

Appendix E

Hydrology Calculation Summaries

UK Design Flood Estimation

Generated on 30 September 2021 07:11:12 by terminal
Printed from the ReFH2 Flood Modelling software package, version 3.1.7439.12207

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site details

Checksum: C502-1938

Site name: FEH_Catchment_Descriptors_327000_414700 (1)

Easting: 327000

Northing: 414700

Country: England, Wales or Northern Ireland

Catchment Area (km²): 5.79

Using plot scale calculations: No

Model: ReFH2.2

Site description: None

Model run: 100 year

Summary of results

Rainfall - FEH 2013 model (mm):	56.00	Total runoff (ML):	140.25
Total Rainfall (mm):	43.11	Total flow (ML):	296.29
Peak Rainfall (mm):	8.41	Peak flow (m ³ /s):	14.70

Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.

** Indicates that the user locked the duration/timestep*

Rainfall parameters (Rainfall - FEH 2013 model)

Name	Value	User-defined?
Duration (hh:mm:ss)	03:15:00	No
Timestep (hh:mm:ss)	00:15:00	No
SCF (Seasonal correction factor)	0.81	No
ARF (Areal reduction factor)	0.95	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	120.64	No
Cmax (mm)	252.88	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No
Use seasonal Cini for equations	Yes	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1.35	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0.45	No
BL (hr)	25.83	No
BR	1.11	No

Urbanisation parameters

Name	Value	User-defined?
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.3	No
Tp scaling factor	0.5	No
Exporting drained area (km ²)	0.00	Yes
Sewer capacity (m ³ /s)	0.00	Yes

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
00:00:00	0.767	0.000	0.367	0.000	0.451	0.451
00:15:00	1.188	0.000	0.573	0.026	0.447	0.473
00:30:00	1.833	0.000	0.896	0.120	0.443	0.563
00:45:00	2.816	0.000	1.401	0.318	0.441	0.759
01:00:00	4.295	0.000	2.198	0.680	0.442	1.123
01:15:00	6.454	0.000	3.440	1.299	0.449	1.748
01:30:00	8.406	0.000	4.727	2.307	0.464	2.770
01:45:00	6.454	0.000	3.819	3.813	0.492	4.305
02:00:00	4.295	0.000	2.633	5.790	0.539	6.329
02:15:00	2.816	0.000	1.766	8.012	0.608	8.620
02:30:00	1.833	0.000	1.166	10.209	0.699	10.908
02:45:00	1.188	0.000	0.763	12.084	0.812	12.896
03:00:00	0.767	0.000	0.496	13.302	0.940	14.242
03:15:00	0.000	0.000	0.000	13.623	1.076	14.699
03:30:00	0.000	0.000	0.000	13.182	1.209	14.391
03:45:00	0.000	0.000	0.000	12.215	1.333	13.548
04:00:00	0.000	0.000	0.000	10.946	1.444	12.391
04:15:00	0.000	0.000	0.000	9.560	1.540	11.100
04:30:00	0.000	0.000	0.000	8.202	1.621	9.823
04:45:00	0.000	0.000	0.000	6.937	1.686	8.623
05:00:00	0.000	0.000	0.000	5.805	1.738	7.543
05:15:00	0.000	0.000	0.000	4.782	1.778	6.560
05:30:00	0.000	0.000	0.000	3.844	1.807	5.651
05:45:00	0.000	0.000	0.000	2.982	1.826	4.808
06:00:00	0.000	0.000	0.000	2.201	1.837	4.038
06:15:00	0.000	0.000	0.000	1.514	1.839	3.353
06:30:00	0.000	0.000	0.000	0.957	1.834	2.792
06:45:00	0.000	0.000	0.000	0.566	1.825	2.391
07:00:00	0.000	0.000	0.000	0.313	1.812	2.125
07:15:00	0.000	0.000	0.000	0.157	1.797	1.954
07:30:00	0.000	0.000	0.000	0.067	1.781	1.848
07:45:00	0.000	0.000	0.000	0.020	1.764	1.785
08:00:00	0.000	0.000	0.000	0.002	1.747	1.749
08:15:00	0.000	0.000	0.000	0.000	1.730	1.730
08:30:00	0.000	0.000	0.000	0.000	1.714	1.714

