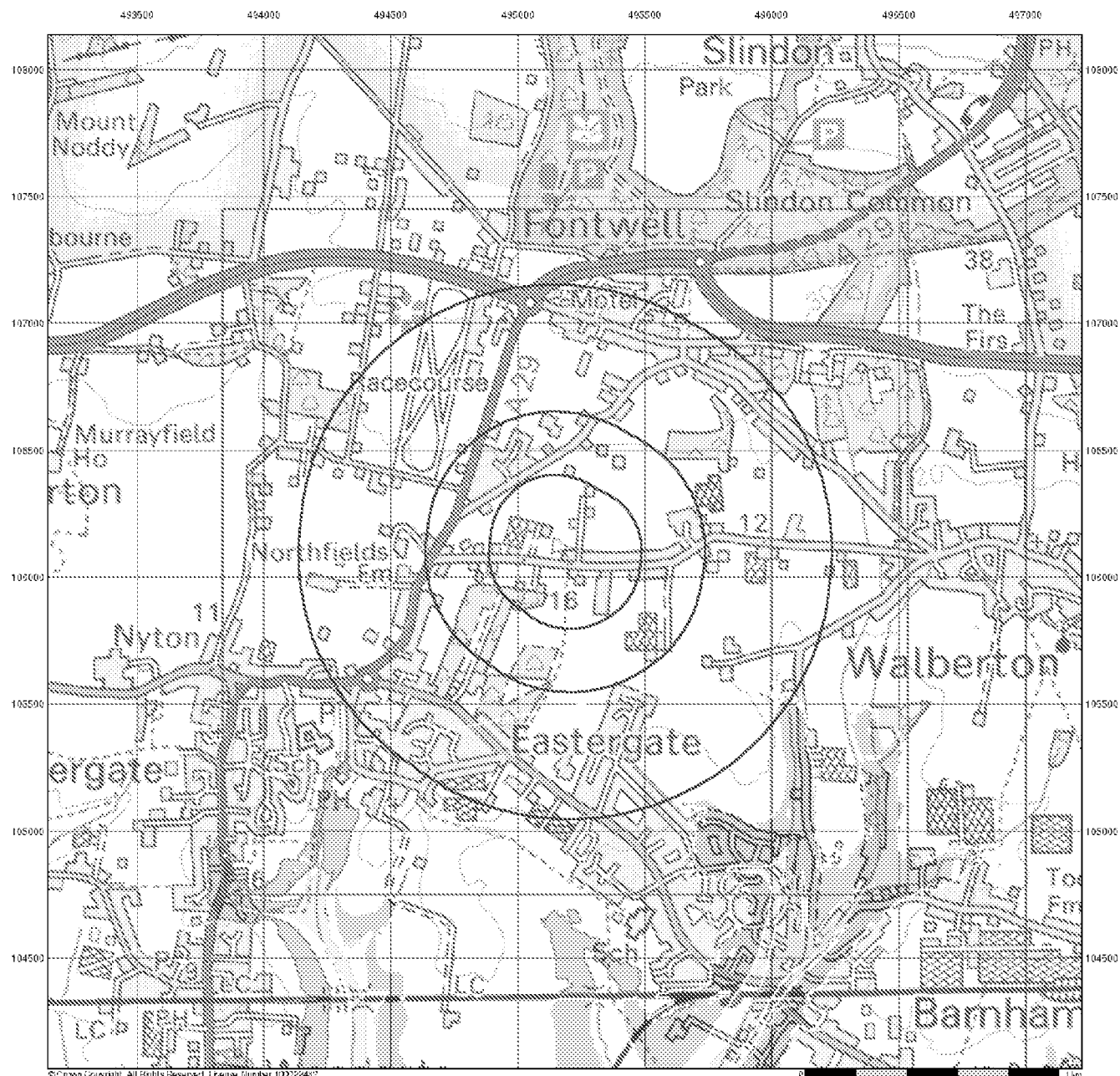




© Crown Copyright. All Rights Reserved. License Number 100026402



GeoSmart Information Groundwater Flood Map (1:50,000)

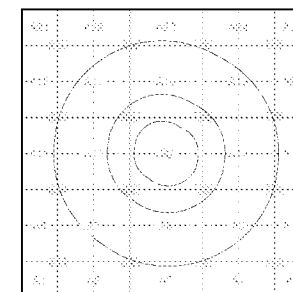
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

GeoSmart Information Groundwater Flooding Risk

- High Risk
- Moderate Risk
- Low Risk
- Negligible Risk

GeoSmart Information Groundwater Flood Map - Slice A



Order Details

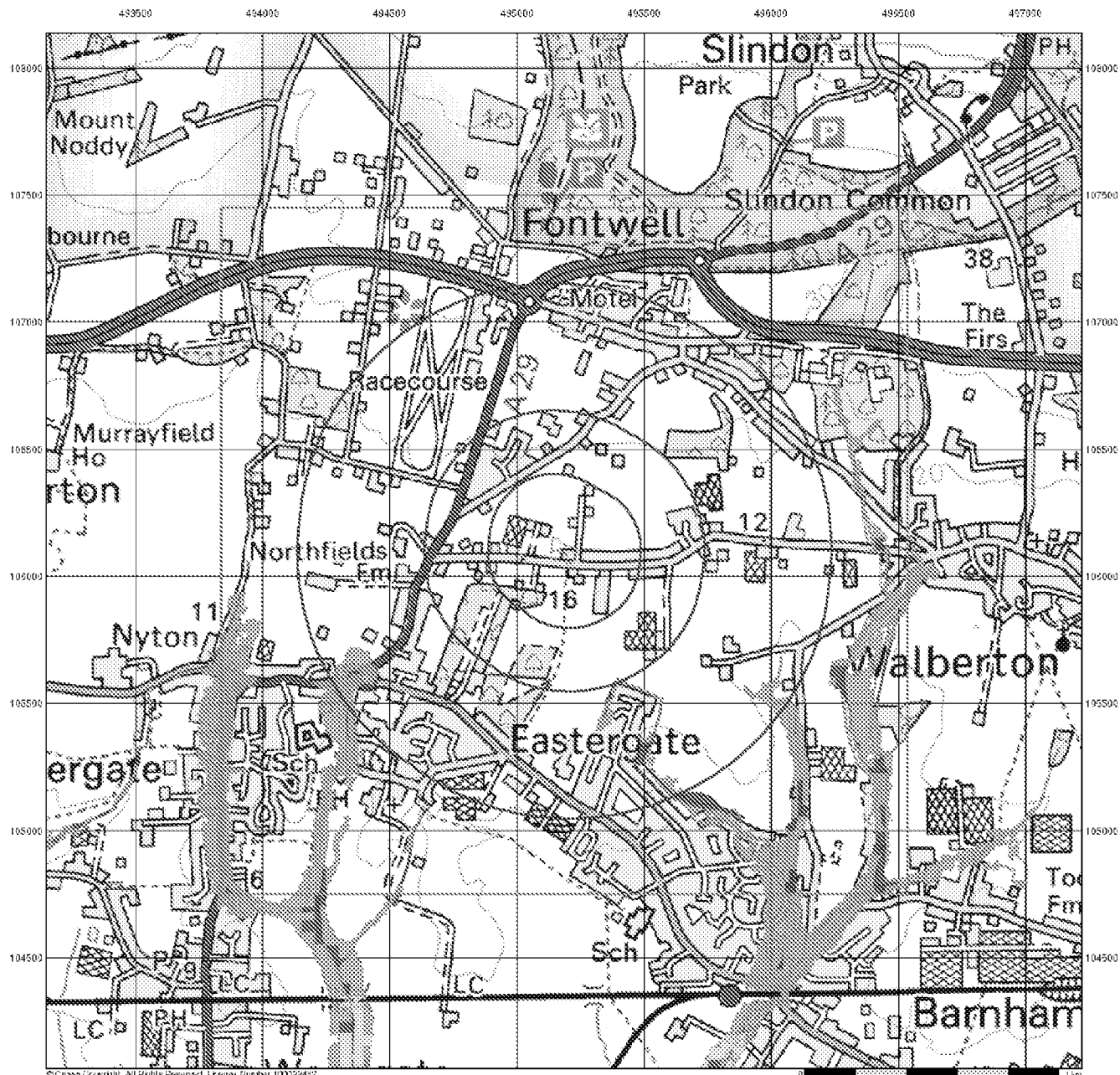
Order Number: 294967859_1_1
 Customer Ref: 11aas/2203002
 National Grid Reference: 495180, 106100
 Slice: A
 Site Area (Ha): 0.46
 Search Buffer (m): 1000

Site Details

Eastmere Stables, Eastergate Lane, Eastergate, CHICHESTER, PO20 3SJ

Landmark
 INFORMATION GROUP

Tel: 0544 544 0053
 Fax: 0544 544 5551
 Web: www.ewcocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100122402

motion

EA/NRW RoFRS Data (1:50,000)

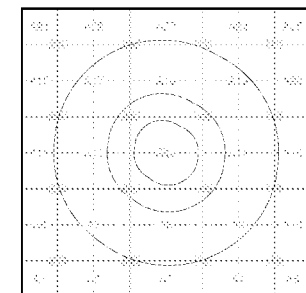
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Risk of Flooding from Rivers and Sea (RoFRS)

- High Risk
- Medium Risk
- Low Risk
- Very Low Risk

EA/NRW RoFRS Data Map - Slice A



Order Details

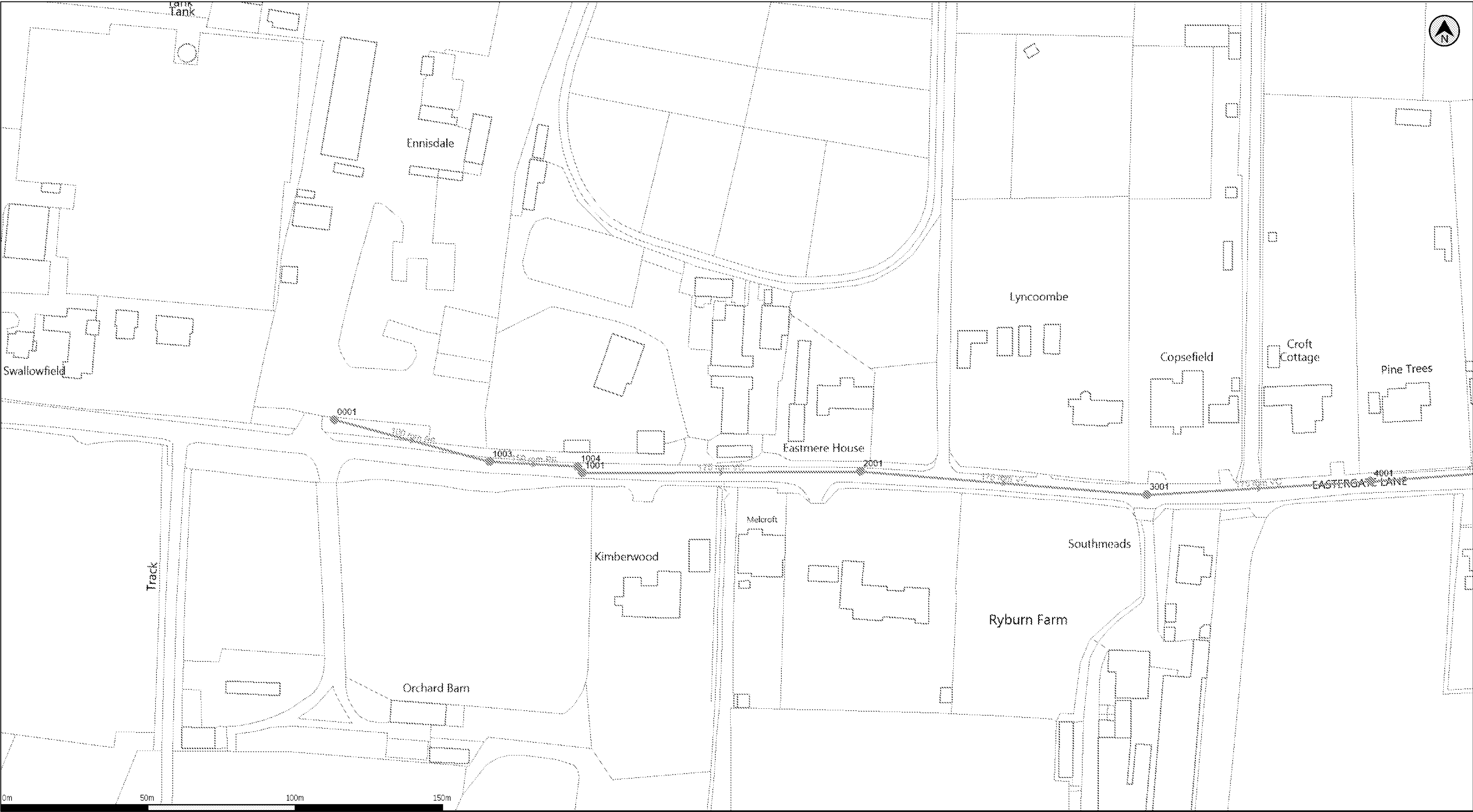
Order Number: 294967859_1_1
 Customer Ref: 11acsa/2203002
 National Grid Reference: 495180, 106100
 Slice: A
 Site Area (Ha): 0.46
 Search Buffer (m): 1000

Site Details

Eastmere Stables, Eastergate Lane, Eastergate, CHICHESTER, PO20 3SJ

Landmark
 INFORMATION GROUP

Tel: 0544 544 0033
 Fax: 0544 544 5551
 Web: www.ewcocheck.co.uk



(c) Crown copyright and database rights 2022 Ordnance Survey 100031673

Date: 23/05/22

Scale: 1:1250

Map Centre: 495216,106068

Data updated: 27/04/22

Our Ref: 862012 - 1

Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2022 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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

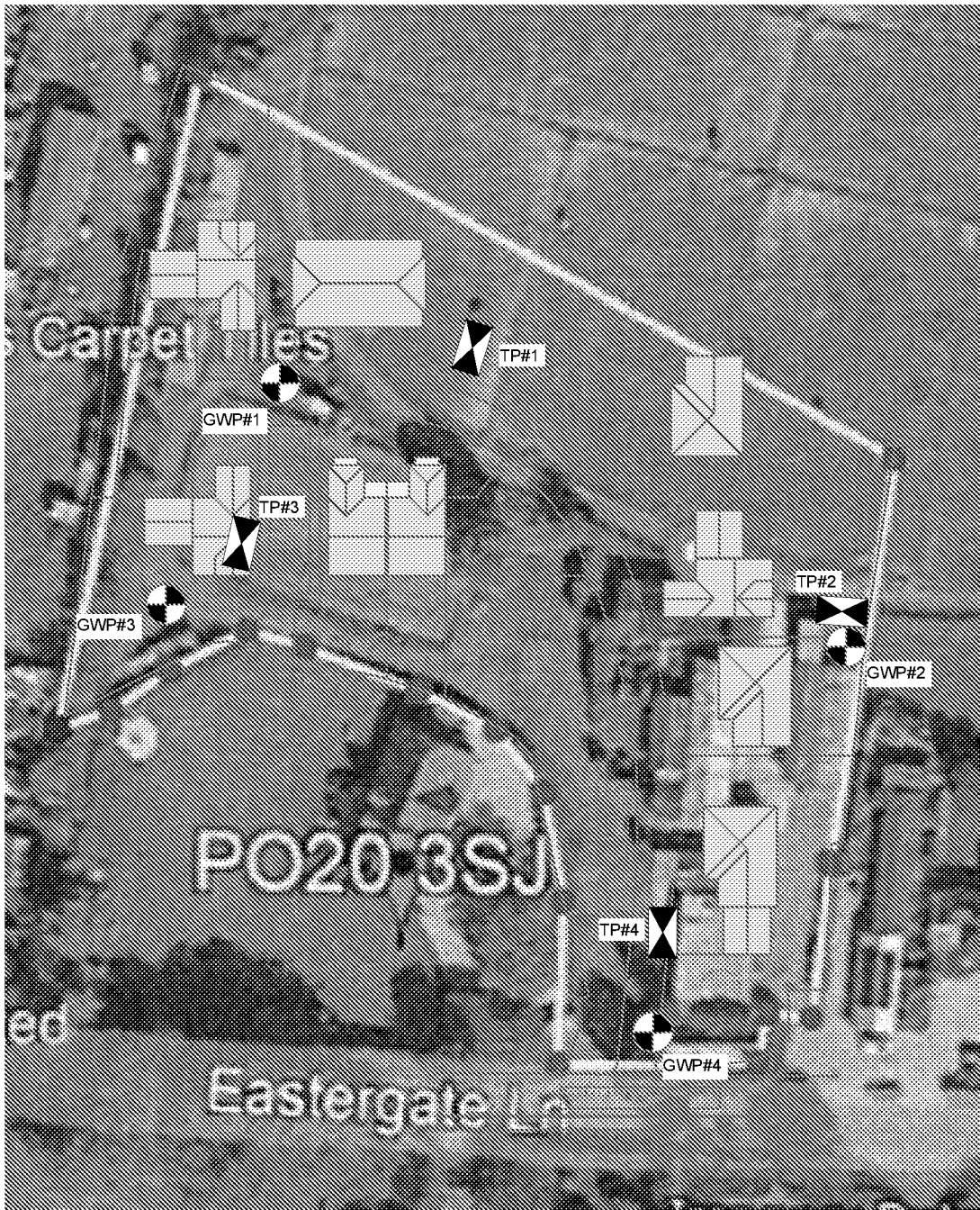
vholdo@motion.co.uk

eastmere



Appendix F

Infiltration Testing Results



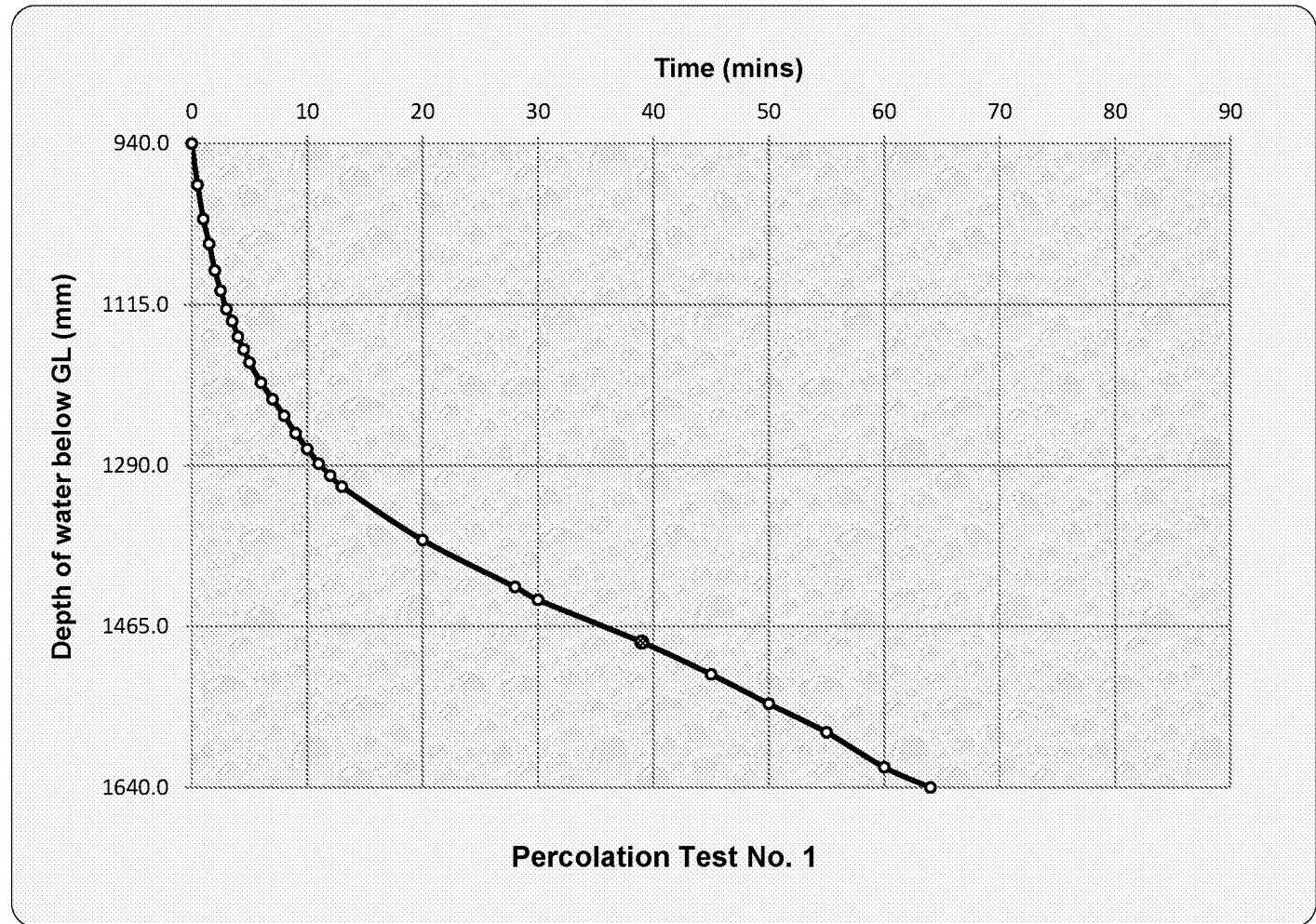
Time (mins)	Depth to Water Surface
0.0	940
0.5	985
1.0	1022
1.5	1049
2.0	1078
2.5	1100
3.0	1120
3.5	1133
4.0	1150
4.5	1164
5.0	1178
6	1200
7	1218
8	1236
9	1255
10	1272
11	1288
12	1301
13	1313
20	1371
28	1422
30	1436
39	1482
45	1517
50	1549
55	1580
60	1618
64	1640

