

NORTH EASTERN EXTENSION,
BROMLEY FARM QUARRY, UPPER
CUMBERWORTH, WEST YORKSHIRE

SURFACE WATER MANAGEMENT
SCHEME

Prepared for

Silkstone Environmental
Limited

November 2025
Ref:261/01/bfq/swms/1125

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1. Introduction

- 1.1 This report has been prepared in response to instruction dated 14th August 2025 from Silkstone Environmental Ltd on behalf of Cannova Clay. The report presents a Surface Water Management Scheme (SWMS) for the north eastern extension to Bromley Farm Quarry, Upper Cumberworth, West Yorkshire.
- 1.2 Planning permission for the north eastern extension to Bromley Farm Quarry was granted by Kirklees Council in 2024 subject to conditions. Condition 50 relates to surface water management, as follows.

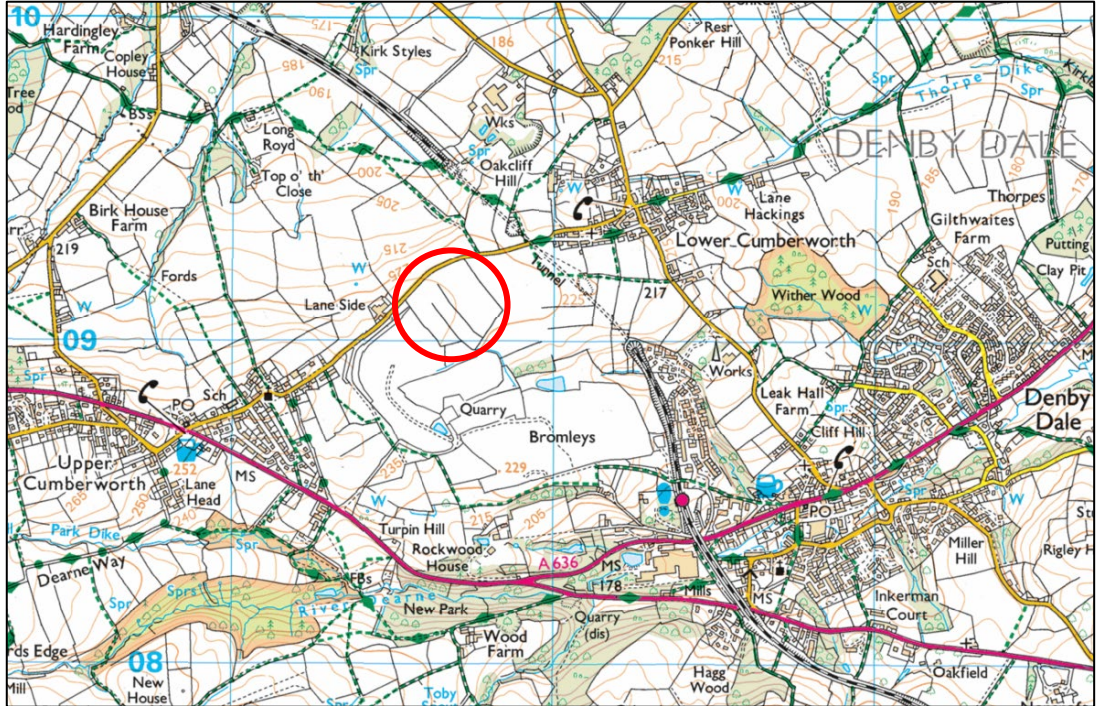
Development shall not commence until a scheme restricting the rate of treated surface water discharge from the site to a maximum of 5 litres per second per hectare or 3 litres per second, whichever is the higher, has been submitted to and approved in writing by Mineral Planning Authority. The excavated area shall provide attenuation in the first instance. The scheme shall include a detailed operation and maintenance/management regime for the treatment facility including the flow restriction. The approved maintenance and management scheme shall be implemented throughout the lifetime of the proposed works

- 1.3 The proposed SWMS has been developed by reference to baseline hydrological conditions at the Site, calculation of rainfall runoff rates for a design storm event and definition of stormwater attenuation requirements. Detail related to management and maintenance of drainage components is included in the SWMS.

