>480 min Summer</td><td>11.622</td><td>0.0</td><td>296</td></tr><tr><td>600 min Summer</td><td>9.738</td><td>0.0</td><td>362</td></tr><tr><td>720 min Summer</td><td>8.424</td><td>0.0</td><td>426</td></tr><tr><td>960 min Summer</td><td>6.697</td><td>0.0</td><td>550</td></tr><tr><td>1440 min Summer</td><td>4.839</td><td>0.0</td><td>788</td></tr><tr><td>2160 min Summer</td><td>3.490</td><td>0.0</td><td>1132</td></tr><tr><td>2880 min Summer</td><td>2.766</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.989</td><td>0.0</td><td>2188</td></tr><tr><td>5760 min Summer</td><td>1.573</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.311</td><td>0.0</td><td>3576</td></tr><tr><td>8640 min Summer</td><td>1.129</td><td>0.0</td><td>4296</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	124.334	0.534	0.8	5.1	O K	30 min Summer	124.469	0.669	0.9	6.4	O K	60 min Summer	124.549	0.749	1.0	7.1	O K	120 min Summer	124.551	0.751	1.0	7.1	O K	180 min Summer	124.517	0.717	1.0	6.8	O K	240 min Summer	124.477	0.677	0.9	6.4	O K	360 min Summer	124.403	0.603	0.9	5.7	O K	480 min Summer	124.338	0.538	0.8	5.1	O K	600 min Summer	124.279	0.479	0.8	4.5	O K	720 min Summer	124.226	0.426	0.8	4.0	O K	960 min Summer	124.135	0.335	0.7	3.2	O K	1440 min Summer	124.003	0.203	0.6	1.9	O K	2160 min Summer	123.888	0.088	0.6	0.8	O K	2880 min Summer	123.848	0.048	0.5	0.5	O K	4320 min Summer	123.835	0.035	0.4	0.3	O K	5760 min Summer	123.827	0.027	0.3	0.3	O K	7200 min Summer	123.823	0.023	0.2	0.2	O K	8640 min Summer	123.820	0.020	0.2	0.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	138.153	0.0	23	30 min Summer	90.705	0.0	35	60 min Summer	56.713	0.0	60	120 min Summer	34.246	0.0	92	180 min Summer	25.149	0.0	128	240 min Summer	20.078	0.0	162	360 min Summer	14.585	0.0	230	480 min Summer	11.622	0.0	296	600 min Summer	9.738	0.0	362	720 min Summer	8.424	0.0	426	960 min Summer	6.697	0.0	550	1440 min Summer	4.839	0.0	788	2160 min Summer	3.490	0.0	1132	2880 min Summer	2.766	0.0	1468	4320 min Summer	1.989	0.0	2188	5760 min Summer	1.573	0.0	2936	7200 min Summer	1.311	0.0	3576	8640 min Summer	1.129	0.0	4296
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																														
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN			North Farm, Stonesfield Plot 3 Soakaway		
Date 07/06/2021 09:55 File Plot 3 Soakaway.SRCX			Designed by DJ Checked by		
Innovyze			Source Control 2019.1		
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
10080 min Summer	123.817	0.017	0.2	0.2	O K
15 min Winter	124.335	0.535	0.8	5.1	O K
30 min Winter	124.471	0.671	0.9	6.4	O K
60 min Winter	124.553	0.753	1.0	7.2	O K
120 min Winter	124.548	0.748	1.0	7.1	O K
180 min Winter	124.502	0.702	1.0	6.7	O K
240 min Winter	124.447	0.647	0.9	6.1	O K
360 min Winter	124.343	0.543	0.9	5.2	O K
480 min Winter	124.254	0.454	0.8	4.3	O K
600 min Winter	124.177	0.377	0.7	3.6	O K
720 min Winter	124.110	0.310	0.7	2.9	O K
960 min Winter	124.002	0.202	0.6	1.9	O K
1440 min Winter	123.867	0.067	0.5	0.6	O K
2160 min Winter	123.839	0.039	0.4	0.4	O K
2880 min Winter	123.831	0.031	0.3	0.3	O K
4320 min Winter	123.822	0.022	0.2	0.2	O K
5760 min Winter	123.818	0.018	0.2	0.2	O K
7200 min Winter	123.815	0.015	0.2	0.1	O K
8640 min Winter	123.813	0.013	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Summer	0.994	0.0	5096		
15 min Winter	138.153	0.0	23		
30 min Winter	90.705	0.0	35		
60 min Winter	56.713	0.0	60		
120 min Winter	34.246	0.0	98		
180 min Winter	25.149	0.0	136		
240 min Winter	20.078	0.0	172		
360 min Winter	14.585	0.0	244		
480 min Winter	11.622	0.0	312		
600 min Winter	9.738	0.0	380		
720 min Winter	8.424	0.0	442		
960 min Winter	6.697	0.0	566		
1440 min Winter	4.839	0.0	778		
2160 min Winter	3.490	0.0	1096		
2880 min Winter	2.766	0.0	1468		
4320 min Winter	1.989	0.0	2212		
5760 min Winter	1.573	0.0	2856		
7200 min Winter	1.311	0.0	3592		
8640 min Winter	1.129	0.0	4416		
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 3 Soakaway				
Date 07/06/2021 09:55 File Plot 3 Soakaway.SRCX	Designed by DJ Checked by				
Innovyze					
Source Control 2019.1					
<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
10080 min Winter	123.811	0.011	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Winter	0.994	0.0	5144		
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 3 Soakaway	
Date 07/06/2021 09:55 File Plot 3 Soakaway.SRCX	Designed by DJ Checked by	
Innovyze		Source Control 2019.1