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#1

North Paddock Area Percolation Test#1

1700mm Length x 500mm Width x 1840mm Depth



Non Reading Smoothing Points in BLUE

Soil infiltration rate:

$$f = \frac{0.383}{2.830 \times 33.1 \times 60} = 6.797\text{E-}05 \text{ m/s}$$

Soil Infiltration Rate is
6.797E-05 metres/second

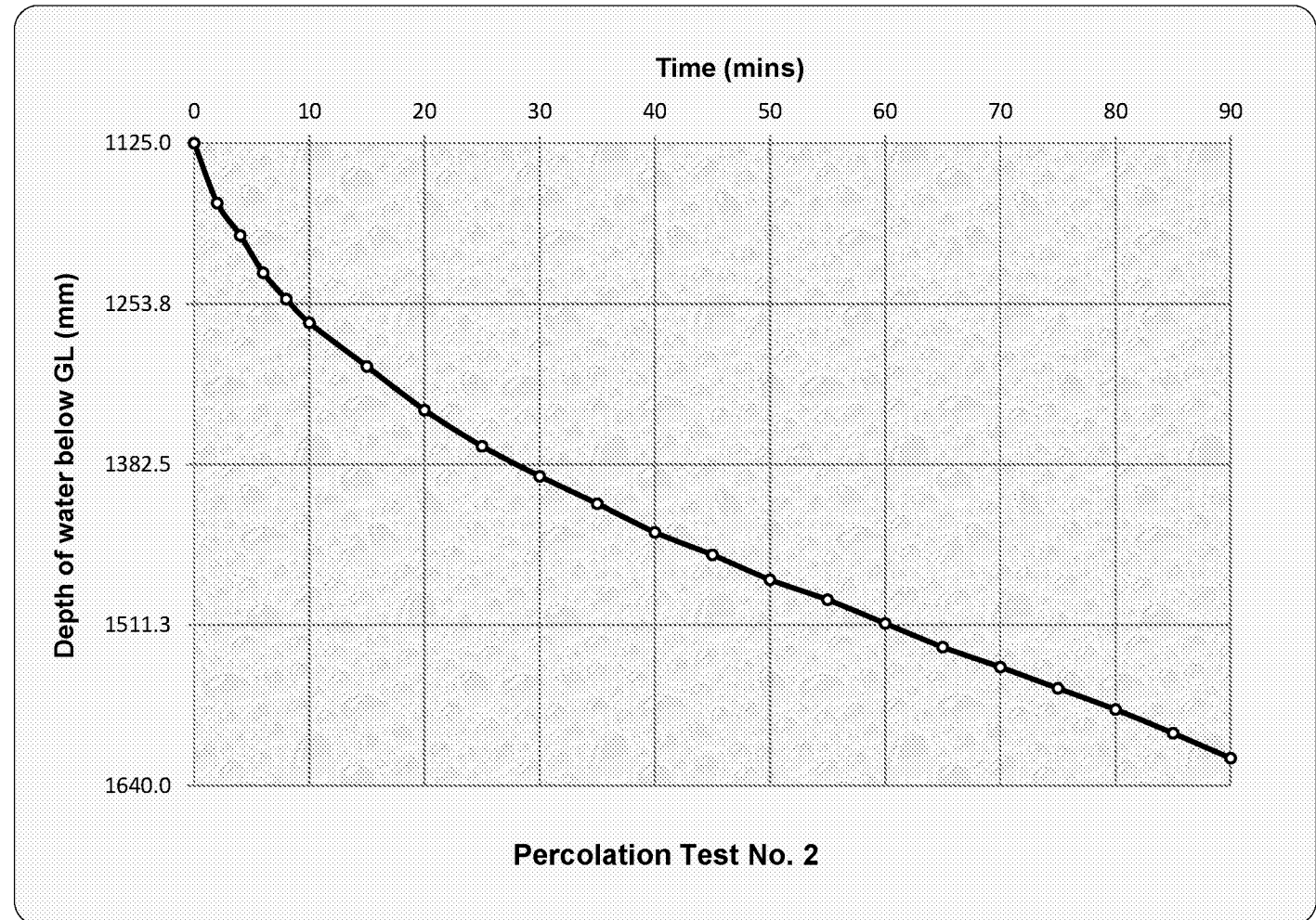
Time (mins)	Depth to Water Surface
0	1125
2	1173
4	1199
6	1229
8	1250
10	1269
15	1304
20	1339
25	1368
30	1392
35	1414
40	1437
45	1455
50	1475
55	1491
60	1510
65	1529
70	1545
75	1562
80	1579
85	1598
90	1618

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#1

North Paddock Area Percolation Test#2

1700mm Length x 500mm Width x 1840mm Depth



Soil infiltration rate:

$$f = \frac{0.219}{1.983 \times 52.0 \times 60} = 3.540\text{E-}05 \text{ m/s}$$

Soil Infiltration Rate is
3.540E-05 metres/second

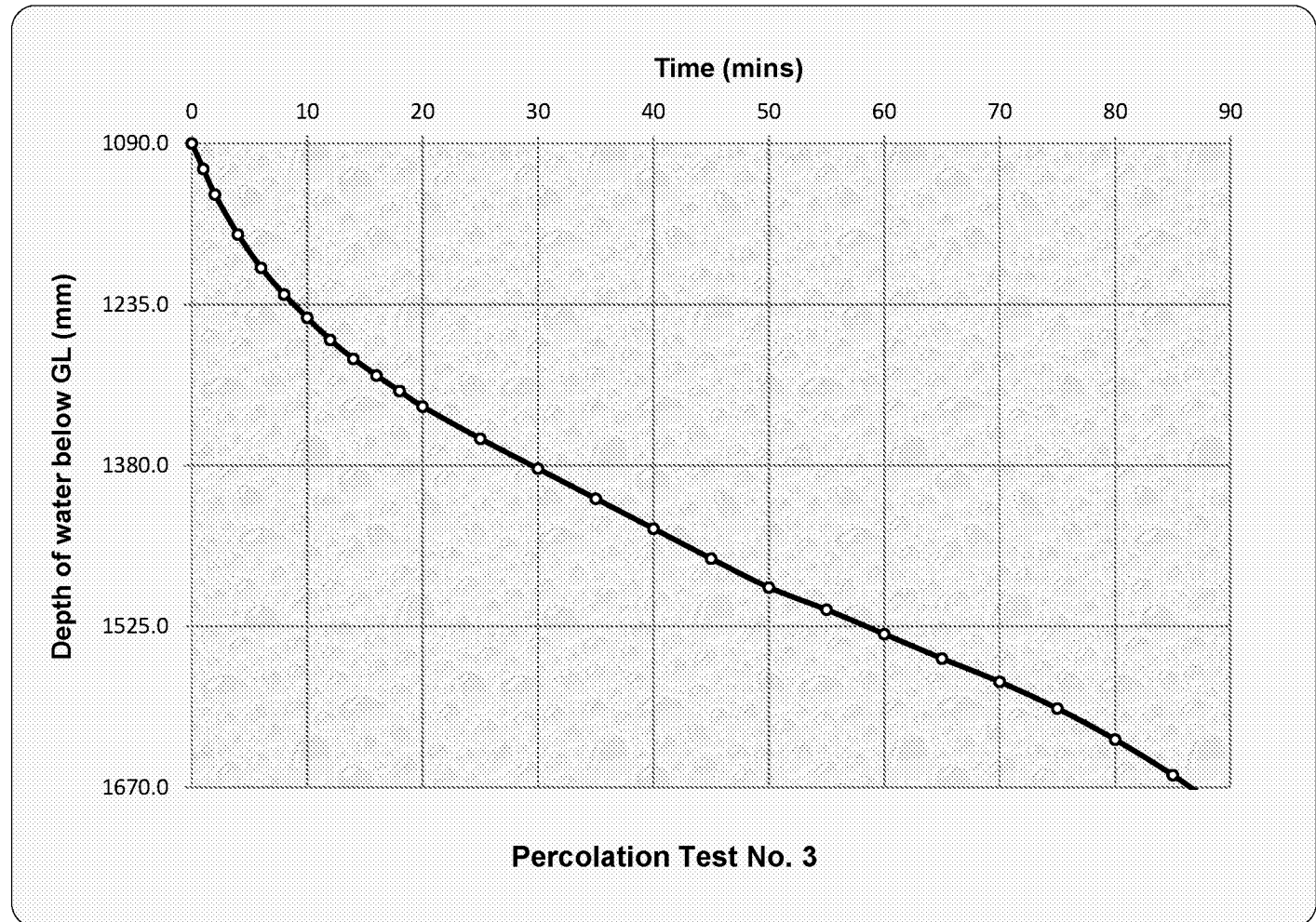
Time (mins)	Depth to Water Surface
0	1090
1	1113
2	1136
4	1172
6	1202
8	1226
10	1247
12	1267
14	1284
16	1299
18	1313
20	1327
25	1356
30	1383
35	1410
40	1437
45	1464
50	1490
55	1510
60	1532
65	1554
70	1575
75	1599
80	1627
85	1659
90	1696

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#1

North Paddock Area Percolation Test#3

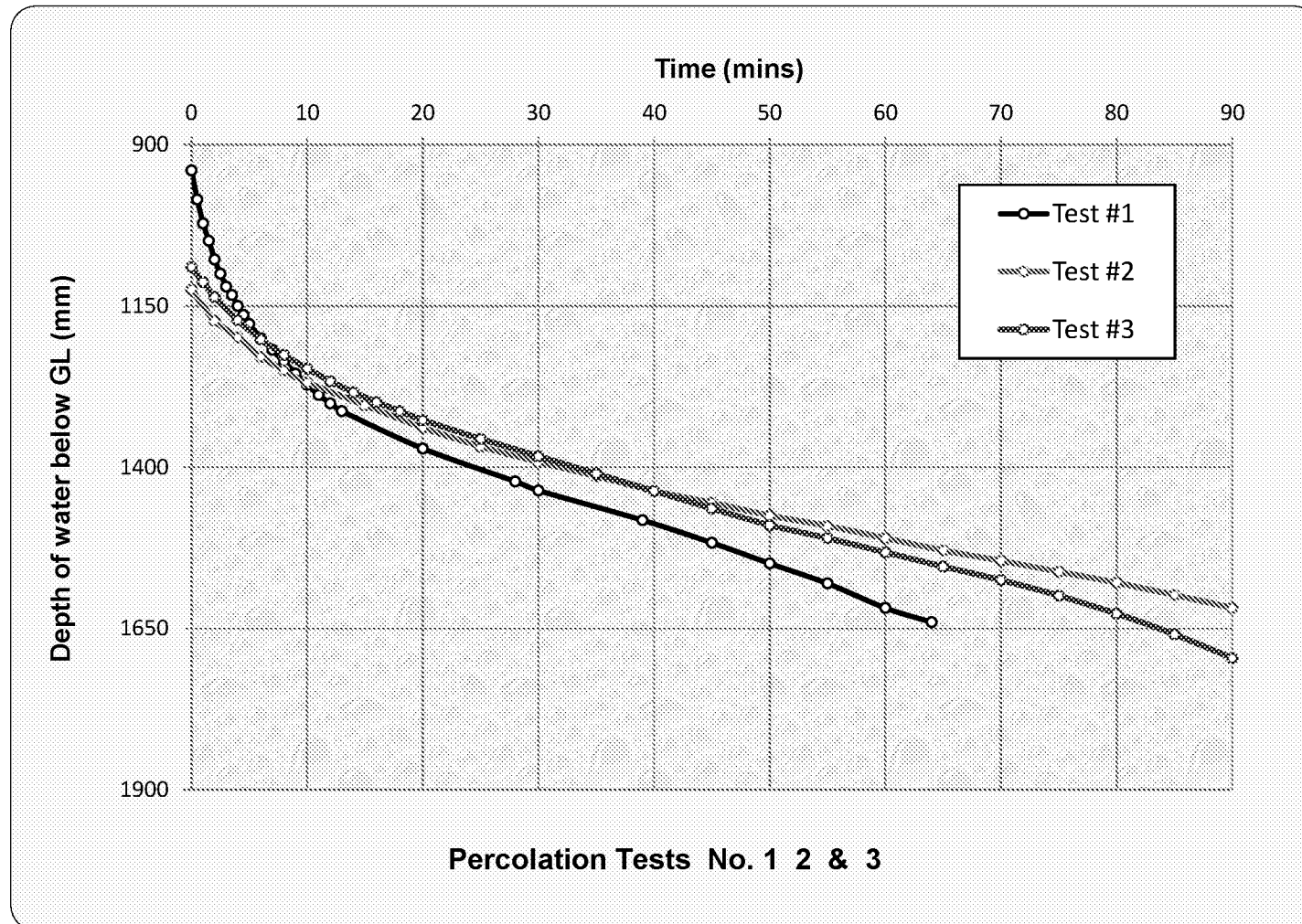
1700mm Length x 500mm Width x 1840mm Depth



Soil infiltration rate:

$$f = \frac{0.219}{1.983 \times 49.6 \times 60} = 3.709\text{E-}05 \text{ m/s}$$

**Soil Infiltration Rate is
3.709E-05 metres/second**



Time (mins)	Depth to Water Surface
-------------	------------------------

0	1230
1.3	1430

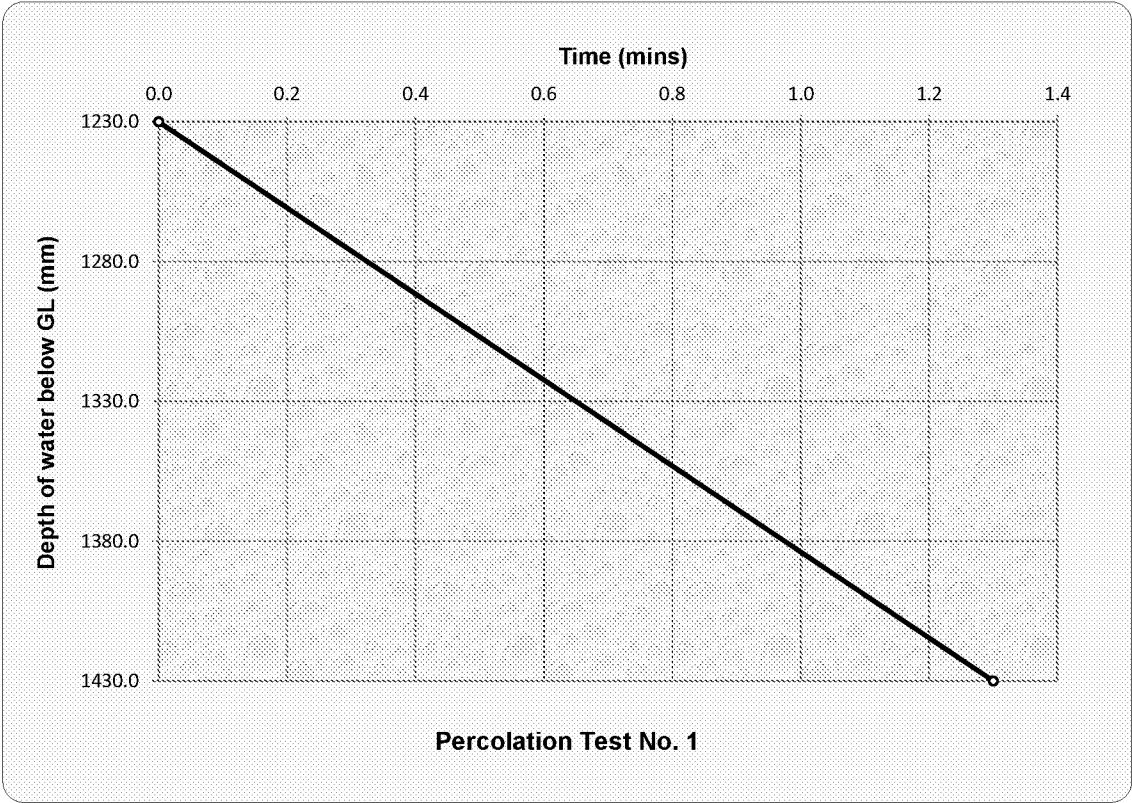
"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#2

N/E Area Adj GWP#2 -- Percolation Test#1

2000mm Length x 1200mm Width x 1430mm Depth

Ellipsoidal Tial Pit



Soil Infiltration Rate is
5.168E-03 metres/second

Soil infiltration rate: $f = \frac{0.377143}{1.885714 \times 0.645 \times 60} = 5.168E-03 \text{ m/s}$

Area approximation if $a \gg c$ and $b \gg c$

Used 10 Containers each filled with 90 litres of water giving a total of 900 litres or 0.90 cu.metre >> effective volume outflowing of 0.450 cu.metre

Volume of an Ellipsoid $4 \cdot \pi \cdot a \cdot b \cdot c$
Volume of lower half of an Ellipsoid $(4 \cdot (22/7) \cdot a \cdot b \cdot c) / 2$
Volume of water outflowing is $(4 \cdot (22/7) \cdot a \cdot b \cdot c) / 2 \cdot 2$ 0.377143

Surface Area of an Ellipsoid $2 \cdot \pi \cdot a \cdot b$
Surface Area of lower half of an Ellipsoid $(2 \cdot \pi \cdot a \cdot b) / 2$
Area of water outflow is $(2 \cdot \pi \cdot a \cdot b) / 2$ 1.885714

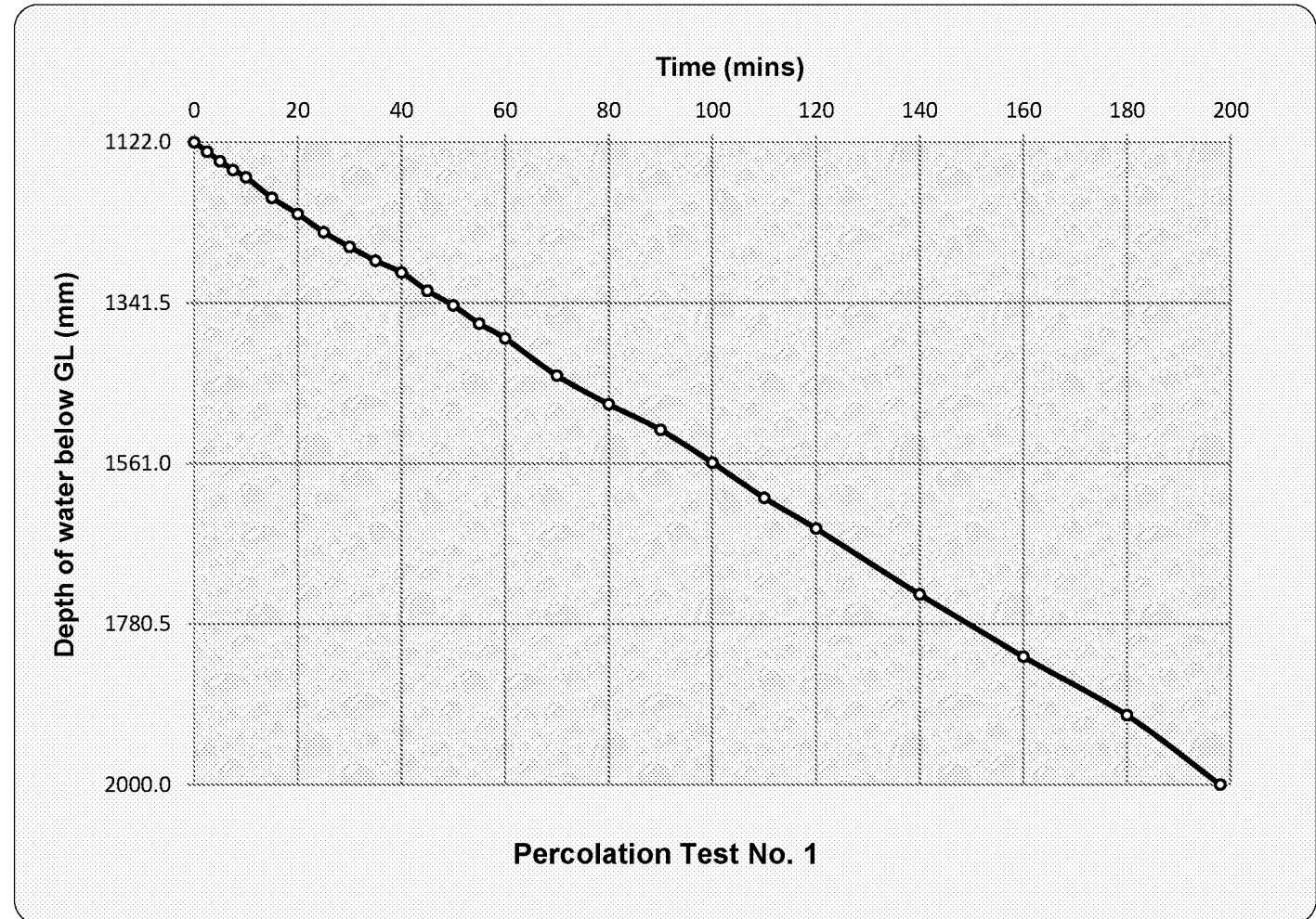
Time (mins)	Depth to Water Surface
0	1122
2.5	1135
5	1148
7.5	1160
10	1170
15	1198
20	1220
25	1245
30	1265
35	1284
40	1300
45	1325
50	1345
55	1370
60	1390
70	1441
80	1480
90	1515
100	1560
110	1608
120	1650
140	1740
160	1825
180	1905
198	2000

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#3

S/W Corner (Made-Up) Percolation Test#1

1400mm Length x 500mm Width x 2000mm Depth



Soil infiltration rate:

$$f = \frac{0.307}{2.368 \times 100.2 \times 60} = 2.158\text{E-}05 \text{ m/s}$$

Soil Infiltration Rate is
2.158E-05 metres/second

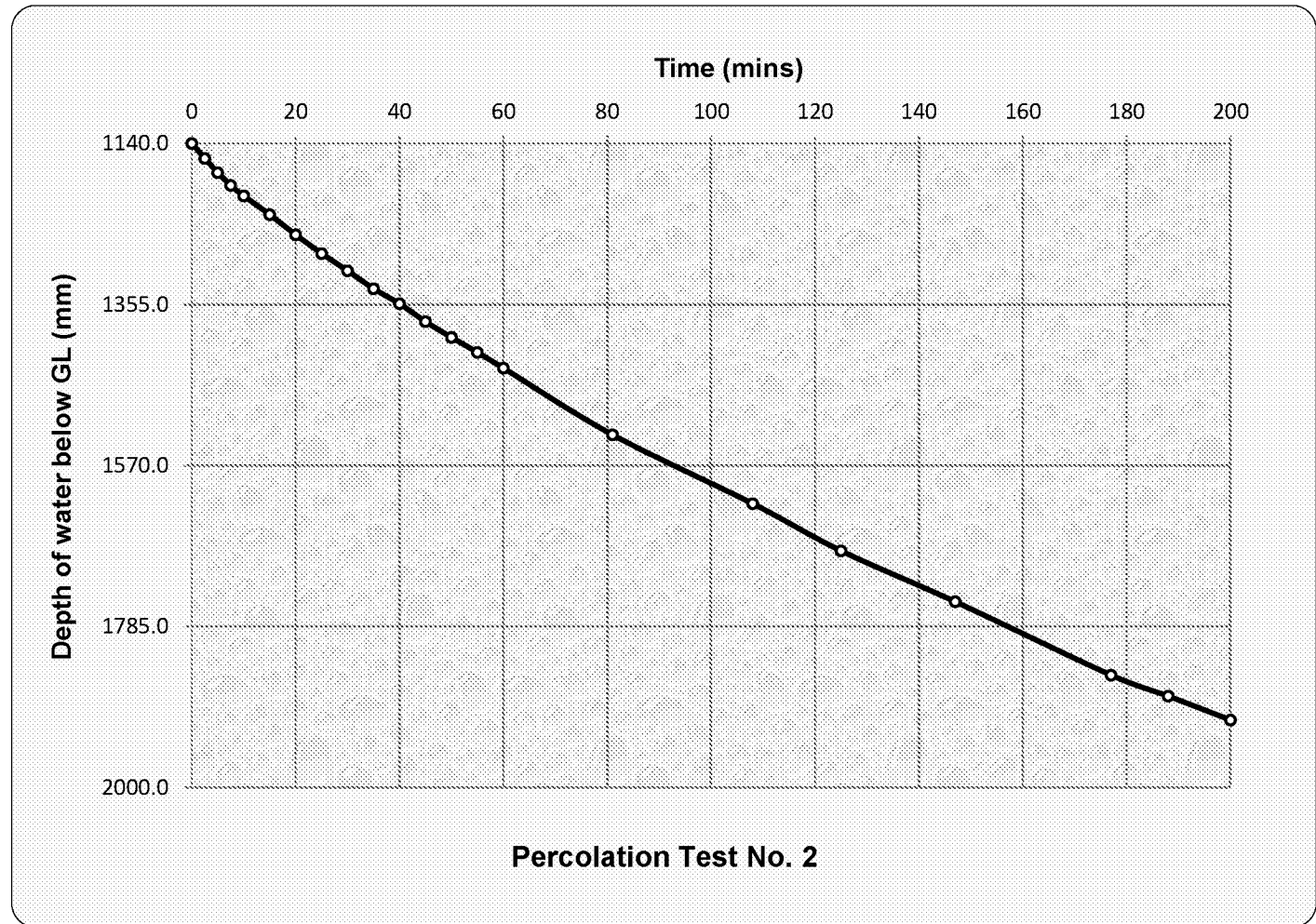
Time (mins)	Depth to Water Surface
0	1140
2.5	1160
5	1179
7.5	1196
10	1210
15	1235
20	1262
25	1287
30	1310
35	1334
40	1354
45	1378
50	1399
55	1419
60	1440
81	1529
108	1621
125	1684
147	1752
177	1850
188	1878
200	1910

