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BY EMAIL

Dear Niall,

SuDS Drainage Statement

Proposed Development at 20 Watford Road and 1 Brookdene Drive, Northwood, London Borough of Hillingdon

EAS has been appointed to provide advice on flooding and drainage matters for the proposed development of 9 flatted units, all of which will be two bed units, at the above development site which is currently formed of two large detached houses.

The proposed development site covers an area of 1227m² and is bounded by no 22 Watford Rd to the north, private gardens to the east, Brookdene Drive to the south and Watford Road to the west. Approximately 510m² of the site is impermeable (41%) and is currently served by private surface water sewers which appear to outfall, unrestricted, into adopted sewers within Watford Road and Brookdene Drive. See Thames Water sewer records in **Appendix A**.

The site is within Flood Zone 1 and under 1ha in size and as such a FRA is not required to meet the requirements of the NPPF. This Drainage Statement has therefore been prepared to collate the relevant information and confirm the proposed surface and foul water drainage strategy.

Reference to the BGS data website confirms the site is underlain by a bedrock of London Clay Formation with no recorded superficial deposits. It is considered highly unlikely that infiltration methods to manage surface water run-off will be viable, as such this drainage statement will be based on an attenuation strategy with a restricted outfall to adopted surface water sewer in Brookdene Drive.

Reference to the Environment Agency website confirms that the site is not at any risk of surface water flooding or flooding from reservoirs. The site is not above an aquifer (bedrock or superficial deposits designation) and is within Outer Zone (Zone 2) SPZ.

As infiltration methods to dispose of surface water run-off are inappropriate for use at this site, it is proposed to attenuate surface water run-off from roof areas and hardstanding areas within a cellular crate storage system such as Stormbloc or similar. There are no watercourses in the vicinity of the site, as such run-off will be restricted prior to outfall into the surface water sewer within Brookdene Drive.

The Technical Guidance Note 001 for Code for Sustainable Homes states that discharge flow rates that are under 5 l/s should be increased to at least 5 l/s to reduce the risk of blockage in sewers:

"In accordance with best practice, the discharge flow rate from the developed site should be calculated in line with the run-off rate requirements in the guidance. This calculation should include the total flow rate from all dwellings (including all non-assessed dwellings) on the site feeding into the Discharge Point. The Discharge Point is defined as the point of discharge into the watercourse (including, rivers, streams, ditches, drains, cuts, culverts, dykes, sluices, public sewers and passages through which water flows, as definition in the Technical Guidance Document). Where this calculation results in discharge flow rates of less than 5l/s this rate may be increased up to a level of no more than 5l/s at the point of discharge from the site to reduce the risk of blockage."

Taking the above into consideration, surface water discharge from the site shall be restricted to a maximum of 5 l/s. An outline surface water drainage strategy and WINDES calculations are shown in **Appendix B** and show that 24.5m³ of attenuation volume is required to manage surface water run-off for a 1:100 year storm + 40% climate change whilst restricting the outfall to 5l/s.

A S106 Application to Thames Water will be required in order to gain approval for this outfall.

Foul Water Drainage

It is proposed to collect foul water within a new private foul water drainage system with a direct connection to the foul water sewer within Brookdene Drive. Again a S106 Application to Thames Water will be required in order to gain approval for this outfall.

Conclusion:

The existing surface water run-off currently drains unrestricted into the adopted sewers in Watford Road and Brookdene Drive.

It has been demonstrated that surface water run-off can be effectively managed via the use of SuDS without increasing the risk of flooding on or off-site. A S106 application will need to be made to outfall surface water and foul water from the proposed site to the Thames Water sewers in Watford Road and Brookdene Drive.

Foul and surface water drainage systems will be designed in accordance with Sewers for Adoption – 6th Edition, TW guidance, and relevant Building Regulations.