2. Site location and hydrological context

- 2.1 Bromley Farm Quarry is located 500 m east of the village of Upper Cumberworth in West Yorkshire. Site location is shown on Figure 1. The former quarry workings have now been fully restored by placement of overburden and inert waste materials as part of a recovery activity. The extension covers an area of approximately 5 ha, with access from the existing Site internal access road.
- 2.2 Land to the south and south east of the Site has been subject to mineral extraction and waste deposition in the past. As shown in Figure 2, surrounding land to the north and east is predominantly rural with the village of Upper Cumberworth to the west. The Site is bounded to the north by Cumberworth Lane. Cumberworth railway tunnel is located approximately 250 m to the east.

Figure 1: Site location © Ordnance Survey



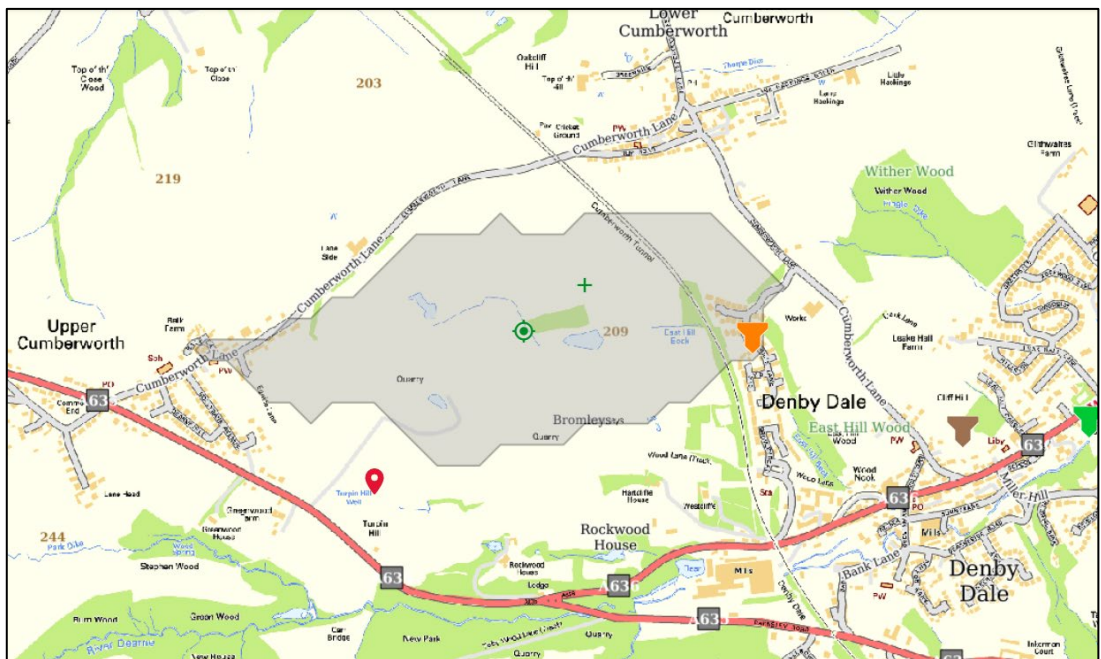
2.3 Bromley Farm Quarry is established on elevated ground between the Dearne Valley to the south and Shepley Dike to the north. Ground levels at the Site achieve a maximum elevation of 232 mAOD at the northern boundary with Cumberworth Lane, reducing to a minimum of 225 mAOD at the southern Site boundary. The existing quarry access from a track connecting from Barnsley Road is established at approximately 220 mAOD.