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#3

S/W Corner (Made-Up) Percolation Test#2

1400mm Length x 500mm Width x 2000mm Depth



Soil infiltration rate:

$$f = \frac{0.301}{2.334 \times 116.9 \times 60} = 1.839\text{E-}05 \text{ m/s}$$

Soil Infiltration Rate is
1.839E-05 metres/second

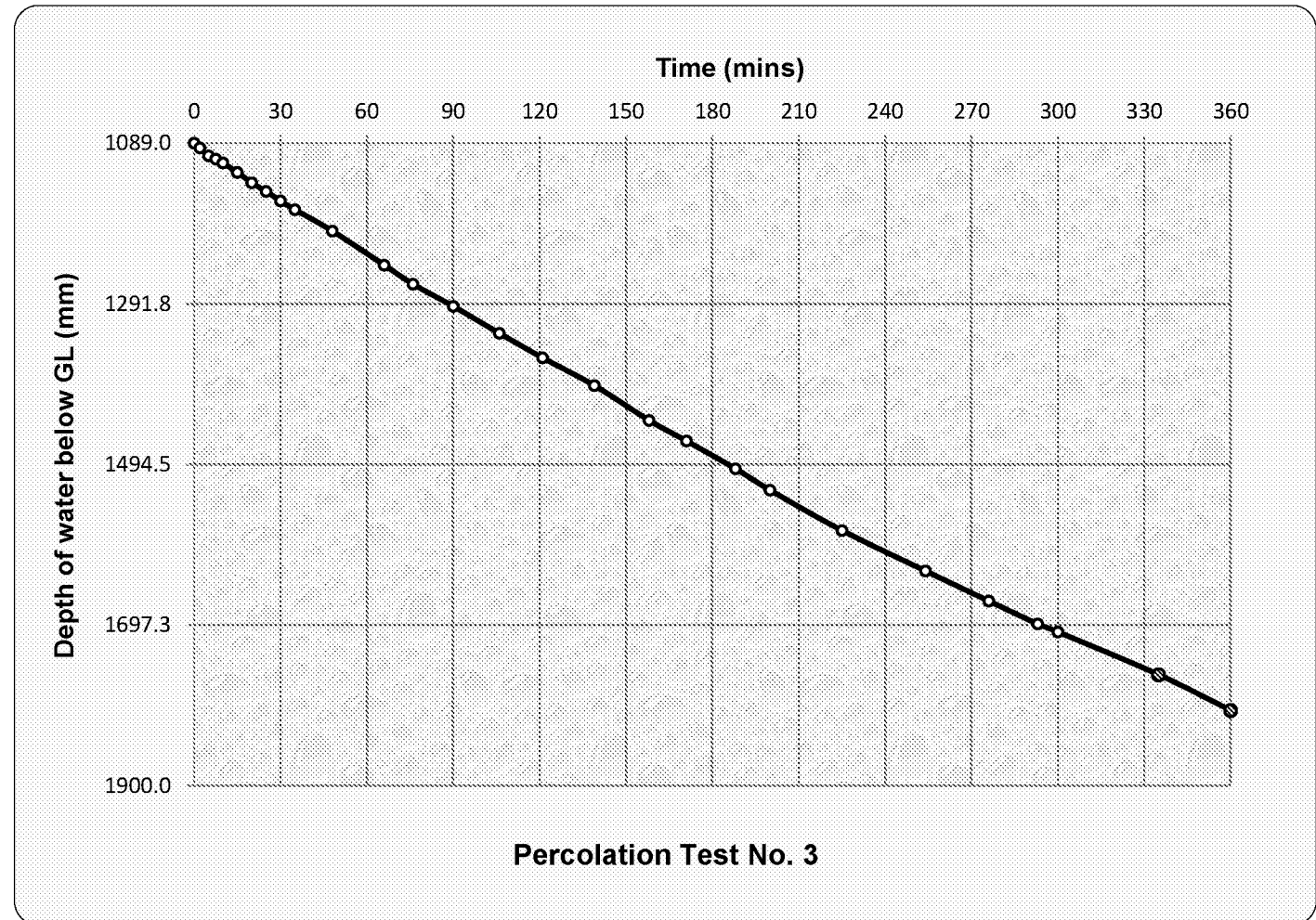
Time (mins)	Depth to Water Surface
0	1089
2	1095
5	1105
7.5	1109
10	1114
15	1126
20	1139
25	1150
30	1162
35	1173
48	1200
66	1243
76	1267
90	1295
106	1329
121	1360
139	1395
158	1439
171	1465
188	1500
200	1527
225	1578
254	1629
276	1667
293	1696
300	1706
335	1760
360	1805

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#3

S/W Corner (Made-Up) Percolation Test#3

1400mm Length x 500mm Width x 2000mm Depth

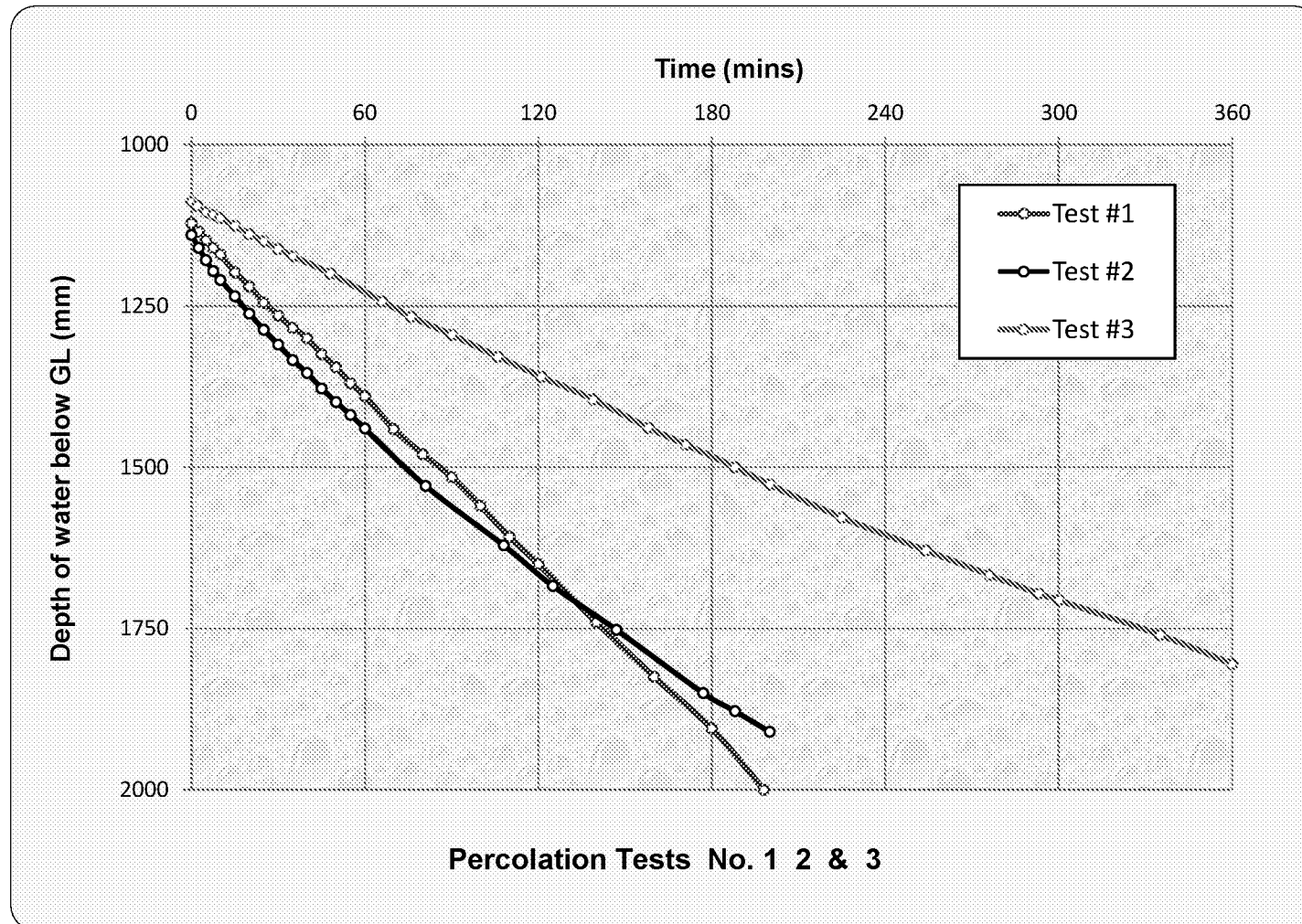


Non Reading Extrapolated Points in RED

Soil infiltration rate:

$$f = \frac{0.284}{2.241 \times 205.4 \times 60} = 1.028\text{E-}05 \text{ m/s}$$

Soil Infiltration Rate is
1.028E-05 metres/second



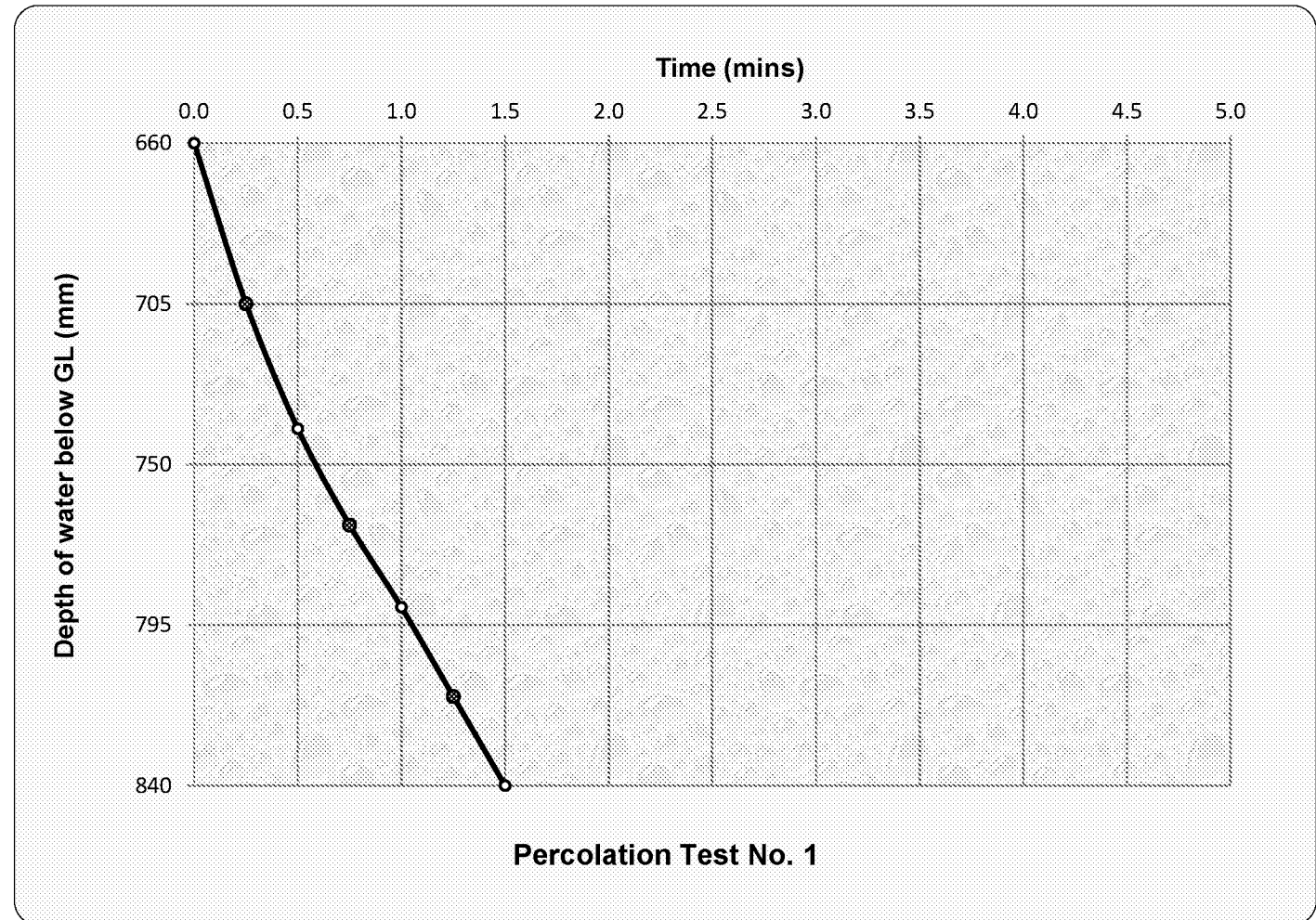
Time (mins)	Depth to Water Surface
0.00	660
0.25	705
0.50	740
0.75	767
1.00	790
1.25	815
1.50	840

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#4

Main Entrance Roadway Percolation Test#1

1800mm Length x 650mm Width x 840mm Depth



Non Reading Smoothing Points in BLUE

Soil infiltration rate:

$$f = \frac{0.105}{1.611 \times 0.8 \times 60} = 1.329\text{E-}03 \text{ m/s}$$

Soil Infiltration Rate is
1.329E-03 metres/second

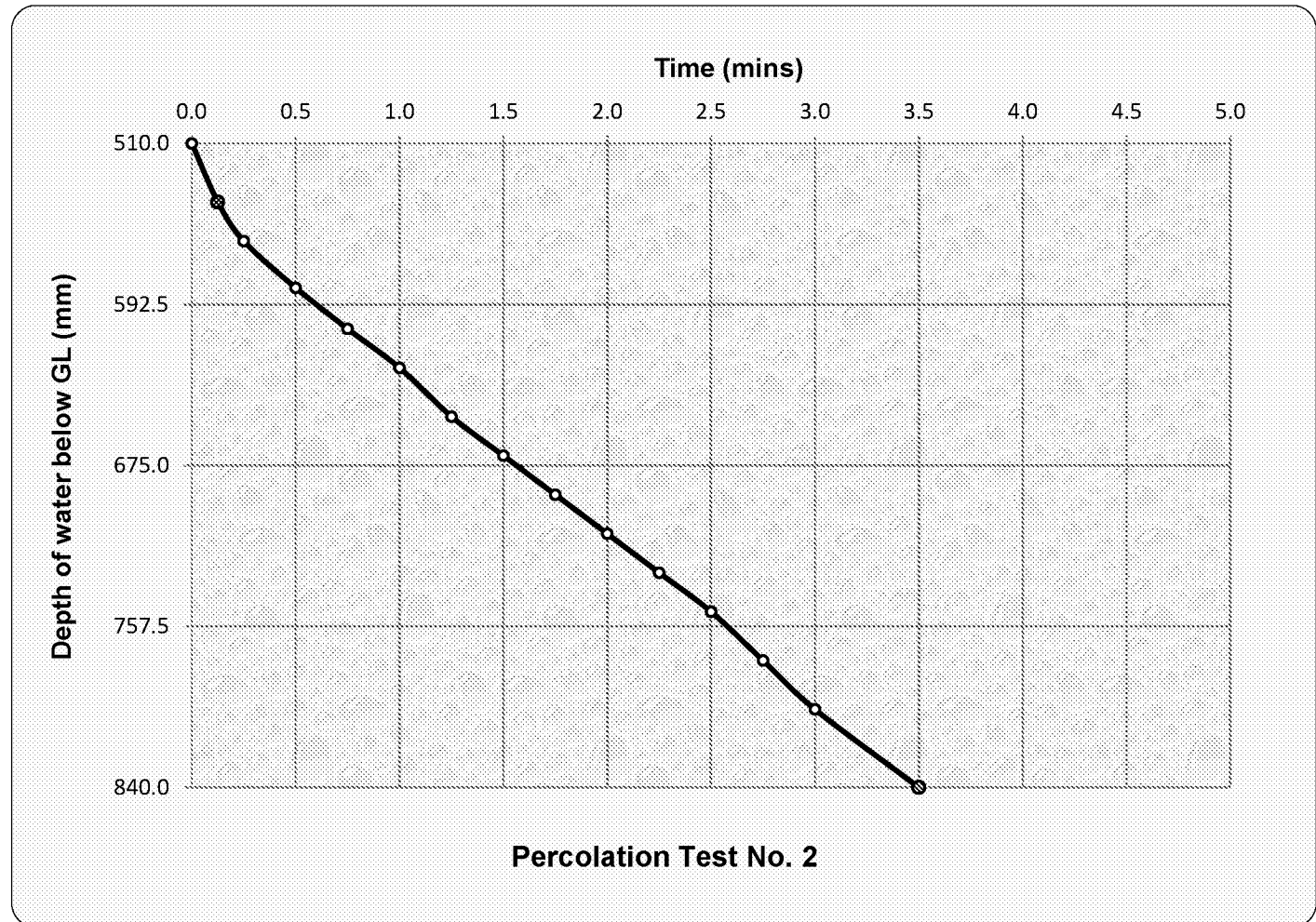
Time (mins)	Depth to Water Surface
0.00	510
0.125	540
0.25	560
0.50	584
0.75	605
1.00	625
1.25	650
1.50	670
1.75	690
2.00	710
2.25	730
2.50	750
2.75	775
3.00	800
3.50	840

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#4

Main Entrance Roadway Percolation Test#2

1800mm Length x 650mm Width x 840mm Depth



Non Reading Smoothing Points in BLUE
Non Reading Extrapolated Points in RED

Soil infiltration rate:

$$f = \frac{0.105}{1.611 \times 2.0 \times 60} = 5.587\text{E-}04 \text{ m/s}$$

Soil Infiltration Rate is
5.587E-04 metres/second

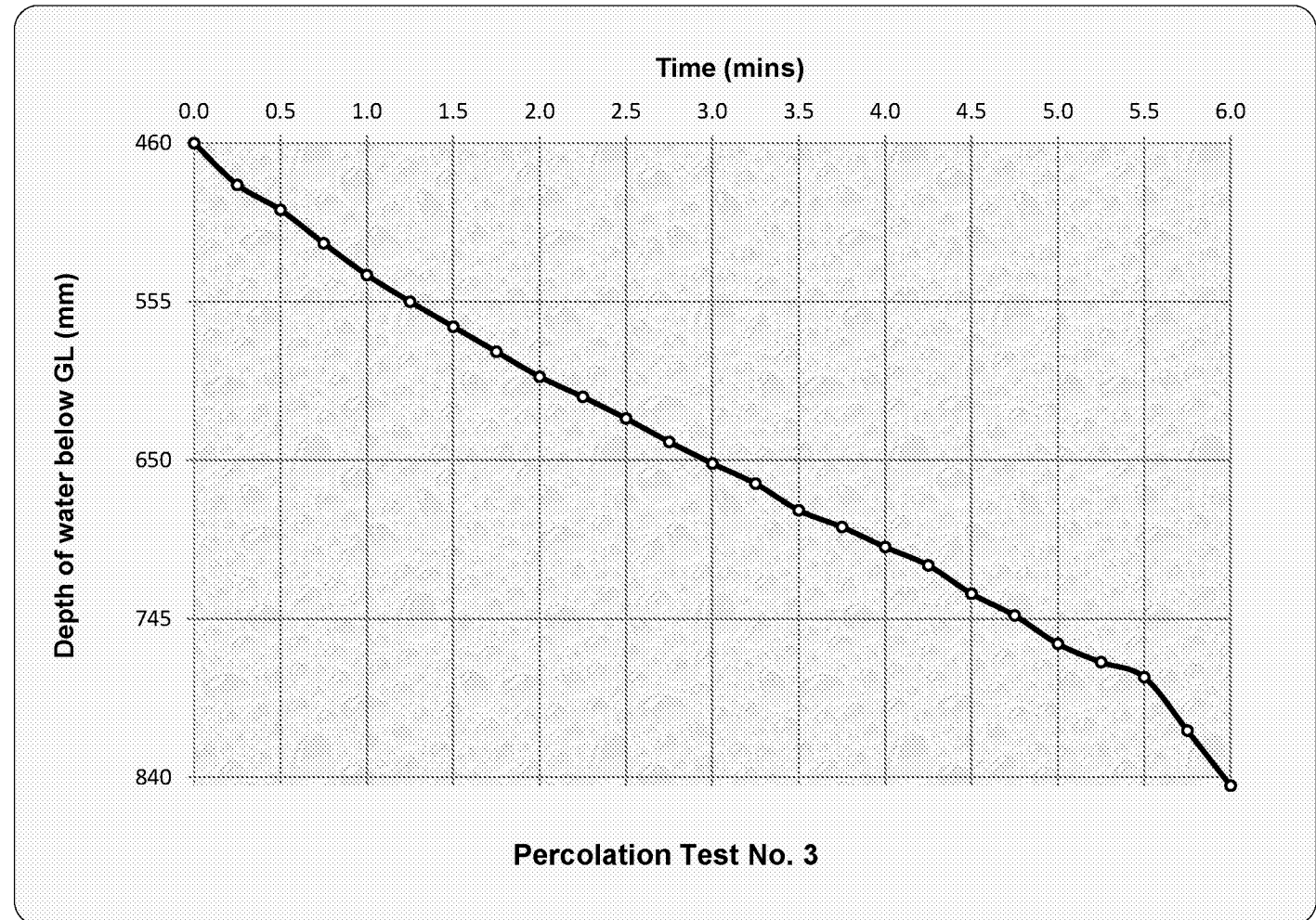
Time (mins)	Depth to Water Surface
0.00	460
0.25	485
0.50	500
0.75	520
1.00	539
1.25	555
1.50	570
1.75	585
2.00	600
2.25	612
2.50	625
2.75	639
3.00	652
3.25	664
3.50	680
3.75	690
4.00	702
4.25	713
4.50	730
4.75	743
5.00	760
5.25	771
5.50	780
5.75	812
6.00	845

