

# SPRING LANE AND ELLIS YARD REDEVELOPMENT

Part 8 Planning Report

Cork City Council

February 2024



# Notice

This document and its contents have been prepared and are intended solely as information for Cork City Council and use in relation to Spring Lane and Ellis Yard redevelopment.

Atkins Ireland assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 18 pages including the cover.

## Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 1.0	Part 8 Planning Report	KE	PP	VO	MOS	14/02/2024

## Client signoff

Client	Cork City Council
Project	Spring Lane and Ellis Yard Redevelopment
Job number	5221169
Client signature / date	

# Contents

Chapter	Page
<b>1. Introduction</b>	<b>4</b>
<b>2. Existing Site</b>	<b>5</b>
2.1. Existing Site	5
2.2. Existing Civils	5
<b>3. Civil Engineering</b>	<b>6</b>
3.1. Site Access and Circulation	6
3.2. Pavements	6
3.3. External Works	6
<b>4. Potable Water Supply</b>	<b>7</b>
4.1. Proposed Water Infrastructure	7
<b>5. Foul Water Drainage</b>	<b>7</b>
5.1. Proposed Foul Infrastructure	7
<b>6. Surface Water Drainage</b>	<b>8</b>
6.1. Proposed Surface Water Drainage	8
6.2. Site Design Details	8
<b>Appendices</b>	<b>9</b>
<b>Appendix A. Engineering Drawings</b>	<b>10</b>
A.1. Drawing Register	10
A.2. Drawing Set	10
<b>Appendix B. Stage 01; Road Safety Audit</b>	<b>11</b>
<b>Appendix C. Public Lighting Report</b>	<b>12</b>
<b>Appendix D. Part L ‘Conservation of Fuel and Energy’ – Report</b>	<b>13</b>
<b>Appendix E. Stage 01 – Flood Risk Assessment</b>	<b>14</b>
<b>Appendix F. Surface Drainage: Design Criteria, Pipeline Schedules, Flow Control Design and Network Simulation Results</b>	<b>15</b>
<b>Appendix G. Foul Drainage Design Criteria and Manhole Schedules</b>	<b>16</b>
<b>Figures</b>	
Figure 1-1 Site Location	4

# 1. Introduction

This Part 8 Report is submitted as part of the Spring Lane and Ellis Yard redevelopment in the North-Central Suburbs of Cork City. The Proposed Development site is currently made up of residential units in the Spring Lane section of the site with and a sizable open space concrete yard in the Ellis Yard section of the site .



**Figure 1-1 Site Location**

The report and its appendices address the following engineering aspects associated with the development;

- Road Engineering
- Structural Engineering
- Foul Water Drainage
- Storm Water Drainage
- Potable Water Supply
- Part L 'Conservation of Fuel and Energy' – Report
- Public Lighting

This report is to be read in conjunction with the applicable reports attached to this report and the Engineering Drawing set, as attached in Appendix A;

## 2. Existing Site

### 2.1. Existing Site

The existing development site is approximately 4.9 ha and is bounded by Park Court housing estate to the east, the Glen Rovers GAA pitch and the Glenfields housing estate to the north, the Ballyvollane road and Ballyvolane industrial estate to the south and the North Side Business Campus industrial estate to the west. The site is located to the north of the Ballyvolane road on the north side of Cork City, County Cork. There are currently approximately 50 no families resident in the Spring Lane portion of the site while the Ellis Yard section of the site consists of an open concrete yard.

The proposal is to develop a 27-unit development on the site which will include 15 number traveller appropriate houses in Ellis Yard and 12 number traveller appropriate units in Spring Lane.

### 2.2. Existing Civils

The Spring Lane site is an old quarry with slopes from both the north, east and south. There are level changes in excess of 10m in places on the Spring Lane section of the site. The slope to the south of the site is less than 1:1 in places. The slope to the North is more of a gradual rise to the Glenfields housing estate. The slope to the east has had work carried out to it in the last 2 years where a retaining wall has been introduced to strengthen the embankment in the area. In the Ellis Yard section of the site there is a slope to the south with level changes in excess of 10m in places.

Accurate detailed GPR surveys are not available at this stage. However, desktop studies have identified the following utilities/services in the vicinity of the site;

- Foul Water Drainage
- Storm Water Drainage
- Watermains
- Telecoms
- Overhead & Underground Electrical Cables
- Public Lighting

## 3. Civil Engineering

### 3.1. Site Access and Circulation

The roads infrastructure for the proposed development are in line with DMURS and TII requirements. There are two access points to the development, both via the Ballyvolane Road. The Ballyvolane road is to be resurfaced along the length of the development and public lighting to be added along with footpath access to enhance pedestrian access to the development and surrounding amenities. A non-controlled crossing point will be placed on the Ballyvolane road close to the Ellis Yard development access. The main access road to the Spring Lane section of the site is to be realigned to reduce the 90-degree bend on the access road. A temporary access road is to be constructed through the Ellis Yard portion of the site during the realignment and resurfacing of the main Spring Lane access road to facilitate resident movements. Crash barriers are to be placed at strategic locations within the development road network. Footpath access to the Glenfields housing estate through the green area of Spring Lane has been allowed for to facilitate students' movement to and from school. This is to replace the current pedestrian access path along the eastern boundary of the Spring Lane development. Construction stage access to the site compound is to be off the Glenfields housing estate with the access to be removed and made good at the handover stage of the project. Raised tables and speed ramps are to be placed at appropriate locations within the development to facilitate traffic calming.

A Stage 01 Road Safety Audit has been completed for the proposed development and all actions called for in the audit have been accepted and are to be addressed in the scheme design. Please refer to Appendix B for the Stage 01 Road Safety Audit.

### 3.2. Pavements

There are various pavement options proposed within the site comprising bituminous and concrete.

#### Trafficked areas:

Road - 200mm total bituminous on 150mm CL 804 on minimum capping required in line with TII MCDRW.

In certain locations where large number of turning movements is expected, the use of black-pigmented concrete is proposed.

Concrete Footpaths at vehicle cross over points – 225mm concrete on 100mm CL 804 on minimum capping required in line with TII MCDRW.

#### Pedestrian areas:

Footpaths 150mm concrete on 100mm CL 804.

### 3.3. External Works

Due to the level changes that are present across the site and the site boundary conditions, retaining structures will be required. A combination of Reinforced Concrete and Masonry retaining structures will be used for this purpose. Regrading of slopes will also be utilised where appropriate.

## 4. Potable Water Supply

### 4.1. Proposed Water Infrastructure

The potable water supply for the proposed development has been designed in accordance with Irish Water Code of Practice and Standard Construction Details.

It is proposed to provide the watermains infrastructure across the development, which will encompass a 100mm diameter line. The water main infrastructure will tie into the existing network at the entrance to the Ellis Yard section of the site. The existing water infrastructure on the site is to be removed in its entirety and will be capped on the Ballyvolane road in line with IW requirements and details. Refer to Appendix A for watermain layout drawings.

An Irish Water Pre-Connection Enquiry has been submitted to Irish Water for the proposed water demand based on the information contained within this Report. A letter of confirmation of feasibility (reference no. CDS23003459) has been received from Irish Water for the proposal as outlined above.

## 5. Foul Water Drainage

### 5.1. Proposed Foul Infrastructure

It is proposed to provide a new foul water pipe network for the development. The new infrastructure will tie into the existing site tie in point to the overall network at the western boundary of the site.

An Irish Water Pre-Connection Enquiry has been submitted to Irish Water for the proposed foul layout based on the information contained within this Report. A letter of confirmation of feasibility (reference no. CDS23003459) has been received from Irish Water for the proposal as outlined above.

“MicroDrainage” which is an industry standard tool for design and assessment of gravity sewer drainage networks has been used to model the proposed foul network. The MicroDrainage model shows that the proposed foul network has adequate capacity for the flows that will be generated from the proposed development and will achieve self-cleansing velocities. The foul network has been designed to achieve self-cleansing velocity in the pipe system at least once per day.

As part of the proposed development, decommissioning of the entire existing foul network within this area will be required. As Ellis Yard is constructed the existing Spring Lane infrastructure will be tied into the new Ellis Yard infrastructure prior to been removed during the Spring Lane development and been completely replaced. It is proposed that all the primary foul infrastructure within the development will be a 225mm diameter network.

The entire foul water network will be constructed in accordance with Irish Water Code of Practice and Standard Details.

Refer to Appendix A for Proposed Foul Water Drainage Layouts.

## 6. Surface Water Drainage

### 6.1. Proposed Surface Water Drainage

It is proposed that the development site will collect the surface water runoff and discharge the flow under gravity conditions into the storm infrastructure network.

“MicroDrainage” which is an industry standard tool for design and assessment of gravity sewer drainage networks has been used to model the proposed surface water network. The MicroDrainage model shows that the proposed surface water network has adequate capacity for the flows that will be generated from the proposed development and will achieve the full bore self-cleansing velocities.

As part of the proposed development, decommissioning of the entire existing surface water network within the site will be required. The existing infrastructure in Spring Lane will tie into the proposed infrastructure for Ellis Yard for a period before the Spring Lane section of the site is fully decommissioned and removed. The connection pipe between the Ballyvolane industrial estate to the south of the site and the site infrastructure will be replaced on a like for like bases with a new pipe. The surface water from the industrial estate will be maintained live through temporary internal diversions during the construction of the development. The proposed surface water infrastructure for the development will tie into the existing tie in point for the site of the external infrastructure network. Due to the nature of the site, the infrastructure will be protected at strategic locations with catchment pits which will facilitate the management and maintenance of the internal site surface water infrastructure into the future.

The site will also utilise offline attenuation tanks in order to have greater control of the flow from the site. The greenfield runoff ( $Q_{BAR_{rural}}$ ) has been calculated for the existing site at 33.6l/s. The proposed flow rate from the site will be substantially less than the current flow rate due to the increase in permeable areas and introduction of the attenuation system. Concrete attenuation tanks are proposed within the development, with a total volume of 1301m<sup>3</sup>. These tanks are being utilized by two flow control devices (orifice plates) and are placed at strategic locations within the site. Due to the nature of the site, additional SUDs measures were deemed to be inappropriate for this development. The Ballyvolane road will also have increased drainage capacity through the introduction of drainage kerbs on the northern side of the road. This drainage kerb system will run along the full length of the development boundary resurfaced area of the road.

Given the nature of site, the surface water runoff overland flow has been considered and site levels designed accordingly. Proposed levels allow surface water runoff to fall away and avoid ponding around buildings.

The entire surface water network will be constructed in accordance with the Greater Dublin Code of Practice for Drainage Works Version 6.0 and the Cork City Council standard details. A Stage 01 Flood Risk Assessment has been completed, please refer to Appendix E.

Refer to Appendix A for Proposed Surface Water Drainage Layouts.

### 6.2. Site Design Details

A minimum cover of 1.2m has been provided for the proposed network to give sufficient cover to soffit level within road locations, with a minimum slope specified to achieve self-cleansing velocities to reduce drainage depths at the downstream of the site. Steeper gradients have been proposed in certain sections of the network to take account of road grades while maintaining a minimum 1.2m cover. Where the desired 1.2m cover cannot be achieved, an absolute minimum 900mm is proposed and surround the pipe in concrete to ensure adequate protection is maintained. The internal site roads shall drain via traditional proprietary products such as kerb, gullies and drains to the storm water network.