Rainfall Details


Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.950
Region	England and Wales	Cv (Winter)	0.950
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40


Time Area Diagram


Total Area (ha) 0.018


Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)	From: To:	(ha)
0 4	0.006	4 8	0.006	8 12	0.006


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<div>Model Details</div> <div>Storage is Online Cover Level (m) 125.200</div> <div>Cellular Storage Structure</div> <div>Invert Level (m) 123.800 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.36360 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.36360</div> <table><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><tr><td>0.000</td><td>10.0</td><td>10.0</td><td>2.600</td><td>0.0</td><td>21.4</td></tr><tr><td>0.200</td><td>10.0</td><td>12.5</td><td>2.800</td><td>0.0</td><td>21.4</td></tr><tr><td>0.400</td><td>10.0</td><td>15.1</td><td>3.000</td><td>0.0</td><td>21.4</td></tr><tr><td>0.600</td><td>10.0</td><td>17.6</td><td>3.200</td><td>0.0</td><td>21.4</td></tr><tr><td>0.800</td><td>10.0</td><td>20.1</td><td>3.400</td><td>0.0</td><td>21.4</td></tr><tr><td>1.000</td><td>0.0</td><td>21.4</td><td>3.600</td><td>0.0</td><td>21.4</td></tr><tr><td>1.200</td><td>0.0</td><td>21.4</td><td>3.800</td><td>0.0</td><td>21.4</td></tr><tr><td>1.400</td><td>0.0</td><td>21.4</td><td>4.000</td><td>0.0</td><td>21.4</td></tr><tr><td>1.600</td><td>0.0</td><td>21.4</td><td>4.200</td><td>0.0</td><td>21.4</td></tr><tr><td>1.800</td><td>0.0</td><td>21.4</td><td>4.400</td><td>0.0</td><td>21.4</td></tr><tr><td>2.000</td><td>0.0</td><td>21.4</td><td>4.600</td><td>0.0</td><td>21.4</td></tr><tr><td>2.200</td><td>0.0</td><td>21.4</td><td>4.800</td><td>0.0</td><td>21.4</td></tr><tr><td>2.400</td><td>0.0</td><td>21.4</td><td>5.000</td><td>0.0</td><td>21.4</td></tr></table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	10.0	10.0	2.600	0.0	21.4	0.200	10.0	12.5	2.800	0.0	21.4	0.400	10.0	15.1	3.000	0.0	21.4	0.600	10.0	17.6	3.200	0.0	21.4	0.800	10.0	20.1	3.400	0.0	21.4	1.000	0.0	21.4	3.600	0.0	21.4	1.200	0.0	21.4	3.800	0.0	21.4	1.400	0.0	21.4	4.000	0.0	21.4	1.600	0.0	21.4	4.200	0.0	21.4	1.800	0.0	21.4	4.400	0.0	21.4	2.000	0.0	21.4	4.600	0.0	21.4	2.200	0.0	21.4	4.800	0.0	21.4	2.400	0.0	21.4	5.000	0.0	21.4
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Infrastruct CS Ltd			Page 2			
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Date 07/06/2021 09:37 File Plot 4 Soakaway.SRCX		Designed by DJ Checked by				
Innovyze		Source Control 2019.1				
<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	
10080 min Summer	123.617	0.017		0.1	0.1	O K
15 min Winter	124.149	0.549		0.5	2.6	O K
30 min Winter	124.270	0.670		0.6	3.2	O K
60 min Winter	124.327	0.727		0.6	3.5	O K