"Eastmere Stables", Eastergate Lane, Walberton

Percolation Trial Pit TP#4

Main Entrance Roadway Percolation Test#3

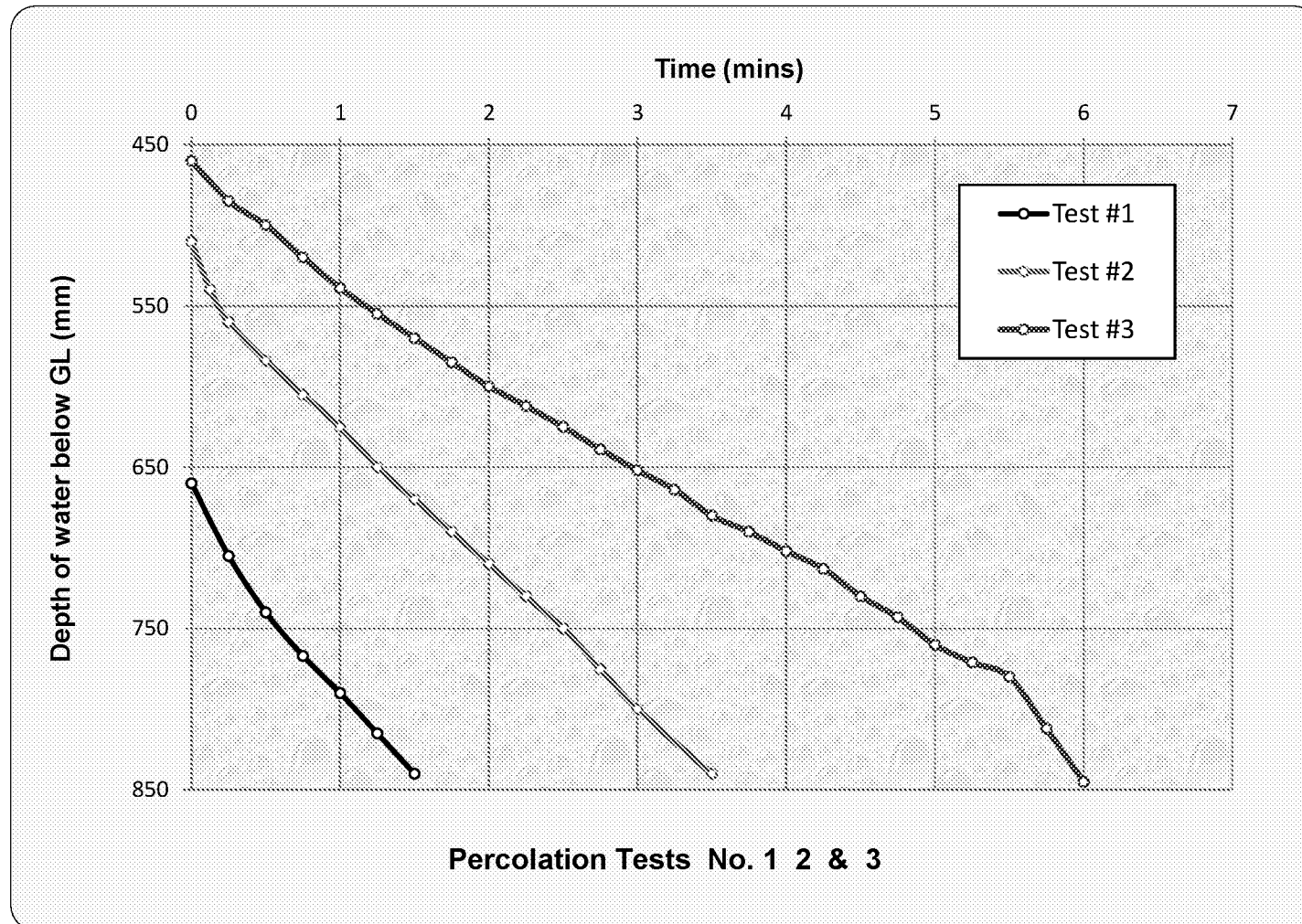
1800mm Length x 650mm Width x 840mm Depth



Soil infiltration rate:

$$f = \frac{0.105}{1.611 \times 3.6 \times 60} = 3.069\text{E-}04 \text{ m/s}$$

Soil Infiltration Rate is
3.069E-04 metres/second



Appendix G

Environment Agency Flood Map for Planning

Flood map for planning

Your reference
Eastermere

Location (easting/northing)
495175/106073

Created
4 May 2022 16:35

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following:**

- bigger than 1 hectare (ha)
- In an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2021 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>

Flood map for planning

Your reference

Eastermere

Location (easting/northing)

495175/106073

Scale

1:2500

Created

4 May 2022 16:35

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefiting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

0 20 40 60m

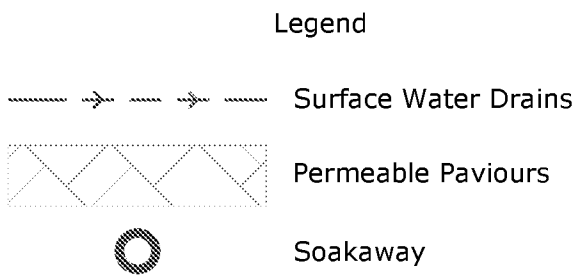
Page 2 of 2



Extent of flooding from surface water

High
 Medium
 Low
 Very low
 + Location you selected

C:\Users\jwiseman\Motion\StaffSite - 1\aes 2203002\Drawings\2203002-0500-01b [Drainage Strategy].dwg



Drawing Status:

DRAFT
NOT FOR CONSTRUCTION



Project: **Eastmere Stables, Eastergate**

Scale: 1:250	Size: A1	Project No: 2203002
Drawing: 2203002-0500-01		Revision: B

Motion		Page 1
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55	Designed by commonuser	
File MD_EAST_002.MDX	Checked by	
Innovyze	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	19.600	Add Flow / Climate Change (%)	0
Ratio K	0.324	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	150	Maximum Backdrop Height (m)	20.000
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	0.500
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm at outfall (pipe 1.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.003

Total Area Contributing (ha) = 0.012

Total Pipe Volume (m³) = 0.151

Time Area Diagram at outfall (pipe 2.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.004

Total Area Contributing (ha) = 0.018

Total Pipe Volume (m³) = 0.090

Time Area Diagram at outfall (pipe 3.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.008	4-8	0.002

Total Area Contributing (ha) = 0.011

Total Pipe Volume (m³) = 0.065

©1982-2020 Innovyze

Motion		Page 2
84 North Street		
Guildford		
GU1 4AU		
Date 07/07/2022 09:55	Designed by commonuser	
File MD_EAST_002.MDX	Checked by	
Innovyze	Network 2020.1.3	

Time Area Diagram at outfall (pipe 4.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.003

Total Area Contributing (ha) = 0.012

Total Pipe Volume (m³) = 0.117

Time Area Diagram at outfall (pipe 5.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.008	4-8	0.002

Total Area Contributing (ha) = 0.011

Total Pipe Volume (m³) = 0.043

Time Area Diagram at outfall 12 (pipe 6.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.011	4-8	0.003

Total Area Contributing (ha) = 0.014

Total Pipe Volume (m³) = 0.049

Time Area Diagram at outfall (pipe 7.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.010	4-8	0.003

Total Area Contributing (ha) = 0.013

Total Pipe Volume (m³) = 0.074

©1982-2020 Innovyze

Motion		Page 3
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

Time Area Diagram at outfall (pipe 8.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.007	4-8	0.002

Total Area Contributing (ha) = 0.010

Total Pipe Volume (m³) = 0.081

Time Area Diagram at outfall (pipe 9.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.007	4-8	0.002

Total Area Contributing (ha) = 0.010

Total Pipe Volume (m³) = 0.086

Time Area Diagram at outfall (pipe 10.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.113	4-8	0.030

Total Area Contributing (ha) = 0.143

Total Pipe Volume (m³) = 0.629

Network Design Table for Storm

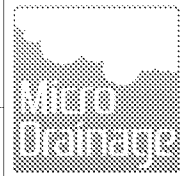
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	8.831	0.151	58.5	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	10.436	0.178	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

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)
1.000	140.97	5.15	15.906	0.012	0.0	0.0	0.0	1.01	7.9	4.8
1.001	139.38	5.32	15.349	0.012	0.0	0.0	0.0	1.01	7.9	4.8

©1982-2020 Innovyze

Motion	Page 4
84 North Street Guildford GU1 4AU	
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



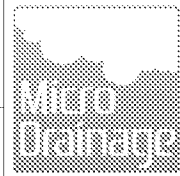
Network Design Table for Storm

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
2.000	7.280	0.124	58.5	0.018	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
2.001	4.234	0.072	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
3.000	4.434	0.076	58.5	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
3.001	3.833	0.066	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
4.000	11.497	0.197	58.5	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
4.001	3.360	0.057	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
5.000	2.729	0.047	58.5	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
5.001	2.729	0.047	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
6.000	1.128	0.019	58.5	0.014	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
6.001	5.067	0.087	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
7.000	5.751	0.098	58.5	0.013	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
7.001	3.648	0.062	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
2.000	141.22	5.12	15.300	0.018	0.0	0.0	0.0	1.01	7.9	6.8
2.001	140.56	5.19	15.176	0.018	0.0	0.0	0.0	1.01	7.9	6.8
3.000	141.66	5.07	14.700	0.011	0.0	0.0	0.0	1.01	7.9	4.2
3.001	141.06	5.14	14.624	0.011	0.0	0.0	0.0	1.01	7.9	4.2
4.000	140.56	5.19	14.600	0.012	0.0	0.0	0.0	1.01	7.9	4.7
4.001	140.05	5.25	14.403	0.012	0.0	0.0	0.0	1.01	7.9	4.7
5.000	141.93	5.05	14.500	0.011	0.0	0.0	0.0	1.01	7.9	4.2
5.001	141.50	5.09	14.453	0.011	0.0	0.0	0.0	1.01	7.9	4.2
6.000	142.18	5.02	14.700	0.014	0.0	0.0	0.0	1.01	7.9	5.5
6.001	141.39	5.10	14.681	0.014	0.0	0.0	0.0	1.01	7.9	5.5
7.000	141.45	5.09	15.100	0.013	0.0	0.0	0.0	1.01	7.9	4.9
7.001	140.89	5.16	15.002	0.013	0.0	0.0	0.0	1.01	7.9	4.9

Motion	Page 5
84 North Street Guildford GU1 4AU	
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



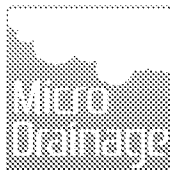
Network Design Table for Storm

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
8.000	5.159	0.088	58.5	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
8.001	5.159	0.088	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
9.000	5.505	0.094	58.5	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
9.001	5.505	0.094	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
10.000	5.480	0.047	117.6	0.138	5.00	0.0	0.600	o	300	Pipe/Conduit	
10.001	3.423	0.043	78.9	0.005	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

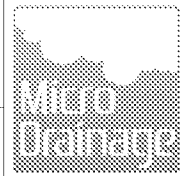
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
8.000	141.55	5.09	15.200	0.010	0.0	0.0	0.0	1.01	7.9	3.7
8.001	140.74	5.17	15.112	0.010	0.0	0.0	0.0	1.01	7.9	3.7
9.000	141.49	5.09	15.300	0.010	0.0	0.0	0.0	1.01	7.9	3.7
9.001	140.64	5.18	15.206	0.010	0.0	0.0	0.0	1.01	7.9	3.7
10.000	141.76	5.06	14.500	0.138	0.0	0.0	0.0	1.45	102.4	52.9
10.001	141.45	5.10	14.453	0.143	0.0	0.0	0.0	1.77	125.2	54.8

Motion								Page 6		
84 North Street Guildford GU1 4AU										
Date 07/07/2022 09:55					Designed by commonuser					
File MD_EAST_002.MDX					Checked by					
Innovyze					Network 2020.1.3					
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)
1.000	15.100	0.600	Open Manhole	1200	1.000	15.300	100			
1.001	15.100	0.751	Open Manhole	1200	1.001	15.349	100	1.000	15.349	100
	15.100	0.929	Open Manhole	0		OUTFALL		1.001	15.171	100
2.000	15.500	0.600	Open Manhole	1200	2.000	15.500	100			
2.001	15.500	0.724	Open Manhole	1200	2.001	15.176	100	2.000	15.176	100
	15.500	0.797	Open Manhole	0		OUTFALL		2.001	15.103	100
3.000	15.300	0.600	Open Manhole	1200	3.000	14.700	100			
3.001	15.300	0.676	Open Manhole	1200	3.001	14.624	100	3.000	14.624	100
	15.300	0.741	Open Manhole	0		OUTFALL		3.001	14.559	100
4.000	15.200	0.600	Open Manhole	1200	4.000	14.600	100			
4.001	15.200	0.797	Open Manhole	1200	4.001	14.403	100	4.000	14.403	100
	15.200	0.854	Open Manhole	0		OUTFALL		4.001	14.346	100
5.000	15.100	0.600	Open Manhole	1200	5.000	14.500	100			
5.001	15.100	0.647	Open Manhole	1200	5.001	14.453	100	5.000	14.453	100
	15.100	0.693	Open Manhole	0		OUTFALL		5.001	14.407	100
6.000	15.300	0.600	Open Manhole	1200	6.000	14.700	100			
6.001	15.300	0.619	Open Manhole	1200	6.001	14.681	100	6.000	14.681	100
12	15.300	0.706	Open Manhole	1200		OUTFALL		6.001	14.594	100
7.000	15.700	0.600	Open Manhole	1200	7.000	15.100	100			
7.001	15.700	0.698	Open Manhole	1200	7.001	15.002	100	7.000	15.002	100
	15.700	0.761	Open Manhole	0		OUTFALL		7.001	14.939	100
8.000	15.800	0.600	Open Manhole	1200	8.000	15.200	100			
8.001	15.800	0.688	Open Manhole	1200	8.001	15.112	100	8.000	15.112	100
	15.800	0.776	Open Manhole	0		OUTFALL		8.001	15.024	100
9.000	15.900	0.600	Open Manhole	1200	9.000	15.300	100			
9.001	15.900	0.694	Open Manhole	1200	9.001	15.206	100	9.000	15.206	100
	15.900	0.788	Open Manhole	0		OUTFALL		9.001	15.112	100
10.000	15.300	0.800	Open Manhole	1200	10.000	14.500	300			
10.001	15.300	0.847	Open Manhole	1200	10.001	14.453	300	10.000	14.453	300
	15.300	0.890	Open Manhole	0		OUTFALL		10.001	14.410	300
©1982-2020 Innovyze										

Motion			Page 7			
84 North Street Guildford GU1 4AU						
Date 07/07/2022 09:55 File MD_EAST_002.MDX						
Innovyze						
			Designed by commonuser Checked by Network 2020.1.3			
<u>Manhole Schedules for Storm</u>						
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
1.000	-64.773	-31.222	-64.773	-31.222	Required	
1.001	-73.587	-30.662	-73.587	-30.662	Required	
	-83.842	-28.727			No Entry	
2.000	-64.494	-13.316	-64.494	-13.316	Required	
2.001	-71.768	-13.036	-71.768	-13.036	Required	
	-75.965	-12.476			No Entry	
3.000	-50.295	32.164	-50.295	32.164	Required	
3.001	-50.399	36.597	-50.399	36.597	Required	
	-49.945	40.403			No Entry	
4.000	-22.410	35.080	-22.410	35.080	Required	
4.001	-23.086	46.558	-23.086	46.558	Required	
	-19.729	46.418			No Entry	
5.000	-7.278	34.947	-7.278	34.947	Required	
5.001	-7.348	37.675	-7.348	37.675	Required	
©1982-2020 Innovyze						

Motion					Page 8	
84 North Street Guildford GU1 4AU						
Date 07/07/2022 09:55 File MD_EAST_002.MDX						
Innovyze						
			Designed by commonuser Checked by Network 2020.1.3			
<u>Manhole Schedules for Storm</u>						
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
	-7.418	40.403			No Entry	
6.000	21.399	32.848	21.399	32.848	Required	
6.001	20.840	33.828	20.840	33.828	Required	
12	20.280	38.864			No Entry	
7.000	-26.303	-28.284	-26.303	-28.284	Required	
7.001	-20.568	-27.864	-20.568	-27.864	Required	
	-16.931	-27.584			No Entry	
8.000	-25.744	-11.217	-25.744	-11.217	Required	
8.001	-20.587	-11.357	-20.587	-11.357	Required	
	-15.430	-11.497			No Entry	
9.000	-26.443	-3.243	-26.443	-3.243	Required	
9.001	-20.939	-3.325	-20.939	-3.325	Required	
	-15.435	-3.407			No Entry	
10.000	-18.332	17.464	-18.332	17.464	Required	
©1982-2020 Innovyze						

Motion	Page 10
84 North Street Guildford GU1 4AU	
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



PIPELINE SCHEDULES for Storm

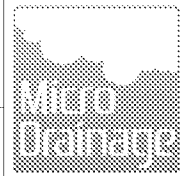
Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	100	1.000	16.100	15.300	0.500	Open Manhole	1200
1.001	o	100	1.001	16.100	15.349	0.651	Open Manhole	1200
2.000	o	100	2.000	15.900	15.300	0.500	Open Manhole	1200
2.001	o	100	2.001	15.900	15.176	0.624	Open Manhole	1200
3.000	o	100	3.000	15.300	14.700	0.500	Open Manhole	1200
3.001	o	100	3.001	15.300	14.624	0.576	Open Manhole	1200
4.000	o	100	4.000	15.200	14.600	0.500	Open Manhole	1200
4.001	o	100	4.001	15.200	14.403	0.697	Open Manhole	1200
5.000	o	100	5.000	15.100	14.500	0.500	Open Manhole	1200
5.001	o	100	5.001	15.100	14.453	0.547	Open Manhole	1200
6.000	o	100	6.000	15.300	14.700	0.500	Open Manhole	1200
6.001	o	100	6.001	15.300	14.681	0.519	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)
1.000	9.831	58.5	1.001	16.100	15.349	0.651	Open Manhole	1200
1.001	10.436	58.5		16.100	15.171	0.829	Open Manhole	0
2.000	7.280	58.5	2.001	15.900	15.176	0.624	Open Manhole	1200
2.001	4.234	58.5		15.900	15.103	0.697	Open Manhole	0
3.000	4.434	58.5	3.001	15.300	14.624	0.576	Open Manhole	1200
3.001	3.833	58.5		15.300	14.559	0.641	Open Manhole	0
4.000	11.497	58.5	4.001	15.200	14.403	0.697	Open Manhole	1200
4.001	3.360	58.5		15.200	14.346	0.754	Open Manhole	0
5.000	2.729	58.5	5.001	15.100	14.453	0.547	Open Manhole	1200
5.001	2.729	58.5		15.100	14.407	0.593	Open Manhole	0
6.000	1.128	58.5	6.001	15.300	14.681	0.519	Open Manhole	1200
6.001	5.067	58.5	12	15.300	14.594	0.606	Open Manhole	1200

Motion	Page 11
84 North Street Guildford GU1 4AU	
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



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)
7.000	o	100	7.000	15.700	15.100	0.590	Open Manhole	1200
7.001	o	100	7.001	15.700	15.002	0.598	Open Manhole	1200
8.000	o	100	8.000	15.800	15.200	0.500	Open Manhole	1200
8.001	o	100	8.001	15.800	15.112	0.588	Open Manhole	1200
9.000	o	100	9.000	15.900	15.300	0.500	Open Manhole	1200
9.001	o	100	9.001	15.900	15.206	0.594	Open Manhole	1200
10.000	o	300	10.000	15.300	14.500	0.500	Open Manhole	1200
10.001	o	300	10.001	15.300	14.453	0.547	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)
7.000	5.751	58.5	7.001	15.700	15.002	0.590	Open Manhole	1200
7.001	3.648	58.5		15.700	14.939	0.661	Open Manhole	0
8.000	5.159	58.5	8.001	15.800	15.112	0.588	Open Manhole	1200
8.001	5.159	58.5		15.800	15.024	0.676	Open Manhole	0
9.000	5.505	58.5	9.001	15.900	15.206	0.594	Open Manhole	1200
9.001	5.505	58.5		15.900	15.112	0.680	Open Manhole	0
10.000	5.480	117.6	10.001	15.300	14.453	0.547	Open Manhole	1200
10.001	3.423	78.9		15.300	14.410	0.590	Open Manhole	0

Motion		Page 12
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55	Designed by commonuser	
File MD_EAST_002.MDX	Checked by	
Innovyze		Network 2020.1.3

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.012	0.012	0.012
1.001	-	-	100	0.000	0.000	0.000
2.000	User	-	100	0.018	0.018	0.018
2.001	-	-	100	0.000	0.000	0.000
3.000	User	-	100	0.011	0.011	0.011
3.001	-	-	100	0.000	0.000	0.000
4.000	User	-	100	0.012	0.012	0.012
4.001	-	-	100	0.000	0.000	0.000
5.000	User	-	100	0.011	0.011	0.011
5.001	-	-	100	0.000	0.000	0.000
6.000	User	-	100	0.014	0.014	0.014
6.001	-	-	100	0.000	0.000	0.000
7.000	User	-	100	0.013	0.013	0.013
7.001	-	-	100	0.000	0.000	0.000
8.000	User	-	100	0.010	0.010	0.010
8.001	-	-	100	0.000	0.000	0.000
9.000	User	-	100	0.010	0.010	0.010
9.001	-	-	100	0.000	0.000	0.000
10.000	User	-	100	0.090	0.090	0.090
	User	-	100	0.004	0.004	0.094
	User	-	100	0.006	0.006	0.100
	User	-	100	0.008	0.008	0.108
	User	-	100	0.012	0.012	0.120
	User	-	100	0.004	0.004	0.124
	User	-	100	0.004	0.004	0.127
	User	-	100	0.007	0.007	0.135
	User	-	100	0.003	0.003	0.138
10.001	User	-	100	0.005	0.005	0.005
				Total	Total	Total
				0.254	0.254	0.254

Simulation Criteria for Storm

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

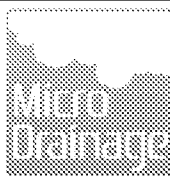
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

©1982-2020 Innovyze

Motion		Page 13																				
84 North Street Guildford GU1 4AU																						
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by																					
Innovyze	Network 2020.1.3																					
<u>Simulation Criteria for Storm</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Profile Type</td> <td>Summer</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>20.000</td> <td>Storm Duration (mins)</td> <td>30</td> </tr> <tr> <td>Ratio R</td> <td>0.350</td> <td></td> <td></td> </tr> </table>			Rainfall Model	FSR	Profile Type	Summer	Return Period (years)	100	Cv (Summer)	0.750	Region	England and Wales	Cv (Winter)	0.840	M5-60 (mm)	20.000	Storm Duration (mins)	30	Ratio R	0.350		
Rainfall Model	FSR	Profile Type	Summer																			
Return Period (years)	100	Cv (Summer)	0.750																			
Region	England and Wales	Cv (Winter)	0.840																			
M5-60 (mm)	20.000	Storm Duration (mins)	30																			
Ratio R	0.350																					
©1982-2020 Innovyze																						