Should you have any comments, queries or require any further information, please do not hesitate to contact me,

Yours sincerely,



Michael Caraglia
Senior Technician

Encl. Appendix A – Sewer Records
 Appendix B – Proposed Drainage Layout and Calcs

Appendix A – Thames Water Sewer Records

This is a detailed street map of a residential area in Warrington, showing streets like Watford Road, Brookdene Drive, and Green Lane. The map includes property boundaries, house numbers, and various landmarks such as Frithwood Primary School and several courts. A red dashed line highlights a specific route through the area, and a blue dashed line shows another route. The map is oriented with North at the top.

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
071E	n/a	n/a
0703	110.34	107.54
071D	n/a	n/a
061D	n/a	n/a
061A	n/a	n/a
061B	n/a	n/a
061E	n/a	n/a
0504	88.03	86.58
061F	n/a	n/a
061C	n/a	n/a
0501	88.03	85.1
0605	95.92	94.3
0606	96.45	94.09
641G	n/a	n/a
641A	n/a	n/a
641B	n/a	n/a
641C	n/a	n/a
641D	n/a	n/a
641F	n/a	n/a
641E	n/a	n/a
741A	n/a	n/a
741B	n/a	n/a
0301	80.38	78.28
0401	80.39	77.77
0702	107.94	106.21
0801	108.45	106.48
0705	103.76	101.26
0602	99.08	98.05
0604	98.31	97.39
0601	99.02	97.89
0603	98.22	97.12
0710	109.19	106.68
0704	105.07	103
0751	110.22	n/a
0701	110.35	107.55
7809	91.01	89.41
7810	90.22	88.9
0802	107.31	105.96
7812	91.45	89.25
7811	91.63	88.63
6701	n/a	n/a
6806	n/a	n/a
6805	n/a	n/a
6809	n/a	n/a
6807	n/a	n/a
6808	n/a	n/a
7813	n/a	n/a
7807	n/a	n/a
7808	n/a	n/a
7701	n/a	n/a
571A	n/a	n/a
5814	n/a	n/a
8602	94.21	92.71
7601	94.36	92.16
7602	94.41	92.39
9704	99.32	96.97
7703	94.23	92.13
0707	101.88	99.14
0706	101.99	99.65
7704	94.21	91.81
971E	n/a	n/a
971D	n/a	n/a
971C	n/a	n/a
971B	n/a	n/a
971A	n/a	n/a
9702	101.75	99.48
9703	102.25	100.57
8702	94.11	92.18
771A	n/a	n/a
8701	93.99	92.14
771B	n/a	n/a
9701	101.15	99.4
8704	94.32	93.17
8703	94.3	92.7
7707	90.76	89.44
7702	90.71	89.56
8705	96.34	92.71
8706	96.15	93.47
9805	104.54	103.27
8503	92.5	90.92
951F	n/a	n/a
8502	92.54	90.92
9503	89.4	88
9502	89.66	88.56
6503	n/a	n/a
8501	93.55	91.14
6502	n/a	n/a
9501	91.09	90.24
6501	n/a	n/a
6606	n/a	n/a
6610	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
9601	91.98	91.04
7603	95.1	93.69
7604	94.09	92.23
8606	94.45	92.95
6605	n/a	n/a
7607	92.47	90.66
7606	92.22	90.42
7605	92.19	89.93
6604	n/a	n/a
6609	n/a	n/a
8604	95.95	93.6
6611	90.47	88.7
8603	94.98	93.23
8605	96.48	95.11
8601	94.63	92.38
6603	n/a	n/a
6608	n/a	n/a
6602	n/a	n/a
6607	89.15	87.39
6601	n/a	n/a
5601	87.22	85.52
5703	86.75	84.83
671A	n/a	n/a
6401	82.06	78.89
6451	82.19	81.09
8451	83.99	82.32
9401	82.75	79.81
9450	83.19	81.47
7453	87.44	86.08
7403	87.7	85.73
7451	87.99	86.25
7402	88.15	86.25
7452	88.13	86.5
9402	85.75	82.68
9451	85.75	83.81
8450	87.38	85.4
7401	88.32	86.48
7505	89.39	87.3
7503	88.73	87.73
951A	n/a	n/a
7506	n/a	n/a
7504	n/a	n/a
951B	n/a	n/a
951C	n/a	n/a
7502	89.63	88.88
8505	88.14	86.23
951D	n/a	n/a
8504	90.63	88.13
951E	n/a	n/a
7501	90.5	89.5
8353	80.36	79.44
9350	79.24	77.21
831C	n/a	n/a
9301	79.29	76.5
831B	n/a	n/a
831A	n/a	n/a
9351	80.58	77.73
9302	80.57	77.26
5306	76.58	75.67
5355	76.59	75.96
5453	81.66	80.56
5354	77.23	76.01
5303	77.27	76.3
5304	77.42	76.6
6304	77.44	76.65
6452	80.95	79.7
6402	80.94	77.39
6352	77.83	76.94
6303	78	77.38
6450	81.44	80.63
6351	78.56	76.71
6302	78.57	75.73
6301	78.75	75.82
6350	78.79	76.93
7356	81.1	80.23
7355	81.64	80.52
7450	81.85	81.21
7354	81.99	81
7353	n/a	n/a
7303	81.91	79.92
7352	82.29	80.86