120 min Winter	124.312	0.712		0.6	3.4	O K
180 min Winter	124.258	0.658		0.5	3.1	O K
240 min Winter	124.199	0.599		0.5	2.8	O K
360 min Winter	124.094	0.494		0.5	2.3	O K
480 min Winter	124.007	0.407		0.4	1.9	O K
600 min Winter	123.934	0.334		0.4	1.6	O K
720 min Winter	123.872	0.272		0.4	1.3	O K
960 min Winter	123.775	0.175		0.3	0.8	O K
1440 min Winter	123.659	0.059		0.3	0.3	O K
2160 min Winter	123.638	0.038		0.2	0.2	O K
2880 min Winter	123.630	0.030		0.2	0.1	O K
4320 min Winter	123.622	0.022		0.1	0.1	O K
5760 min Winter	123.617	0.017		0.1	0.1	O K
7200 min Winter	123.615	0.015		0.1	0.1	O K
8640 min Winter	123.613	0.013		0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
10080 min Summer	0.994	0.0	5128			
15 min Winter	138.153	0.0	17			
30 min Winter	90.705	0.0	31			
60 min Winter	56.713	0.0	56			
120 min Winter	34.246	0.0	90			
180 min Winter	25.149	0.0	128			
240 min Winter	20.078	0.0	164			
360 min Winter	14.585	0.0	234			
480 min Winter	11.622	0.0	302			
600 min Winter	9.738	0.0	368			
720 min Winter	8.424	0.0	432			
960 min Winter	6.697	0.0	550			
1440 min Winter	4.839	0.0	764			
2160 min Winter	3.490	0.0	1096			
2880 min Winter	2.766	0.0	1464			
4320 min Winter	1.989	0.0	2196			
5760 min Winter	1.573	0.0	2848			
7200 min Winter	1.311	0.0	3632			
8640 min Winter	1.129	0.0	4320			
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 4 front				
Date 07/06/2021 09:37 File Plot 4 Soakaway.SRCX	Designed by DJ Checked by				
Innovyze	Source Control 2019.1				
<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
10080 min Winter	123.611	0.011	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Winter	0.994	0.0	5136		
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 4 front																															
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From:	To: (ha)																															
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Infrastruct CS Ltd		Page 5
The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 4 front	
Date 07/06/2021 09:37 File Plot 4 Soakaway.SRCX	Designed by DJ Checked by	
Innovyze Source Control 2019.1		

Model Details


Storage is Online Cover Level (m) 125.000


Cellular Storage Structure


Invert Level (m) 123.600 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.36360 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.36360


Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	5.0	5.0	2.600	0.0	13.0
0.200	5.0	6.8	2.800	0.0	13.0
0.400	5.0	8.6	3.000	0.0	13.0
0.600	5.0	10.4	3.200	0.0	13.0
0.800	5.0	12.2	3.400	0.0	13.0
1.000	0.0	13.0	3.600	0.0	13.0
1.200	0.0	13.0	3.800	0.0	13.0
1.400	0.0	13.0	4.000	0.0	13.0
1.600	0.0	13.0	4.200	0.0	13.0
1.800	0.0	13.0	4.400	0.0	13.0
2.000	0.0	13.0	4.600	0.0	13.0
2.200	0.0	13.0	4.800	0.0	13.0
2.400	0.0	13.0	5.000	0.0	13.0