Motion		Page 14
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	
<u>Online Controls for Storm</u> <u>Weir Manhole: 1.001, DS/PN: 1.001, Volume (m³): 0.9</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 16.100 <u>Weir Manhole: 2.001, DS/PN: 2.001, Volume (m³): 0.9</u> Discharge Coef 0.544 width (m) 1.000 Invert Level (m) 15.900 <u>Weir Manhole: 3.001, DS/PN: 3.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.300 <u>Weir Manhole: 4.001, DS/PN: 4.001, Volume (m³): 1.0</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.200 <u>Weir Manhole: 5.001, DS/PN: 5.001, Volume (m³): 0.7</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.100 <u>Weir Manhole: 6.001, DS/PN: 6.001, Volume (m³): 0.7</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.300 <u>Weir Manhole: 7.001, DS/PN: 7.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.700 <u>Weir Manhole: 8.001, DS/PN: 8.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.800 <u>Weir Manhole: 9.001, DS/PN: 9.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.900 <u>Pump Manhole: 10.001, DS/PN: 10.001, Volume (m³): 1.3</u> Invert Level (m) 14.453 ©1982-2020 Innovyze		

Motion		Page 15																																																																								
84 North Street Guildford GU1 4AU																																																																										
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by																																																																									
Innovyze	Network 2020.1.3																																																																									
<u>Pump Manhole: 10.001, DS/PN: 10.001, Volume (m³): 1.3</u> <table><tr><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th></tr><tr><td>0.200</td><td>0.0000</td><td>1.800</td><td>0.0000</td><td>3.400</td><td>0.0000</td><td>5.000</td><td>0.0000</td></tr><tr><td>0.400</td><td>0.0000</td><td>2.000</td><td>0.0000</td><td>3.600</td><td>0.0000</td><td>5.200</td><td>0.0000</td></tr><tr><td>0.600</td><td>0.0000</td><td>2.200</td><td>0.0000</td><td>3.800</td><td>0.0000</td><td>5.400</td><td>0.0000</td></tr><tr><td>0.800</td><td>0.0000</td><td>2.400</td><td>0.0000</td><td>4.000</td><td>0.0000</td><td>5.600</td><td>0.0000</td></tr><tr><td>1.000</td><td>0.0000</td><td>2.600</td><td>0.0000</td><td>4.200</td><td>0.0000</td><td>5.800</td><td>0.0000</td></tr><tr><td>1.200</td><td>0.0000</td><td>2.800</td><td>0.0000</td><td>4.400</td><td>0.0000</td><td>6.000</td><td>0.0000</td></tr><tr><td>1.400</td><td>0.0000</td><td>3.000</td><td>0.0000</td><td>4.600</td><td>0.0000</td><td></td><td></td></tr><tr><td>1.600</td><td>0.0000</td><td>3.200</td><td>0.0000</td><td>4.800</td><td>0.0000</td><td></td><td></td></tr></table>			Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	0.200	0.0000	1.800	0.0000	3.400	0.0000	5.000	0.0000	0.400	0.0000	2.000	0.0000	3.600	0.0000	5.200	0.0000	0.600	0.0000	2.200	0.0000	3.800	0.0000	5.400	0.0000	0.800	0.0000	2.400	0.0000	4.000	0.0000	5.600	0.0000	1.000	0.0000	2.600	0.0000	4.200	0.0000	5.800	0.0000	1.200	0.0000	2.800	0.0000	4.400	0.0000	6.000	0.0000	1.400	0.0000	3.000	0.0000	4.600	0.0000			1.600	0.0000	3.200	0.0000	4.800	0.0000		
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)																																																																			
0.200	0.0000	1.800	0.0000	3.400	0.0000	5.000	0.0000																																																																			
0.400	0.0000	2.000	0.0000	3.600	0.0000	5.200	0.0000																																																																			
0.600	0.0000	2.200	0.0000	3.800	0.0000	5.400	0.0000																																																																			
0.800	0.0000	2.400	0.0000	4.000	0.0000	5.600	0.0000																																																																			
1.000	0.0000	2.600	0.0000	4.200	0.0000	5.800	0.0000																																																																			
1.200	0.0000	2.800	0.0000	4.400	0.0000	6.000	0.0000																																																																			
1.400	0.0000	3.000	0.0000	4.600	0.0000																																																																					
1.600	0.0000	3.200	0.0000	4.800	0.0000																																																																					
©1982-2020 Innovyze																																																																										

Motion		Page 16																																																																																																				
84 North Street Guildford GU1 4AU																																																																																																						
Date 07/07/2022 09:55	Designed by commonuser																																																																																																					
File MD_EAST_002.MDX	Checked by																																																																																																					
Innovyze	Network 2020.1.3																																																																																																					
<u>Storage Structures for Storm</u> <u>Lined Soakaway Manhole: 1.001, DS/PN: 1.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.12744</td><td>Ring Diameter (m)</td><td>1.20</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.12744</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.600</td></tr><tr><td>Invert Level (m)</td><td>14.100</td><td>Cap Infiltration Depth (m)</td><td>1.600</td></tr></table> <u>Lined Soakaway Manhole: 2.001, DS/PN: 2.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.12744</td><td>Ring Diameter (m)</td><td>2.00</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.12744</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.600</td></tr><tr><td>Invert Level (m)</td><td>13.900</td><td>Cap Infiltration Depth (m)</td><td>1.600</td></tr></table> <u>Lined Soakaway Manhole: 3.001, DS/PN: 3.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.900</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table> <u>Lined Soakaway Manhole: 4.001, DS/PN: 4.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.800</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table> <u>Lined Soakaway Manhole: 5.001, DS/PN: 5.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.700</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table>			Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	1.20	Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	14.100	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	2.00	Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.000	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.000
Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	1.20																																																																																																			
Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																			
Invert Level (m)	14.100	Cap Infiltration Depth (m)	1.600																																																																																																			
Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	2.00																																																																																																			
Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																			
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.000																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.000																																																																																																			
©1982-2020 Innovyze																																																																																																						

Motion		Page 17
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

Lined Soakaway Manhole: 6.001, DS/PN: 6.001

Infiltration Coefficient Base (m/hr)	1.10484	Ring Diameter (m)	1.20
Infiltration Coefficient Side (m/hr)	1.10484	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	1.000
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000

Lined Soakaway Manhole: 7.001, DS/PN: 7.001

Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	1.600
Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.600

Lined Soakaway Manhole: 8.001, DS/PN: 8.001

Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	1.600
Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.600

Lined Soakaway Manhole: 9.001, DS/PN: 9.001

Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	1.600
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600

Porous Car Park Manhole: 10.000, DS/PN: 10.000

Infiltration Coefficient Base (m/hr)	0.13352	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	91.0
Max Percolation (l/s)	252.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	14.600	Cap Volume Depth (m)	0.470

©1982-2020 Innovyze

Motion		Page 18
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 20.000 Cv (Winter) 0.840

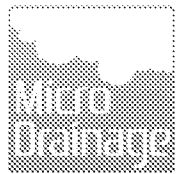
Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status ON
Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	15 Winter	1	+0%	100/60 Summer	100/120 Winter			15.532
1.001	1.001	240 Winter	1	+0%	100/30 Summer				14.521
2.000	2.000	15 Winter	1	+0%	100/15 Summer				15.340
2.001	2.001	120 Winter	1	+0%	100/120 Winter				14.143
3.000	3.000	15 Winter	1	+0%					14.731
3.001	3.001	15 Winter	1	+0%					13.913
4.000	4.000	15 Winter	1	+0%					14.632
4.001	4.001	15 Winter	1	+0%					13.815
5.000	5.000	15 Winter	1	+0%	100/15 Winter				14.533
5.001	5.001	15 Winter	1	+0%					13.713
6.000	6.000	15 Winter	1	+0%	30/15 Summer				14.749
6.001	6.001	30 Winter	1	+0%	100/15 Summer				14.071
7.000	7.000	15 Winter	1	+0%	100/15 Summer	100/240 Winter			15.133
7.001	7.001	480 Winter	1	+0%	100/60 Winter	100/480 Winter			14.125

©1982-2020 Innovyze

Motion		Page 19
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55	Designed by commonuser	
File MD_EAST_002.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
1.000	1.000	-0.068	0.000	0.22		1.6	OK	4
1.001	1.001	-0.928	0.000	0.00	144	0.0	OK	
2.000	2.000	-0.060	0.000	0.32		2.3	OK	
2.001	2.001	-1.133	0.000	0.00	83	0.0	OK	
3.000	3.000	-0.069	0.000	0.21		1.4	OK	
3.001	3.001	-0.811	0.000	0.00	5	0.0	OK	
4.000	4.000	-0.068	0.000	0.22		1.6	OK	
4.001	4.001	-0.688	0.000	0.00	5	0.0	OK	
5.000	5.000	-0.067	0.000	0.24		1.4	OK	
5.001	5.001	-0.840	0.000	0.00	5	0.0	OK	
6.000	6.000	-0.051	0.000	0.48		1.9	OK	
6.001	6.001	-0.710	0.000	0.00	12	0.0	OK	
7.000	7.000	-0.067	0.000	0.24		1.7	OK	5
7.001	7.001	-0.977	0.000	0.00	414	0.0	OK	2

Motion								Page 20																																																																									
84 North Street Guildford GU1 4AU																																																																																	
Date 07/07/2022 09:55					Designed by commonuser																																																																												
File MD_EAST_002.MDX					Checked by																																																																												
Innovyze					Network 2020.1.3																																																																												
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>																																																																																	
<table><tr><th></th><th>US/MH</th><th></th><th>Return Climate</th><th>First (X)</th><th>First (Y)</th><th>First (Z)</th><th>Overflow</th><th>Water</th></tr><tr><th>PN</th><th>Name</th><th>Storm</th><th>Period Change</th><th>Surcharge</th><th>Flood</th><th>Overflow</th><th>Act.</th><th>Level</th></tr><tr><td>8.000</td><td>8.000</td><td>15 Winter</td><td>1 +0%</td><td></td><td></td><td></td><td></td><td>15.229</td></tr><tr><td>8.001</td><td>8.001</td><td>480 Winter</td><td>1 +0%</td><td>100/240 Winter</td><td></td><td></td><td></td><td>14.099</td></tr><tr><td>9.000</td><td>9.000</td><td>15 Winter</td><td>1 +0%</td><td></td><td></td><td></td><td></td><td>15.329</td></tr><tr><td>9.001</td><td>9.001</td><td>480 Winter</td><td>1 +0%</td><td>100/240 Winter</td><td></td><td></td><td></td><td>14.198</td></tr><tr><td>10.000</td><td>10.000</td><td>60 Winter</td><td>1 +0%</td><td></td><td></td><td></td><td></td><td>14.616</td></tr><tr><td>10.001</td><td>10.001</td><td>15 Winter</td><td>1 +0%</td><td></td><td></td><td></td><td></td><td>14.634</td></tr></table>											US/MH		Return Climate	First (X)	First (Y)	First (Z)	Overflow	Water	PN	Name	Storm	Period Change	Surcharge	Flood	Overflow	Act.	Level	8.000	8.000	15 Winter	1 +0%					15.229	8.001	8.001	480 Winter	1 +0%	100/240 Winter				14.099	9.000	9.000	15 Winter	1 +0%					15.329	9.001	9.001	480 Winter	1 +0%	100/240 Winter				14.198	10.000	10.000	60 Winter	1 +0%					14.616	10.001	10.001	15 Winter	1 +0%					14.634
	US/MH		Return Climate	First (X)	First (Y)	First (Z)	Overflow	Water																																																																									
PN	Name	Storm	Period Change	Surcharge	Flood	Overflow	Act.	Level																																																																									
8.000	8.000	15 Winter	1 +0%					15.229																																																																									
8.001	8.001	480 Winter	1 +0%	100/240 Winter				14.099																																																																									
9.000	9.000	15 Winter	1 +0%					15.329																																																																									
9.001	9.001	480 Winter	1 +0%	100/240 Winter				14.198																																																																									
10.000	10.000	60 Winter	1 +0%					14.616																																																																									
10.001	10.001	15 Winter	1 +0%					14.634																																																																									
<table><tr><th></th><th>US/MH</th><th>Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>Name</th><th>Depth Volume Flow / Overflow</th><th>Time</th><th>Flow</th><th>Level</th></tr><tr><th></th><th></th><th>(m) (m³) Cap. (l/s)</th><th>(mins)</th><th>(l/s)</th><th>Status Exceeded</th></tr><tr><td>8.000</td><td>8.000</td><td>-0.071 0.000 0.18</td><td></td><td>1.3</td><td>OK</td></tr><tr><td>8.001</td><td>8.001</td><td>-1.113 0.000 0.00</td><td>341</td><td>0.0</td><td>OK</td></tr><tr><td>9.000</td><td>9.000</td><td>-0.071 0.000 0.18</td><td></td><td>1.3</td><td>OK</td></tr><tr><td>9.001</td><td>9.001</td><td>-1.108 0.000 0.00</td><td>341</td><td>0.0</td><td>OK</td></tr><tr><td>10.000</td><td>10.000</td><td>-0.194 0.000 0.03</td><td>22</td><td>1.6</td><td>OK</td></tr><tr><td>10.001</td><td>10.001</td><td>-0.119 0.000 0.00</td><td></td><td>0.0</td><td>OK</td></tr></table>											US/MH	Surcharged Flooded	Half Drain	Pipe		PN	Name	Depth Volume Flow / Overflow	Time	Flow	Level			(m) (m³) Cap. (l/s)	(mins)	(l/s)	Status Exceeded	8.000	8.000	-0.071 0.000 0.18		1.3	OK	8.001	8.001	-1.113 0.000 0.00	341	0.0	OK	9.000	9.000	-0.071 0.000 0.18		1.3	OK	9.001	9.001	-1.108 0.000 0.00	341	0.0	OK	10.000	10.000	-0.194 0.000 0.03	22	1.6	OK	10.001	10.001	-0.119 0.000 0.00		0.0	OK																		
	US/MH	Surcharged Flooded	Half Drain	Pipe																																																																													
PN	Name	Depth Volume Flow / Overflow	Time	Flow	Level																																																																												
		(m) (m³) Cap. (l/s)	(mins)	(l/s)	Status Exceeded																																																																												
8.000	8.000	-0.071 0.000 0.18		1.3	OK																																																																												
8.001	8.001	-1.113 0.000 0.00	341	0.0	OK																																																																												
9.000	9.000	-0.071 0.000 0.18		1.3	OK																																																																												
9.001	9.001	-1.108 0.000 0.00	341	0.0	OK																																																																												
10.000	10.000	-0.194 0.000 0.03	22	1.6	OK																																																																												
10.001	10.001	-0.119 0.000 0.00		0.0	OK																																																																												
©1982-2020 Innovyze																																																																																	

Motion		Page 21
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 20.000 Cv (Winter) 0.840

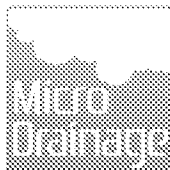
Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status ON
Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	15 Winter	30	+0%	100/60 Summer	100/120 Winter			15.554
1.001	1.001	240 Winter	30	+0%	100/30 Summer				15.194
2.000	2.000	15 Winter	30	+0%	100/15 Summer				15.369
2.001	2.001	120 Winter	30	+0%	100/120 Winter				14.591
3.000	3.000	15 Winter	30	+0%					14.752
3.001	3.001	15 Winter	30	+0%					13.933
4.000	4.000	15 Winter	30	+0%					14.653
4.001	4.001	15 Winter	30	+0%					13.838
5.000	5.000	15 Winter	30	+0%	100/15 Winter				14.556
5.001	5.001	15 Winter	30	+0%					13.733
6.000	6.000	15 Winter	30	+0%	30/15 Summer				14.807
6.001	6.001	30 Winter	30	+0%	100/15 Summer				14.479
7.000	7.000	15 Winter	30	+0%	100/15 Summer	100/240 Winter			15.156
7.001	7.001	480 Winter	30	+0%	100/60 Winter	100/480 Winter			14.741

©1982-2020 Innovyze

Motion							Page 22		
84 North Street Guildford GU1 4AU									
Date 07/07/2022 09:55				Designed by commonuser					
File MD_EAST_002.MDX				Checked by					
Innovyze				Network 2020.1.3					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
1.000	1.000	-0.046	0.000	0.55			4.0	OK	4
1.001	1.001	-0.255	0.000	0.00		207	0.0	OK	
2.000	2.000	-0.031	0.000	0.79			5.7	OK	
2.001	2.001	-0.684	0.000	0.00			0.0	OK	
3.000	3.000	-0.048	0.000	0.52			3.5	OK	
3.001	3.001	-0.791	0.000	0.00		5	0.0	OK	
4.000	4.000	-0.047	0.000	0.54			4.0	OK	
4.001	4.001	-0.666	0.000	0.00		5	0.0	OK	
5.000	5.000	-0.044	0.000	0.58			3.5	OK	
5.001	5.001	-0.820	0.000	0.00		5	0.0	OK	
6.000	6.000	-0.007	0.000	1.18			4.7	SURCHARGED	
6.001	6.001	-0.302	0.000	0.00		21	0.0	OK	
7.000	7.000	-0.044	0.000	0.59			4.1	OK	5
7.001	7.001	-0.361	0.000	0.00			0.0	OK	2
©1982-2020 Innovyze									

Motion								Page 23																																																																							
84 North Street Guildford GU1 4AU																																																																															
Date 07/07/2022 09:55					Designed by commonuser																																																																										
File MD_EAST_002.MDX					Checked by																																																																										
Innovyze					Network 2020.1.3																																																																										
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>																																																																															
<table><tr><th>PN</th><th>US/MH Name</th><th>Storm</th><th>Return Period</th><th>Climate Change</th><th>First (X) Surcharge</th><th>First (Y) Flood</th><th>First (Z) Overflow</th><th>Overflow Act.</th><th>Water Level (m)</th></tr><tr><td>8.000</td><td>8.000</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>15.247</td></tr><tr><td>8.001</td><td>8.001</td><td>480 Winter</td><td>30</td><td>+0%</td><td>100/240 Winter</td><td></td><td></td><td></td><td>14.551</td></tr><tr><td>9.000</td><td>9.000</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>15.347</td></tr><tr><td>9.001</td><td>9.001</td><td>480 Winter</td><td>30</td><td>+0%</td><td>100/240 Winter</td><td></td><td></td><td></td><td>14.649</td></tr><tr><td>10.000</td><td>10.000</td><td>30 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>14.647</td></tr><tr><td>10.001</td><td>10.001</td><td>30 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>14.648</td></tr></table>										PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	8.000	8.000	15 Winter	30	+0%					15.247	8.001	8.001	480 Winter	30	+0%	100/240 Winter				14.551	9.000	9.000	15 Winter	30	+0%					15.347	9.001	9.001	480 Winter	30	+0%	100/240 Winter				14.649	10.000	10.000	30 Winter	30	+0%					14.647	10.001	10.001	30 Winter	30	+0%					14.648
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)																																																																						
8.000	8.000	15 Winter	30	+0%					15.247																																																																						
8.001	8.001	480 Winter	30	+0%	100/240 Winter				14.551																																																																						
9.000	9.000	15 Winter	30	+0%					15.347																																																																						
9.001	9.001	480 Winter	30	+0%	100/240 Winter				14.649																																																																						
10.000	10.000	30 Winter	30	+0%					14.647																																																																						
10.001	10.001	30 Winter	30	+0%					14.648																																																																						
<table><tr><th>PN</th><th>US/MH Name</th><th>Depth (m)</th><th>Surcharged Volume (m³)</th><th>Flooded Flow / Cap.</th><th>Overflow (l/s)</th><th>Half Drain Time (mins)</th><th>Pipe Flow (l/s)</th><th>Status</th><th>Level Exceeded</th></tr><tr><td>8.000</td><td>8.000</td><td>-0.053</td><td>0.000</td><td>0.45</td><td></td><td></td><td>3.1</td><td>OK</td><td></td></tr><tr><td>8.001</td><td>8.001</td><td>-0.661</td><td>0.000</td><td>0.00</td><td></td><td>495</td><td>0.0</td><td>OK</td><td></td></tr><tr><td>9.000</td><td>9.000</td><td>-0.053</td><td>0.000</td><td>0.44</td><td></td><td></td><td>3.1</td><td>OK</td><td></td></tr><tr><td>9.001</td><td>9.001</td><td>-0.657</td><td>0.000</td><td>0.00</td><td></td><td>495</td><td>0.0</td><td>OK</td><td></td></tr><tr><td>10.000</td><td>10.000</td><td>-0.153</td><td>0.000</td><td>0.02</td><td></td><td>16</td><td>0.9</td><td>OK</td><td></td></tr><tr><td>10.001</td><td>10.001</td><td>-0.106</td><td>0.000</td><td>0.00</td><td></td><td></td><td>0.0</td><td>OK</td><td></td></tr></table>										PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded	8.000	8.000	-0.053	0.000	0.45			3.1	OK		8.001	8.001	-0.661	0.000	0.00		495	0.0	OK		9.000	9.000	-0.053	0.000	0.44			3.1	OK		9.001	9.001	-0.657	0.000	0.00		495	0.0	OK		10.000	10.000	-0.153	0.000	0.02		16	0.9	OK		10.001	10.001	-0.106	0.000	0.00			0.0	OK	
PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded																																																																						
8.000	8.000	-0.053	0.000	0.45			3.1	OK																																																																							
8.001	8.001	-0.661	0.000	0.00		495	0.0	OK																																																																							
9.000	9.000	-0.053	0.000	0.44			3.1	OK																																																																							
9.001	9.001	-0.657	0.000	0.00		495	0.0	OK																																																																							
10.000	10.000	-0.153	0.000	0.02		16	0.9	OK																																																																							
10.001	10.001	-0.106	0.000	0.00			0.0	OK																																																																							
©1982-2020 Innovyze																																																																															

Motion		Page 24
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55 File MD_EAST_002.MDX	Designed by commonuser Checked by	
Innovyze		Network 2020.1.3

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.000 Cv (Winter) 0.840

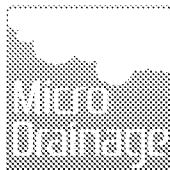
Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	240 Winter	100	+45%	100/60 Summer	100/120 Winter			16.100
1.001	1.001	240 Winter	100	+45%	100/30 Summer				16.099
2.000	2.000	15 Winter	100	+45%	100/15 Summer				15.925
2.001	2.001	240 Winter	100	+45%	100/120 Winter				15.342
3.000	3.000	15 Winter	100	+45%					14.779
3.001	3.001	15 Winter	100	+45%					14.003
4.000	4.000	15 Winter	100	+45%					14.689
4.001	4.001	15 Winter	100	+45%					13.949
5.000	5.000	15 Winter	100	+45%	100/15 Winter				14.607
5.001	5.001	15 Winter	100	+45%					13.795
6.000	6.000	60 Winter	100	+45%	30/15 Summer				15.105
6.001	6.001	60 Winter	100	+45%	100/15 Summer				15.103
7.000	7.000	480 Winter	100	+45%	100/15 Summer	100/240 Winter			15.701
7.001	7.001	960 Winter	100	+45%	100/60 Winter	100/480 Winter			15.700