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
08:45:00	0.000	0.000	0.000	0.000	1.697	1.697
09:00:00	0.000	0.000	0.000	0.000	1.681	1.681
09:15:00	0.000	0.000	0.000	0.000	1.665	1.665
09:30:00	0.000	0.000	0.000	0.000	1.649	1.649
09:45:00	0.000	0.000	0.000	0.000	1.633	1.633
10:00:00	0.000	0.000	0.000	0.000	1.617	1.617
10:15:00	0.000	0.000	0.000	0.000	1.601	1.601
10:30:00	0.000	0.000	0.000	0.000	1.586	1.586
10:45:00	0.000	0.000	0.000	0.000	1.571	1.571
11:00:00	0.000	0.000	0.000	0.000	1.556	1.556
11:15:00	0.000	0.000	0.000	0.000	1.541	1.541
11:30:00	0.000	0.000	0.000	0.000	1.526	1.526
11:45:00	0.000	0.000	0.000	0.000	1.511	1.511
12:00:00	0.000	0.000	0.000	0.000	1.497	1.497
12:15:00	0.000	0.000	0.000	0.000	1.482	1.482
12:30:00	0.000	0.000	0.000	0.000	1.468	1.468
12:45:00	0.000	0.000	0.000	0.000	1.454	1.454
13:00:00	0.000	0.000	0.000	0.000	1.440	1.440
13:15:00	0.000	0.000	0.000	0.000	1.426	1.426
13:30:00	0.000	0.000	0.000	0.000	1.412	1.412
13:45:00	0.000	0.000	0.000	0.000	1.399	1.399
14:00:00	0.000	0.000	0.000	0.000	1.385	1.385
14:15:00	0.000	0.000	0.000	0.000	1.372	1.372
14:30:00	0.000	0.000	0.000	0.000	1.359	1.359
14:45:00	0.000	0.000	0.000	0.000	1.345	1.345
15:00:00	0.000	0.000	0.000	0.000	1.332	1.332
15:15:00	0.000	0.000	0.000	0.000	1.320	1.320
15:30:00	0.000	0.000	0.000	0.000	1.307	1.307
15:45:00	0.000	0.000	0.000	0.000	1.294	1.294
16:00:00	0.000	0.000	0.000	0.000	1.282	1.282
16:15:00	0.000	0.000	0.000	0.000	1.270	1.270
16:30:00	0.000	0.000	0.000	0.000	1.257	1.257
16:45:00	0.000	0.000	0.000	0.000	1.245	1.245
17:00:00	0.000	0.000	0.000	0.000	1.233	1.233
17:15:00	0.000	0.000	0.000	0.000	1.221	1.221
17:30:00	0.000	0.000	0.000	0.000	1.210	1.210