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<p><u>Summary of Results for 100 year Return Period (+40%)</u></p> <p>Half Drain Time : 62 minutes.</p> <table><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><tr><td>15 min Summer</td><td>124.347</td><td>0.547</td><td>0.5</td><td>2.6</td><td>O K</td></tr><tr><td>30 min Summer</td><td>124.466</td><td>0.666</td><td>0.6</td><td>3.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>124.523</td><td>0.723</td><td>0.6</td><td>3.4</td><td>O K</td></tr><tr><td>120 min Summer</td><td>124.519</td><td>0.719</td><td>0.6</td><td>3.4</td><td>O K</td></tr><tr><td>180 min Summer</td><td>124.482</td><td>0.682</td><td>0.6</td><td>3.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>124.439</td><td>0.639</td><td>0.5</td><td>3.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>124.361</td><td>0.561</td><td>0.5</td><td>2.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>124.295</td><td>0.495</td><td>0.5</td><td>2.4</td><td>O K</td></tr><tr><td>600 min Summer</td><td>124.237</td><td>0.437</td><td>0.4</td><td>2.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>124.186</td><td>0.386</td><td>0.4</td><td>1.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>124.101</td><td>0.301</td><td>0.4</td><td>1.4</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>123.981</td><td>0.181</td><td>0.3</td><td>0.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>123.880</td><td>0.080</td><td>0.3</td><td>0.4</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>123.847</td><td>0.047</td><td>0.3</td><td>0.2</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>123.834</td><td>0.034</td><td>0.2</td><td>0.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>123.827</td><td>0.027</td><td>0.1</td><td>0.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>123.822</td><td>0.022</td><td>0.1</td><td>0.1</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>123.819</td><td>0.019</td><td>0.1</td><td>0.1</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>138.153</td><td>0.0</td><td>17</td></tr><tr><td>30 min Summer</td><td>90.705</td><td>0.0</td><td>31</td></tr><tr><td>60 min Summer</td><td>56.713</td><td>0.0</td><td>52</td></tr><tr><td>120 min Summer</td><td>34.246</td><td>0.0</td><td>84</td></tr><tr><td>180 min Summer</td><td>25.149</td><td>0.0</td><td>120</td></tr><tr><td>240 min Summer</td><td>20.078</td><td>0.0</td><td>154</td></tr><tr><td>360 min Summer</td><td>14.585</td><td>0.0</td><td>222</td></tr><tr><td>480 min Summer</td><td>11.622</td><td>0.0</td><td>288</td></tr><tr><td>600 min Summer</td><td>9.738</td><td>0.0</td><td>350</td></tr><tr><td>720 min Summer</td><td>8.424</td><td>0.0</td><td>414</td></tr><tr><td>960 min Summer</td><td>6.697</td><td>0.0</td><td>538</td></tr><tr><td>1440 min Summer</td><td>4.839</td><td>0.0</td><td>778</td></tr><tr><td>2160 min Summer</td><td>3.490</td><td>0.0</td><td>1124</td></tr><tr><td>2880 min Summer</td><td>2.766</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.989</td><td>0.0</td><td>2192</td></tr><tr><td>5760 min Summer</td><td>1.573</td><td>0.0</td><td>2880</td></tr><tr><td>7200 min Summer</td><td>1.311</td><td>0.0</td><td>3616</td></tr><tr><td>8640 min Summer</td><td>1.129</td><td>0.0</td><td>4392</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	124.347	0.547	0.5	2.6	O K	30 min Summer	124.466	0.666	0.6	3.2	O K	60 min Summer	124.523	0.723	0.6	3.4	O K	120 min Summer	124.519	0.719	0.6	3.4	O K	180 min Summer	124.482	0.682	0.6	3.2	O K	240 min Summer	124.439	0.639	0.5	3.0	O K	360 min Summer	124.361	0.561	0.5	2.7	O K	480 min Summer	124.295	0.495	0.5	2.4	O K	600 min Summer	124.237	0.437	0.4	2.1	O K	720 min Summer	124.186	0.386	0.4	1.8	O K	960 min Summer	124.101	0.301	0.4	1.4	O K	1440 min Summer	123.981	0.181	0.3	0.9	O K	2160 min Summer	123.880	0.080	0.3	0.4	O K	2880 min Summer	123.847	0.047	0.3	0.2	O K	4320 min Summer	123.834	0.034	0.2	0.2	O K	5760 min Summer	123.827	0.027	0.1	0.1	O K	7200 min Summer	123.822	0.022	0.1	0.1	O K	8640 min Summer	123.819	0.019	0.1	0.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	138.153	0.0	17	30 min Summer	90.705	0.0	31	60 min Summer	56.713	0.0	52	120 min Summer	34.246	0.0	84	180 min Summer	25.149	0.0	120	240 min Summer	20.078	0.0	154	360 min Summer	14.585	0.0	222	480 min Summer	11.622	0.0	288	600 min Summer	9.738	0.0	350	720 min Summer	8.424	0.0	414	960 min Summer	6.697	0.0	538	1440 min Summer	4.839	0.0	778	2160 min Summer	3.490	0.0	1124	2880 min Summer	2.766	0.0	1468	4320 min Summer	1.989	0.0	2192	5760 min Summer	1.573	0.0	2880	7200 min Summer	1.311	0.0	3616	8640 min Summer	1.129	0.0	4392