©1982-2020 Innovyze

Motion		Page 25
84 North Street Guildford GU1 4AU		
Date 07/07/2022 09:55	Designed by commonuser	
File MD_EAST_002.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

PN	US/MH Name	Surcharged		Flooded		Half Drain		Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Flow (l/s)		
1.000	1.000	0.500	0.495	0.22			1.6		FLOOD	4
1.001	1.001	0.650	0.000	0.00			0.0		FLOOD RISK	
2.000	2.000	0.135	0.000	1.42			10.2		SURCHARGED	
2.001	2.001	0.067	0.000	0.00		232	0.0		SURCHARGED	
3.000	3.000	-0.021	0.000	0.97			6.6		OK	
3.001	3.001	-0.721	0.000	0.00		3	0.0		OK	
4.000	4.000	-0.011	0.000	1.00			7.4		OK	
4.001	4.001	-0.554	0.000	0.00		4	0.0		OK	
5.000	5.000	0.007	0.000	1.09			5.5		SURCHARGED	
5.001	5.001	-0.758	0.000	0.00		3	0.0		OK	
6.000	6.000	0.005	0.000	1.23			4.8		FLOOD RISK	
6.001	6.001	0.322	0.000	0.00		38	0.0		FLOOD RISK	
7.000	7.000	0.501	0.702	0.14			1.0		FLOOD	5
7.001	7.001	0.598	0.037	0.00		1089	0.0		FLOOD	2

Appendix J

MicroDrainage Network Model Results + 10% Urban Creep

Motion		Page 1
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	19.600	Add Flow / Climate Change (%)	0
Ratio K	0.324	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	150	Maximum Backdrop Height (m)	20.000
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	0.500
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm at outfall (pipe 1.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.003

Total Area Contributing (ha) = 0.012

Total Pipe Volume (m³) = 0.151

Time Area Diagram at outfall (pipe 2.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.004

Total Area Contributing (ha) = 0.018

Total Pipe Volume (m³) = 0.090

Time Area Diagram at outfall (pipe 3.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.003

Total Area Contributing (ha) = 0.012

Total Pipe Volume (m³) = 0.065

©1982-2020 Innovyze

Motion		Page 2
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

Time Area Diagram at outfall (pipe 4.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.010	4-8	0.003

Total Area Contributing (ha) = 0.013

Total Pipe Volume (m³) = 0.117

Time Area Diagram at outfall (pipe 5.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.003

Total Area Contributing (ha) = 0.012

Total Pipe Volume (m³) = 0.043

Time Area Diagram at outfall 12 (pipe 6.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.012	4-8	0.003

Total Area Contributing (ha) = 0.015

Total Pipe Volume (m³) = 0.049

Time Area Diagram at outfall (pipe 7.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.011	4-8	0.003

Total Area Contributing (ha) = 0.014

Total Pipe Volume (m³) = 0.074

©1982-2020 Innovyze

Motion

84 North Street

Guildford

GU1 4AU

Date 07/07/2022 10:20

File MD_east_002 + 10% UC.MDX

Innovyze

Designed by commonuser

Checked by

Network 2020.1.3

Page 3



Time Area Diagram at outfall (pipe 8.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.008	4-8	0.003

Total Area Contributing (ha) = 0.011

Total Pipe Volume (m³) = 0.081

Time Area Diagram at outfall (pipe 9.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.008	4-8	0.003

Total Area Contributing (ha) = 0.011

Total Pipe Volume (m³) = 0.086

Time Area Diagram at outfall (pipe 10.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.017	4-8	0.004

Total Area Contributing (ha) = 0.020

Total Pipe Volume (m³) = 0.157

Network Design Table for Storm

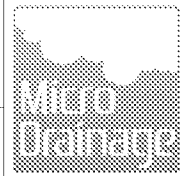
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	8.831	0.151	58.5	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	10.436	0.178	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

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)
1.000	140.97	5.15	15.906	0.012	0.0	0.0	0.0	1.01	7.9	4.8
1.001	139.38	5.32	15.349	0.012	0.0	0.0	0.0	1.01	7.9	4.8

©1982-2020 Innovyze

Motion	Page 4
84 North Street Guildford GU1 4AU	
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



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
2.000	7.280	0.124	58.5	0.018	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
2.001	4.234	0.072	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
3.000	4.434	0.076	58.3	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
3.001	3.833	0.066	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
4.000	11.497	0.197	58.4	0.013	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
4.001	3.360	0.057	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
5.000	2.729	0.047	58.1	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
5.001	2.729	0.047	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
6.000	1.128	0.019	59.4	0.015	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
6.001	5.067	0.087	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑
7.000	5.751	0.098	58.7	0.014	5.00	0.0	0.600	o	100	Pipe/Conduit	☑
7.001	3.648	0.062	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	☑

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
2.000	141.22	5.12	15.300	0.018	0.0	0.0	0.0	1.01	7.9	6.8
2.001	140.56	5.19	15.176	0.018	0.0	0.0	0.0	1.01	7.9	6.8
3.000	141.66	5.07	14.700	0.012	0.0	0.0	0.0	1.01	7.9	4.6
3.001	141.06	5.14	14.624	0.012	0.0	0.0	0.0	1.01	7.9	4.6
4.000	140.56	5.19	14.600	0.013	0.0	0.0	0.0	1.01	7.9	4.9
4.001	140.05	5.25	14.403	0.013	0.0	0.0	0.0	1.01	7.9	4.9
5.000	141.93	5.04	14.500	0.012	0.0	0.0	0.0	1.01	8.0	4.6
5.001	141.50	5.09	14.453	0.012	0.0	0.0	0.0	1.01	7.9	4.6
6.000	142.18	5.02	14.700	0.015	0.0	0.0	0.0	1.00	7.9	5.8
6.001	141.38	5.10	14.681	0.015	0.0	0.0	0.0	1.01	7.9	5.8
7.000	141.45	5.10	15.100	0.014	0.0	0.0	0.0	1.01	7.9	5.4
7.001	140.88	5.16	15.002	0.014	0.0	0.0	0.0	1.01	7.9	5.4

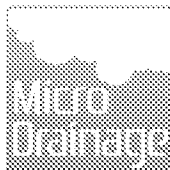
Motion										Page 5	
84 North Street Guildford GU1 4AU											
Date 07/07/2022 10:20						Designed by commonuser					
File MD_east_002 + 10% UC.MDX						Checked by					
Innovyze						Network 2020.1.3					
<u>Network Design Table for Storm</u>											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
8.000	5.159	0.088	58.6	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	
8.001	5.159	0.088	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
9.000	5.505	0.094	58.6	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	
9.001	5.505	0.094	58.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
10.000	5.480	0.047	116.6	0.015	5.00	0.0	0.600	o	150	Pipe/Conduit	
10.001	3.423	0.043	78.9	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit	
<u>Network Results Table</u>											
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)	
8.000	141.55	5.09	15.200	0.011	0.0	0.0	0.0	1.01	7.9	4.2	
8.001	140.74	5.17	15.112	0.011	0.0	0.0	0.0	1.01	7.9	4.2	
9.000	141.49	5.09	15.300	0.011	0.0	0.0	0.0	1.01	7.9	4.2	
9.001	140.64	5.18	15.206	0.011	0.0	0.0	0.0	1.01	7.9	4.2	
10.000	141.42	5.10	14.500	0.015	0.0	0.0	0.0	0.93	16.4	5.7	
10.001	140.95	5.15	14.453	0.020	0.0	0.0	0.0	1.13	20.0	7.7	
©1982-2020 Innovyze											

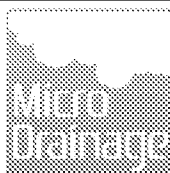
Motion								Page 6		
84 North Street Guildford GU1 4AU										
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX					Designed by commonuser Checked by					
Innovyze					Network 2020.1.3					
Manhole Schedules for Storm										
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)
1.000	15.100	0.600	Open Manhole	1200	1.000	15.300	100			
1.001	15.100	0.751	Open Manhole	1200	1.001	15.349	100	1.000	15.349	100
	15.100	0.929	Open Manhole	0		OUTFALL		1.001	15.171	100
2.000	15.500	0.600	Open Manhole	1200	2.000	15.500	100			
2.001	15.500	0.724	Open Manhole	1200	2.001	15.176	100	2.000	15.176	100
	15.500	0.797	Open Manhole	0		OUTFALL		2.001	15.103	100
3.000	15.300	0.600	Open Manhole	1200	3.000	14.700	100			
3.001	15.300	0.676	Open Manhole	1200	3.001	14.624	100	3.000	14.624	100
	15.300	0.742	Open Manhole	0		OUTFALL		3.001	14.558	100
4.000	15.200	0.600	Open Manhole	1200	4.000	14.600	100			
4.001	15.200	0.797	Open Manhole	1200	4.001	14.403	100	4.000	14.403	100
	15.200	0.854	Open Manhole	0		OUTFALL		4.001	14.346	100
5.000	15.100	0.600	Open Manhole	1200	5.000	14.500	100			
5.001	15.100	0.647	Open Manhole	1200	5.001	14.453	100	5.000	14.453	100
	15.100	0.694	Open Manhole	0		OUTFALL		5.001	14.406	100
6.000	15.300	0.600	Open Manhole	1200	6.000	14.700	100			
6.001	15.300	0.619	Open Manhole	1200	6.001	14.681	100	6.000	14.681	100
12	15.300	0.706	Open Manhole	1200		OUTFALL		6.001	14.594	100
7.000	15.700	0.600	Open Manhole	1200	7.000	15.100	100			
7.001	15.700	0.698	Open Manhole	1200	7.001	15.002	100	7.000	15.002	100
	15.700	0.760	Open Manhole	0		OUTFALL		7.001	14.940	100
8.000	15.800	0.600	Open Manhole	1200	8.000	15.200	100			
8.001	15.800	0.688	Open Manhole	1200	8.001	15.112	100	8.000	15.112	100
	15.800	0.776	Open Manhole	0		OUTFALL		8.001	15.024	100
9.000	15.900	0.600	Open Manhole	1200	9.000	15.300	100			
9.001	15.900	0.694	Open Manhole	1200	9.001	15.206	100	9.000	15.206	100
	15.900	0.788	Open Manhole	0		OUTFALL		9.001	15.112	100
10.000	15.300	0.800	Open Manhole	1200	10.000	14.500	150			
10.001	15.300	0.847	Open Manhole	1200	10.001	14.453	150	10.000	14.453	150
	15.300	0.890	Open Manhole	0		OUTFALL		10.001	14.410	150
©1982-2020 Innovyze										

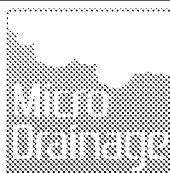
Motion						Page 7
84 North Street Guildford GU1 4AU						
Date 07/07/2022 10:20			Designed by commonuser			
File MD_east_002 + 10% UC.MDX			Checked by			
Innovyze			Network 2020.1.3			
<u>Manhole Schedules for Storm</u>						
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
1.000	-64.773	-31.222	-64.773	-31.222	Required	
1.001	-73.587	-30.662	-73.587	-30.662	Required	
	-83.842	-28.727			No Entry	
2.000	-64.494	-13.316	-64.494	-13.316	Required	
2.001	-71.768	-13.036	-71.768	-13.036	Required	
	-75.965	-12.476			No Entry	
3.000	-50.295	32.164	-50.295	32.164	Required	
3.001	-50.399	36.597	-50.399	36.597	Required	
	-49.945	40.403			No Entry	
4.000	-22.410	35.080	-22.410	35.080	Required	
4.001	-23.086	46.558	-23.086	46.558	Required	
	-19.729	46.418			No Entry	
5.000	-7.278	34.947	-7.278	34.947	Required	
5.001	-7.348	37.675	-7.348	37.675	Required	
©1982-2020 Innovyze						

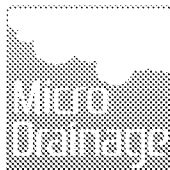
Motion					Page 8	
84 North Street Guildford GU1 4AU						
Date 07/07/2022 10:20						
File MD_east_002 + 10% UC.MDX						
Innovyze			Designed by commonuser Checked by Network 2020.1.3			
<u>Manhole Schedules for Storm</u>						
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
	-7.418	40.403			No Entry	
6.000	21.399	32.848	21.399	32.848	Required	
6.001	20.840	33.828	20.840	33.828	Required	
12	20.280	38.864			No Entry	
7.000	-26.303	-28.284	-26.303	-28.284	Required	
7.001	-20.568	-27.864	-20.568	-27.864	Required	
	-16.931	-27.584			No Entry	
8.000	-25.744	-11.217	-25.744	-11.217	Required	
8.001	-20.587	-11.357	-20.587	-11.357	Required	
	-15.430	-11.497			No Entry	
9.000	-26.443	-3.243	-26.443	-3.243	Required	
9.001	-20.939	-3.325	-20.939	-3.325	Required	
	-15.435	-3.407			No Entry	
10.000	-18.332	17.464	-18.332	17.464	Required	
©1982-2020 Innovyze						

Motion		Page 9																					
84 North Street Guildford GU1 4AU																							
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by																						
Innovyze	Network 2020.1.3																						
<u>Manhole Schedules for Storm</u> <table border="1"> <thead> <tr> <th>MH Name</th> <th>Manhole Easting (m)</th> <th>Manhole Northing (m)</th> <th>Intersection Easting (m)</th> <th>Intersection Northing (m)</th> <th>Manhole Access</th> <th>Layout (North)</th> </tr> </thead> <tbody> <tr> <td>10.001</td> <td>-13.035</td> <td>18.869</td> <td>-13.035</td> <td>18.869</td> <td>Required</td> <td></td> </tr> <tr> <td></td> <td>-9.676</td> <td>19.528</td> <td></td> <td></td> <td>No Entry</td> <td></td> </tr> </tbody> </table>			MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)	10.001	-13.035	18.869	-13.035	18.869	Required			-9.676	19.528			No Entry	
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)																	
10.001	-13.035	18.869	-13.035	18.869	Required																		
	-9.676	19.528			No Entry																		
©1982-2020 Innovyze																							

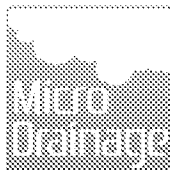
Motion				Page 10																																																																																																																																																																			
84 North Street Guildford GU1 4AU																																																																																																																																																																							
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX																																																																																																																																																																							
Innovyze				Designed by commonuser Checked by Network 2020.1.3																																																																																																																																																																			
<u>Area Summary for Storm</u> <table><tr><th>Pipe Number</th><th>PIMP Type</th><th>PIMP Name</th><th>PIMP (%)</th><th>Gross Area (ha)</th><th>Imp. Area (ha)</th><th>Pipe Total (ha)</th></tr><tr><td>1.000</td><td>User</td><td>-</td><td>100</td><td>0.012</td><td>0.012</td><td>0.012</td></tr><tr><td>1.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>2.000</td><td>User</td><td>-</td><td>100</td><td>0.018</td><td>0.018</td><td>0.018</td></tr><tr><td>2.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>3.000</td><td>-</td><td>-</td><td>100</td><td>0.012</td><td>0.012</td><td>0.012</td></tr><tr><td>3.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>4.000</td><td>-</td><td>-</td><td>100</td><td>0.013</td><td>0.013</td><td>0.013</td></tr><tr><td>4.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>5.000</td><td>-</td><td>-</td><td>100</td><td>0.012</td><td>0.012</td><td>0.012</td></tr><tr><td>5.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>6.000</td><td>-</td><td>-</td><td>100</td><td>0.015</td><td>0.015</td><td>0.015</td></tr><tr><td>6.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>7.000</td><td>-</td><td>-</td><td>100</td><td>0.014</td><td>0.014</td><td>0.014</td></tr><tr><td>7.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>8.000</td><td>-</td><td>-</td><td>100</td><td>0.011</td><td>0.011</td><td>0.011</td></tr><tr><td>8.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>9.000</td><td>-</td><td>-</td><td>100</td><td>0.011</td><td>0.011</td><td>0.011</td></tr><tr><td>9.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>10.000</td><td>-</td><td>-</td><td>100</td><td>0.015</td><td>0.015</td><td>0.015</td></tr><tr><td>10.001</td><td>User</td><td>-</td><td>100</td><td>0.005</td><td>0.005</td><td>0.005</td></tr><tr><td colspan="4"></td><td>Total</td><td>Total</td><td>Total</td></tr><tr><td colspan="4"></td><td>0.138</td><td>0.138</td><td>0.138</td></tr></table>							Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)	1.000	User	-	100	0.012	0.012	0.012	1.001	-	-	100	0.000	0.000	0.000	2.000	User	-	100	0.018	0.018	0.018	2.001	-	-	100	0.000	0.000	0.000	3.000	-	-	100	0.012	0.012	0.012	3.001	-	-	100	0.000	0.000	0.000	4.000	-	-	100	0.013	0.013	0.013	4.001	-	-	100	0.000	0.000	0.000	5.000	-	-	100	0.012	0.012	0.012	5.001	-	-	100	0.000	0.000	0.000	6.000	-	-	100	0.015	0.015	0.015	6.001	-	-	100	0.000	0.000	0.000	7.000	-	-	100	0.014	0.014	0.014	7.001	-	-	100	0.000	0.000	0.000	8.000	-	-	100	0.011	0.011	0.011	8.001	-	-	100	0.000	0.000	0.000	9.000	-	-	100	0.011	0.011	0.011	9.001	-	-	100	0.000	0.000	0.000	10.000	-	-	100	0.015	0.015	0.015	10.001	User	-	100	0.005	0.005	0.005					Total	Total	Total					0.138	0.138	0.138
Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)																																																																																																																																																																	
1.000	User	-	100	0.012	0.012	0.012																																																																																																																																																																	
1.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
2.000	User	-	100	0.018	0.018	0.018																																																																																																																																																																	
2.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
3.000	-	-	100	0.012	0.012	0.012																																																																																																																																																																	
3.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
4.000	-	-	100	0.013	0.013	0.013																																																																																																																																																																	
4.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
5.000	-	-	100	0.012	0.012	0.012																																																																																																																																																																	
5.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
6.000	-	-	100	0.015	0.015	0.015																																																																																																																																																																	
6.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
7.000	-	-	100	0.014	0.014	0.014																																																																																																																																																																	
7.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
8.000	-	-	100	0.011	0.011	0.011																																																																																																																																																																	
8.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
9.000	-	-	100	0.011	0.011	0.011																																																																																																																																																																	
9.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																	
10.000	-	-	100	0.015	0.015	0.015																																																																																																																																																																	
10.001	User	-	100	0.005	0.005	0.005																																																																																																																																																																	
				Total	Total	Total																																																																																																																																																																	
				0.138	0.138	0.138																																																																																																																																																																	
©1982-2020 Innovyze																																																																																																																																																																							

Motion		Page 11
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	
<u>TAKE OFF DETAILS for Storm</u> Length Calculations based on 'True Length' Warning - The following pipes have not been classified: 1.000 1.001 2.000 2.001 3.000 3.001 4.000 4.001 5.000 5.001 6.000 6.001 7.000 7.001 8.000 8.001 9.000 9.001 10.000 10.001 Warning - The following manholes have not been classified: 1.000 1.001 2.000 2.001 3.000 3.001 4.000 4.001 5.000 5.001 6.000 6.001 7.000 7.001 8.000 8.001 9.000 9.001 10.000 10.001 Pipes Number 20		
©1982-2020 Innovyze		

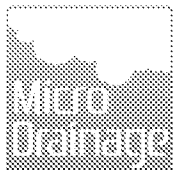
Motion		Page 12
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	
<u>TAKE OFF DETAILS for Storm</u> Total Length (m) 86.588 Volume (m³) 0.7498 Manholes Number 20 True Depth (m) 13.341 Volume (m³) 15.0888 Outfalls Number 10 True Depth (m) 7.937 Volume (m³) 0.7981 Flow Controls Number 10 Storage Structures Number 10 Volume (m³) 158.7604		
©1982-2020 Innovyze		

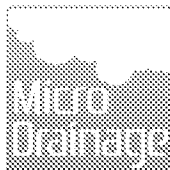
Motion		Page 14																				
84 North Street Guildford GU1 4AU																						
Date 07/07/2022 10:20	Designed by commonuser																					
File MD_east_002 + 10% UC.MDX	Checked by																					
Innovyze	Network 2020.1.3																					
<u>TOTALS FOR PIPES</u> <table><tr><th>Diameter (mm)</th><th>Pipe Class</th><th>Number</th><th>Length (m)</th><th>Cost (£)</th></tr><tr><td>100</td><td>Unclassified</td><td>18</td><td>79.885</td><td>7.77</td></tr><tr><td>150</td><td>Unclassified</td><td>2</td><td>7.163</td><td>1.17</td></tr><tr><td colspan="2">TOTALS</td><td>20</td><td>86.558</td><td>8.94</td></tr></table>			Diameter (mm)	Pipe Class	Number	Length (m)	Cost (£)	100	Unclassified	18	79.885	7.77	150	Unclassified	2	7.163	1.17	TOTALS		20	86.558	8.94
Diameter (mm)	Pipe Class	Number	Length (m)	Cost (£)																		
100	Unclassified	18	79.885	7.77																		
150	Unclassified	2	7.163	1.17																		
TOTALS		20	86.558	8.94																		
©1982-2020 Innovyze																						

Motion		Page 15
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	
<u>TOTALS FOR MATERIALS</u> No materials are used		
©1982-2020 Innovyze		