The proposed surface water design was designed to provide the following.

- No surcharging in the 1 in 5-year storm event. Pipes upstream of flow control devices may encounter small amount of surcharging due to the flow being throttled accordingly.
- No flooding in the 1 in 30-year storm event.  
No flooding against a 1 in 100-year storm event (including climate change allowance of 20%).



# Appendices



# Appendix A. Engineering Drawings

A.1. Drawing Register

A.2. Drawing Set


# Appendix B. Stage 01; Road Safety Audit

# Appendix C. Public Lighting Report

# Appendix D. Part L 'Conservation of Fuel and Energy' – Report

# Appendix E. Stage 01 – Flood Risk Assessment

# Appendix F. Surface Drainage: Design Criteria, Pipeline Schedules, Flow Control Design and Network Simulation Results

Atkins (Epsom)		Page 1
Woodcote Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - Scotland and Ireland

Return Period (years)	5	Foul Sewage (l/s/ha)	0.000	Maximum Backdrop Height (m)	1.500
M5-60 (mm)	17.900	Volumetric Runoff Coeff.	0.750	Min Design Depth for Optimisation (m)	1.200
Ratio R	0.250	PIMP (%)	100	Min Vel for Auto Design only (m/s)	1.00
Maximum Rainfall (mm/hr)	150	Add Flow / Climate Change (%)	20	Min Slope for Optimisation (1:X)	500
Maximum Time of Concentration (mins)	30	Minimum Backdrop Height (m)	0.000		

Designed with Level Soffits

Network Design Table for Storm


« - Indicates pipe capacity < flow

<b>PN</b>	<b>Length</b>	<b>Fall</b>	<b>Slope</b>	<b>I.Area</b>	<b>T.E.</b>	<b>Base</b>	<b>k</b>	<b>HYD</b>	<b>DIA</b>	<b>Section Type</b>	<b>Auto</b>
	(m)	(m)	(1:X)	(ha)	(mins)	Flow (l/s)	(mm)	SECT	(mm)		Design








Network Results Table

<b>PN</b>	<b>Rain</b>	<b>T.C.</b>	<b>US/IL</b>	<b>Σ I.Area</b>	<b>Σ Base</b>	<b>Foul</b>	<b>Add Flow</b>	<b>Vel</b>	<b>Cap</b>	<b>Flow</b>
	(mm/hr)	(mins)	(m)	(ha)	Flow (l/s)	(l/s)	(l/s)	(m/s)	(l/s)	(l/s)




Atkins (Epsom)		Page 2
Woodcote Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Storm









PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	90.001	0.745	120.8	0.631	4.00	0.0	0.600	o	525	Pipe/Conduit	
S2.000	73.232	0.685	106.9	0.776	4.00	0.0	0.600	o	450	Pipe/Conduit	
S2.001	10.515	0.055	191.2	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S2.002	43.766	0.450	97.3	0.126	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.001	8.071	0.075	107.6	0.016	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.002	8.070	0.075	107.6	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.003	11.222	0.105	106.9	0.010	0.00	0.0	0.600	o	525	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	65.08	4.74	49.950	0.631	0.0	0.0	22.2	2.04	440.9	133.5
S2.000	65.63	4.62	50.470	0.776	0.0	0.0	27.6	1.97	312.7	165.5
S2.001	65.06	4.74	49.785	0.776	0.0	0.0	27.6	1.47	233.3	165.5
S2.002	63.59	5.06	49.655	0.902	0.0	0.0	31.1	2.27	491.7	186.4
S1.001	63.31	5.12	49.205	1.549	0.0	0.0	53.1	2.16	467.3	318.7
S1.002	63.04	5.19	49.130	1.549	0.0	0.0	53.1	2.16	467.4	318.7
S1.003	62.67	5.27	49.055	1.559	0.0	0.0	53.1	2.17	469.0	318.7


Atkins (Epsom)		Page 3
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Storm






PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	30.143	1.205	25.0	0.045	4.00	0.0	0.600	o	225	Pipe/Conduit	
S3.001	39.568	1.585	25.0	0.034	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.002	36.764	1.470	25.0	0.021	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.003	36.763	1.470	25.0	0.018	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.004	13.390	0.295	45.4	0.029	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.005	20.668	0.460	44.9	0.018	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.006	10.448	0.230	45.4	0.009	0.00	0.0	0.600	o	525	Pipe/Conduit	
S4.000	30.272	0.655	46.2	0.115	4.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	67.79	4.19	59.860	0.045	0.0	0.0	1.7	2.63	104.4	9.9
S3.001	66.51	4.44	58.655	0.079	0.0	0.0	2.8	2.63	104.6	17.1
S3.002	65.37	4.68	55.840	0.100	0.0	0.0	3.5	2.63	104.5	21.2
S3.003	64.28	4.91	53.230	0.118	0.0	0.0	4.1	2.63	104.5	24.6
S1.004	62.38	5.34	48.950	1.706	0.0	0.0	57.6	3.33	721.1	345.9
S1.005	61.95	5.44	48.655	1.724	0.0	0.0	57.8	3.35	724.8	347.1
S1.006	61.73	5.49	48.195	1.733	0.0	0.0	57.9	3.33	720.8	347.7
S4.000	67.42	4.26	48.930	0.115	0.0	0.0	4.2	1.93	76.7	25.2


Atkins (Epsom)		Page 4
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Storm






PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S5.000	29.727	0.175	169.9	0.080	4.00	0.0	0.600	o	225	Pipe/Conduit	
S1.007	53.450	0.250	213.8	0.172	0.00	0.0	0.600	o	600	Pipe/Conduit	
S6.000	22.205	0.455	48.8	0.080	4.00	0.0	0.600	o	225	Pipe/Conduit	
S7.000	43.902	0.755	58.1	0.185	4.00	0.0	0.600	o	225	Pipe/Conduit	
S1.008	8.709	0.075	116.1	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S5.000	66.24	4.50	48.450	0.080	0.0	0.0	2.9	1.00	39.8	17.2
S1.007	59.62	6.03	47.890	2.100	0.0	0.0	67.8	1.66	469.8	406.9
S6.000	67.76	4.20	48.490	0.080	0.0	0.0	2.9	1.88	74.6	17.6
S7.000	66.59	4.43	48.790	0.185	0.0	0.0	6.7	1.72	68.3	40.0
S1.008	59.38	6.09	47.640	2.365	0.0	0.0	76.1	2.26	638.7	456.4


Atkins (Epsom)		Page 5
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Storm








PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section	Type	Auto Design
S1.009	7.106	0.060	118.4	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
S8.000	16.870	0.130	129.8	0.000	4.00	0.0	0.600	o	600	Pipe/Conduit		
S1.010	18.440	0.150	122.9	0.043	0.00	0.0	0.600	o	600	Pipe/Conduit		
S9.000	47.881	0.485	98.7	0.118	4.00	0.0	0.600	o	225	Pipe/Conduit		
S1.011	53.499	0.400	133.7	0.107	0.00	0.0	0.600	o	600	Pipe/Conduit		

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.009	59.18	6.15	47.565	2.365	0.0	0.0	76.1	2.24	632.4	456.4
S8.000	68.10	4.13	47.635	0.000	0.0	0.0	0.0	2.14	604.0	0.0
S1.010	58.67	6.29	47.505	2.408	0.0	0.0	76.5	2.20	620.7	459.1
S9.000	65.70	4.61	48.330	0.118	0.0	0.0	4.2	1.32	52.3	25.2
S1.011	57.19	6.71	47.355	2.633	0.0	0.0	81.6	2.10	594.9	489.4

Atkins (Epsom)		Page 6
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S10.000	47.747	0.450	106.1	0.130	4.00	0.0	0.600	o	225	Pipe/Conduit	
S11.000	27.736	1.110	25.0	0.063	4.00	0.0	0.600	o	225	Pipe/Conduit	
S11.001	14.458	0.575	25.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S11.002	7.139	0.035	204.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S11.003	7.139	0.035	204.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S1.012	13.244	0.530	25.0	0.010	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.013	13.243	0.530	25.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S10.000	65.60	4.63	48.070	0.130	0.0	0.0	4.6	1.27	50.5	27.7
S11.000	67.87	4.18	49.760	0.063	0.0	0.0	2.3	2.63	104.5	13.9
S11.001	67.39	4.27	48.650	0.063	0.0	0.0	2.3	2.62	104.2	13.9
S11.002	67.03	4.34	46.900	0.063	0.0	0.0	2.3	1.70	481.1	13.9
S11.003	66.68	4.41	46.865	0.063	0.0	0.0	2.3	1.70	481.1	13.9
S1.012	56.98	6.77	45.710	2.836	0.0	0.0	87.5	3.64	401.8«	525.2
S1.013	56.78	6.83	45.180	2.836	0.0	0.0	87.5	3.64	401.8«	525.2

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S11	51.378	1.428	Open Manhole	1500	S1.000	49.950	525				
S10.3	51.885	1.415	Open Manhole	1350	S2.000	50.470	450				
S10.2	51.514	1.729	Open Manhole	1350	S2.001	49.785	450	S2.000	49.785	450	
S10.1	51.466	1.811	Open Manhole	1500	S2.002	49.655	525	S2.001	49.730	450	
S10	52.278	3.073	Open Manhole	1500	S1.001	49.205	525	S1.000	49.205	525	
								S2.002	49.205	525	
SCATCH PIT 1	52.568	3.438	Open Manhole	1500	S1.002	49.130	525	S1.001	49.130	525	
S9	52.782	3.727	Open Manhole	1500	S1.003	49.055	525	S1.002	49.055	525	
S8.4	61.982	2.122	Open Manhole	1200	S3.000	59.860	225				
S8.3	60.106	1.451	Open Manhole	1200	S3.001	58.655	225	S3.000	58.655	225	
S8.2	58.725	2.885	Open Manhole	1200	S3.002	55.840	225	S3.001	57.070	225	1230
S8.1	55.684	2.454	Open Manhole	1200	S3.003	53.230	225	S3.002	54.370	225	1140
S8	53.284	4.334	Open Manhole	1500	S1.004	48.950	525	S1.003	48.950	525	
								S3.003	51.760	225	2510
S7	52.462	3.807	Open Manhole	1500	S1.005	48.655	525	S1.004	48.655	525	
S6	51.224	3.029	Open Manhole	1500	S1.006	48.195	525	S1.005	48.195	525	
S5.2	50.362	1.432	Open Manhole	1200	S4.000	48.930	225				
S5.1	49.873	1.423	Open Manhole	1200	S5.000	48.450	225				
S5	50.661	2.771	Open Manhole	1500	S1.007	47.890	600	S1.006	47.965	525	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								S4.000	48.275	225	10
								S5.000	48.275	225	10
S4.1	49.914	1.424	Open Manhole	1200	S6.000	48.490	225				
S4.2	50.194	1.404	Open Manhole	1200	S7.000	48.790	225				
S4	49.852	2.212	Open Manhole	1500	S1.008	47.640	600	S1.007	47.640	600	
								S6.000	48.035	225	20
								S7.000	48.035	225	20
SCATCH PIT 2	49.865	2.300	Open Manhole	1500	S1.009	47.565	600	S1.008	47.565	600	
SATT. TANK 1	49.725	2.090	Junction		S8.000	47.635	600				
SFLOW CONTROL	49.835	2.330	Open Manhole	1500	S1.010	47.505	600	S1.009	47.505	600	
								S8.000	47.505	600	
S3.1	49.755	1.425	Open Manhole	1200	S9.000	48.330	225				
S3	49.755	2.400	Open Manhole	1500	S1.011	47.355	600	S1.010	47.355	600	
								S9.000	47.845	225	115
S2.1	49.270	1.200	Open Manhole	1200	S10.000	48.070	225				
S2.3	51.170	1.410	Open Manhole	1200	S11.000	49.760	225				
S2.2	49.835	1.185	Open Manhole	1200	S11.001	48.650	225	S11.000	48.650	225	
SATT. TANK 2	49.600	2.700	Junction		S11.002	46.900	600	S11.001	48.075	225	800
S30	49.534	2.669	Open Manhole	1500	S11.003	46.865	600	S11.002	46.865	600	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
S2	49.468	3.758	Open Manhole	1500	S1.012	45.710	375	S1.011	46.955	600	1470
								S10.000	47.620	225	1760
								S11.003	46.830	600	1345
SCATCH PIT 3	49.580	4.400	Open Manhole	1350	S1.013	45.180	375	S1.012	45.180	375	
S	46.080	1.430	Open Manhole	1500		OUTFALL		S1.013	44.650	375	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
---------	---------------------	----------------------	--------------------------	---------------------------	----------------	----------------