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Infrastruct CS Ltd				Page 2		
The Stables High Cogges, Witney Oxfordshire, OX29 6UN			North Farm, Stonesfield Plot 4 Rear soakaway			
Date 07/06/2021 09:50 File Plot 4 Rear Soakaway.SRCX			Designed by DJ Checked by			
Innovyze			Source Control 2019.1			
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	
10080 min Summer	123.817	0.017		0.1	0.1	O K
15 min Winter	124.349	0.549		0.5	2.6	O K
30 min Winter	124.470	0.670		0.6	3.2	O K
60 min Winter	124.527	0.727		0.6	3.5	O K
120 min Winter	124.512	0.712		0.6	3.4	O K
180 min Winter	124.458	0.658		0.5	3.1	O K
240 min Winter	124.399	0.599		0.5	2.8	O K
360 min Winter	124.294	0.494		0.5	2.3	O K
480 min Winter	124.207	0.407		0.4	1.9	O K
600 min Winter	124.134	0.334		0.4	1.6	O K
720 min Winter	124.072	0.272		0.4	1.3	O K
960 min Winter	123.975	0.175		0.3	0.8	O K
1440 min Winter	123.859	0.059		0.3	0.3	O K
2160 min Winter	123.838	0.038		0.2	0.2	O K
2880 min Winter	123.830	0.030		0.2	0.1	O K
4320 min Winter	123.822	0.022		0.1	0.1	O K
5760 min Winter	123.817	0.017		0.1	0.1	O K
7200 min Winter	123.815	0.015		0.1	0.1	O K
8640 min Winter	123.813	0.013		0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
10080 min Summer	0.994	0.0	5128			
15 min Winter	138.153	0.0	17			
30 min Winter	90.705	0.0	31			
60 min Winter	56.713	0.0	56			
120 min Winter	34.246	0.0	90			
180 min Winter	25.149	0.0	128			
240 min Winter	20.078	0.0	164			
360 min Winter	14.585	0.0	234			
480 min Winter	11.622	0.0	302			
600 min Winter	9.738	0.0	368			
720 min Winter	8.424	0.0	432			
960 min Winter	6.697	0.0	550			
1440 min Winter	4.839	0.0	764			
2160 min Winter	3.490	0.0	1096			
2880 min Winter	2.766	0.0	1464			
4320 min Winter	1.989	0.0	2196			
5760 min Winter	1.573	0.0	2848			
7200 min Winter	1.311	0.0	3632			
8640 min Winter	1.129	0.0	4320			
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 4 Rear soakaway																					
Date 07/06/2021 09:50 File Plot 4 Rear Soakaway.SRCX	Designed by DJ Checked by																					
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<p><u>Summary of Results for 100 year Return Period (+40%)</u></p> <table><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><tr><td>10080 min Winter</td><td>123.811</td><td>0.011</td><td>0.1</td><td>0.1</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>10080 min Winter</td><td>0.994</td><td>0.0</td><td>5136</td></tr></table>			Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	10080 min Winter	123.811	0.011	0.1	0.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	10080 min Winter	0.994	0.0	5136
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																	
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Date 07/06/2021 09:50 File Plot 4 Rear Soakaway.SRCX	Designed by DJ Checked by																																		
Innovyze		Source Control 2019.1																																	
<p style="text-align: center;"><u>Rainfall Details</u></p> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>Cv (Summer)</td> <td>0.950</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.950</td> </tr> <tr> <td>M5-60 (mm)</td> <td>20.000</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Ratio R</td> <td>0.400</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+40</td> </tr> </table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p>Total Area (ha) 0.009</p> <table> <thead> <tr> <th colspan="2">Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To:</th> <th>(ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> <td>0.009</td> </tr> </tbody> </table>			Rainfall Model	FSR	Winter Storms	Yes	Return Period (years)	100	Cv (Summer)	0.950	Region	England and Wales	Cv (Winter)	0.950	M5-60 (mm)	20.000	Shortest Storm (mins)	15	Ratio R	0.400	Longest Storm (mins)	10080	Summer Storms	Yes	Climate Change %	+40	Time (mins)		Area	From:	To:	(ha)	0	4	0.009
Rainfall Model	FSR	Winter Storms	Yes																																
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The Stables High Cogges, Witney Oxfordshire, OX29 6UN	North Farm, Stonesfield Plot 4 Rear soakaway	
Date 07/06/2021 09:50 File Plot 4 Rear Soakaway.SRCX	Designed by DJ Checked by	
Innovyze Source Control 2019.1		