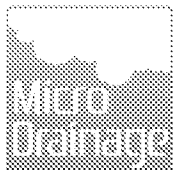
Motion		Page 16																																				
84 North Street Guildford GU1 4AU																																						
Date 07/07/2022 10:20	Designed by commonuser																																					
File MD_east_002 + 10% UC.MDX	Checked by																																					
Innovyze	Network 2020.1.3																																					
<u>GROUND WORKS - Pipe Excavation by Depth</u> <table><thead><tr><th>Depth <=</th><th>Length</th><th>Volume</th><th>Cost</th></tr><tr><th>(m)</th><th>(m)</th><th>(m³)</th><th>(£)</th></tr></thead><tbody><tr><td colspan="4">TOTALS 0.000 0.0000 0.00</td></tr></tbody></table> <u>GROUND WORKS - Totals</u> <table><thead><tr><th>Item</th><th>Volume / Area</th><th>Cost</th></tr><tr><th></th><th>(m³) (m²)</th><th>(£)</th></tr></thead><tbody><tr><td>MH Excavation</td><td>0.0000</td><td>0.00</td></tr><tr><td>Pipe Excavation</td><td>0.0000</td><td>0.00</td></tr><tr><td>Pipe Replacement</td><td>0.0000</td><td>0.00</td></tr><tr><td>Pipe Reinstatement</td><td>0.0000</td><td>0.00</td></tr><tr><td>Removal</td><td>0.0000</td><td>0.00</td></tr><tr><td>TOTALS</td><td></td><td>0.00</td></tr></tbody></table>			Depth <=	Length	Volume	Cost	(m)	(m)	(m³)	(£)	TOTALS 0.000 0.0000 0.00				Item	Volume / Area	Cost		(m³) (m²)	(£)	MH Excavation	0.0000	0.00	Pipe Excavation	0.0000	0.00	Pipe Replacement	0.0000	0.00	Pipe Reinstatement	0.0000	0.00	Removal	0.0000	0.00	TOTALS		0.00
Depth <=	Length	Volume	Cost																																			
(m)	(m)	(m³)	(£)																																			
TOTALS 0.000 0.0000 0.00																																						
Item	Volume / Area	Cost																																				
	(m³) (m²)	(£)																																				
MH Excavation	0.0000	0.00																																				
Pipe Excavation	0.0000	0.00																																				
Pipe Replacement	0.0000	0.00																																				
Pipe Reinstatement	0.0000	0.00																																				
Removal	0.0000	0.00																																				
TOTALS		0.00																																				
©1982-2020 Innovyze																																						

Motion		Page 17												
84 North Street Guildford GU1 4AU														
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by													
Innovyze	Network 2020.1.3													
<u>TOTALS FOR FLOW CONTROLS</u> <table> <thead> <tr> <th>Name</th> <th>Number</th> <th>Cost (£)</th> </tr> </thead> <tbody> <tr> <td>Pump</td> <td>1</td> <td>0.00</td> </tr> <tr> <td>Weir</td> <td>9</td> <td>0.00</td> </tr> <tr> <td>TOTALS</td> <td>10</td> <td>0.00</td> </tr> </tbody> </table>			Name	Number	Cost (£)	Pump	1	0.00	Weir	9	0.00	TOTALS	10	0.00
Name	Number	Cost (£)												
Pump	1	0.00												
Weir	9	0.00												
TOTALS	10	0.00												
©1982-2020 Innovyze														

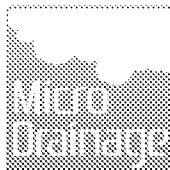
Motion		Page 19																
84 North Street Guildford GU1 4AU																		
Date 07/07/2022 10:20	Designed by commonuser																	
File MD_east_002 + 10% UC.MDX	Checked by																	
Innovyze	Network 2020.1.3																	
TOTAL COSTS <table><thead><tr><th>Item</th><th>Cost (£)</th></tr></thead><tbody><tr><td>Manholes</td><td>0.00</td></tr><tr><td>Pipes</td><td>0.00</td></tr><tr><td>Materials</td><td>0.00</td></tr><tr><td>Ground Works</td><td>0.00</td></tr><tr><td>Flow Controls</td><td>0.00</td></tr><tr><td>Storage Structures</td><td>0.00</td></tr><tr><td>TOTAL</td><td>0.00</td></tr></tbody></table>			Item	Cost (£)	Manholes	0.00	Pipes	0.00	Materials	0.00	Ground Works	0.00	Flow Controls	0.00	Storage Structures	0.00	TOTAL	0.00
Item	Cost (£)																	
Manholes	0.00																	
Pipes	0.00																	
Materials	0.00																	
Ground Works	0.00																	
Flow Controls	0.00																	
Storage Structures	0.00																	
TOTAL	0.00																	
©1982-2020 Innovyze																		

Motion		Page 20						
84 North Street Guildford GU1 4AU								
Date 07/07/2022 10:20								
File MD_east_002 + 10% UC.MDX								
Innovyze		Network 2020.1.3						
<u>BREAKDOWN FOR MANHOLES</u>								
USMH Name	PN	MH Class	Diameter (mm)	Width (mm)	Ring Depth (m)	Cost (£)	Add Cost (£)	Total (£)
1.000	1.000	Unclassified	1200		0.500	2.77	2.77	2.77
1.001	1.001	Unclassified	1200		0.631	2.77	2.77	2.77
2.000	2.000	Unclassified	1200		0.500	2.77	2.77	2.77
2.001	2.001	Unclassified	1200		0.824	2.77	2.77	2.77
3.000	3.000	Unclassified	1200		0.500	2.77	2.77	2.77
3.001	3.001	Unclassified	1200		0.576	2.77	2.77	2.77
4.000	4.000	Unclassified	1200		0.500	2.77	2.77	2.77
4.001	4.001	Unclassified	1200		0.697	2.77	2.77	2.77
5.000	5.000	Unclassified	1200		0.500	2.77	2.77	2.77
5.001	5.001	Unclassified	1200		0.647	2.77	2.77	2.77
6.000	6.000	Unclassified	1200		0.500	2.77	2.77	2.77
6.001	6.001	Unclassified	1200		0.519	2.77	2.77	2.77
7.000	7.000	Unclassified	1200		0.500	2.77	2.77	2.77
7.001	7.001	Unclassified	1200		0.598	2.77	2.77	2.77
8.000	8.000	Unclassified	1200		0.500	2.77	2.77	2.77
8.001	8.001	Unclassified	1200		0.588	2.77	2.77	2.77
9.000	9.000	Unclassified	1200		0.500	2.77	2.77	2.77
9.001	9.001	Unclassified	1200		0.584	2.77	2.77	2.77
10.000	10.000	Unclassified	1200		0.650	2.77	2.77	2.77
10.001	10.001	Unclassified	1200		0.697	2.77	2.77	2.77
TOTALS					11.241	0.00	0.00	0.00
©1982-2020 Innovyze								

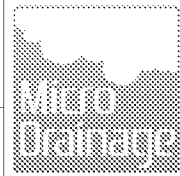
Motion						Page 21	
84 North Street Guildford GU1 4AU							
Date 07/07/2022 10:20			Designed by commonuser				
File MD_east_002 + 10% UC.MDX			Checked by				
Innovyze			Network 2020.1.3				
<u>BREAKDOWN FOR PIPES</u>							
PN	Pipe Class	Diameter (mm)	Min Cover D (m)	Max Cover D (m)	Length (m)	Cost / m (£)	Total Cost (£)
1.000	Unclassified	100	0.500	0.651	7.631	7.77	7.77
1.001	Unclassified	100	0.651	0.829	9.836	7.77	7.77
2.000	Unclassified	100	0.500	0.624	6.060	7.77	7.77
2.001	Unclassified	100	0.624	0.697	3.634	7.77	7.77
3.000	Unclassified	100	0.500	0.576	3.234	7.77	7.77
3.001	Unclassified	100	0.576	0.642	3.213	7.77	7.77
4.000	Unclassified	100	0.500	0.697	10.297	7.77	7.77
4.001	Unclassified	100	0.697	0.754	2.766	7.77	7.77
5.000	Unclassified	100	0.500	0.547	3.529	7.77	7.77
5.001	Unclassified	100	0.547	0.594	2.129	7.77	7.77
6.000	Unclassified	100	0.500	0.919	-0.072	7.77	7.77
6.001	Unclassified	100	0.919	0.666	3.867	7.77	7.77
7.000	Unclassified	100	0.500	0.596	4.551	7.77	7.77
7.001	Unclassified	100	0.596	0.666	3.048	7.77	7.77
8.000	Unclassified	100	0.500	0.568	3.959	7.77	7.77
8.001	Unclassified	100	0.568	0.676	4.559	7.77	7.77
9.000	Unclassified	100	0.500	0.594	4.395	7.77	7.77
9.001	Unclassified	100	0.594	0.666	4.905	7.77	7.77
10.000	Unclassified	150	0.650	0.697	4.260	7.77	7.77
10.001	Unclassified	150	0.697	0.740	2.823	7.77	7.77
TOTALS					36.586		0.00
©1982-2020 Innovyze							

Motion		Page 22																																																																																																																																																										
84 North Street Guildford GU1 4AU																																																																																																																																																												
Date 07/07/2022 10:20	Designed by commonuser																																																																																																																																																											
File MD_east_002 + 10% UC.MDX	Checked by																																																																																																																																																											
Innovyze	Network 2020.1.3																																																																																																																																																											
<u>BREAKDOWN FOR MANHOLE BLINDING (£0.00/m³)</u> <table><tr><th>USMH Name</th><th>PN</th><th>Diameter (mm)</th><th>Width (mm)</th><th>Height (m)</th><th>Volume (m³)</th><th>Cost (£)</th></tr><tr><td>1.000</td><td>1.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>1.001</td><td>1.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>2.000</td><td>2.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>2.001</td><td>2.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>3.000</td><td>3.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>3.001</td><td>3.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>4.000</td><td>4.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>4.001</td><td>4.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>5.000</td><td>5.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>5.001</td><td>5.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>6.000</td><td>6.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>6.001</td><td>6.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>7.000</td><td>7.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>7.001</td><td>7.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>8.000</td><td>8.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>8.001</td><td>8.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>9.000</td><td>9.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>9.001</td><td>9.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>10.000</td><td>10.000</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>10.001</td><td>10.001</td><td>1200</td><td></td><td>2.222</td><td>2.2222</td><td>2.22</td></tr><tr><td>TOTALS</td><td></td><td></td><td></td><td>0.000</td><td>0.0000</td><td>0.00</td></tr></table>			USMH Name	PN	Diameter (mm)	Width (mm)	Height (m)	Volume (m³)	Cost (£)	1.000	1.000	1200		2.222	2.2222	2.22	1.001	1.001	1200		2.222	2.2222	2.22	2.000	2.000	1200		2.222	2.2222	2.22	2.001	2.001	1200		2.222	2.2222	2.22	3.000	3.000	1200		2.222	2.2222	2.22	3.001	3.001	1200		2.222	2.2222	2.22	4.000	4.000	1200		2.222	2.2222	2.22	4.001	4.001	1200		2.222	2.2222	2.22	5.000	5.000	1200		2.222	2.2222	2.22	5.001	5.001	1200		2.222	2.2222	2.22	6.000	6.000	1200		2.222	2.2222	2.22	6.001	6.001	1200		2.222	2.2222	2.22	7.000	7.000	1200		2.222	2.2222	2.22	7.001	7.001	1200		2.222	2.2222	2.22	8.000	8.000	1200		2.222	2.2222	2.22	8.001	8.001	1200		2.222	2.2222	2.22	9.000	9.000	1200		2.222	2.2222	2.22	9.001	9.001	1200		2.222	2.2222	2.22	10.000	10.000	1200		2.222	2.2222	2.22	10.001	10.001	1200		2.222	2.2222	2.22	TOTALS				0.000	0.0000	0.00
USMH Name	PN	Diameter (mm)	Width (mm)	Height (m)	Volume (m³)	Cost (£)																																																																																																																																																						
1.000	1.000	1200		2.222	2.2222	2.22																																																																																																																																																						
1.001	1.001	1200		2.222	2.2222	2.22																																																																																																																																																						
2.000	2.000	1200		2.222	2.2222	2.22																																																																																																																																																						
2.001	2.001	1200		2.222	2.2222	2.22																																																																																																																																																						
3.000	3.000	1200		2.222	2.2222	2.22																																																																																																																																																						
3.001	3.001	1200		2.222	2.2222	2.22																																																																																																																																																						
4.000	4.000	1200		2.222	2.2222	2.22																																																																																																																																																						
4.001	4.001	1200		2.222	2.2222	2.22																																																																																																																																																						
5.000	5.000	1200		2.222	2.2222	2.22																																																																																																																																																						
5.001	5.001	1200		2.222	2.2222	2.22																																																																																																																																																						
6.000	6.000	1200		2.222	2.2222	2.22																																																																																																																																																						
6.001	6.001	1200		2.222	2.2222	2.22																																																																																																																																																						
7.000	7.000	1200		2.222	2.2222	2.22																																																																																																																																																						
7.001	7.001	1200		2.222	2.2222	2.22																																																																																																																																																						
8.000	8.000	1200		2.222	2.2222	2.22																																																																																																																																																						
8.001	8.001	1200		2.222	2.2222	2.22																																																																																																																																																						
9.000	9.000	1200		2.222	2.2222	2.22																																																																																																																																																						
9.001	9.001	1200		2.222	2.2222	2.22																																																																																																																																																						
10.000	10.000	1200		2.222	2.2222	2.22																																																																																																																																																						
10.001	10.001	1200		2.222	2.2222	2.22																																																																																																																																																						
TOTALS				0.000	0.0000	0.00																																																																																																																																																						
©1982-2020 Innovyze																																																																																																																																																												

Motion		Page 23				
84 North Street Guildford GU1 4AU						
Date 07/07/2022 10:20	Designed by commonuser					
File MD_east_002 + 10% UC.MDX	Checked by					
Innovyze	Network 2020.1.3					
<u>BREAKDOWN FOR PIPE SURROUND</u>						
PN	Length (m)	Diameter (mm)	Surround	Volume (m³)	Cost / m³ (£)	Cost (£)
1.000	7.531	100	Unclassified	7.7777	7.77	7.77
1.001	9.836	100	Unclassified	7.7777	7.77	7.77
2.000	6.080	100	Unclassified	7.7777	7.77	7.77
2.001	3.534	100	Unclassified	7.7777	7.77	7.77
3.000	3.234	100	Unclassified	7.7777	7.77	7.77
3.001	3.233	100	Unclassified	7.7777	7.77	7.77
4.000	10.297	100	Unclassified	7.7777	7.77	7.77
4.001	2.760	100	Unclassified	7.7777	7.77	7.77
5.000	1.528	100	Unclassified	7.7777	7.77	7.77
5.001	2.129	100	Unclassified	7.7777	7.77	7.77
6.000	-0.072	100	Unclassified	7.7777	7.77	7.77
6.001	3.867	100	Unclassified	7.7777	7.77	7.77
7.000	4.551	100	Unclassified	7.7777	7.77	7.77
7.001	3.948	100	Unclassified	7.7777	7.77	7.77
8.000	3.959	100	Unclassified	7.7777	7.77	7.77
8.001	4.553	100	Unclassified	7.7777	7.77	7.77
9.000	4.305	100	Unclassified	7.7777	7.77	7.77
9.001	4.905	100	Unclassified	7.7777	7.77	7.77
10.000	4.280	150	Unclassified	7.7777	7.77	7.77
10.001	2.823	150	Unclassified	7.7777	7.77	7.77
TOTALS	86.588			0.0000		0.00
©1982-2020 Innovyze						

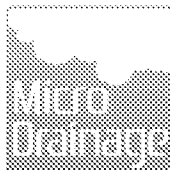
Motion					Page 24			
84 North Street Guildford GU1 4AU								
Date 07/07/2022 10:20								
File MD_east_002 + 10% UC.MDX								
Innovyze					Designed by commonuser Checked by Network 2020.1.3			
<u>BREAKDOWN FOR MANHOLE SURROUND</u>								
USMH Name	PN	Diameter (mm)	Width (mm)	Depth (m)	Surround	Volume (m³)	Cost / m³ (£)	Cost (£)
1.000	1.000	1200		0.800	Unclassified	7.7777	7.77	7.77
1.001	1.001	1200		0.751	Unclassified	7.7777	7.77	7.77
2.000	2.000	1200		0.800	Unclassified	7.7777	7.77	7.77
2.001	2.001	1200		0.724	Unclassified	7.7777	7.77	7.77
3.000	3.000	1200		0.800	Unclassified	7.7777	7.77	7.77
3.001	3.001	1200		0.876	Unclassified	7.7777	7.77	7.77
4.000	4.000	1200		0.800	Unclassified	7.7777	7.77	7.77
4.001	4.001	1200		0.797	Unclassified	7.7777	7.77	7.77
5.000	5.000	1200		0.800	Unclassified	7.7777	7.77	7.77
5.001	5.001	1200		0.847	Unclassified	7.7777	7.77	7.77
6.000	6.000	1200		0.800	Unclassified	7.7777	7.77	7.77
6.001	6.001	1200		0.819	Unclassified	7.7777	7.77	7.77
7.000	7.000	1200		0.800	Unclassified	7.7777	7.77	7.77
7.001	7.001	1200		0.898	Unclassified	7.7777	7.77	7.77
8.000	8.000	1200		0.800	Unclassified	7.7777	7.77	7.77
8.001	8.001	1200		0.888	Unclassified	7.7777	7.77	7.77
9.000	9.000	1200		0.800	Unclassified	7.7777	7.77	7.77
9.001	9.001	1200		0.894	Unclassified	7.7777	7.77	7.77
10.000	10.000	1200		0.800	Unclassified	7.7777	7.77	7.77
10.001	10.001	1200		0.847	Unclassified	7.7777	7.77	7.77
TOTALS				13.341		0.0000		0.00
©1982-2020 Innovyze								

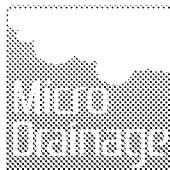
Motion	Page 25
84 North Street Guildford GU1 4AU	
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



BREAKDOWN FOR MANHOLE BASE

USMH Name	PN	Diameter (mm)	Width (mm)	Height (m)	Base	Volume (m³)	Cost / m³ (£)	Cost (£)
1.000	1.000	1200		1.777	Unclassified	7.7777	7.77	7.77
1.001	1.001	1200		7.777	Unclassified	7.7777	7.77	7.77
2.000	2.000	1200		7.777	Unclassified	7.7777	7.77	7.77
2.001	2.001	1200		7.777	Unclassified	7.7777	7.77	7.77
3.000	3.000	1200		7.777	Unclassified	7.7777	7.77	7.77
3.001	3.001	1200		7.777	Unclassified	7.7777	7.77	7.77
4.000	4.000	1200		7.777	Unclassified	7.7777	7.77	7.77
4.001	4.001	1200		7.777	Unclassified	7.7777	7.77	7.77
5.000	5.000	1200		7.777	Unclassified	7.7777	7.77	7.77
5.001	5.001	1200		7.777	Unclassified	7.7777	7.77	7.77
6.000	6.000	1200		7.777	Unclassified	7.7777	7.77	7.77
6.001	6.001	1200		7.777	Unclassified	7.7777	7.77	7.77
7.000	7.000	1200		7.777	Unclassified	7.7777	7.77	7.77
7.001	7.001	1200		7.777	Unclassified	7.7777	7.77	7.77
8.000	8.000	1200		7.777	Unclassified	7.7777	7.77	7.77
8.001	8.001	1200		7.777	Unclassified	7.7777	7.77	7.77
9.000	9.000	1200		7.777	Unclassified	7.7777	7.77	7.77
9.001	9.001	1200		7.777	Unclassified	7.7777	7.77	7.77
10.000	10.000	1200		7.777	Unclassified	7.7777	7.77	7.77
10.001	10.001	1200		7.777	Unclassified	7.7777	7.77	7.77
TOTALS				0.000		0.0000		0.00

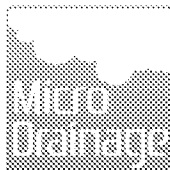
Motion		Page 26
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

Motion		Page 27
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

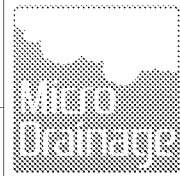
BREAKDOWN FOR PIPE EXCAVATION / REINSTATEMENT

PN	Dia (mm)	Length (m)	Ex. Volume (m³)	Ex. Cost (£)	Rep. Volume (m³)	Rep. Cost (£)	Rem. Volume (m³)	Rem. Cost (£)	Rein. Area (m²)	Rein. Cost (£)	Total (£)
1.000	100	7.631	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
1.001	100	9.836	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
2.000	100	6.080	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
2.001	100	3.634	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
3.000	100	3.634	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
3.001	100	3.233	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
4.000	100	10.297	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
4.001	100	2.740	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
5.000	100	1.520	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
5.001	100	2.129	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
6.000	100	-0.072	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
6.001	100	3.867	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
7.000	100	4.551	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
7.001	100	3.048	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
8.000	100	3.939	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
8.001	100	4.559	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
9.000	100	4.305	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
9.001	100	4.905	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
10.000	150	4.200	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
10.001	150	2.823	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00
TOTAL		36.538	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.00

Motion								Page 28				
84 North Street Guildford GU1 4AU												
Date 07/07/2022 10:20					Designed by commonuser							
File MD_east_002 + 10% UC.MDX					Checked by							
Innovyze					Network 2020.1.3							
BREAKDOWN FOR MANHOLE EXCAVATION												
USMH Name	PN	Dia (mm)	Width (mm)	Depth (m)	Total Dia (m)	Total Width (m)	Total Depth (m)	Ex. Volume (m³)	Ex. Cost (£)	Rem. V		
1.000	1.000	1200		0.500	1.177		1.177	1.1777	1.17			
1.001	1.001	1200		0.651	1.177		1.177	1.1777	1.17			
2.000	2.000	1200		0.500	1.177		1.177	1.1777	1.17			
2.001	2.001	1200		0.624	1.177		1.177	1.1777	1.17			
3.000	3.000	1200		0.500	1.177		1.177	1.1777	1.17			
3.001	3.001	1200		0.576	1.177		1.177	1.1777	1.17			
4.000	4.000	1200		0.500	1.177		1.177	1.1777	1.17			
4.001	4.001	1200		0.697	1.177		1.177	1.1777	1.17			
5.000	5.000	1200		0.500	1.177		1.177	1.1777	1.17			
5.001	5.001	1200		0.547	1.177		1.177	1.1777	1.17			
6.000	6.000	1200		0.500	1.177		1.177	1.1777	1.17			
6.001	6.001	1200		0.519	1.177		1.177	1.1777	1.17			
7.000	7.000	1200		0.500	1.177		1.177	1.1777	1.17			
7.001	7.001	1200		0.598	1.177		1.177	1.1777	1.17			
8.000	8.000	1200		0.500	1.177		1.177	1.1777	1.17			
8.001	8.001	1200		0.588	1.177		1.177	1.1777	1.17			
9.000	9.000	1200		0.500	1.177		1.177	1.1777	1.17			
9.001	9.001	1200		0.536	1.177		1.177	1.1777	1.17			
10.000	10.000	1200		0.650	1.177		1.177	1.1777	1.17			
10.001	10.001	1200		0.697	1.177		1.177	1.1777	1.17			
TOTALS				11.241			0.000	0.0000	0.00			
©1982-2020 Innovyze												

Motion		Page 29		
84 North Street Guildford GU1 4AU				
Date 07/07/2022 10:20	Designed by commonuser			
File MD_east_002 + 10% UC.MDX	Checked by			
Innovyze	Network 2020.1.3			
<u>BREAKDOWN FOR FLOW CONTROLS</u>				
USMH Name	PN	Flow Control	Online/Offline	Cost (£)
1.001	1.001	Weir	Online	0.00
2.001	2.001	Weir	Online	0.00
3.001	3.001	Weir	Online	0.00
4.001	4.001	Weir	Online	0.00
5.001	5.001	Weir	Online	0.00
6.001	6.001	Weir	Online	0.00
7.001	7.001	Weir	Online	0.00
8.001	8.001	Weir	Online	0.00
9.001	9.001	Weir	Online	0.00
10.001	10.001	Pump	Online	0.00
TOTALS				0.000