S11 568478.114 573928.999 568478.114 573928.999 Required




S10.3 568476.201 573876.993 568476.201 573876.993 Required



S10.2 568403.723 573866.513 568403.723 573866.513 Required














Atkins (Epsom)		Page 10
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S10.1	568395.300	573872.808	568395.300	573872.808	Required	
S10	568389.039	573916.124	568389.039	573916.124	Required	
SCATCH PIT 1	568381.580	573919.207	568381.580	573919.207	Required	
S9	568373.524	573918.740	568373.524	573918.740	Required	
S8.4	568318.678	573806.824	568318.678	573806.824	Required	
S8.3	568334.152	573832.693	568334.152	573832.693	Required	
S8.2	568371.981	573844.293	568371.981	573844.293	Required	
S8.1	568367.195	573880.743	568367.195	573880.743	Required	









Atkins (Epsom)		Page 11
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S8	568362.409	573917.194	568362.409	573917.194	Required	
S7	568349.133	573915.451	568349.133	573915.451	Required	
S6	568337.036	573898.693	568337.036	573898.693	Required	
S5.2	568331.514	573865.234	568331.514	573865.234	Required	
S5.1	568322.948	573924.619	568322.948	573924.619	Required	
S5	568327.191	573895.196	568327.191	573895.196	Required	
S4.1	568271.123	573909.521	568271.123	573909.521	Required	
S4.2	568280.648	573844.104	568280.648	573844.104	Required	







Atkins (Epsom)		Page 12
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S4	568274.292	573887.543	568274.292	573887.543	Required	
SCATCH PIT 2	568267.998	573881.524	568267.998	573881.524	Required	
SATT. TANK 1	568260.360	573893.296			No Entry	
SFLOW CONTROL	568262.862	573876.613	568262.862	573876.613	Required	
S3.1	568242.681	573911.256	568242.681	573911.256	Required	
S3	568249.535	573863.868	568249.535	573863.868	Required	
S2.1	568189.752	573903.463	568189.752	573903.463	Required	
S2.3	568196.432	573816.194	568196.432	573816.194	Required	

Atkins (Epsom)		Page 13
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S2.2	568191.857	573843.550	568191.857	573843.550	Required	
SATT. TANK 2	568206.166	573845.620			No Entry	
S30	568201.377	573850.914	568201.377	573850.914	Required	
S2	568196.587	573856.208	568196.587	573856.208	Required	
SCATCH PIT 3	568188.640	573845.613	568188.640	573845.613	Required	
S	568180.695	573835.018			No Entry	

Atkins (Epsom)		Page 14
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	525	S11	51.378	49.950	0.903	Open Manhole	1500
S2.000	o	450	S10.3	51.885	50.470	0.965	Open Manhole	1350
S2.001	o	450	S10.2	51.514	49.785	1.279	Open Manhole	1350
S2.002	o	525	S10.1	51.466	49.655	1.286	Open Manhole	1500
S1.001	o	525	S10	52.278	49.205	2.548	Open Manhole	1500
S1.002	o	525	SCATCH PIT 1	52.568	49.130	2.913	Open Manhole	1500
S1.003	o	525	S9	52.782	49.055	3.202	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	90.001	120.8	S10	52.278	49.205	2.548	Open Manhole	1500
S2.000	73.232	106.9	S10.2	51.514	49.785	1.279	Open Manhole	1350
S2.001	10.515	191.2	S10.1	51.466	49.730	1.286	Open Manhole	1500
S2.002	43.766	97.3	S10	52.278	49.205	2.548	Open Manhole	1500
S1.001	8.071	107.6	SCATCH PIT 1	52.568	49.130	2.913	Open Manhole	1500
S1.002	8.070	107.6	S9	52.782	49.055	3.202	Open Manhole	1500
S1.003	11.222	106.9	S8	53.284	48.950	3.809	Open Manhole	1500

Atkins (Epsom)		Page 15
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
S3.000	o	225	S8.4	61.982	59.860	1.897	Open Manhole	1200	
S3.001	o	225	S8.3	60.106	58.655	1.226	Open Manhole	1200	
S3.002	o	225	S8.2	58.725	55.840	2.660	Open Manhole	1200	
S3.003	o	225	S8.1	55.684	53.230	2.229	Open Manhole	1200	
S1.004	o	525	S8	53.284	48.950	3.809	Open Manhole	1500	
S1.005	o	525	S7	52.462	48.655	3.282	Open Manhole	1500	
S1.006	o	525	S6	51.224	48.195	2.504	Open Manhole	1500	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
S3.000	30.143	25.0	S8.3	60.106	58.655	1.226	Open Manhole	1200	
S3.001	39.568	25.0	S8.2	58.725	57.070	1.430	Open Manhole	1200	
S3.002	36.764	25.0	S8.1	55.684	54.370	1.089	Open Manhole	1200	
S3.003	36.763	25.0	S8	53.284	51.760	1.299	Open Manhole	1500	
S1.004	13.390	45.4	S7	52.462	48.655	3.282	Open Manhole	1500	
S1.005	20.668	44.9	S6	51.224	48.195	2.504	Open Manhole	1500	
S1.006	10.448	45.4	S5	50.661	47.965	2.171	Open Manhole	1500	

Atkins (Epsom)		Page 16
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
S4.000	o	225	S5.2	50.362	48.930	1.207	Open Manhole	1200	
S5.000	o	225	S5.1	49.873	48.450	1.198	Open Manhole	1200	
S1.007	o	600	S5	50.661	47.890	2.171	Open Manhole	1500	
S6.000	o	225	S4.1	49.914	48.490	1.199	Open Manhole	1200	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
S4.000	30.272	46.2	S5	50.661	48.275	2.161	Open Manhole	1500	
S5.000	29.727	169.9	S5	50.661	48.275	2.161	Open Manhole	1500	
S1.007	53.450	213.8	S4	49.852	47.640	1.612	Open Manhole	1500	
S6.000	22.205	48.8	S4	49.852	48.035	1.592	Open Manhole	1500	

Atkins (Epsom)		Page 17
Woodcote Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

PIPELINE SCHEDULES for Storm


Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S7.000	o	225	S4.2	50.194	48.790	1.179	Open Manhole	1200
S1.008	o	600	S4	49.852	47.640	1.612	Open Manhole	1500
S1.009	o	600	SCATCH PIT 2	49.865	47.565	1.700	Open Manhole	1500
S8.000	o	600	SATT. TANK 1	49.725	47.635	1.490	Junction	
S1.010	o	600	SFLOW CONTROL	49.835	47.505	1.730	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S7.000	43.902	58.1	S4	49.852	48.035	1.592	Open Manhole	1500
S1.008	8.709	116.1	SCATCH PIT 2	49.865	47.565	1.700	Open Manhole	1500
S1.009	7.106	118.4	SFLOW CONTROL	49.835	47.505	1.730	Open Manhole	1500
S8.000	16.870	129.8	SFLOW CONTROL	49.835	47.505	1.730	Open Manhole	1500
S1.010	18.440	122.9	S3	49.755	47.355	1.800	Open Manhole	1500



Atkins (Epsom)		Page 18
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S9.000	o	225	S3.1	49.755	48.330	1.200	Open Manhole	1200
S1.011	o	600	S3	49.755	47.355	1.800	Open Manhole	1500
S10.000	o	225	S2.1	49.270	48.070	0.975	Open Manhole	1200
S11.000	o	225	S2.3	51.170	49.760	1.185	Open Manhole	1200
S11.001	o	225	S2.2	49.835	48.650	0.960	Open Manhole	1200
S11.002	o	600	SATT. TANK 2	49.600	46.900	2.100	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S9.000	47.881	98.7	S3	49.755	47.845	1.685	Open Manhole	1500
S1.011	53.499	133.7	S2	49.468	46.955	1.913	Open Manhole	1500
S10.000	47.747	106.1	S2	49.468	47.620	1.623	Open Manhole	1500
S11.000	27.736	25.0	S2.2	49.835	48.650	0.960	Open Manhole	1200
S11.001	14.458	25.1	SATT. TANK 2	49.600	48.075	1.300	Junction	
S11.002	7.139	204.0	S30	49.534	46.865	2.069	Open Manhole	1500

Atkins (Epsom)		Page 19
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S11.003	o	600	S30	49.534	46.865	2.069	Open Manhole	1500
S1.012	o	375	S2	49.468	45.710	3.383	Open Manhole	1500
S1.013	o	375	SCATCH PIT 3	49.580	45.180	4.025	Open Manhole	1350


Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S11.003	7.139	204.0	S2	49.468	46.830	2.038	Open Manhole	1500
S1.012	13.244	25.0	SCATCH PIT 3	49.580	45.180	4.025	Open Manhole	1350
S1.013	13.243	25.0	S	46.080	44.650	1.055	Open Manhole	1500

Atkins (Epsom)		Page 20
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.631	0.631	0.631
2.000	-	-	100	0.776	0.776	0.776
2.001	-	-	100	0.000	0.000	0.000
2.002	-	-	100	0.126	0.126	0.126
1.001	-	-	100	0.016	0.016	0.016
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.010	0.010	0.010
3.000	-	-	100	0.045	0.045	0.045
3.001	-	-	100	0.034	0.034	0.034
3.002	-	-	100	0.021	0.021	0.021
3.003	-	-	100	0.018	0.018	0.018
1.004	-	-	100	0.029	0.029	0.029
1.005	-	-	100	0.018	0.018	0.018
1.006	-	-	100	0.009	0.009	0.009
4.000	-	-	100	0.115	0.115	0.115
5.000	-	-	100	0.080	0.080	0.080
1.007	-	-	100	0.172	0.172	0.172
6.000	-	-	100	0.080	0.080	0.080
7.000	-	-	100	0.185	0.185	0.185
1.008	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
8.000	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.043	0.043	0.043
9.000	-	-	100	0.118	0.118	0.118
1.011	-	-	100	0.107	0.107	0.107
10.000	-	-	100	0.130	0.130	0.130
11.000	-	-	100	0.063	0.063	0.063