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Trunk Surface Water
	Trunk Foul
	Storm Relief
	Trunk Combined
	Vent Pipe
	Bio-solids (Sludge)
	Proposed Thames Surface Water Sewer
	Proposed Thames Water Foul Sewer
	Gallery
	Foul Rising Main
	Surface Water Rising Main
	Combined Rising Main
	Sludge Rising Main
	Proposed Thames Water Rising Main
	Vacuum

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	Air Valve
	Dam Chase
	Fitting
	Meter
	Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	Control Valve
	Drop Pipe
	Ancillary
	Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	Outfall
	Undefined End
	Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Invert Level
	Summit

Areas

Lines denoting areas of underground surveys, etc.

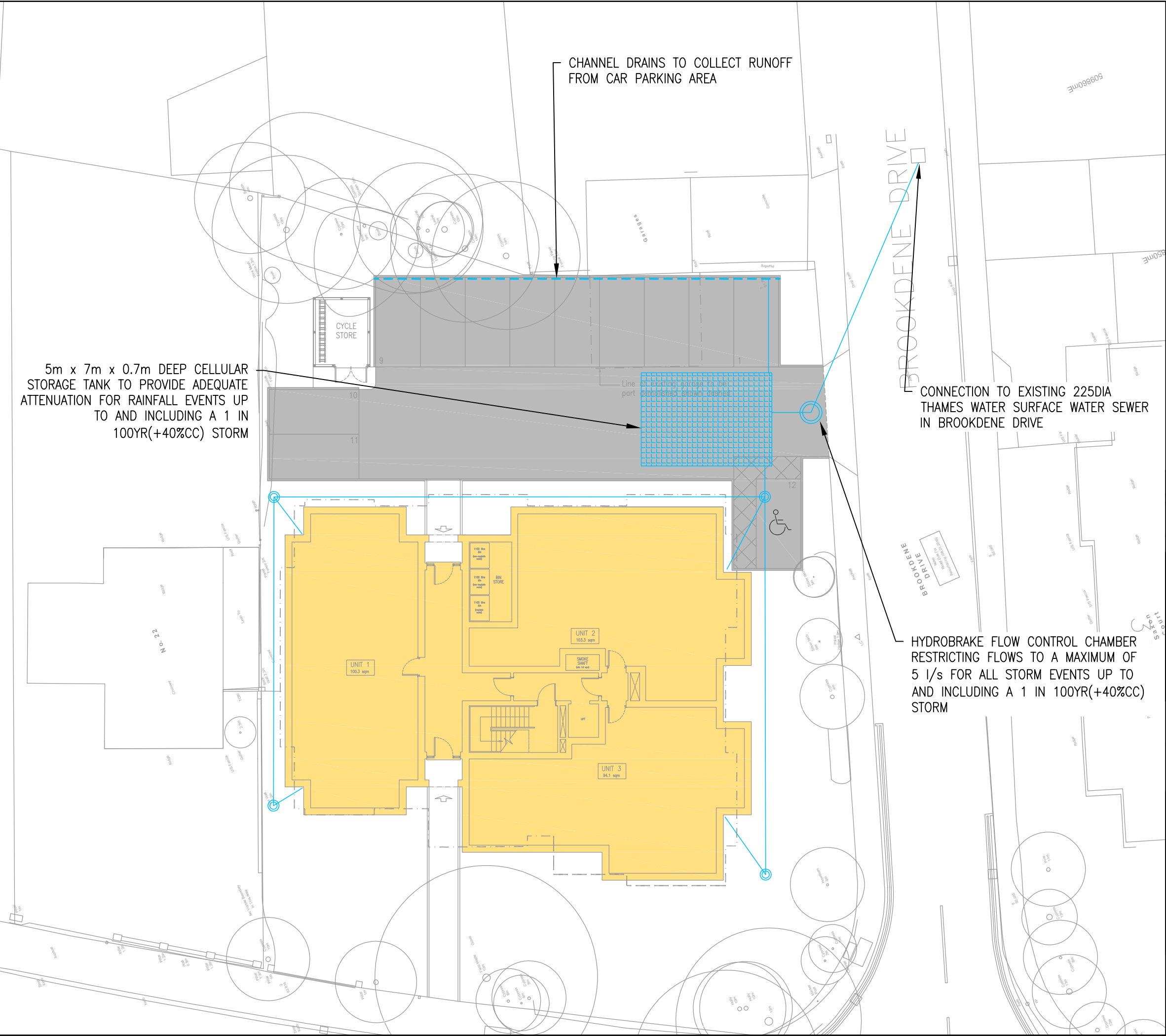
	Agreement
	Operational Site
	Chamber
	Tunnel
	Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

	Foul Sewer
	Surface Water Sewer
	Combined Sewer
	Gully
	Culverted Watercourse
	Proposed
	Abandoned Sewer

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Appendix B – Proposed Surface Water Drainage Strategy and Calcs



KEY

HARDSTANDING (300m²)

ROOF AREA (419m²)

REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS:					
EAS Unit 108, The Maltings, Stanstead Abbots, Hertfordshire, SG12 8HG Tel: 01920 871777 www.eastp.co.uk					
CLIENT:			CLEARVIEW HOMES		
ARCHITECT:					
PROJECT:			20 WATFORD ROAD/1 BROOKDENE DRIVE, NORTHWOOD		
TITLE:			PROPOSED SURFACE WATER DRAINAGE STRATEGY		
SCALE @ A3:		DESIGN-DRAWN:		DATE:	
1:200		MC		08/10/2018	
PROJECT No:		DRAWING No:			
989		SK01 – REV A			