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:45:00	0.000	0.000	0.000	0.000	1.198	1.198
18:00:00	0.000	0.000	0.000	0.000	1.186	1.186
18:15:00	0.000	0.000	0.000	0.000	1.175	1.175
18:30:00	0.000	0.000	0.000	0.000	1.164	1.164
18:45:00	0.000	0.000	0.000	0.000	1.152	1.152
19:00:00	0.000	0.000	0.000	0.000	1.141	1.141
19:15:00	0.000	0.000	0.000	0.000	1.130	1.130
19:30:00	0.000	0.000	0.000	0.000	1.119	1.119
19:45:00	0.000	0.000	0.000	0.000	1.109	1.109
20:00:00	0.000	0.000	0.000	0.000	1.098	1.098
20:15:00	0.000	0.000	0.000	0.000	1.087	1.087
20:30:00	0.000	0.000	0.000	0.000	1.077	1.077
20:45:00	0.000	0.000	0.000	0.000	1.067	1.067
21:00:00	0.000	0.000	0.000	0.000	1.056	1.056
21:15:00	0.000	0.000	0.000	0.000	1.046	1.046
21:30:00	0.000	0.000	0.000	0.000	1.036	1.036
21:45:00	0.000	0.000	0.000	0.000	1.026	1.026
22:00:00	0.000	0.000	0.000	0.000	1.016	1.016
22:15:00	0.000	0.000	0.000	0.000	1.006	1.006
22:30:00	0.000	0.000	0.000	0.000	0.997	0.997
22:45:00	0.000	0.000	0.000	0.000	0.987	0.987
23:00:00	0.000	0.000	0.000	0.000	0.978	0.978
23:15:00	0.000	0.000	0.000	0.000	0.968	0.968
23:30:00	0.000	0.000	0.000	0.000	0.959	0.959
23:45:00	0.000	0.000	0.000	0.000	0.950	0.950
24:00:00	0.000	0.000	0.000	0.000	0.940	0.940
24:15:00	0.000	0.000	0.000	0.000	0.931	0.931
24:30:00	0.000	0.000	0.000	0.000	0.922	0.922
24:45:00	0.000	0.000	0.000	0.000	0.913	0.913
25:00:00	0.000	0.000	0.000	0.000	0.905	0.905
25:15:00	0.000	0.000	0.000	0.000	0.896	0.896
25:30:00	0.000	0.000	0.000	0.000	0.887	0.887
25:45:00	0.000	0.000	0.000	0.000	0.879	0.879
26:00:00	0.000	0.000	0.000	0.000	0.870	0.870
26:15:00	0.000	0.000	0.000	0.000	0.862	0.862
26:30:00	0.000	0.000	0.000	0.000	0.854	0.854

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
26:45:00	0.000	0.000	0.000	0.000	0.845	0.845
27:00:00	0.000	0.000	0.000	0.000	0.837	0.837
27:15:00	0.000	0.000	0.000	0.000	0.829	0.829
27:30:00	0.000	0.000	0.000	0.000	0.821	0.821
27:45:00	0.000	0.000	0.000	0.000	0.813	0.813
28:00:00	0.000	0.000	0.000	0.000	0.805	0.805
28:15:00	0.000	0.000	0.000	0.000	0.798	0.798
28:30:00	0.000	0.000	0.000	0.000	0.790	0.790
28:45:00	0.000	0.000	0.000	0.000	0.782	0.782
29:00:00	0.000	0.000	0.000	0.000	0.775	0.775
29:15:00	0.000	0.000	0.000	0.000	0.767	0.767
29:30:00	0.000	0.000	0.000	0.000	0.760	0.760
29:45:00	0.000	0.000	0.000	0.000	0.753	0.753
30:00:00	0.000	0.000	0.000	0.000	0.745	0.745
30:15:00	0.000	0.000	0.000	0.000	0.738	0.738
30:30:00	0.000	0.000	0.000	0.000	0.731	0.731
30:45:00	0.000	0.000	0.000	0.000	0.724	0.724
31:00:00	0.000	0.000	0.000	0.000	0.717	0.717
31:15:00	0.000	0.000	0.000	0.000	0.710	0.710
31:30:00	0.000	0.000	0.000	0.000	0.703	0.703
31:45:00	0.000	0.000	0.000	0.000	0.697	0.697
32:00:00	0.000	0.000	0.000	0.000	0.690	0.690
32:15:00	0.000	0.000	0.000	0.000	0.683	0.683
32:30:00	0.000	0.000	0.000	0.000	0.677	0.677
32:45:00	0.000	0.000	0.000	0.000	0.670	0.670
33:00:00	0.000	0.000	0.000	0.000	0.664	0.664
33:15:00	0.000	0.000	0.000	0.000	0.657	0.657
33:30:00	0.000	0.000	0.000	0.000	0.651	0.651
33:45:00	0.000	0.000	0.000	0.000	0.645	0.645
34:00:00	0.000	0.000	0.000	0.000	0.639	0.639
34:15:00	0.000	0.000	0.000	0.000	0.632	0.632
34:30:00	0.000	0.000	0.000	0.000	0.626	0.626
34:45:00	0.000	0.000	0.000	0.000	0.620	0.620
35:00:00	0.000	0.000	0.000	0.000	0.614	0.614
35:15:00	0.000	0.000	0.000	0.000	0.608	0.608
35:30:00	0.000	0.000	0.000	0.000	0.602	0.602