Atkins (Epsom)		Page 21
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
11.001	-	-	100	0.000	0.000	0.000
11.002	-	-	100	0.000	0.000	0.000
11.003	-	-	100	0.000	0.000	0.000
1.012	-	-	100	0.010	0.010	0.010
1.013	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				2.836	2.836	2.836

Surcharged Outfall Details for Storm


Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.013	S	46.080	44.650	0.000	1500	0
		Datum (m)	43.530	Offset (mins)		0

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
1	0.375	4	0.375	7	0.375	10	0.375	13	0.375	16	0.375	19	0.375	22	0.375
2	0.375	5	0.375	8	0.375	11	0.375	14	0.375	17	0.375	20	0.375	23	0.375
3	0.375	6	0.375	9	0.375	12	0.375	15	0.375	18	0.375	21	0.375	24	0.375
														27	0.375
														28	0.375
														29	0.375
														30	0.375

Atkins (Epsom)		Page 22
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
31	0.375	57	0.375	83	0.375	109	0.375	135	0.375	161	0.375	187	0.375	213	0.375	239	0.375	265	0.375
32	0.375	58	0.375	84	0.375	110	0.375	136	0.375	162	0.375	188	0.375	214	0.375	240	0.375	266	0.375
33	0.375	59	0.375	85	0.375	111	0.375	137	0.375	163	0.375	189	0.375	215	0.375	241	0.375	267	0.375
34	0.375	60	0.375	86	0.375	112	0.375	138	0.375	164	0.375	190	0.375	216	0.375	242	0.375	268	0.375
35	0.375	61	0.375	87	0.375	113	0.375	139	0.375	165	0.375	191	0.375	217	0.375	243	0.375	269	0.375
36	0.375	62	0.375	88	0.375	114	0.375	140	0.375	166	0.375	192	0.375	218	0.375	244	0.375	270	0.375
37	0.375	63	0.375	89	0.375	115	0.375	141	0.375	167	0.375	193	0.375	219	0.375	245	0.375	271	0.375
38	0.375	64	0.375	90	0.375	116	0.375	142	0.375	168	0.375	194	0.375	220	0.375	246	0.375	272	0.375
39	0.375	65	0.375	91	0.375	117	0.375	143	0.375	169	0.375	195	0.375	221	0.375	247	0.375	273	0.375
40	0.375	66	0.375	92	0.375	118	0.375	144	0.375	170	0.375	196	0.375	222	0.375	248	0.375	274	0.375
41	0.375	67	0.375	93	0.375	119	0.375	145	0.375	171	0.375	197	0.375	223	0.375	249	0.375	275	0.375
42	0.375	68	0.375	94	0.375	120	0.375	146	0.375	172	0.375	198	0.375	224	0.375	250	0.375	276	0.375
43	0.375	69	0.375	95	0.375	121	0.375	147	0.375	173	0.375	199	0.375	225	0.375	251	0.375	277	0.375
44	0.375	70	0.375	96	0.375	122	0.375	148	0.375	174	0.375	200	0.375	226	0.375	252	0.375	278	0.375
45	0.375	71	0.375	97	0.375	123	0.375	149	0.375	175	0.375	201	0.375	227	0.375	253	0.375	279	0.375
46	0.375	72	0.375	98	0.375	124	0.375	150	0.375	176	0.375	202	0.375	228	0.375	254	0.375	280	0.375
47	0.375	73	0.375	99	0.375	125	0.375	151	0.375	177	0.375	203	0.375	229	0.375	255	0.375	281	0.375
48	0.375	74	0.375	100	0.375	126	0.375	152	0.375	178	0.375	204	0.375	230	0.375	256	0.375	282	0.375
49	0.375	75	0.375	101	0.375	127	0.375	153	0.375	179	0.375	205	0.375	231	0.375	257	0.375	283	0.375
50	0.375	76	0.375	102	0.375	128	0.375	154	0.375	180	0.375	206	0.375	232	0.375	258	0.375	284	0.375
51	0.375	77	0.375	103	0.375	129	0.375	155	0.375	181	0.375	207	0.375	233	0.375	259	0.375	285	0.375
52	0.375	78	0.375	104	0.375	130	0.375	156	0.375	182	0.375	208	0.375	234	0.375	260	0.375	286	0.375
53	0.375	79	0.375	105	0.375	131	0.375	157	0.375	183	0.375	209	0.375	235	0.375	261	0.375	287	0.375
54	0.375	80	0.375	106	0.375	132	0.375	158	0.375	184	0.375	210	0.375	236	0.375	262	0.375	288	0.375
55	0.375	81	0.375	107	0.375	133	0.375	159	0.375	185	0.375	211	0.375	237	0.375	263	0.375	289	0.375
56	0.375	82	0.375	108	0.375	134	0.375	160	0.375	186	0.375	212	0.375	238	0.375	264	0.375	290	0.375

Atkins (Epsom)		Page 23
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
291	0.375	317	0.375	343	0.375	369	0.375	395	0.375	421	0.375	447	0.375	473	0.375	499	0.375	525	0.375
292	0.375	318	0.375	344	0.375	370	0.375	396	0.375	422	0.375	448	0.375	474	0.375	500	0.375	526	0.375
293	0.375	319	0.375	345	0.375	371	0.375	397	0.375	423	0.375	449	0.375	475	0.375	501	0.375	527	0.375
294	0.375	320	0.375	346	0.375	372	0.375	398	0.375	424	0.375	450	0.375	476	0.375	502	0.375	528	0.375
295	0.375	321	0.375	347	0.375	373	0.375	399	0.375	425	0.375	451	0.375	477	0.375	503	0.375	529	0.375
296	0.375	322	0.375	348	0.375	374	0.375	400	0.375	426	0.375	452	0.375	478	0.375	504	0.375	530	0.375
297	0.375	323	0.375	349	0.375	375	0.375	401	0.375	427	0.375	453	0.375	479	0.375	505	0.375	531	0.375
298	0.375	324	0.375	350	0.375	376	0.375	402	0.375	428	0.375	454	0.375	480	0.375	506	0.375	532	0.375
299	0.375	325	0.375	351	0.375	377	0.375	403	0.375	429	0.375	455	0.375	481	0.375	507	0.375	533	0.375
300	0.375	326	0.375	352	0.375	378	0.375	404	0.375	430	0.375	456	0.375	482	0.375	508	0.375	534	0.375
301	0.375	327	0.375	353	0.375	379	0.375	405	0.375	431	0.375	457	0.375	483	0.375	509	0.375	535	0.375
302	0.375	328	0.375	354	0.375	380	0.375	406	0.375	432	0.375	458	0.375	484	0.375	510	0.375	536	0.375
303	0.375	329	0.375	355	0.375	381	0.375	407	0.375	433	0.375	459	0.375	485	0.375	511	0.375	537	0.375
304	0.375	330	0.375	356	0.375	382	0.375	408	0.375	434	0.375	460	0.375	486	0.375	512	0.375	538	0.375
305	0.375	331	0.375	357	0.375	383	0.375	409	0.375	435	0.375	461	0.375	487	0.375	513	0.375	539	0.375
306	0.375	332	0.375	358	0.375	384	0.375	410	0.375	436	0.375	462	0.375	488	0.375	514	0.375	540	0.375
307	0.375	333	0.375	359	0.375	385	0.375	411	0.375	437	0.375	463	0.375	489	0.375	515	0.375	541	0.375
308	0.375	334	0.375	360	0.375	386	0.375	412	0.375	438	0.375	464	0.375	490	0.375	516	0.375	542	0.375
309	0.375	335	0.375	361	0.375	387	0.375	413	0.375	439	0.375	465	0.375	491	0.375	517	0.375	543	0.375
310	0.375	336	0.375	362	0.375	388	0.375	414	0.375	440	0.375	466	0.375	492	0.375	518	0.375	544	0.375
311	0.375	337	0.375	363	0.375	389	0.375	415	0.375	441	0.375	467	0.375	493	0.375	519	0.375	545	0.375
312	0.375	338	0.375	364	0.375	390	0.375	416	0.375	442	0.375	468	0.375	494	0.375	520	0.375	546	0.375
313	0.375	339	0.375	365	0.375	391	0.375	417	0.375	443	0.375	469	0.375	495	0.375	521	0.375	547	0.375
314	0.375	340	0.375	366	0.375	392	0.375	418	0.375	444	0.375	470	0.375	496	0.375	522	0.375	548	0.375
315	0.375	341	0.375	367	0.375	393	0.375	419	0.375	445	0.375	471	0.375	497	0.375	523	0.375	549	0.375
316	0.375	342	0.375	368	0.375	394	0.375	420	0.375	446	0.375	472	0.375	498	0.375	524	0.375	550	0.375

Atkins (Epsom)		Page 24
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Surcharged Outfall Details for Storm


Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
551	0.375	577	0.375	603	0.375	629	0.375	655	0.375	681	0.375	707	0.375	733	0.375	759	0.375	785	0.375
552	0.375	578	0.375	604	0.375	630	0.375	656	0.375	682	0.375	708	0.375	734	0.375	760	0.375	786	0.375
553	0.375	579	0.375	605	0.375	631	0.375	657	0.375	683	0.375	709	0.375	735	0.375	761	0.375	787	0.375
554	0.375	580	0.375	606	0.375	632	0.375	658	0.375	684	0.375	710	0.375	736	0.375	762	0.375	788	0.375
555	0.375	581	0.375	607	0.375	633	0.375	659	0.375	685	0.375	711	0.375	737	0.375	763	0.375	789	0.375
556	0.375	582	0.375	608	0.375	634	0.375	660	0.375	686	0.375	712	0.375	738	0.375	764	0.375	790	0.375
557	0.375	583	0.375	609	0.375	635	0.375	661	0.375	687	0.375	713	0.375	739	0.375	765	0.375	791	0.375
558	0.375	584	0.375	610	0.375	636	0.375	662	0.375	688	0.375	714	0.375	740	0.375	766	0.375	792	0.375
559	0.375	585	0.375	611	0.375	637	0.375	663	0.375	689	0.375	715	0.375	741	0.375	767	0.375	793	0.375
560	0.375	586	0.375	612	0.375	638	0.375	664	0.375	690	0.375	716	0.375	742	0.375	768	0.375	794	0.375
561	0.375	587	0.375	613	0.375	639	0.375	665	0.375	691	0.375	717	0.375	743	0.375	769	0.375	795	0.375
562	0.375	588	0.375	614	0.375	640	0.375	666	0.375	692	0.375	718	0.375	744	0.375	770	0.375	796	0.375
563	0.375	589	0.375	615	0.375	641	0.375	667	0.375	693	0.375	719	0.375	745	0.375	771	0.375	797	0.375
564	0.375	590	0.375	616	0.375	642	0.375	668	0.375	694	0.375	720	0.375	746	0.375	772	0.375	798	0.375
565	0.375	591	0.375	617	0.375	643	0.375	669	0.375	695	0.375	721	0.375	747	0.375	773	0.375	799	0.375
566	0.375	592	0.375	618	0.375	644	0.375	670	0.375	696	0.375	722	0.375	748	0.375	774	0.375	800	0.375
567	0.375	593	0.375	619	0.375	645	0.375	671	0.375	697	0.375	723	0.375	749	0.375	775	0.375	801	0.375
568	0.375	594	0.375	620	0.375	646	0.375	672	0.375	698	0.375	724	0.375	750	0.375	776	0.375	802	0.375
569	0.375	595	0.375	621	0.375	647	0.375	673	0.375	699	0.375	725	0.375	751	0.375	777	0.375	803	0.375
570	0.375	596	0.375	622	0.375	648	0.375	674	0.375	700	0.375	726	0.375	752	0.375	778	0.375	804	0.375
571	0.375	597	0.375	623	0.375	649	0.375	675	0.375	701	0.375	727	0.375	753	0.375	779	0.375	805	0.375
572	0.375	598	0.375	624	0.375	650	0.375	676	0.375	702	0.375	728	0.375	754	0.375	780	0.375	806	0.375
573	0.375	599	0.375	625	0.375	651	0.375	677	0.375	703	0.375	729	0.375	755	0.375	781	0.375	807	0.375
574	0.375	600	0.375	626	0.375	652	0.375	678	0.375	704	0.375	730	0.375	756	0.375	782	0.375	808	0.375
575	0.375	601	0.375	627	0.375	653	0.375	679	0.375	705	0.375	731	0.375	757	0.375	783	0.375	809	0.375
576	0.375	602	0.375	628	0.375	654	0.375	680	0.375	706	0.375	732	0.375	758	0.375	784	0.375	810	0.375