Model Details

Storage is Online Cover Level (m) 125.200

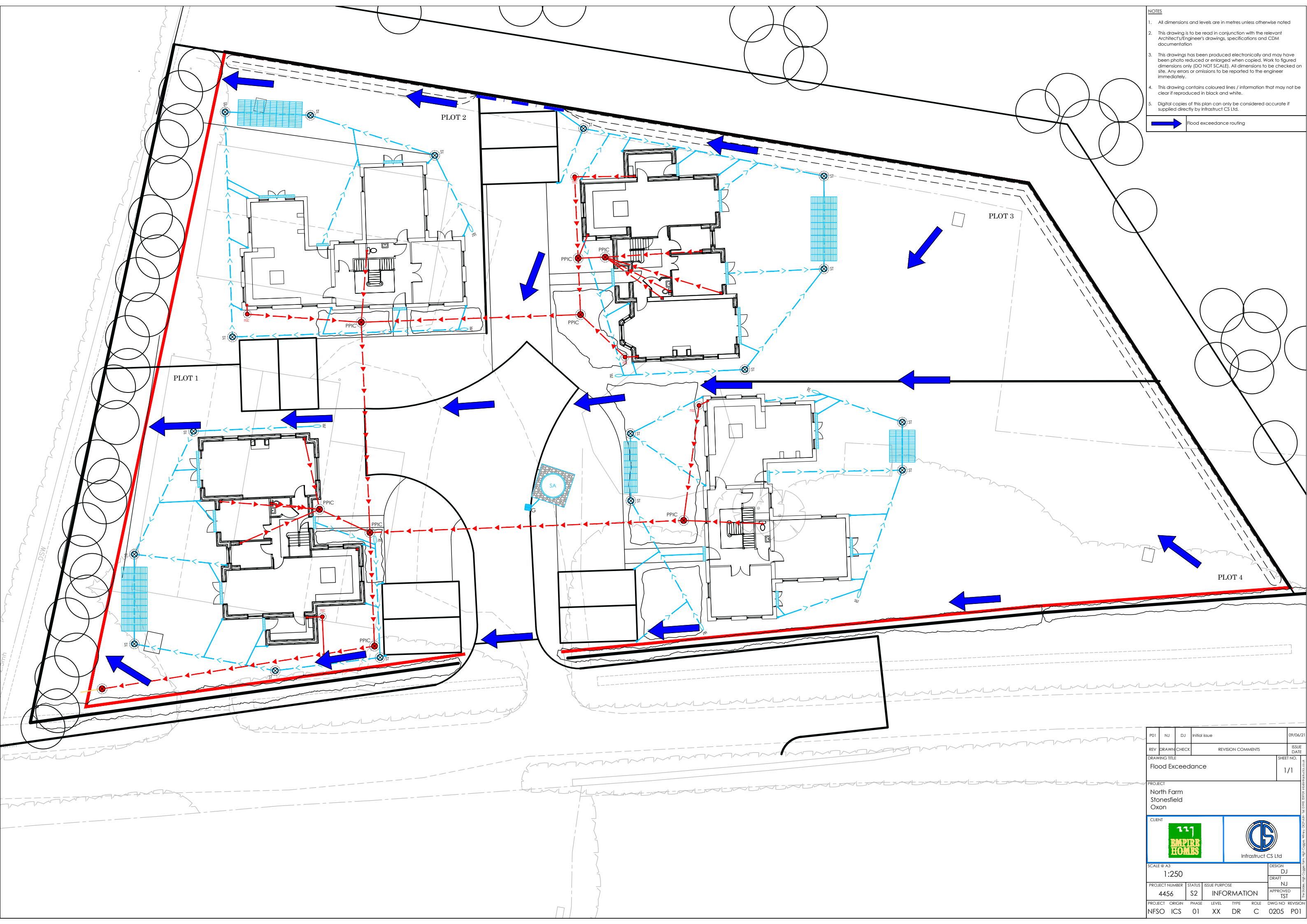
Cellular Storage Structure


Invert Level (m) 123.800 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.36360 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.36360



Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	5.0	5.0	2.600	0.0	13.0
0.200	5.0	6.8	2.800	0.0	13.0
0.400	5.0	8.6	3.000	0.0	13.0
0.600	5.0	10.4	3.200	0.0	13.0
0.800	5.0	12.2	3.400	0.0	13.0
1.000	0.0	13.0	3.600	0.0	13.0
1.200	0.0	13.0	3.800	0.0	13.0
1.400	0.0	13.0	4.000	0.0	13.0
1.600	0.0	13.0	4.200	0.0	13.0
1.800	0.0	13.0	4.400	0.0	13.0
2.000	0.0	13.0	4.600	0.0	13.0
2.200	0.0	13.0	4.800	0.0	13.0
2.400	0.0	13.0	5.000	0.0	13.0

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Appendix E - Exceedance Plan



- NOTES
1. All dimensions and levels are in metres unless otherwise noted
 2. This drawing is to be read in conjunction with the relevant Architect's/Engineer's drawings, specifications and CDM documentation
 3. This drawings has been produced electronically and may have been photo reduced or enlarged when copied. Work to figured dimensions only (DO NOT SCALE). All dimensions to be checked on site. Any errors or omissions to be reported to the engineer immediately.
 4. This drawing contains coloured lines / information that may not be clear if reproduced in black and white.
 5. Digital copies of this plan can only be considered accurate if supplied directly by Infrastruct CS Ltd.
-  Flood exceedance routing

P01	NJ	DJ	Initial Issue	09/06/21
REV	DRAWN	CHECK	REVISION COMMENTS	ISSUE DATE
Flood Exceedance				SHEET NO. 1/1
PROJECT North Farm Stonesfield Oxon				
CLIENT				
				
SCALE @ A3 1:250		DESIGN DJ		
PROJECT NUMBER 4456		STATUS S2		INFORMATION
PROJECT ORIGIN NFSO		PHASE ICS		APPROVED IST
LEVEL 01		TYPE XX		ROLE DR
DWG NO 0205		REVISION P01		