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Unit 108 The Maltings Stanstead Abbotts Hertfordshire SG12 8HG		Watford Rd/Brookdene Dr Cellular Storage 1in100yr+40%CC																																																																																																																																																																																																																																																																																																												
Date 16.03.2016 File Cellular Storage...		Designed by MD Checked by SA																																																																																																																																																																																																																																																																																																												
Micro Drainage		Source Control 2013.1.1																																																																																																																																																																																																																																																																																																												
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 47 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 Control (l/s)</th><th>Max Σ Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>90.790</td><td>0.490</td><td>0.0</td><td>4.2</td><td>4.2</td><td>16.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>90.879</td><td>0.579</td><td>0.0</td><td>4.5</td><td>4.5</td><td>19.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>90.907</td><td>0.607</td><td>0.0</td><td>4.6</td><td>4.6</td><td>20.2</td><td>O K</td></tr><tr><td>120 min Summer</td><td>90.876</td><td>0.576</td><td>0.0</td><td>4.5</td><td>4.5</td><td>19.2</td><td>O K</td></tr><tr><td>180 min Summer</td><td>90.825</td><td>0.525</td><td>0.0</td><td>4.3</td><td>4.3</td><td>17.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>90.771</td><td>0.471</td><td>0.0</td><td>4.1</td><td>4.1</td><td>15.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>90.675</td><td>0.375</td><td>0.0</td><td>4.1</td><td>4.1</td><td>12.5</td><td>O K</td></tr><tr><td>480 min Summer</td><td>90.585</td><td>0.285</td><td>0.0</td><td>4.1</td><td>4.1</td><td>9.5</td><td>O K</td></tr><tr><td>600 min Summer</td><td>90.501</td><td>0.201</td><td>0.0</td><td>4.1</td><td>4.1</td><td>6.7</td><td>O K</td></tr><tr><td>720 min Summer</td><td>90.456</td><td>0.156</td><td>0.0</td><td>4.1</td><td>4.1</td><td>5.2</td><td>O K</td></tr><tr><td>960 min Summer</td><td>90.417</td><td>0.117</td><td>0.0</td><td>3.6</td><td>3.6</td><td>3.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>90.387</td><td>0.087</td><td>0.0</td><td>2.8</td><td>2.8</td><td>2.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>90.367</td><td>0.067</td><td>0.0</td><td>2.0</td><td>2.0</td><td>2.2</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>90.356</td><td>0.056</td><td>0.0</td><td>1.6</td><td>1.6</td><td>1.9</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>90.345</td><td>0.045</td><td>0.0</td><td>1.2</td><td>1.2</td><td>1.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>90.338</td><td>0.038</td><td>0.0</td><td>0.9</td><td>0.9</td><td>1.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>90.334</td><td>0.034</td><td>0.0</td><td>0.8</td><td>0.8</td><td>1.1</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>90.331</td><td>0.031</td><td>0.0</td><td>0.7</td><td>0.7</td><td>1.