Figure 2: Aerial view of the site and surrounding area © Ordnance Survey



- 2.4 The majority of the proposed extension area is situated in the surface water catchment of the River Dearne, via East Hill Beck. The River Dearne flows west to east approximately 600 m south of the application Site. East Hill Beck rises at issues 100 m south east of the application Site, passing beneath the railway line to emerge in open channel at the northern end of Denby Dale. Hydrological indicates that East Hill Beck is connected to the small pond immediately south of the Site, and the upstream field drain that flows around the south western Site boundary. On this basis, surface water runoff from the majority of the Site is currently draining indirectly to East Hill Beck. Ground levels in the north eastern area of the Site fall towards the north west.
- 2.5 Flood Estimation Handbook (FEH) catchment models confirm that, downstream of the Site, East Hill Beck drains a catchment area of 0.5 km², including the majority of the application Site. The East Hill Beck catchment area is indicated on Figure 3. The location of the extension area in relation to local surface water hydrology is shown on Drawing 261/01/01.

Figure 3: FEH catchment boundary for East Hill Beck adjacent to the application Site



- 2.6 As discussed at Section 3, whilst operational, the proposed development would be drained by pumping to a water treatment area with off-site outfall to the existing field drainage tributary of East Hill Beck. Once completed and restored, surface water runoff from restored surfaces would drain naturally towards the south for discharge to the same field drainage system. Surface water drainage to East Hill Beck would therefore continue throughout the operational life of the development and post Site restoration.

3. Surface water management scheme

Drainage design principles

- 3.1 In accordance with the requirements of the NPPF and Kirklees Council planning policy, surface water will be managed at the Site through installation and operation of a Sustainable

Drainage System (SuDS). Current National Standards¹ for Sustainable Drainage Systems (National Standards - Defra 2025) require that, where reasonably practicable, all new developments are to be equipped with sustainable drainage systems (SuDS) that are approved by the Local Lead Flood Authority (LLFA) under the terms of the Flood and Water Management Act 2010.

- 3.2 Basic standards for SuDS design at previously developed sites is stated in the current Defra national standards for sustainable drainage systems as follows:

1.2 Runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

- *priority 1: collected for non-potable use*
- *priority 2: infiltrated to ground*
- *priority 3: discharged to an above ground surface water body*
- *priority 4: discharged to a surface water sewer, or another piped surface water drainage system*
- *priority 5: discharged to a combined sewer*

Note 1: priority 1 is the highest priority and priority 5 is the lowest.

- 3.3 During extractive operations at the Site, surface water runoff from Site surfaces would drain to the excavation area with natural infiltration to underground strata and pumped removal of excess water to the surface-located water treatment area, prior to controlled off-site discharge to East Hill Beck. The Site will be backfilled with relatively low permeability materials that will be unsuitable for use of infiltration devices for surface water management. The proposed restoration scheme is designed to promote effective drainage of surface water to the off-Site outfall to the upstream end of East Hill Beck, as shown on the restoration scheme drawing at Appendix A. Therefore, during all stages of development, excess surface water would discharge to a surface water body in accordance with the highest suitable SuDS priority.

- 3.4 National standards for sustainable drainage systems provide general guidance on control of peak flow rates and flow volumes, as follows.

Runoff rates and volumes to surface waters or sewers

3.18 The peak allowable discharge rate from the development to surface waters or sewers for the 50% AEP event shall be limited to the equivalent 50% AEP greenfield runoff rate, or 3 l/s/ha, whichever is the greater.

3.19 Where the volume of runoff discharged from the development to surface waters or sewers for the 1% AEP, 6-hour rainfall event is greater than the volume of greenfield runoff for the same rainfall event, the peak allowable discharge rate from the development for the 1% AEP event shall be limited to the 50% AEP greenfield runoff rate or 3 l/s/ha, whichever is the greater.

3.20 Where the volume of runoff discharged from the development to surface waters or sewers for the 1% AEP, 6-hour rainfall event is less than or equivalent to the volume of greenfield runoff for the same event, the peak allowable discharge rate from the development for the 1% AEP event shall be limited to the 1% AEP greenfield runoff rate or 3 l/s/ha, whichever is the greater.

¹ Defra 2025. *National Standards for sustainable drainage systems*. July 2025. Defra

Note: runoff volume can be reduced so it is less than or equivalent to the volume of greenfield runoff through infiltration and interception methods which will also result in lower attenuation volumes.