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
35:45:00	0.000	0.000	0.000	0.000	0.597	0.597
36:00:00	0.000	0.000	0.000	0.000	0.591	0.591
36:15:00	0.000	0.000	0.000	0.000	0.585	0.585
36:30:00	0.000	0.000	0.000	0.000	0.580	0.580
36:45:00	0.000	0.000	0.000	0.000	0.574	0.574
37:00:00	0.000	0.000	0.000	0.000	0.568	0.568
37:15:00	0.000	0.000	0.000	0.000	0.563	0.563
37:30:00	0.000	0.000	0.000	0.000	0.558	0.558
37:45:00	0.000	0.000	0.000	0.000	0.552	0.552
38:00:00	0.000	0.000	0.000	0.000	0.547	0.547
38:15:00	0.000	0.000	0.000	0.000	0.542	0.542
38:30:00	0.000	0.000	0.000	0.000	0.536	0.536
38:45:00	0.000	0.000	0.000	0.000	0.531	0.531
39:00:00	0.000	0.000	0.000	0.000	0.526	0.526
39:15:00	0.000	0.000	0.000	0.000	0.521	0.521
39:30:00	0.000	0.000	0.000	0.000	0.516	0.516
39:45:00	0.000	0.000	0.000	0.000	0.511	0.511
40:00:00	0.000	0.000	0.000	0.000	0.506	0.506
40:15:00	0.000	0.000	0.000	0.000	0.501	0.501
40:30:00	0.000	0.000	0.000	0.000	0.496	0.496
40:45:00	0.000	0.000	0.000	0.000	0.492	0.492
41:00:00	0.000	0.000	0.000	0.000	0.487	0.487
41:15:00	0.000	0.000	0.000	0.000	0.482	0.482
41:30:00	0.000	0.000	0.000	0.000	0.478	0.478
41:45:00	0.000	0.000	0.000	0.000	0.473	0.473
42:00:00	0.000	0.000	0.000	0.000	0.468	0.468
42:15:00	0.000	0.000	0.000	0.000	0.464	0.464
42:30:00	0.000	0.000	0.000	0.000	0.459	0.459
42:45:00	0.000	0.000	0.000	0.000	0.455	0.455

Appendix

Catchment descriptors

Name	Value	User-defined value used?
Area (km ²)	5.79	No
ALTBAR	257	No
ASPBAR	139	No
ASPVAR	0.38	No
BFIHOST	0.37	No
DPLBAR (km)	2.8	No
DPSBAR (mkm ⁻¹)	90.5	No
FARL	0.97	No
LDP	5.17	No
PROPWET (mm)	0.65	No
RMED1H	9.2	No
RMED1D	37.6	No
RMED2D	53.6	No
SAAR (mm)	1409	No
SAAR4170 (mm)	1285	No
SPRHOST	48.5	No
Urbext2000	0	No
Urbext1990	0	No
URBCONC	0	No
URBLOC	0	No
DDF parameter C	-0.02	No
DDF parameter D1	0.44	No
DDF parameter D2	0.58	No
DDF parameter D3	0.24	No
DDF parameter E	0.26	No
DDF parameter F	2.26	No
DDF parameter C (1km grid value)	-0.02	No
DDF parameter D1 (1km grid value)	0.47	No
DDF parameter D2 (1km grid value)	0.61	No
DDF parameter D3 (1km grid value)	0.23	No
DDF parameter E (1km grid value)	0.26	No
DDF parameter F (1km grid value)	2.2	No