Atkins (Epsom)		Page 25
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Surcharged Outfall Details for Storm


Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
811	0.375	837	0.375	863	0.375	889	0.375	915	0.375	941	0.375	967	0.375	993	0.375	1019	0.375	1045	0.375
812	0.375	838	0.375	864	0.375	890	0.375	916	0.375	942	0.375	968	0.375	994	0.375	1020	0.375	1046	0.375
813	0.375	839	0.375	865	0.375	891	0.375	917	0.375	943	0.375	969	0.375	995	0.375	1021	0.375	1047	0.375
814	0.375	840	0.375	866	0.375	892	0.375	918	0.375	944	0.375	970	0.375	996	0.375	1022	0.375	1048	0.375
815	0.375	841	0.375	867	0.375	893	0.375	919	0.375	945	0.375	971	0.375	997	0.375	1023	0.375	1049	0.375
816	0.375	842	0.375	868	0.375	894	0.375	920	0.375	946	0.375	972	0.375	998	0.375	1024	0.375	1050	0.375
817	0.375	843	0.375	869	0.375	895	0.375	921	0.375	947	0.375	973	0.375	999	0.375	1025	0.375	1051	0.375
818	0.375	844	0.375	870	0.375	896	0.375	922	0.375	948	0.375	974	0.375	1000	0.375	1026	0.375	1052	0.375
819	0.375	845	0.375	871	0.375	897	0.375	923	0.375	949	0.375	975	0.375	1001	0.375	1027	0.375	1053	0.375
820	0.375	846	0.375	872	0.375	898	0.375	924	0.375	950	0.375	976	0.375	1002	0.375	1028	0.375	1054	0.375
821	0.375	847	0.375	873	0.375	899	0.375	925	0.375	951	0.375	977	0.375	1003	0.375	1029	0.375	1055	0.375
822	0.375	848	0.375	874	0.375	900	0.375	926	0.375	952	0.375	978	0.375	1004	0.375	1030	0.375	1056	0.375
823	0.375	849	0.375	875	0.375	901	0.375	927	0.375	953	0.375	979	0.375	1005	0.375	1031	0.375	1057	0.375
824	0.375	850	0.375	876	0.375	902	0.375	928	0.375	954	0.375	980	0.375	1006	0.375	1032	0.375	1058	0.375
825	0.375	851	0.375	877	0.375	903	0.375	929	0.375	955	0.375	981	0.375	1007	0.375	1033	0.375	1059	0.375
826	0.375	852	0.375	878	0.375	904	0.375	930	0.375	956	0.375	982	0.375	1008	0.375	1034	0.375	1060	0.375
827	0.375	853	0.375	879	0.375	905	0.375	931	0.375	957	0.375	983	0.375	1009	0.375	1035	0.375	1061	0.375
828	0.375	854	0.375	880	0.375	906	0.375	932	0.375	958	0.375	984	0.375	1010	0.375	1036	0.375	1062	0.375
829	0.375	855	0.375	881	0.375	907	0.375	933	0.375	959	0.375	985	0.375	1011	0.375	1037	0.375	1063	0.375
830	0.375	856	0.375	882	0.375	908	0.375	934	0.375	960	0.375	986	0.375	1012	0.375	1038	0.375	1064	0.375
831	0.375	857	0.375	883	0.375	909	0.375	935	0.375	961	0.375	987	0.375	1013	0.375	1039	0.375	1065	0.375
832	0.375	858	0.375	884	0.375	910	0.375	936	0.375	962	0.375	988	0.375	1014	0.375	1040	0.375	1066	0.375
833	0.375	859	0.375	885	0.375	911	0.375	937	0.375	963	0.375	989	0.375	1015	0.375	1041	0.375	1067	0.375
834	0.375	860	0.375	886	0.375	912	0.375	938	0.375	964	0.375	990	0.375	1016	0.375	1042	0.375	1068	0.375
835	0.375	861	0.375	887	0.375	913	0.375	939	0.375	965	0.375	991	0.375	1017	0.375	1043	0.375	1069	0.375
836	0.375	862	0.375	888	0.375	914	0.375	940	0.375	966	0.375	992	0.375	1018	0.375	1044	0.375	1070	0.375



Atkins (Epsom)		Page 26
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
1071	0.375	1097	0.375	1123	0.375	1149	0.375	1175	0.375	1201	0.375	1227	0.375	1253	0.375	1279	0.375	1305	0.375
1072	0.375	1098	0.375	1124	0.375	1150	0.375	1176	0.375	1202	0.375	1228	0.375	1254	0.375	1280	0.375	1306	0.375
1073	0.375	1099	0.375	1125	0.375	1151	0.375	1177	0.375	1203	0.375	1229	0.375	1255	0.375	1281	0.375	1307	0.375
1074	0.375	1100	0.375	1126	0.375	1152	0.375	1178	0.375	1204	0.375	1230	0.375	1256	0.375	1282	0.375	1308	0.375
1075	0.375	1101	0.375	1127	0.375	1153	0.375	1179	0.375	1205	0.375	1231	0.375	1257	0.375	1283	0.375	1309	0.375
1076	0.375	1102	0.375	1128	0.375	1154	0.375	1180	0.375	1206	0.375	1232	0.375	1258	0.375	1284	0.375	1310	0.375
1077	0.375	1103	0.375	1129	0.375	1155	0.375	1181	0.375	1207	0.375	1233	0.375	1259	0.375	1285	0.375	1311	0.375
1078	0.375	1104	0.375	1130	0.375	1156	0.375	1182	0.375	1208	0.375	1234	0.375	1260	0.375	1286	0.375	1312	0.375
1079	0.375	1105	0.375	1131	0.375	1157	0.375	1183	0.375	1209	0.375	1235	0.375	1261	0.375	1287	0.375	1313	0.375
1080	0.375	1106	0.375	1132	0.375	1158	0.375	1184	0.375	1210	0.375	1236	0.375	1262	0.375	1288	0.375	1314	0.375
1081	0.375	1107	0.375	1133	0.375	1159	0.375	1185	0.375	1211	0.375	1237	0.375	1263	0.375	1289	0.375	1315	0.375
1082	0.375	1108	0.375	1134	0.375	1160	0.375	1186	0.375	1212	0.375	1238	0.375	1264	0.375	1290	0.375	1316	0.375
1083	0.375	1109	0.375	1135	0.375	1161	0.375	1187	0.375	1213	0.375	1239	0.375	1265	0.375	1291	0.375	1317	0.375
1084	0.375	1110	0.375	1136	0.375	1162	0.375	1188	0.375	1214	0.375	1240	0.375	1266	0.375	1292	0.375	1318	0.375
1085	0.375	1111	0.375	1137	0.375	1163	0.375	1189	0.375	1215	0.375	1241	0.375	1267	0.375	1293	0.375	1319	0.375
1086	0.375	1112	0.375	1138	0.375	1164	0.375	1190	0.375	1216	0.375	1242	0.375	1268	0.375	1294	0.375	1320	0.375
1087	0.375	1113	0.375	1139	0.375	1165	0.375	1191	0.375	1217	0.375	1243	0.375	1269	0.375	1295	0.375	1321	0.375
1088	0.375	1114	0.375	1140	0.375	1166	0.375	1192	0.375	1218	0.375	1244	0.375	1270	0.375	1296	0.375	1322	0.375
1089	0.375	1115	0.375	1141	0.375	1167	0.375	1193	0.375	1219	0.375	1245	0.375	1271	0.375	1297	0.375	1323	0.375
1090	0.375	1116	0.375	1142	0.375	1168	0.375	1194	0.375	1220	0.375	1246	0.375	1272	0.375	1298	0.375	1324	0.375
1091	0.375	1117	0.375	1143	0.375	1169	0.375	1195	0.375	1221	0.375	1247	0.375	1273	0.375	1299	0.375	1325	0.375
1092	0.375	1118	0.375	1144	0.375	1170	0.375	1196	0.375	1222	0.375	1248	0.375	1274	0.375	1300	0.375	1326	0.375
1093	0.375	1119	0.375	1145	0.375	1171	0.375	1197	0.375	1223	0.375	1249	0.375	1275	0.375	1301	0.375	1327	0.375
1094	0.375	1120	0.375	1146	0.375	1172	0.375	1198	0.375	1224	0.375	1250	0.375	1276	0.375	1302	0.375	1328	0.375
1095	0.375	1121	0.375	1147	0.375	1173	0.375	1199	0.375	1225	0.375	1251	0.375	1277	0.375	1303	0.375	1329	0.375
1096	0.375	1122	0.375	1148	0.375	1174	0.375	1200	0.375	1226	0.375	1252	0.375	1278	0.375	1304	0.375	1330	0.375

Atkins (Epsom)		Page 27
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)		
1331	0.375	1342	0.375	1353	0.375	1364	0.375	1375	0.375	1386	0.375	1397	0.375	1408	0.375	1419	0.375	1430	0.375
1332	0.375	1343	0.375	1354	0.375	1365	0.375	1376	0.375	1387	0.375	1398	0.375	1409	0.375	1420	0.375	1431	0.375
1333	0.375	1344	0.375	1355	0.375	1366	0.375	1377	0.375	1388	0.375	1399	0.375	1410	0.375	1421	0.375	1432	0.375
1334	0.375	1345	0.375	1356	0.375	1367	0.375	1378	0.375	1389	0.375	1400	0.375	1411	0.375	1422	0.375	1433	0.375
1335	0.375	1346	0.375	1357	0.375	1368	0.375	1379	0.375	1390	0.375	1401	0.375	1412	0.375	1423	0.375	1434	0.375
1336	0.375	1347	0.375	1358	0.375	1369	0.375	1380	0.375	1391	0.375	1402	0.375	1413	0.375	1424	0.375	1435	0.375
1337	0.375	1348	0.375	1359	0.375	1370	0.375	1381	0.375	1392	0.375	1403	0.375	1414	0.375	1425	0.375	1436	0.375
1338	0.375	1349	0.375	1360	0.375	1371	0.375	1382	0.375	1393	0.375	1404	0.375	1415	0.375	1426	0.375	1437	0.375
1339	0.375	1350	0.375	1361	0.375	1372	0.375	1383	0.375	1394	0.375	1405	0.375	1416	0.375	1427	0.375	1438	0.375
1340	0.375	1351	0.375	1362	0.375	1373	0.375	1384	0.375	1395	0.375	1406	0.375	1417	0.375	1428	0.375	1439	0.375
1341	0.375	1352	0.375	1363	0.375	1374	0.375	1385	0.375	1396	0.375	1407	0.375	1418	0.375	1429	0.375	1440	0.375