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>90.328</td><td>0.028</td><td>0.0</td><td>0.6</td><td>0.6</td><td>0.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>90.855</td><td>0.555</td><td>0.0</td><td>4.4</td><td>4.4</td><td>18.5</td><td>O K</td></tr><tr><td>30 min Winter</td><td>90.961</td><td>0.661</td><td>0.0</td><td>4.9</td><td>4.9</td><td>22.0</td><td>O K</td></tr><tr><td>60 min Winter</td><td>90.992</td><td>0.692</td><td>0.0</td><td>5.0</td><td>5.0</td><td>23.0</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>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>142.242</td><td>0.0</td><td>19.2</td><td>17</td></tr><tr><td>30 min Summer</td><td>92.772</td><td>0.0</td><td>25.0</td><td>30</td></tr><tr><td>60 min Summer</td><td>57.587</td><td>0.0</td><td>31.1</td><td>46</td></tr><tr><td>120 min Summer</td><td>34.523</td><td>0.0</td><td>37.3</td><td>82</td></tr><tr><td>180 min Summer</td><td>25.253</td><td>0.0</td><td>40.9</td><td>116</td></tr><tr><td>240 min Summer</td><td>20.111</td><td>0.0</td><td>43.4</td><td>150</td></tr><tr><td>360 min Summer</td><td>14.561</td><td>0.0</td><td>47.2</td><td>216</td></tr><tr><td>480 min Summer</td><td>11.576</td><td>0.0</td><td>50.0</td><td>278</td></tr><tr><td>600 min Summer</td><td>9.683</td><td>0.0</td><td>52.3</td><td>330</td></tr><tr><td>720 min Summer</td><td>8.364</td><td>0.0</td><td>54.2</td><td>382</td></tr><tr><td>960 min Summer</td><td>6.634</td><td>0.0</td><td>57.3</td><td>494</td></tr><tr><td>1440 min Summer</td><td>4.779</td><td>0.0</td><td>61.9</td><td>736</td></tr><tr><td>2160 min Summer</td><td>3.437</td><td>0.0</td><td>66.8</td><td>1100</td></tr><tr><td>2880 min Summer</td><td>2.718</td><td>0.0</td><td>70.4</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.950</td><td>0.0</td><td>75.8</td><td>2188</td></tr><tr><td>5760 min Summer</td><td>1.539</td><td>0.0</td><td>79.8</td><td>2896</td></tr><tr><td>7200 min Summer</td><td>1.280</td><td>0.0</td><td>83.0</td><td>3600</td></tr><tr><td>8640 min Summer</td><td>1.101</td><td>0.0</td><td>85.6</td><td>4320</td></tr><tr><td>10080 min Summer</td><td>0.969</td><td>0.0</td><td>87.9</td><td>5064</td></tr><tr><td>15 min Winter</td><td>142.242</td><td>0.0</td><td>21.5</td><td>17</td></tr><tr><td>30 min Winter</td><td>92.772</td><td>0.0</td><td>28.0</td><td>30</td></tr><tr><td>60 min Winter</td><td>57.587</td><td>0.0</td><td>34.8</td><td>50</td></tr></tbody></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	90.790	0.490	0.0	4.2	4.2	16.3	O K	30 min Summer	90.879	0.579	0.0	4.5	4.5	19.2	O K	60 min Summer	90.907	0.607	0.0	4.6	4.6	20.2	O K	120 min Summer	90.876	0.576	0.0	4.5	4.5	19.2	O K	180 min Summer	90.825	0.525	0.0	4.3	4.3	17.4	O K	240 min Summer	90.771	0.471	0.0	4.1	4.1	15.7	O K	360 min Summer	90.675	0.375	0.0	4.1	4.1	12.5	O K	480 min Summer	90.585	0.285	0.0	4.1	4.1	9.5	O K	600 min Summer	90.501	0.201	0.0	4.1	4.1	6.7	O K	720 min Summer	90.456	0.156	0.0	4.1	4.1	5.2	O K	960 min Summer	90.417	0.117	0.0	3.6	3.6	3.9	O K	1440 min Summer	90.387	0.087	0.0	2.8	2.8	2.9	O K	2160 min Summer	90.367	0.067	0.0	2.0	2.0	2.2	O K	2880 min Summer	90.356	0.056	0.0	1.6	1.6	1.9	O K	4320 min Summer	90.345	0.045	0.0	1.2	1.2	1.5	O K	5760 min Summer	90.338	0.038	0.0	0.9	0.9	1.3	O K	7200 min Summer	90.334	0.034	0.0	0.8	0.8	1.1	O K	8640 min Summer	90.331	0.031	0.0	0.7	0.7	1.0	O K	10080 min Summer	90.328	0.028	0.0	0.6	0.6	0.9	O K	15 min Winter	90.855	0.555	0.0	4.4	4.4	18.5	O K	30 min Winter	90.961	0.661	0.0	4.9	4.9	22.0	O K	60 min Winter	90.992	0.692	0.0	5.0	5.0	23.