UK Design Flood Estimation

Generated on 30 September 2021 07:12:41 by terminal
Printed from the ReFH2 Flood Modelling software package, version 3.1.7439.12207

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site details

Checksum: 0CCC-E5EC

Site name: FEH_Catchment_Descriptors_324200_412200 (1)

Easting: 324200

Northing: 412200

Country: England, Wales or Northern Ireland

Catchment Area (km²): 3.18

Using plot scale calculations: No

Model: ReFH2.2

Site description: None

Model run: 100 year

Summary of results

Rainfall - FEH 2013 model (mm):	52.80	Total runoff (ML):	55.83
Total Rainfall (mm):	40.22	Total flow (ML):	129.80
Peak Rainfall (mm):	9.14	Peak flow (m ³ /s):	7.10

Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.

** Indicates that the user locked the duration/timestep*

Rainfall parameters (Rainfall - FEH 2013 model)

Name	Value	User-defined?
Duration (hh:mm:ss)	02:45:00	No
Timestep (hh:mm:ss)	00:15:00	No
SCF (Seasonal correction factor)	0.79	No
ARF (Areal reduction factor)	0.96	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	109	No
Cmax (mm)	295.53	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No
Use seasonal Cini for equations	Yes	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1.1	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0.22	No
BL (hr)	25.74	No
BR	1.32	No

Urbanisation parameters

Name	Value	User-defined?
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.3	No
Tp scaling factor	0.5	No
Exporting drained area (km ²)	0.00	Yes
Sewer capacity (m ³ /s)	0.00	Yes

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
00:00:00	0.883	0.000	0.327	0.000	0.221	0.221
00:15:00	1.479	0.000	0.554	0.020	0.219	0.238
00:30:00	2.466	0.000	0.939	0.092	0.218	0.309
00:45:00	4.077	0.000	1.598	0.253	0.218	0.470
01:00:00	6.635	0.000	2.721	0.565	0.221	0.786
01:15:00	9.139	0.000	3.993	1.124	0.229	1.353
01:30:00	6.635	0.000	3.076	2.017	0.247	2.265
01:45:00	4.077	0.000	1.964	3.218	0.279	3.496
02:00:00	2.466	0.000	1.215	4.522	0.325	4.848
02:15:00	1.479	0.000	0.739	5.684	0.388	6.072
02:30:00	0.883	0.000	0.445	6.428	0.461	6.889
02:45:00	0.000	0.000	0.000	6.556	0.540	7.096
03:00:00	0.000	0.000	0.000	6.189	0.616	6.805
03:15:00	0.000	0.000	0.000	5.517	0.685	6.203
03:30:00	0.000	0.000	0.000	4.716	0.744	5.460
03:45:00	0.000	0.000	0.000	3.918	0.792	4.710
04:00:00	0.000	0.000	0.000	3.177	0.830	4.007
04:15:00	0.000	0.000	0.000	2.525	0.859	3.384
04:30:00	0.000	0.000	0.000	1.944	0.879	2.823
04:45:00	0.000	0.000	0.000	1.423	0.892	2.315
05:00:00	0.000	0.000	0.000	0.967	0.899	1.865
05:15:00	0.000	0.000	0.000	0.590	0.900	1.490
05:30:00	0.000	0.000	0.000	0.325	0.897	1.222
05:45:00	0.000	0.000	0.000	0.163	0.892	1.055
06:00:00	0.000	0.000	0.000	0.072	0.884	0.956
06:15:00	0.000	0.000	0.000	0.024	0.876	0.901
06:30:00	0.000	0.000	0.000	0.004	0.868	0.872
06:45:00	0.000	0.000	0.000	0.000	0.860	0.860
07:00:00	0.000	0.000	0.000	0.000	0.851	0.851
07:15:00	0.000	0.000	0.000	0.000	0.843	0.843
07:30:00	0.000	0.000	0.000	0.000	0.835	0.835
07:45:00	0.000	0.000	0.000	0.000	0.827	0.827
08:00:00	0.000	0.000	0.000	0.000	0.819	0.819
08:15:00	0.000	0.000	0.000	0.000	0.811	0.811
08:30:00	0.000	0.000	0.000	0.000	0.803	0.803