Simulation Criteria for Storm

Volumetric Runoff Coeff 0.750      Manhole Headloss Coeff (Global) 0.500      Inlet Coeffiecient 0.800  
Areal Reduction Factor 1.000      Foul Sewage per hectare (l/s) 0.000      Flow per Person per Day (l/per/day) 0.000  
Hot Start (mins) 0      Additional Flow - % of Total Flow 0.000      Run Time (mins) 60  
Hot Start Level (mm) 0      MADD Factor \* 10m³/ha Storage 2.000      Output Interval (mins) 1

Number of Input Hydrographs 0      Number of Offline Controls 0      Number of Time/Area Diagrams 0  
Number of Online Controls 2      Number of Storage Structures 2      Number of Real Time Controls 0


Synthetic Rainfall Details

Rainfall Model FSR Return Period (years) 5 Region Scotland and Ireland

Atkins (Epsom)		Page 28
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Synthetic Rainfall Details

M5-60 (mm) 17.900 Profile Type Summer Cv (Winter) 0.840  
Ratio R 0.250 Cv (Summer) 0.750 Storm Duration (mins) 30

Atkins (Epsom)		Page 29
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Online Controls for Storm

Orifice Manhole: SFLOW CONTROL, DS/PN: S1.010, Volume (m<sup>3</sup>): 10.3

Diameter (m) 0.253 Discharge Coefficient 0.600 Invert Level (m) 47.505

Orifice Manhole: S2, DS/PN: S1.012, Volume (m<sup>3</sup>): 24.8

Diameter (m) 0.095 Discharge Coefficient 0.600 Invert Level (m) 45.710

Atkins (Epsom)		Page 30
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Storage Structures for Storm

Tank or Pond Manhole: SATT. TANK 1, DS/PN: S8.000


Invert Level (m) 47.635

Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.000	455.0	1.250	455.0	1.251	0.0

Tank or Pond Manhole: SATT. TANK 2, DS/PN: S11.002

Invert Level (m) 46.900

Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.000	386.0	1.900	386.0	1.901	0.0

Atkins (Epsom)		Page 31
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000    Manhole Headloss Coeff (Global) 0.500    MADD Factor \* 10m<sup>3</sup>/ha Storage 2.000  
Hot Start (mins) 0    Foul Sewage per hectare (l/s) 0.000    Inlet Coeffiecient 0.800  
Hot Start Level (mm) 0    Additional Flow - % of Total Flow 0.000    Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0    Number of Offline Controls 0    Number of Time/Area Diagrams 0  
Number of Online Controls 2    Number of Storage Structures 2    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 17.900    Cv (Summer) 0.750  
Region Scotland and Ireland    Ratio R 0.250    Cv (Winter) 0.840


Margin for Flood Risk Warning (mm)    300.0    DVD Status OFF  
Analysis Timestep 2.5 Second Increment (Extended)    Inertia Status OFF  
DTS Status    OFF

Profile(s)    Summer and Winter  
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
Return Period(s) (years)    5, 30, 100  
Climate Change (%)    20, 20, 20

PN	US/MH Name	Event	US/CL (m)	Water			Surcharged		Flooded		Pipe	
				Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Flow (l/s)	Status		
S1.000	S11	15 minute 5 year Winter I+20%	51.378	50.164	-0.311	0.000	0.34			138.5	OK	
S2.000	S10.3	15 minute 5 year Winter I+20%	51.885	50.724	-0.196	0.000	0.59			172.5	OK	

5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm


PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Pipe Flow (l/s)	Status
S2.001	S10.2	15 minute	51.514	50.191	-0.044	0.000	1.00	164.5	OK
S2.002	S10.1	15 minute	51.466	49.927	-0.253	0.000	0.43	186.1	OK
S1.001	S10	15 minute	52.278	49.849	0.119	0.000	1.12	277.7	SURCHARGED
S1.002	SCATCH PIT 1	15 minute	52.568	49.715	0.060	0.000	1.12	278.7	SURCHARGED
S1.003	S9	15 minute	52.782	49.582	0.002	0.000	1.13	280.0	SURCHARGED
S3.000	S8.4	15 minute	61.982	59.909	-0.176	0.000	0.11	10.3	OK
S3.001	S8.3	15 minute	60.106	58.716	-0.164	0.000	0.17	16.5	OK
S3.002	S8.2	15 minute	58.725	55.909	-0.156	0.000	0.21	20.3	OK
S3.003	S8.1	15 minute	55.684	53.305	-0.150	0.000	0.24	23.5	OK
S1.004	S8	15 minute	53.284	49.281	-0.194	0.000	0.72	300.6	OK
S1.005	S7	15 minute	52.462	48.968	-0.212	0.000	0.58	299.6	OK
S1.006	S6	15 minute	51.224	48.813	0.093	0.000	0.81	299.6	SURCHARGED
S4.000	S5.2	15 minute	50.362	49.024	-0.131	0.000	0.37	26.4	OK
S5.000	S5.1	15 minute	49.873	48.677	0.002	0.000	0.49	18.4	SURCHARGED
S1.007	S5	15 minute	50.661	48.661	0.171	0.000	0.80	333.4	SURCHARGED
S6.000	S4.1	15 minute	49.914	48.569	-0.146	0.000	0.27	18.4	OK
S7.000	S4.2	15 minute	50.194	48.923	-0.092	0.000	0.65	42.4	OK
S1.008	S4	15 minute	49.852	48.495	0.255	0.000	1.02	354.5	SURCHARGED
S1.009	SCATCH PIT 2	15 minute	49.865	48.380	0.215	0.000	1.02	354.2	SURCHARGED
S8.000	SATT. TANK 1	60 minute	49.725	48.100	-0.135	0.000	0.18	65.9	OK*
S1.010	SFLOW CONTROL	60 minute	49.835	48.320	0.215	0.000	0.22	86.8	SURCHARGED
S9.000	S3.1	15 minute	49.755	48.448	-0.107	0.000	0.54	27.1	OK
S1.011	S3	360 minute	49.755	47.841	-0.114	0.000	0.15	77.6	OK
S10.000	S2.1	15 minute	49.270	48.198	-0.097	0.000	0.62	29.8	OK
S11.000	S2.3	15 minute	51.170	49.818	-0.167	0.000	0.15	14.5	OK

Atkins (Epsom)		Page 33
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe	Status
									Flow (l/s)	
S11.001	S2.2	15 minute 5 year Summer	I+20% 49.835	48.710	-0.165	0.000	0.16		14.5	OK
S11.002	SATT. TANK 2	360 minute 5 year Winter	I+20% 49.600	47.834	0.334	0.000	0.07		22.9	SURCHARGED*
S11.003	S30	360 minute 5 year Winter	I+20% 49.534	47.834	0.369	0.000	0.08		22.2	SURCHARGED
S1.012	S2	360 minute 5 year Winter	I+20% 49.468	47.834	1.749	0.000	0.10		27.1	SURCHARGED
S1.013	SCATCH PIT 3	360 minute 5 year Winter	I+20% 49.580	45.257	-0.298	0.000	0.10		27.1	OK



Atkins (Epsom)		Page 34
Woodcote Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000    Manhole Headloss Coeff (Global) 0.500    MADD Factor \* 10m<sup>3</sup>/ha Storage 2.000  
Hot Start (mins) 0    Foul Sewage per hectare (l/s) 0.000    Inlet Coefficient 0.800  
Hot Start Level (mm) 0    Additional Flow - % of Total Flow 0.000    Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0    Number of Offline Controls 0    Number of Time/Area Diagrams 0  
Number of Online Controls 2    Number of Storage Structures 2    Number of Real Time Controls 0


Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 17.900    Cv (Summer) 0.750  
Region Scotland and Ireland    Ratio R 0.250    Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)    300.0    DVD Status OFF  
Analysis Timestep 2.5 Second Increment (Extended)    Inertia Status OFF  
DTS Status    OFF


Profile(s)    Summer and Winter  
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
Return Period(s) (years)    5, 30, 100  
Climate Change (%)    20, 20, 20

PN	US/MH Name	Event	US/CL (m)	Water    Surcharged    Flooded			Pipe		Status
				Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Overflow Cap.    (l/s)	Flow (l/s)	
S1.000	S11	15 minute 30 year Winter I+20%	51.378	50.454	-0.021	0.000	0.50	204.7	OK
S2.000	S10.3	15 minute 30 year Winter I+20%	51.885	50.866	-0.054	0.000	0.84	245.6	OK

Atkins (Epsom)		Page 35
Woodcote Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
S2.001	S10.2	15 minute 30 year Winter I+20%	51.514	50.595	0.360	0.000	1.41	231.2	SURCHARGED	
S2.002	S10.1	15 minute 30 year Winter I+20%	51.466	50.491	0.311	0.000	0.56	240.7	SURCHARGED	
S1.001	S10	15 minute 30 year Winter I+20%	52.278	50.385	0.655	0.000	1.44	357.4	SURCHARGED	
S1.002	SCATCH PIT 1	15 minute 30 year Winter I+20%	52.568	50.192	0.537	0.000	1.39	346.7	SURCHARGED	
S1.003	S9	15 minute 30 year Winter I+20%	52.782	50.001	0.421	0.000	1.37	340.8	SURCHARGED	
S3.000	S8.4	15 minute 30 year Winter I+20%	61.982	59.919	-0.166	0.000	0.16	15.2	OK	
S3.001	S8.3	15 minute 30 year Winter I+20%	60.106	58.734	-0.146	0.000	0.27	26.8	OK	
S3.002	S8.2	15 minute 30 year Summer I+20%	58.725	55.931	-0.134	0.000	0.34	33.9	OK	
S3.003	S8.1	15 minute 30 year Summer I+20%	55.684	53.330	-0.125	0.000	0.41	40.0	OK	
S1.004	S8	15 minute 30 year Winter I+20%	53.284	49.809	0.334	0.000	0.90	374.8	SURCHARGED	
S1.005	S7	15 minute 30 year Winter I+20%	52.462	49.580	0.400	0.000	0.72	374.1	SURCHARGED	
S1.006	S6	15 minute 30 year Winter I+20%	51.224	49.344	0.624	0.000	1.02	374.5	SURCHARGED	
S4.000	S5.2	15 minute 30 year Winter I+20%	50.362	49.157	0.002	0.000	0.54	38.9	SURCHARGED	
S5.000	S5.1	15 minute 30 year Winter I+20%	49.873	49.139	0.464	0.000	0.66	24.3	SURCHARGED	
S1.007	S5	15 minute 30 year Winter I+20%	50.661	49.104	0.614	0.000	1.04	433.2	SURCHARGED	
S6.000	S4.1	15 minute 30 year Winter I+20%	49.914	48.851	0.136	0.000	0.38	26.2	SURCHARGED	
S7.000	S4.2	15 minute 30 year Winter I+20%	50.194	49.173	0.158	0.000	0.86	56.2	SURCHARGED	
S1.008	S4	15 minute 30 year Winter I+20%	49.852	48.820	0.580	0.000	1.40	485.4	SURCHARGED	
S1.009	SCATCH PIT 2	120 minute 30 year Winter I+20%	49.865	48.611	0.446	0.000	0.83	288.1	SURCHARGED	
S8.000	SATT. TANK 1	120 minute 30 year Winter I+20%	49.725	48.452	0.217	0.000	0.15	54.2	SURCHARGED*	
S1.010	SFLOW CONTROL	120 minute 30 year Winter I+20%	49.835	48.618	0.513	0.000	0.25	96.9	SURCHARGED	
S9.000	S3.1	15 minute 30 year Winter I+20%	49.755	48.483	-0.072	0.000	0.80	39.9	OK	
S1.011	S3	480 minute 30 year Winter I+20%	49.755	48.449	0.494	0.000	0.15	78.5	SURCHARGED	
S10.000	S2.1	360 minute 30 year Winter I+20%	49.270	48.299	0.004	0.000	0.16	7.8	SURCHARGED	
S11.000	S2.3	15 minute 30 year Winter I+20%	51.170	49.831	-0.154	0.000	0.22	21.3	OK	