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	142.242	0.0	19.2	17	30 min Summer	92.772	0.0	25.0	30	60 min Summer	57.587	0.0	31.1	46	120 min Summer	34.523	0.0	37.3	82	180 min Summer	25.253	0.0	40.9	116	240 min Summer	20.111	0.0	43.4	150	360 min Summer	14.561	0.0	47.2	216	480 min Summer	11.576	0.0	50.0	278	600 min Summer	9.683	0.0	52.3	330	720 min Summer	8.364	0.0	54.2	382	960 min Summer	6.634	0.0	57.3	494	1440 min Summer	4.779	0.0	61.9	736	2160 min Summer	3.437	0.0	66.8	1100	2880 min Summer	2.718	0.0	70.4	1468	4320 min Summer	1.950	0.0	75.8	2188	5760 min Summer	1.539	0.0	79.8	2896	7200 min Summer	1.280	0.0	83.0	3600	8640 min Summer	1.101	0.0	85.6	4320	10080 min Summer	0.969	0.0	87.9	5064	15 min Winter	142.242	0.0	21.5	17	30 min Winter	92.772	0.0	28.0	30	60 min Winter	57.587	0.0	34.8	50
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																																																																																																							
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360 min Summer	90.675	0.375	0.0	4.1	4.1	12.5	O K																																																																																																																																																																																																																																																																																																							
480 min Summer	90.585	0.285	0.0	4.1	4.1	9.5	O K																																																																																																																																																																																																																																																																																																							
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10080 min Summer	90.328	0.028	0.0	0.6	0.6	0.9	O K																																																																																																																																																																																																																																																																																																							
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<u>Summary of Results for 100 year Return Period (+40%)</u> <table border="1"> <thead> <tr> <th>Storm Event</th> <th>Max Level (m)</th> <th>Max Depth (m)</th> <th>Max Infiltration (l/s)</th> <th>Max Control (l/s)</th> <th>Max Σ Outflow (l/s)</th> <th>Max Volume (m³)</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>120 min Winter</td><td>90.944</td><td>0.644</td><td>0.0</td><td>4.8</td><td>4.8</td><td>21.4</td><td>O K</td></tr> <tr><td>180 min Winter</td><td>90.866</td><td>0.566</td><td>0.0</td><td>4.5</td><td>4.5</td><td>18.8</td><td>O K</td></tr> <tr><td>240 min Winter</td><td>90.788</td><td>0.488</td><td>0.0</td><td>4.2</td><td>4.2</td><td>16.2</td><td>O K</td></tr> <tr><td>360 min Winter</td><td>90.643</td><td>0.343</td><td>0.0</td><td>4.1</td><td>4.1</td><td>11.4</td><td>O K</td></tr> <tr><td>480 min Winter</td><td>90.491</td><td>0.191</td><td>0.0</td><td>4.1</td><td>4.1</td><td>6.4</td><td>O K</td></tr> <tr><td>600 min Winter</td><td>90.433</td><td>0.133</td><td>0.0</td><td>3.9</td><td>3.9</td><td>4.4</td><td>O K</td></tr> <tr><td>720 min Winter</td><td>90.410</td><td>0.110</td><td>0.0</td><td>3.5</td><td>3.5</td><td>3.7</td><td>O K</td></tr> <tr><td>960 min Winter</td><td>90.388</td><td>0.088</td><td>0.0</td><td>2.8</td><td>2.8</td><td>2.9</td><td>O K</td></tr> <tr><td>1440 min