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
08:45:00	0.000	0.000	0.000	0.000	0.796	0.796
09:00:00	0.000	0.000	0.000	0.000	0.788	0.788
09:15:00	0.000	0.000	0.000	0.000	0.780	0.780
09:30:00	0.000	0.000	0.000	0.000	0.773	0.773
09:45:00	0.000	0.000	0.000	0.000	0.765	0.765
10:00:00	0.000	0.000	0.000	0.000	0.758	0.758
10:15:00	0.000	0.000	0.000	0.000	0.750	0.750
10:30:00	0.000	0.000	0.000	0.000	0.743	0.743
10:45:00	0.000	0.000	0.000	0.000	0.736	0.736
11:00:00	0.000	0.000	0.000	0.000	0.729	0.729
11:15:00	0.000	0.000	0.000	0.000	0.722	0.722
11:30:00	0.000	0.000	0.000	0.000	0.715	0.715
11:45:00	0.000	0.000	0.000	0.000	0.708	0.708
12:00:00	0.000	0.000	0.000	0.000	0.701	0.701
12:15:00	0.000	0.000	0.000	0.000	0.694	0.694
12:30:00	0.000	0.000	0.000	0.000	0.688	0.688
12:45:00	0.000	0.000	0.000	0.000	0.681	0.681
13:00:00	0.000	0.000	0.000	0.000	0.674	0.674
13:15:00	0.000	0.000	0.000	0.000	0.668	0.668
13:30:00	0.000	0.000	0.000	0.000	0.661	0.661
13:45:00	0.000	0.000	0.000	0.000	0.655	0.655
14:00:00	0.000	0.000	0.000	0.000	0.649	0.649
14:15:00	0.000	0.000	0.000	0.000	0.642	0.642
14:30:00	0.000	0.000	0.000	0.000	0.636	0.636
14:45:00	0.000	0.000	0.000	0.000	0.630	0.630
15:00:00	0.000	0.000	0.000	0.000	0.624	0.624
15:15:00	0.000	0.000	0.000	0.000	0.618	0.618
15:30:00	0.000	0.000	0.000	0.000	0.612	0.612
15:45:00	0.000	0.000	0.000	0.000	0.606	0.606
16:00:00	0.000	0.000	0.000	0.000	0.600	0.600
16:15:00	0.000	0.000	0.000	0.000	0.594	0.594
16:30:00	0.000	0.000	0.000	0.000	0.589	0.589
16:45:00	0.000	0.000	0.000	0.000	0.583	0.583
17:00:00	0.000	0.000	0.000	0.000	0.577	0.577
17:15:00	0.000	0.000	0.000	0.000	0.572	0.572
17:30:00	0.000	0.000	0.000	0.000	0.566	0.566