Atkins (Epsom)		Page 36
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (1/s)	Pipe	Status
									Flow (1/s)	
S11.001	S2.2	15 minute 30 year Winter I+20%	49.835	48.723	-0.152	0.000	0.23		21.3	OK
S11.002	SATT. TANK 2	360 minute 30 year Winter I+20%	49.600	48.297	0.797	0.000	0.10		35.4	SURCHARGED*
S11.003	S30	360 minute 30 year Winter I+20%	49.534	48.428	0.963	0.000	0.11		29.5	SURCHARGED
S1.012	S2	360 minute 30 year Winter I+20%	49.468	48.465	2.380	0.000	0.10		29.9	SURCHARGED
S1.013	SCATCH PIT 3	360 minute 30 year Winter I+20%	49.580	45.261	-0.294	0.000	0.10		29.8	OK

Atkins (Epsom)		Page 37
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000    Manhole Headloss Coeff (Global) 0.500    MADD Factor \* 10m³/ha Storage 2.000  
Hot Start (mins) 0    Foul Sewage per hectare (l/s) 0.000    Inlet Coefficient 0.800  
Hot Start Level (mm) 0    Additional Flow - % of Total Flow 0.000    Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0    Number of Offline Controls 0    Number of Time/Area Diagrams 0  
Number of Online Controls 2    Number of Storage Structures 2    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 17.900    Cv (Summer) 0.750  
Region Scotland and Ireland    Ratio R 0.250    Cv (Winter) 0.840


Margin for Flood Risk Warning (mm)    300.0    DVD Status OFF  
Analysis Timestep 2.5 Second Increment (Extended)    Inertia Status OFF  
DTS Status    OFF

Profile(s)    Summer and Winter  
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
Return Period(s) (years)    5, 30, 100  
Climate Change (%)    20, 20, 20

PN	US/MH Name	Event	US/CL (m)	Water    Surcharged    Flooded			Pipe		Status
				Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	
S1.000	S11	15 minute 100 year Winter I+20%	51.378	51.322	0.847	0.000	0.56	232.7	FLOOD RISK
S2.000	S10.3	15 minute 100 year Winter I+20%	51.885	51.776	0.856	0.000	0.97	284.1	FLOOD RISK

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm


PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)	Status
S2.001	S10.2	15 minute 100 year Winter I+20%	51.514	51.466	1.231	0.000	1.41		232.3	FLOOD RISK
S2.002	S10.1	15 minute 100 year Winter I+20%	51.466	51.343	1.163	0.000	0.56		240.0	FLOOD RISK
S1.001	S10	15 minute 100 year Winter I+20%	52.278	51.214	1.484	0.000	1.58		391.6	SURCHARGED
S1.002	SCATCH PIT 1	15 minute 100 year Winter I+20%	52.568	50.959	1.304	0.000	1.56		388.2	SURCHARGED
S1.003	S9	15 minute 100 year Winter I+20%	52.782	50.707	1.127	0.000	1.57		389.3	SURCHARGED
S3.000	S8.4	15 minute 100 year Winter I+20%	61.982	59.928	-0.157	0.000	0.20		19.8	OK
S3.001	S8.3	15 minute 100 year Winter I+20%	60.106	58.747	-0.133	0.000	0.35		34.7	OK
S3.002	S8.2	15 minute 100 year Summer I+20%	58.725	55.945	-0.120	0.000	0.45		44.0	OK
S3.003	S8.1	15 minute 100 year Summer I+20%	55.684	53.347	-0.108	0.000	0.53		51.9	OK
S1.004	S8	15 minute 100 year Winter I+20%	53.284	50.452	0.977	0.000	1.02		426.7	SURCHARGED
S1.005	S7	15 minute 100 year Winter I+20%	52.462	50.144	0.964	0.000	0.83		430.9	SURCHARGED
S1.006	S6	15 minute 100 year Winter I+20%	51.224	49.828	1.108	0.000	1.18		433.8	SURCHARGED
S4.000	S5.2	15 minute 100 year Winter I+20%	50.362	49.607	0.452	0.000	0.65		46.5	SURCHARGED
S5.000	S5.1	15 minute 100 year Winter I+20%	49.873	49.556	0.881	0.000	0.68		25.2	SURCHARGED
S1.007	S5	15 minute 100 year Winter I+20%	50.661	49.510	1.020	0.000	1.24		512.3	SURCHARGED
S6.000	S4.1	15 minute 100 year Winter I+20%	49.914	49.156	0.441	0.000	0.43		29.0	SURCHARGED
S7.000	S4.2	15 minute 100 year Winter I+20%	50.194	49.690	0.675	0.000	0.96		62.5	SURCHARGED
S1.008	S4	15 minute 100 year Winter I+20%	49.852	49.114	0.874	0.000	1.68		582.3	SURCHARGED
S1.009	SCATCH PIT 2	60 minute 100 year Winter I+20%	49.865	48.903	0.738	0.000	1.38		478.7	SURCHARGED
S8.000	SATT. TANK 1	360 minute 100 year Winter I+20%	49.725	48.788	0.553	0.000	0.09		31.6	SURCHARGED*
S1.010	SFLOW CONTROL	360 minute 100 year Winter I+20%	49.835	48.904	0.799	0.000	0.21		82.7	SURCHARGED
S9.000	S3.1	600 minute 100 year Winter I+20%	49.755	48.684	0.129	0.000	0.13		6.3	SURCHARGED
S1.011	S3	360 minute 100 year Winter I+20%	49.755	48.935	0.980	0.000	0.18		96.4	SURCHARGED
S10.000	S2.1	600 minute 100 year Winter I+20%	49.270	48.681	0.386	0.000	0.14		6.9	SURCHARGED
S11.000	S2.3	15 minute 100 year Winter I+20%	51.170	49.842	-0.143	0.000	0.29		27.7	OK

Atkins (Epsom)		Page 39
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 11:53 File EYSL_Storm_Part_8_Catchments_Attenuation.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	US/CL (m)	Water	Surcharged	Flooded	Flow / Cap.	Overflow (1/s)	Pipe	Status
				Level (m)	Depth (m)	Volume (m <sup>3</sup> )			Flow (1/s)	
S11.001	S2.2	15 minute 100 year Winter I+20%	49.835	48.735	-0.140	0.000	0.30		27.7	OK
S11.002	SATT. TANK 2	600 minute 100 year Winter I+20%	49.600	48.685	1.185	0.000	0.11		39.7	SURCHARGED*
S11.003	S30	600 minute 100 year Winter I+20%	49.534	48.827	1.362	0.000	0.11		28.6	SURCHARGED
S1.012	S2	360 minute 100 year Winter I+20%	49.468	48.887	2.802	0.000	0.11		31.9	SURCHARGED
S1.013	SCATCH PIT 3	600 minute 100 year Winter I+20%	49.580	45.264	-0.291	0.000	0.11		31.9	OK

# Appendix G. Foul Drainage Design Criteria and Manhole Schedules

Atkins (Epsom)		Page 1
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

FOUL SEWERAGE DESIGN



Design Criteria for Foul - Main

Pipe Sizes STANDARD Manhole Sizes STANDARD

Industrial Flow (l/s/ha)	0.00	Domestic (l/s/ha)	0.00	Maximum Backdrop Height (m)	1.500
Industrial Peak Flow Factor	0.00	Domestic Peak Flow Factor	6.00	Min Design Depth for Optimisation (m)	1.200
Calculation Method	BS 8301	Add Flow / Climate Change (%)	0	Min Vel for Auto Design only (m/s)	0.75
Frequency Factor	0.00	Minimum Backdrop Height (m)	0.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits


Network Design Table for Foul - Main

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
F1.000	42.770	0.715	59.8	0.000	56.0	0.0	0.150	o	225	Pipe/Conduit	
F1.001	48.269	0.805	60.0	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	









Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F1.000	50.810	0.000	0.0	56.0	0.0	32	1.01	1.99	79.0	3.5
F1.001	50.095	0.000	0.0	84.0	0.0	33	1.04	1.98	78.9	3.8




Atkins (Epsom)		Page 2
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Foul - Main






PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
F1.002	36.845	0.530	69.5	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	
F1.003	8.164	0.115	71.0	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F2.000	40.580	0.675	60.1	0.000	42.0	0.0	0.150	o	225	Pipe/Conduit	
F2.001	47.135	0.785	60.0	0.000	14.0	0.0	0.150	o	225	Pipe/Conduit	
F1.004	14.737	0.245	60.2	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F1.005	26.439	0.440	60.1	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F1.006	22.617	0.375	60.3	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F1.007	10.910	0.180	60.6	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F1.002	49.290	0.000	0.0	112.0	0.0	36	1.00	1.84	73.1	4.0
F1.003	48.760	0.000	0.0	112.0	0.0	36	1.00	1.82	72.3	4.0
F2.000	50.105	0.000	0.0	42.0	0.0	31	0.99	1.98	78.8	3.3
F2.001	49.430	0.000	0.0	56.0	0.0	32	1.01	1.98	78.8	3.5
F1.004	48.645	0.000	0.0	168.0	0.0	36	1.09	1.98	78.7	4.4
F1.005	48.400	0.000	0.0	168.0	0.0	36	1.09	1.98	78.8	4.4
F1.006	47.960	0.000	0.0	168.0	0.0	36	1.09	1.98	78.6	4.4
F1.007	47.585	0.000	0.0	168.0	0.0	36	1.09	1.97	78.4	4.4


Atkins (Epsom)		Page 3
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Foul - Main






PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
F3.000	29.043	0.485	59.9	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	
F4.000	28.943	0.485	59.7	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	
F1.008	49.950	0.335	149.1	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F5.000	30.635	0.510	60.1	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	
F1.009	15.262	0.100	152.6	0.000	14.0	0.0	0.150	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F3.000	47.890	0.000	0.0	28.0	0.0	29	0.97	1.98	78.9	3.0
F4.000	47.890	0.000	0.0	28.0	0.0	29	0.97	1.99	79.1	3.0
F1.008	47.405	0.000	0.0	224.0	0.0	47	0.80	1.24	49.4	4.8
F5.000	47.580	0.000	0.0	28.0	0.0	29	0.97	1.98	78.8	3.0
F1.009	47.070	0.000	0.0	266.0	0.0	48	0.80	1.23	48.8	5.0