Winter</td><td>90.367</td><td>0.067</td><td>0.0</td><td>2.0</td><td>2.0</td><td>2.2</td><td>O K</td></tr> <tr><td>2160 min Winter</td><td>90.353</td><td>0.053</td><td>0.0</td><td>1.5</td><td>1.5</td><td>1.7</td><td>O K</td></tr> <tr><td>2880 min Winter</td><td>90.345</td><td>0.045</td><td>0.0</td><td>1.2</td><td>1.2</td><td>1.5</td><td>O K</td></tr> <tr><td>4320 min Winter</td><td>90.336</td><td>0.036</td><td>0.0</td><td>0.8</td><td>0.8</td><td>1.2</td><td>O K</td></tr> <tr><td>5760 min Winter</td><td>90.331</td><td>0.031</td><td>0.0</td><td>0.7</td><td>0.7</td><td>1.0</td><td>O K</td></tr> <tr><td>7200 min Winter</td><td>90.327</td><td>0.027</td><td>0.0</td><td>0.5</td><td>0.5</td><td>0.9</td><td>O K</td></tr> <tr><td>8640 min Winter</td><td>90.325</td><td>0.025</td><td>0.0</td><td>0.5</td><td>0.5</td><td>0.8</td><td>O K</td></tr> <tr><td>10080 min Winter</td><td>90.323</td><td>0.023</td><td>0.0</td><td>0.4</td><td>0.4</td><td>0.8</td><td>O K</td></tr> <tr> <th>Storm Event</th> <th>Rain (mm/hr)</th> <th>Flooded Volume (m³)</th> <th>Discharge Volume (m³)</th> <th>Time-Peak (mins)</th> <th colspan="3"></th> </tr> <tr><td>120 min Winter</td><td>34.523</td><td>0.0</td><td>41.7</td><td>88</td><td colspan="3"></td></tr> <tr><td>180 min Winter</td><td>25.253</td><td>0.0</td><td>45.8</td><td>124</td><td colspan="3"></td></tr> <tr><td>240 min Winter</td><td>20.111</td><td>0.0</td><td>48.6</td><td>160</td><td colspan="3"></td></tr> <tr><td>360 min Winter</td><td>14.561</td><td>0.0</td><td>52.8</td><td>230</td><td colspan="3"></td></tr> <tr><td>480 min Winter</td><td>11.576</td><td>0.0</td><td>56.0</td><td>278</td><td colspan="3"></td></tr> <tr><td>600 min Winter</td><td>9.683</td><td>0.0</td><td>58.5</td><td>324</td><td colspan="3"></td></tr> <tr><td>720 min Winter</td><td>8.364</td><td>0.0</td><td>60.7</td><td>378</td><td colspan="3"></td></tr> <tr><td>960 min Winter</td><td>6.634</td><td>0.0</td><td>64.2</td><td>494</td><td colspan="3"></td></tr> <tr><td>1440 min Winter</td><td>4.779</td><td>0.0</td><td>69.4</td><td>732</td><td colspan="3"></td></tr> <tr><td>2160 min Winter</td><td>3.437</td><td>0.0</td><td>74.8</td><td>1092</td><td colspan="3"></td></tr> <tr><td>2880 min Winter</td><td>2.718</td><td>0.0</td><td>78.9</td><td>1448</td><td colspan="3"></td></tr> <tr><td>4320 min Winter</td><td>1.950</td><td>0.0</td><td>84.9</td><td>2200</td><td colspan="3"></td></tr> <tr><td>5760 min Winter</td><td>1.539</td><td>0.0</td><td>89.3</td><td>2912</td><td colspan="3"></td></tr> <tr><td>7200 min 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Winter	90.336	0.036	0.0	0.8	0.8	1.2	O K	5760 min Winter	90.331	0.031	0.0	0.7	0.7	1.0	O K	7200 min Winter	90.327	0.027	0.0	0.5	0.5	0.9	O K	8640 min Winter	90.325	0.025	0.0	0.5	0.5	0.8	O K	10080 min Winter	90.323	0.023	0.0	0.4	0.4	0.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)				120 min Winter	34.523	0.0	41.7	88				180 min Winter	25.253	0.0	45.8	124				240 min Winter	20.111	0.0	48.6	160				360 min Winter	14.561	0.0	52.8	230				480 min Winter	11.576	0.0	56.0	278				600 min Winter	9.683	0.0	58.5	324				720 min Winter	8.364	0.0	60.7	378				960 min Winter	6.634	0.0	64.2	494				1440 min Winter	4.779	0.0	69.4	732				2160 min Winter	3.437	0.0	74.8	1092				2880 min Winter	2.718	0.0	78.9	1448				4320 min Winter	1.950	0.0	84.9	2200				5760 min Winter	1.539	0.0	89.3	2912				7200 min Winter	1.280	0.0	92.9	3744				8640 min Winter	1.101	0.0	95.9	4400				10080 min Winter	0.969	0.0	98.5	5080			
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