3.21 For previously developed sites a 'relaxation factor' shall be applied to the target 50% and 1% AEP greenfield runoff rates where evidence is provided that demonstrates why greenfield runoff or 3l/s/ha rates cannot be achieved and this is agreed with the approving body.

3.21.1 This relaxation factor shall be no greater than 5 times the greenfield runoff rate.

3.22 Where the peak allowable discharge rate requires flow controls with orifices (or equivalent) with a diameter of less than 50 mm, the flow control shall be robustly protected from blockage risks. Regardless of this, the risk of blockage for all flow controls shall be assessed and mitigated against.

3.23 In determining the maximum water levels, flows and attenuation storage volumes, the critical duration rainfall event should be used.

Note: different critical durations may apply to different storage features used on a development.

3.24 The surface water drainage design shall include analysis of the effects on the surface water drainage system if the outfall is likely to be surcharged.

3.25 Detailed non-technical summaries of the design approach, hydraulic calculations and results, and conclusions with respect to the surface water drainage system shall be provided.

- 3.5 The proposed SWMS is intended to address the requirements of planning condition 50 which required the off-Site discharge rate to be limited to 25 l/s. Greenfield runoff rates for the Site, calculated from ReFH₂ modelling for a critical storm duration of 2 hrs, are summarised in Table 1.

Table 1: Greenfield rates

Storm frequency (AEP)	Peak runoff rate (l/s)	Peak runoff rate (l/s/ha)
100%	8.7	1.74
50%	10.1	2.02
3.3%	24.4	4.88
1%	32.2	6.44

- 3.6 The requirement to limit off-Site discharge to 25 l/s is approximately equivalent to the 3.3%AEP greenfield rate. For greater magnitude storm events, off-Site discharge would be limited to less than the current greenfield rate. Limiting off-Site discharge to a maximum of 25 l/s would therefore achieve greater peak flow and volume restriction than required by national standards.
- 3.7 During extractive operations, surface water runoff would accumulate at the lowest point of the workings. Excess water would be pumped to the surface water treatment area at a maximum rate of 25 l/s. It is assumed that there would be no attenuation storage capacity in the water treatment area. Hard rock surfaces are expected to have limited infiltration capacity and therefore operational runoff rates have been calculated with a runoff coefficient of 60% of incident rainfall. The Rational Method has been applied in the following format.

$$Q \text{ (m}^3\text{/s)} = 0.278 \cdot C \cdot i \cdot A,$$

Where, C = runoff coefficient, i = rainfall depth (mm/hr) for critical storm duration, A = catchment area (km²).

- 3.8 In accordance with local and national drainage design guidance, an allowance for the potential effect of future climate change on rainfall intensity has been included in calculation of development runoff rates. The Site is located in the Don and Rother Management Catchment. Given the low hydrological sensitivity of the Site and the duration of extractive operations, climate change allowance has been referenced to the central allowance for the 1%AEP storm event to the 2050's. An allowance of 20% is appropriate.
- 3.9 Peak runoff rates and total runoff volumes for a critical storm duration of 2 hrs are summarised in Table 2.

Table 2: Operational runoff rates

Storm frequency (AEP)	Peak runoff rate (l/s)	Runoff volume (m ³)
50%	85	612
3.3%	197	1418
1%	251	1807

- 3.10 At an allowable off-Site discharge rate of 25 l/s the volume of water discharged from the Site during the critical storm event would be 180 m³. The maximum volume of water in temporary storage within the workings during a 1%AEP+20%cc storm event would be approximately 1,625 m³. At a nominal temporary storage depth of 2 m, the areal extent of ponded water would equate to approximately 30 m x 30 m. Reference to excavation development plans demonstrates adequate room for temporary water storage within the excavations at each phase of development.
- 3.11 The Site is underlain by low permeability coal measures mudstone, with no superficial cover and limited potential for rainfall infiltration. Following restoration, the Site would be underlain by compacted backfill consisting of overburden and inert waste materials. The restored Site is therefore likely to retain low infiltration capacity, comparable to the Site at present. On that basis the Site would continue to drain at the current greenfield rate.
- 3.12 It is noted that the requirement of Condition 50 is that maximum off-Site discharge rate is limited to 25 l/s but that drainage system design should be based on management of the 1%AEP storm runoff plus allowance for climate change. The restoration drainage scheme will therefore incorporate attenuation storage in the form of a small attenuation pond upstream of the off-Site discharge to East Hill Beck. With a 1%AEP+20%cc greenfield peak runoff rate of 38.64 l/s the required storage volume for a critical storm duration of 2 hrs is approximately 100 m³.