Atkins (Epsom)		Page 4
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Foul - Main




PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
F6.000	11.680	0.290	40.3	0.000	28.0	0.0	0.150	o	225	Pipe/Conduit	
F1.010	30.726	0.205	149.9	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F7.000	42.305	0.705	60.0	0.000	42.0	0.0	0.150	o	225	Pipe/Conduit	
F1.011	49.950	0.335	149.1	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F8.000	42.305	0.705	60.0	0.000	42.0	0.0	0.150	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F6.000	47.260	0.000	0.0	28.0	0.0	27	1.12	2.43	96.6	3.0
F1.010	46.970	0.000	0.0	294.0	0.0	49	0.81	1.24	49.3	5.2
F7.000	47.470	0.000	0.0	42.0	0.0	31	0.99	1.98	78.8	3.3
F1.011	46.765	0.000	0.0	336.0	0.0	50	0.82	1.24	49.4	5.4
F8.000	47.135	0.000	0.0	42.0	0.0	31	0.99	1.98	78.8	3.3

Atkins (Epsom)		Page 5
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Network Design Table for Foul - Main


PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
F1.012	8.927	0.095	94.0	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F1.013	6.360	0.070	90.9	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	
F1.014	17.791	0.445	40.0	0.000	0.0	0.0	0.150	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F1.012	46.430	0.000	0.0	378.0	0.0	45	0.99	1.58	62.7	5.6
F1.013	46.335	0.000	0.0	378.0	0.0	45	1.00	1.60	63.7	5.6
F1.014	46.265	0.000	0.0	378.0	0.0	36	1.35	2.44	97.0	5.6

Manhole Schedules for Foul - Main

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
F1	51.934	1.124	Open Manhole	1200	F1.000	50.810	225				
F2	51.720	1.625	Open Manhole	1200	F1.001	50.095	225	F1.000	50.095	225	
F3	51.477	2.187	Open Manhole	1200	F1.002	49.290	225	F1.001	49.290	225	
F4	52.046	3.286	Open Manhole	1200	F1.003	48.760	225	F1.002	48.760	225	
F5	51.376	1.271	Open Manhole	1200	F2.000	50.105	225				
F6	51.782	2.352	Open Manhole	1200	F2.001	49.430	225	F2.000	49.430	225	
F5	52.253	3.608	Open Manhole	1200	F1.004	48.645	225	F1.003	48.645	225	
								F2.001	48.645	225	
F6	52.648	4.248	Open Manhole	1200	F1.005	48.400	225	F1.004	48.400	225	
F7	52.526	4.566	Open Manhole	1200	F1.006	47.960	225	F1.005	47.960	225	
F8	51.092	3.507	Open Manhole	1200	F1.007	47.585	225	F1.006	47.585	225	
F11	49.879	1.989	Open Manhole	1200	F3.000	47.890	225				
F12	50.385	2.495	Open Manhole	1200	F4.000	47.890	225				
F9	50.524	3.119	Open Manhole	1200	F1.008	47.405	225	F1.007	47.405	225	
								F3.000	47.405	225	
								F4.000	47.405	225	
F14	49.972	2.392	Open Manhole	1200	F5.000	47.580	225				
F10	49.902	2.832	Open Manhole	1200	F1.009	47.070	225	F1.008	47.070	225	
								F5.000	47.070	225	


Atkins (Epsom)		Page 7
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Manhole Schedules for Foul - Main









MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
F16	50.065	2.805	Open Manhole	1200	F6.000	47.260	225				
F11	49.951	2.981	Open Manhole	1200	F1.010	46.970	225	F1.009	46.970	225	
								F6.000	46.970	225	
F18	49.746	2.276	Open Manhole	1200	F7.000	47.470	225				
F12	49.739	2.974	Open Manhole	1200	F1.011	46.765	225	F1.010	46.765	225	
								F7.000	46.765	225	
F20	49.251	2.116	Open Manhole	1200	F8.000	47.135	225				
F13	49.459	3.029	Open Manhole	1200	F1.012	46.430	225	F1.011	46.430	225	
								F8.000	46.430	225	
F14	49.498	3.163	Open Manhole	1200	F1.013	46.335	225	F1.012	46.335	225	
F15	49.691	3.426	Open Manhole	1200	F1.014	46.265	225	F1.013	46.265	225	
F	46.080	0.260	Open Manhole	0		OUTFALL		F1.014	45.820	225	


MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F1	568487.533	573881.756	568487.533	573881.756	Required	




Atkins (Epsom)		Page 8
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Manhole Schedules for Foul - Main


MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F2	568445.203	573875.635	568445.203	573875.635	Required	
F3	568397.431	573868.724	568397.431	573868.724	Required	
F4	568392.160	573905.190	568392.160	573905.190	Required	
F5	568477.804	573925.828	568477.804	573925.828	Required	
F6	568437.641	573920.018	568437.641	573920.018	Required	
F5	568390.992	573913.270	568390.992	573913.270	Required	
F6	568376.915	573917.627	568376.915	573917.627	Required	
F7	568351.016	573912.307	568351.016	573912.307	Required	

Atkins (Epsom)		Page 9
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


Manhole Schedules for Foul - Main


MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F8	568336.460	573894.996	568336.460	573894.996	Required	
F11	568321.505	573922.177	568321.505	573922.177	Required	
F12	568329.806	573864.789	568329.806	573864.789	Required	
F9	568325.662	573893.434	568325.662	573893.434	Required	
F14	568271.842	573916.601	568271.842	573916.601	Required	
F10	568276.228	573886.282	568276.228	573886.282	Required	
F16	568280.085	573859.617	568280.085	573859.617	Required	
F11	568278.413	573871.177	568278.413	573871.177	Required	



Atkins (Epsom)		Page 10
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

Manhole Schedules for Foul - Main

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F18	568241.946	573908.647	568241.946	573908.647	Required	
F12	568248.003	573866.778	568248.003	573866.778	Required	
F20	568192.512	573901.496	568192.512	573901.496	Required	
F13	568198.568	573859.627	568198.568	573859.627	Required	
F14	568191.458	573854.228	568191.458	573854.228	Required	
F15	568192.369	573847.933	568192.369	573847.933	Required	
F	568181.308	573833.998			No Entry	

Atkins (Epsom)		Page 11
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F1.000	o	225	F1	51.934	50.810	0.899	Open Manhole		1200
F1.001	o	225	F2	51.720	50.095	1.400	Open Manhole		1200
F1.002	o	225	F3	51.477	49.290	1.962	Open Manhole		1200
F1.003	o	225	F4	52.046	48.760	3.061	Open Manhole		1200
F2.000	o	225	F5	51.376	50.105	1.046	Open Manhole		1200
F2.001	o	225	F6	51.782	49.430	2.127	Open Manhole		1200
F1.004	o	225	F5	52.253	48.645	3.383	Open Manhole		1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F1.000	42.770	59.8	F2	51.720	50.095	1.400	Open Manhole		1200
F1.001	48.269	60.0	F3	51.477	49.290	1.962	Open Manhole		1200
F1.002	36.845	69.5	F4	52.046	48.760	3.061	Open Manhole		1200
F1.003	8.164	71.0	F5	52.253	48.645	3.383	Open Manhole		1200
F2.000	40.580	60.1	F6	51.782	49.430	2.127	Open Manhole		1200
F2.001	47.135	60.0	F5	52.253	48.645	3.383	Open Manhole		1200
F1.004	14.737	60.2	F6	52.648	48.400	4.023	Open Manhole		1200

Atkins (Epsom)		Page 12
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F1.005	o	225	F6	52.648	48.400	4.023	Open Manhole		1200
F1.006	o	225	F7	52.526	47.960	4.341	Open Manhole		1200
F1.007	o	225	F8	51.092	47.585	3.282	Open Manhole		1200
F3.000	o	225	F11	49.879	47.890	1.764	Open Manhole		1200
F4.000	o	225	F12	50.385	47.890	2.270	Open Manhole		1200
F1.008	o	225	F9	50.524	47.405	2.894	Open Manhole		1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F1.005	26.439	60.1	F7	52.526	47.960	4.341	Open Manhole		1200
F1.006	22.617	60.3	F8	51.092	47.585	3.282	Open Manhole		1200
F1.007	10.910	60.6	F9	50.524	47.405	2.894	Open Manhole		1200
F3.000	29.043	59.9	F9	50.524	47.405	2.894	Open Manhole		1200
F4.000	28.943	59.7	F9	50.524	47.405	2.894	Open Manhole		1200
F1.008	49.950	149.1	F10	49.902	47.070	2.607	Open Manhole		1200

Atkins (Epsom)		Page 13
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	


PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F5.000	o	225	F14	49.972	47.580	2.167	Open Manhole	1200	
F1.009	o	225	F10	49.902	47.070	2.607	Open Manhole	1200	
F6.000	o	225	F16	50.065	47.260	2.580	Open Manhole	1200	
F1.010	o	225	F11	49.951	46.970	2.756	Open Manhole	1200	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., (mm)	L*W
F5.000	30.635	60.1	F10	49.902	47.070	2.607	Open Manhole	1200	
F1.009	15.262	152.6	F11	49.951	46.970	2.756	Open Manhole	1200	
F6.000	11.680	40.3	F11	49.951	46.970	2.756	Open Manhole	1200	
F1.010	30.726	149.9	F12	49.739	46.765	2.749	Open Manhole	1200	

Atkins (Epsom)		Page 14
Woodcoste Grove Ashley Road, Epsom Surrey, KT18 5BW	CORK CITY COUNCIL ELLIS YARD DEVELOPMENT PART 8 PLANNING DRAINAGE	
Date 14/02/2024 15:54 File EYSL_Foul_Part_8.MDX	Designed by PP Checked by VO	
Innovyze	Network 2019.1	

PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F7.000	o	225	F18	49.746	47.470	2.051	Open Manhole	1200
F1.011	o	225	F12	49.739	46.765	2.749	Open Manhole	1200
F8.000	o	225	F20	49.251	47.135	1.891	Open Manhole	1200
F1.012	o	225	F13	49.459	46.430	2.804	Open Manhole	1200
F1.013	o	225	F14	49.498	46.335	2.938	Open Manhole	1200
F1.014	o	225	F15	49.691	46.265	3.201	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F7.000	42.305	60.0	F12	49.739	46.765	2.749	Open Manhole	1200
F1.011	49.950	149.1	F13	49.459	46.430	2.804	Open Manhole	1200
F8.000	42.305	60.0	F13	49.459	46.430	2.804	Open Manhole	1200
F1.012	8.927	94.0	F14	49.498	46.335	2.938	Open Manhole	1200
F1.013	6.360	90.9	F15	49.691	46.265	3.201	Open Manhole	1200
F1.014	17.791	40.0	F	46.080	45.820	0.035	Open Manhole	0

**WS Atkins Ireland Ltd,**  
Atkins House  
150 Airside Business Park  
Swords  
Co. Dublin  
K67 K5W4

© WS Atkins Ireland Ltd except where stated otherwise