Motion	Page 30
84 North Street Guildford GU1 4AU	
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by
Innovyze	Network 2020.1.3



BREAKDOWN FOR STORAGE STRUCTURES

USMH Name	PN	Storage Structure	Volume (m³)	Cost (£)
1.001	1.001	Lined Soakaway	2.8219	0.00
2.001	2.001	Lined Soakaway	7.8386	0.00
3.001	3.001	Lined Soakaway	0.9921	0.00
4.001	4.001	Lined Soakaway	0.9921	0.00
5.001	5.001	Lined Soakaway	0.9921	0.00
6.001	6.001	Lined Soakaway	1.7637	0.00
7.001	7.001	Lined Soakaway	5.0167	0.00
8.001	8.001	Lined Soakaway	5.0167	0.00
9.001	9.001	Lined Soakaway	5.0167	0.00
10.000	10.000	Porous Car Park	128.3100	0.00
TOTALS			158.766	0.00

Simulation Criteria for Storm

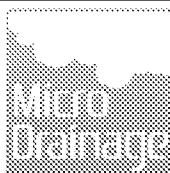
Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.350		

Motion		Page 31
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	
<u>Online Controls for Storm</u> <u>Weir Manhole: 1.001, DS/PN: 1.001, Volume (m³): 0.9</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 16.100 <u>Weir Manhole: 2.001, DS/PN: 2.001, Volume (m³): 0.9</u> Discharge Coef 0.544 width (m) 1.000 invert Level (m) 15.900 <u>Weir Manhole: 3.001, DS/PN: 3.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.300 <u>Weir Manhole: 4.001, DS/PN: 4.001, Volume (m³): 1.0</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.200 <u>Weir Manhole: 5.001, DS/PN: 5.001, Volume (m³): 0.7</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.100 <u>Weir Manhole: 6.001, DS/PN: 6.001, Volume (m³): 0.7</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.300 <u>Weir Manhole: 7.001, DS/PN: 7.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.700 <u>Weir Manhole: 8.001, DS/PN: 8.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.800 <u>Weir Manhole: 9.001, DS/PN: 9.001, Volume (m³): 0.8</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 15.900 <u>Pump Manhole: 10.001, DS/PN: 10.001, Volume (m³): 1.0</u> Invert Level (m) 14.453 ©1982-2020 Innovyze		

Motion		Page 32																																																																								
84 North Street Guildford GU1 4AU																																																																										
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX																																																																										
Innovyze		Designed by commonuser Checked by Network 2020.1.3																																																																								
Pump Manhole: 10.001, DS/PN: 10.001, Volume (m³): 1.0 <table><thead><tr><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th></tr></thead><tbody><tr><td>0.200</td><td>0.0000</td><td>1.800</td><td>0.0000</td><td>3.400</td><td>0.0000</td><td>5.000</td><td>0.0000</td></tr><tr><td>0.400</td><td>0.0000</td><td>2.000</td><td>0.0000</td><td>3.600</td><td>0.0000</td><td>5.200</td><td>0.0000</td></tr><tr><td>0.600</td><td>0.0000</td><td>2.200</td><td>0.0000</td><td>3.800</td><td>0.0000</td><td>5.400</td><td>0.0000</td></tr><tr><td>0.800</td><td>0.0000</td><td>2.400</td><td>0.0000</td><td>4.000</td><td>0.0000</td><td>5.600</td><td>0.0000</td></tr><tr><td>1.000</td><td>0.0000</td><td>2.600</td><td>0.0000</td><td>4.200</td><td>0.0000</td><td>5.800</td><td>0.0000</td></tr><tr><td>1.200</td><td>0.0000</td><td>2.800</td><td>0.0000</td><td>4.400</td><td>0.0000</td><td>6.000</td><td>0.0000</td></tr><tr><td>1.400</td><td>0.0000</td><td>3.000</td><td>0.0000</td><td>4.600</td><td>0.0000</td><td></td><td></td></tr><tr><td>1.600</td><td>0.0000</td><td>3.200</td><td>0.0000</td><td>4.800</td><td>0.0000</td><td></td><td></td></tr></tbody></table>			Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	0.200	0.0000	1.800	0.0000	3.400	0.0000	5.000	0.0000	0.400	0.0000	2.000	0.0000	3.600	0.0000	5.200	0.0000	0.600	0.0000	2.200	0.0000	3.800	0.0000	5.400	0.0000	0.800	0.0000	2.400	0.0000	4.000	0.0000	5.600	0.0000	1.000	0.0000	2.600	0.0000	4.200	0.0000	5.800	0.0000	1.200	0.0000	2.800	0.0000	4.400	0.0000	6.000	0.0000	1.400	0.0000	3.000	0.0000	4.600	0.0000			1.600	0.0000	3.200	0.0000	4.800	0.0000		
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)																																																																			
0.200	0.0000	1.800	0.0000	3.400	0.0000	5.000	0.0000																																																																			
0.400	0.0000	2.000	0.0000	3.600	0.0000	5.200	0.0000																																																																			
0.600	0.0000	2.200	0.0000	3.800	0.0000	5.400	0.0000																																																																			
0.800	0.0000	2.400	0.0000	4.000	0.0000	5.600	0.0000																																																																			
1.000	0.0000	2.600	0.0000	4.200	0.0000	5.800	0.0000																																																																			
1.200	0.0000	2.800	0.0000	4.400	0.0000	6.000	0.0000																																																																			
1.400	0.0000	3.000	0.0000	4.600	0.0000																																																																					
1.600	0.0000	3.200	0.0000	4.800	0.0000																																																																					
©1982-2020 Innovyze																																																																										

Motion		Page 33																																																																																																				
84 North Street Guildford GU1 4AU																																																																																																						
Date 07/07/2022 10:20	Designed by commonuser																																																																																																					
File MD_east_002 + 10% UC.MDX	Checked by																																																																																																					
Innovyze	Network 2020.1.3																																																																																																					
<u>Storage Structures for Storm</u> <u>Lined Soakaway Manhole: 1.001, DS/PN: 1.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.12744</td><td>Ring Diameter (m)</td><td>1.20</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.12744</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.600</td></tr><tr><td>Invert Level (m)</td><td>14.100</td><td>Cap Infiltration Depth (m)</td><td>1.600</td></tr></table> <u>Lined Soakaway Manhole: 2.001, DS/PN: 2.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.12744</td><td>Ring Diameter (m)</td><td>2.00</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.12744</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.600</td></tr><tr><td>Invert Level (m)</td><td>13.900</td><td>Cap Infiltration Depth (m)</td><td>1.600</td></tr></table> <u>Lined Soakaway Manhole: 3.001, DS/PN: 3.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.900</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table> <u>Lined Soakaway Manhole: 4.001, DS/PN: 4.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.800</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table> <u>Lined Soakaway Manhole: 5.001, DS/PN: 5.001</u> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>18.60408</td><td>Ring Diameter (m)</td><td>0.90</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>18.60408</td><td>Pit Multiplier</td><td>1.5</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Number Required</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Cap Volume Depth (m)</td><td>1.000</td></tr><tr><td>Invert Level (m)</td><td>13.700</td><td>Cap Infiltration Depth (m)</td><td>1.000</td></tr></table>			Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	1.20	Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	14.100	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	2.00	Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.000	Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90	Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.000
Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	1.20																																																																																																			
Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																			
Invert Level (m)	14.100	Cap Infiltration Depth (m)	1.600																																																																																																			
Infiltration Coefficient Base (m/hr)	0.12744	Ring Diameter (m)	2.00																																																																																																			
Infiltration Coefficient Side (m/hr)	0.12744	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																			
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.000																																																																																																			
Infiltration Coefficient Base (m/hr)	18.60408	Ring Diameter (m)	0.90																																																																																																			
Infiltration Coefficient Side (m/hr)	18.60408	Pit Multiplier	1.5																																																																																																			
Safety Factor	2.0	Number Required	1																																																																																																			
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																			
Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.000																																																																																																			
©1982-2020 Innovyze																																																																																																						

Motion		Page 34																																																																																																								
84 North Street Guildford GU1 4AU																																																																																																										
Date 07/07/2022 10:20	Designed by commonuser																																																																																																									
File MD_east_002 + 10% UC.MDX	Checked by																																																																																																									
Innovyze	Network 2020.1.3																																																																																																									
<u>Lined Soakaway Manhole: 6.001, DS/PN: 6.001</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>1.10484</td> <td>Ring Diameter (m)</td> <td>1.20</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>1.10484</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>1.000</td> </tr> <tr> <td>Invert Level (m)</td> <td>13.900</td> <td>Cap Infiltration Depth (m)</td> <td>1.000</td> </tr> </table> <u>Lined Soakaway Manhole: 7.001, DS/PN: 7.001</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.03701</td> <td>Ring Diameter (m)</td> <td>1.60</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.03701</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>1.600</td> </tr> <tr> <td>Invert Level (m)</td> <td>13.700</td> <td>Cap Infiltration Depth (m)</td> <td>1.600</td> </tr> </table> <u>Lined Soakaway Manhole: 8.001, DS/PN: 8.001</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.03701</td> <td>Ring Diameter (m)</td> <td>1.60</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.03701</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>1.600</td> </tr> <tr> <td>Invert Level (m)</td> <td>13.800</td> <td>Cap Infiltration Depth (m)</td> <td>1.600</td> </tr> </table> <u>Lined Soakaway Manhole: 9.001, DS/PN: 9.001</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.03701</td> <td>Ring Diameter (m)</td> <td>1.60</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.03701</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>1.600</td> </tr> <tr> <td>Invert Level (m)</td> <td>13.900</td> <td>Cap Infiltration Depth (m)</td> <td>1.600</td> </tr> </table> <u>Porous Car Park Manhole: 10.000, DS/PN: 10.000</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.13352</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>91.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>252.8</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>14.600</td> <td>Cap Volume Depth (m)</td> <td>0.470</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	1.10484	Ring Diameter (m)	1.20	Infiltration Coefficient Side (m/hr)	1.10484	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.000	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000	Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60	Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60	Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60	Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	1.600	Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600	Infiltration Coefficient Base (m/hr)	0.13352	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	91.0	Max Percolation (l/s)	252.8	Slope (1:X)	0.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	14.600	Cap Volume Depth (m)	0.470
Infiltration Coefficient Base (m/hr)	1.10484	Ring Diameter (m)	1.20																																																																																																							
Infiltration Coefficient Side (m/hr)	1.10484	Pit Multiplier	1.5																																																																																																							
Safety Factor	2.0	Number Required	1																																																																																																							
Porosity	0.30	Cap Volume Depth (m)	1.000																																																																																																							
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.000																																																																																																							
Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60																																																																																																							
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5																																																																																																							
Safety Factor	2.0	Number Required	1																																																																																																							
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																							
Invert Level (m)	13.700	Cap Infiltration Depth (m)	1.600																																																																																																							
Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60																																																																																																							
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5																																																																																																							
Safety Factor	2.0	Number Required	1																																																																																																							
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																							
Invert Level (m)	13.800	Cap Infiltration Depth (m)	1.600																																																																																																							
Infiltration Coefficient Base (m/hr)	0.03701	Ring Diameter (m)	1.60																																																																																																							
Infiltration Coefficient Side (m/hr)	0.03701	Pit Multiplier	1.5																																																																																																							
Safety Factor	2.0	Number Required	1																																																																																																							
Porosity	0.30	Cap Volume Depth (m)	1.600																																																																																																							
Invert Level (m)	13.900	Cap Infiltration Depth (m)	1.600																																																																																																							
Infiltration Coefficient Base (m/hr)	0.13352	Width (m)	10.0																																																																																																							
Membrane Percolation (mm/hr)	1000	Length (m)	91.0																																																																																																							
Max Percolation (l/s)	252.8	Slope (1:X)	0.0																																																																																																							
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																							
Porosity	0.30	Evaporation (mm/day)	3																																																																																																							
Invert Level (m)	14.600	Cap Volume Depth (m)	0.470																																																																																																							
©1982-2020 Innovyze																																																																																																										

Motion		Page 35
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.000 Cv (Winter) 0.840

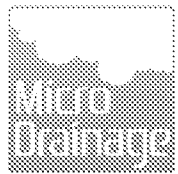
Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	15 Winter	1	+0%	100/60 Summer	100/120 Winter			15.532
1.001	1.001	240 Winter	1	+0%	100/30 Summer				14.521
2.000	2.000	15 Winter	1	+0%	100/15 Summer				15.340
2.001	2.001	120 Winter	1	+0%	100/120 Winter				14.143
3.000	3.000	15 Winter	1	+0%	100/15 Winter				14.733
3.001	3.001	15 Winter	1	+0%					13.915
4.000	4.000	15 Winter	1	+0%	100/15 Winter				14.633
4.001	4.001	15 Winter	1	+0%					13.816
5.000	5.000	15 Winter	1	+0%	100/15 Summer				14.535
5.001	5.001	15 Winter	1	+0%					13.715
6.000	6.000	15 Winter	1	+0%	30/15 Summer				14.751

©1982-2020 Innovyze

Motion		Page 36
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
1.000	1.000	-0.068	0.000	0.22		1.6	OK	4
1.001	1.001	-0.928	0.000	0.00	144	0.0	OK	
2.000	2.000	-0.060	0.000	0.32		2.3	OK	
2.001	2.001	-1.133	0.000	0.00	83	0.0	OK	
3.000	3.000	-0.067	0.000	0.23		1.6	OK	
3.001	3.001	-0.809	0.000	0.00	5	0.0	OK	
4.000	4.000	-0.067	0.000	0.23		1.7	OK	
4.001	4.001	-0.687	0.000	0.00	5	0.0	OK	
5.000	5.000	-0.065	0.000	0.26		1.6	OK	
5.001	5.001	-0.838	0.000	0.00	5	0.0	OK	
6.000	6.000	-0.049	0.000	0.50		2.0	OK	

Motion						Page 37			
84 North Street Guildford GU1 4AU									
Date 07/07/2022 10:20				Designed by commonuser					
File MD_east_002 + 10% UC.MDX				Checked by					
Innovyze				Network 2020.1.3					
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	
6.001	6.001	30 Winter	1	+0%	100/15 Summer				
7.000	7.000	15 Winter	1	+0%	100/15 Summer	100/240 Winter			
7.001	7.001	480 Winter	1	+0%	100/60 Winter	100/240 Winter			
8.000	8.000	15 Winter	1	+0%	100/240 Winter				
8.001	8.001	480 Winter	1	+0%	100/120 Winter				
9.000	9.000	15 Winter	1	+0%	100/240 Winter				
9.001	9.001	480 Winter	1	+0%	100/120 Winter				
10.000	10.000	120 Winter	1	+0%					
10.001	10.001	60 Winter	1	+0%	1/60 Winter				
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
6.001	6.001	14.082	-0.699	0.000	0.00	13	0.0	OK	
7.000	7.000	15.135	-0.065	0.000	0.26		1.8	OK	9
7.001	7.001	14.171	-0.931	0.000	0.00	435	0.0	OK	5
8.000	8.000	15.231	-0.069	0.000	0.21		1.4	OK	
8.001	8.001	14.151	-1.061	0.000	0.00	374	0.0	OK	
9.000	9.000	15.331	-0.069	0.000	0.21		1.4	OK	
9.001	9.001	14.251	-1.055	0.000	0.00	374	0.0	OK	
10.000	10.000	14.600	-0.050	0.000	0.00		0.0	OK	
10.001	10.001	14.605	0.002	0.000	0.00		0.0	SURCHARGED	
©1982-2020 Innovyze									

Motion		Page 38
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 20.000 Cv (Winter) 0.840

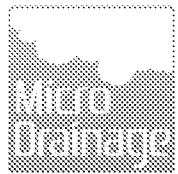
Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status ON
Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	15 Winter	30	+0%	100/60 Summer	100/120 Winter			15.554
1.001	1.001	240 Winter	30	+0%	100/30 Summer				15.194
2.000	2.000	15 Winter	30	+0%	100/15 Summer				15.369
2.001	2.001	120 Winter	30	+0%	100/120 Winter				14.591
3.000	3.000	15 Winter	30	+0%	100/15 Winter				14.755
3.001	3.001	15 Winter	30	+0%					13.936
4.000	4.000	15 Winter	30	+0%	100/15 Winter				14.654
4.001	4.001	15 Winter	30	+0%					13.839
5.000	5.000	15 Winter	30	+0%	100/15 Summer				14.559
5.001	5.001	15 Winter	30	+0%					13.736
6.000	6.000	15 Winter	30	+0%	30/15 Summer				14.809
6.001	6.001	30 Winter	30	+0%	100/15 Summer				14.510
7.000	7.000	15 Winter	30	+0%	100/15 Summer	100/240 Winter			15.159
7.001	7.001	480 Winter	30	+0%	100/60 Winter	100/240 Winter			14.847

©1982-2020 Innovyze

Motion		Page 39
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
1.000	1.000	-0.046	0.000	0.55			4.0	OK	4
1.001	1.001	-0.255	0.000	0.00		207	0.0	OK	
2.000	2.000	-0.031	0.000	0.79			5.7	OK	
2.001	2.001	-0.684	0.000	0.00		136	0.0	OK	
3.000	3.000	-0.045	0.000	0.57			3.9	OK	
3.001	3.001	-0.788	0.000	0.00		5	0.0	OK	
4.000	4.000	-0.046	0.000	0.56			4.2	OK	
4.001	4.001	-0.664	0.000	0.00		5	0.0	OK	
5.000	5.000	-0.041	0.000	0.64			3.9	OK	
5.001	5.001	-0.817	0.000	0.00		5	0.0	OK	
6.000	6.000	0.000	0.000	1.24			4.3	SURCHARGED	
6.001	6.001	-0.271	0.000	0.00		21	0.0	OK	
7.000	7.000	-0.041	0.000	0.64			4.5	OK	9
7.001	7.001	-0.255	0.000	0.00			0.0	OK	5

Motion		Page 40
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20	Designed by commonuser	
File MD_east_002 + 10% UC.MDX	Checked by	
Innovyze	Network 2020.1.3	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
8.000	8.000	15 Winter	30	+0%	100/240 Winter				15.251
8.001	8.001	480 Winter	30	+0%	100/120 Winter				14.671
9.000	9.000	15 Winter	30	+0%	100/240 Winter				15.351
9.001	9.001	480 Winter	30	+0%	100/120 Winter				14.771
10.000	10.000	360 Winter	30	+0%					14.602
10.001	10.001	15 Winter	30	+0%	1/60 Winter				14.653

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
8.000	8.000	-0.049	0.000	0.51			3.5	OK	
8.001	8.001	-0.541	0.000	0.00			0.0	OK	
9.000	9.000	-0.049	0.000	0.51			3.5	OK	
9.001	9.001	-0.535	0.000	0.00			0.0	OK	
10.000	10.000	-0.048	0.000	0.00		69	0.0	OK	
10.001	10.001	0.050	0.000	0.00			0.0	SURCHARGED	

Motion		Page 41
84 North Street Guildford GU1 4AU		
Date 07/07/2022 10:20 File MD_east_002 + 10% UC.MDX	Designed by commonuser Checked by	
Innovyze	Network 2020.1.3	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 10 Number of Storage Structures 10 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.345
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.000 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1.000	240 Winter	100	+45%	100/60 Summer	100/120 Winter			16.100
1.001	1.001	240 Winter	100	+45%	100/30 Summer				16.099
2.000	2.000	15 Winter	100	+45%	100/15 Summer				15.925
2.001	2.001	240 Winter	100	+45%	100/120 Winter				15.342
3.000	3.000	15 Winter	100	+45%	100/15 Winter				14.804
3.001	3.001	15 Winter	100	+45%					14.034
4.000	4.000	15 Winter	100	+45%	100/15 Winter				14.765
4.001	4.001	15 Winter	100	+45%					13.968
5.000	5.000	15 Winter	100	+45%	100/15 Summer				14.620
5.001	5.001	15 Winter	100	+45%					13.829
6.000	6.000	60 Winter	100	+45%	30/15 Summer				15.181
6.001	6.001	60 Winter	100	+45%	100/15 Summer				15.179
7.000	7.000	480 Winter	100	+45%	100/15 Summer	100/240 Winter			15.701
7.001	7.001	960 Winter	100	+45%	100/60 Winter	100/240 Winter			15.700

©1982-2020 Innovyze

Motion		Page 42							
84 North Street Guildford GU1 4AU									
Date 07/07/2022 10:20		Designed by commonuser							
File MD_east_002 + 10% UC.MDX		Checked by							
Innovyze		Network 2020.1.3							
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) <u>for Storm</u>									
PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1.000	0.500	0.495	0.22			1.6	FLOOD	4
1.001	1.001	0.650	0.000	0.00		366	0.0	FLOOD RISK	
2.000	2.000	0.135	0.000	1.42			10.2	SURCHARGED	
2.001	2.001	0.067	0.000	0.00		232	0.0	SURCHARGED	
3.000	3.000	0.004	0.000	1.04			7.1	SURCHARGED	
3.001	3.001	-0.690	0.000	0.00		3	0.0	OK	
4.000	4.000	0.005	0.000	1.02			7.6	SURCHARGED	
4.001	4.001	-0.535	0.000	0.00		3	0.0	OK	
5.000	5.000	0.020	0.000	1.20			7.3	SURCHARGED	
5.001	5.001	-0.724	0.000	0.00		4	0.0	OK	
6.000	6.000	0.001	0.000	1.20			5.0	FLOOD RISK	
6.001	6.001	0.398	0.000	0.00		39	0.0	FLOOD RISK	
7.000	7.000	0.501	1.273	0.15			1.1	FLOOD	9
7.001	7.001	0.598	0.490	0.00			0.0	FLOOD	5
©1982-2020 Innovyze									

Motion								Page 43	
84 North Street Guildford GU1 4AU									
Date 07/07/2022 10:20					Designed by commonuser				
File MD_east_002 + 10% UC.MDX					Checked by				
Innovyze					Network 2020.1.3				
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm									
Water									
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
8.000	8.000	480 Winter	100	+45%	100/240 Winter				15.525
8.001	8.001	480 Winter	100	+45%	100/120 Winter				15.524
9.000	9.000	480 Winter	100	+45%	100/240 Winter				15.624
9.001	9.001	480 Winter	100	+45%	100/120 Winter				15.623
10.000	10.000	120 Winter	100	+45%					14.608
10.001	10.001	15 Winter	100	+45%	1/60 Winter				14.659
Surcharged Flooded									
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
8.000	8.000	0.225	0.000	0.12			0.8	FLOOD RISK	
8.001	8.001	0.312	0.000	0.00			0.0	FLOOD RISK	
9.000	9.000	0.224	0.000	0.12			0.8	FLOOD RISK	
9.001	9.001	0.317	0.000	0.00			0.0	FLOOD RISK	
10.000	10.000	-0.042	0.000	0.00		29	0.0	OK	
10.001	10.001	0.056	0.000	0.00			0.0	SURCHARGED	
©1982-2020 Innovyze									