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:45:00	0.000	0.000	0.000	0.000	0.561	0.561
18:00:00	0.000	0.000	0.000	0.000	0.555	0.555
18:15:00	0.000	0.000	0.000	0.000	0.550	0.550
18:30:00	0.000	0.000	0.000	0.000	0.545	0.545
18:45:00	0.000	0.000	0.000	0.000	0.539	0.539
19:00:00	0.000	0.000	0.000	0.000	0.534	0.534
19:15:00	0.000	0.000	0.000	0.000	0.529	0.529
19:30:00	0.000	0.000	0.000	0.000	0.524	0.524
19:45:00	0.000	0.000	0.000	0.000	0.519	0.519
20:00:00	0.000	0.000	0.000	0.000	0.514	0.514
20:15:00	0.000	0.000	0.000	0.000	0.509	0.509
20:30:00	0.000	0.000	0.000	0.000	0.504	0.504
20:45:00	0.000	0.000	0.000	0.000	0.499	0.499
21:00:00	0.000	0.000	0.000	0.000	0.494	0.494
21:15:00	0.000	0.000	0.000	0.000	0.489	0.489
21:30:00	0.000	0.000	0.000	0.000	0.485	0.485
21:45:00	0.000	0.000	0.000	0.000	0.480	0.480
22:00:00	0.000	0.000	0.000	0.000	0.475	0.475
22:15:00	0.000	0.000	0.000	0.000	0.471	0.471
22:30:00	0.000	0.000	0.000	0.000	0.466	0.466
22:45:00	0.000	0.000	0.000	0.000	0.462	0.462
23:00:00	0.000	0.000	0.000	0.000	0.457	0.457
23:15:00	0.000	0.000	0.000	0.000	0.453	0.453
23:30:00	0.000	0.000	0.000	0.000	0.448	0.448
23:45:00	0.000	0.000	0.000	0.000	0.444	0.444
24:00:00	0.000	0.000	0.000	0.000	0.440	0.440
24:15:00	0.000	0.000	0.000	0.000	0.436	0.436
24:30:00	0.000	0.000	0.000	0.000	0.431	0.431
24:45:00	0.000	0.000	0.000	0.000	0.427	0.427
25:00:00	0.000	0.000	0.000	0.000	0.423	0.423
25:15:00	0.000	0.000	0.000	0.000	0.419	0.419
25:30:00	0.000	0.000	0.000	0.000	0.415	0.415
25:45:00	0.000	0.000	0.000	0.000	0.411	0.411
26:00:00	0.000	0.000	0.000	0.000	0.407	0.407
26:15:00	0.000	0.000	0.000	0.000	0.403	0.403
26:30:00	0.000	0.000	0.000	0.000	0.399	0.399

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
26:45:00	0.000	0.000	0.000	0.000	0.395	0.395
27:00:00	0.000	0.000	0.000	0.000	0.391	0.391
27:15:00	0.000	0.000	0.000	0.000	0.388	0.388
27:30:00	0.000	0.000	0.000	0.000	0.384	0.384
27:45:00	0.000	0.000	0.000	0.000	0.380	0.380
28:00:00	0.000	0.000	0.000	0.000	0.377	0.377
28:15:00	0.000	0.000	0.000	0.000	0.373	0.373
28:30:00	0.000	0.000	0.000	0.000	0.369	0.369
28:45:00	0.000	0.000	0.000	0.000	0.366	0.366
29:00:00	0.000	0.000	0.000	0.000	0.362	0.362
29:15:00	0.000	0.000	0.000	0.000	0.359	0.359
29:30:00	0.000	0.000	0.000	0.000	0.355	0.355
29:45:00	0.000	0.000	0.000	0.000	0.352	0.352
30:00:00	0.000	0.000	0.000	0.000	0.348	0.348
30:15:00	0.000	0.000	0.000	0.000	0.345	0.345
30:30:00	0.000	0.000	0.000	0.000	0.342	0.342
30:45:00	0.000	0.000	0.000	0.000	0.338	0.338
31:00:00	0.000	0.000	0.000	0.000	0.335	0.335
31:15:00	0.000	0.000	0.000	0.000	0.332	0.332
31:30:00	0.000	0.000	0.000	0.000	0.329	0.329
31:45:00	0.000	0.000	0.000	0.000	0.325	0.325
32:00:00	0.000	0.000	0.000	0.000	0.322	0.322
32:15:00	0.000	0.000	0.000	0.000	0.319	0.319
32:30:00	0.000	0.000	0.000	0.000	0.316	0.316
32:45:00	0.000	0.000	0.000	0.000	0.313	0.313
33:00:00	0.000	0.000	0.000	0.000	0.310	0.310
33:15:00	0.000	0.000	0.000	0.000	0.307	0.307
33:30:00	0.000	0.000	0.000	0.000	0.304	0.304
33:45:00	0.000	0.000	0.000	0.000	0.301	0.301
34:00:00	0.000	0.000	0.000	0.000	0.298	0.298
34:15:00	0.000	0.000	0.000	0.000	0.295	0.295
34:30:00	0.000	0.000	0.000	0.000	0.292	0.292
34:45:00	0.000	0.000	0.000	0.000	0.290	0.290
35:00:00	0.000	0.000	0.000	0.000	0.287	0.287
35:15:00	0.000	0.000	0.000	0.000	0.284	0.284
35:30:00	0.000	0.000	0.000	0.000	0.281	0.281

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
35:45:00	0.000	0.000	0.000	0.000	0.279	0.279
36:00:00	0.000	0.000	0.000	0.000	0.276	0.276
36:15:00	0.000	0.000	0.000	0.000	0.273	0.273
36:30:00	0.000	0.000	0.000	0.000	0.271	0.271
36:45:00	0.000	0.000	0.000	0.000	0.268	0.268
37:00:00	0.000	0.000	0.000	0.000	0.265	0.265
37:15:00	0.000	0.000	0.000	0.000	0.263	0.263
37:30:00	0.000	0.000	0.000	0.000	0.260	0.260
37:45:00	0.000	0.000	0.000	0.000	0.258	0.258
38:00:00	0.000	0.000	0.000	0.000	0.255	0.255
38:15:00	0.000	0.000	0.000	0.000	0.253	0.253
38:30:00	0.000	0.000	0.000	0.000	0.250	0.250
38:45:00	0.000	0.000	0.000	0.000	0.248	0.248
39:00:00	0.000	0.000	0.000	0.000	0.246	0.246
39:15:00	0.000	0.000	0.000	0.000	0.243	0.243
39:30:00	0.000	0.000	0.000	0.000	0.241	0.241
39:45:00	0.000	0.000	0.000	0.000	0.239	0.239
40:00:00	0.000	0.000	0.000	0.000	0.236	0.236
40:15:00	0.000	0.000	0.000	0.000	0.234	0.234
40:30:00	0.000	0.000	0.000	0.000	0.232	0.232
40:45:00	0.000	0.000	0.000	0.000	0.229	0.229
41:00:00	0.000	0.000	0.000	0.000	0.227	0.227
41:15:00	0.000	0.000	0.000	0.000	0.225	0.225
41:30:00	0.000	0.000	0.000	0.000	0.223	0.223

Appendix

Catchment descriptors

Name	Value	User-defined value used?
Area (km ²)	3.18	No
ALTBAR	230	No
ASPBAR	144	No
ASPVAR	0.4	No
BFIHOST	0.43	No
DPLBAR (km)	1.81	No
DPSBAR (mkm ⁻¹)	79.8	No
FARL	1	No
LDP	3.63	No
PROPWET (mm)	0.65	No
RMED1H	9.4	No
RMED1D	37.4	No
RMED2D	53.3	No
SAAR (mm)	1391	No
SAAR4170 (mm)	1248	No
SPRHOST	42.64	No
Urbext2000	0	No
Urbext1990	0	No
URBCONC	0	No
URBLOC	0	No
DDF parameter C	-0.02	No
DDF parameter D1	0.44	No
DDF parameter D2	0.57	No
DDF parameter D3	0.24	No
DDF parameter E	0.26	No
DDF parameter F	2.27	No
DDF parameter C (1km grid value)	-0.02	No
DDF parameter D1 (1km grid value)	0.44	No
DDF parameter D2 (1km grid value)	0.57	No
DDF parameter D3 (1km grid value)	0.25	No
DDF parameter E (1km grid value)	0.26	No
DDF parameter F (1km grid value)	2.26	No