Drainage scheme components

- 3.13 The proposed surface water drainage scheme for the Site is relatively simple with few components. The system is described separately for the operational and post restoration stages of the development.

Operational stage

- 3.14 The proposed operational drainage scheme is shown for the excavation at maximum extent on Drawing 261/01/01. The scheme consists of the following components.

- Gravity drainage across excavation surfaces to the lowest point within the workings;
 - Temporary accumulation of excess stormwater within the excavation;
 - Excess water discharge via pump and flexible pipeline to the surface Water Treatment Area consisting of a silt settlement lagoon;
 - Gravity overflow from the Water Treatment Area (WTA) to East Hill Beck via a new temporary outfall.
- 3.15 The temporary excavation floor stormwater storage area will consist of the lowest point in the excavation at all phases of working and will therefore move as the excavation progresses. Discharge to the WTA by pump and flexible pipeline will provide the flexibility required to pump from various locations within the excavation area.
- 3.16 Stormwater will be discharged to the WTA at a maximum rate of 25 l/s to retain full water treatment capacity of the WTA. Outfall from the WTA to East Hill Beck will occur via gravity overflow to a flexible pipeline and new outfall on the left bank of the beck. The outfall will be established to prevent bed and bank erosion at the beck.

Post-restoration drainage scheme components

- 3.17 The approved restoration scheme is designed to promote gravity runoff of surface water from all restored surfaces. If necessary field drains would be installed to drain water from lower gradient areas. All surface water runoff will be directed to a stormwater attenuation pond to be located at the southern Site boundary, just upstream of a new outfall to East Hill Beck. The pond will have a minimum free capacity of 100 m³.
- 3.18 A permanent outfall to East Hill Beck would be installed on the left bank of the beck. The outfall would be established with an appropriate headwall and apron to prevent bed/bank erosion. The outfall would be established with an invert elevation of 222.57 mAOD.

4. Water treatment

- 4.1 During the operational phases of the development surface water runoff would be subject to primary settlement in the quarry excavation and secondary settlement in the WTA. The WTA would also incorporate natural aeration at lagoon inlet and outlet.
- 4.2 The post-restoration drainage system would incorporate filtration during runoff across vegetated surfaces, followed by settlement and aeration in the stormwater attenuation pond.
- 4.3 Reference is made to the SuDS Manual² regarding water treatment recommendations. Table 26.2 of the manual defines pollution hazard indices for types of land use. During the operational phases of the development, the Site can be considered comparable to an industrial site. As indicated below, industrial sites are considered to have 'High' pollution hazard level. Following restoration, the Site would have 'Low' pollution hazard level

² Ciria (2015). The SuDS Manual

TABLE 26.2 Pollution hazard indices for different land use classifications

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways ¹	High	0.8 ²	0.8 ²	0.9 ²

4.4 Indicative SuDS mitigation indices achievable for a range of SuDS components are summarised in Table 26.4 of the SuDS Manual.

TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters

Type of SuDS component	Mitigation indices ¹		
	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4 ²	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond ⁴	0.7 ³	0.7	0.5
Wetland	0.8 ³	0.8	0.8
Proprietary treatment systems ^{5,6}	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

4.4 The water treatment functions of the operational drainage system, incorporating the equivalent of a pond and wetland (WTA) would achieve pollution mitigation indices that exceed the pollution hazard rating. Similarly, for the Site post-restoration, the combination of greenfield filtration and a pond would achieve pollution mitigation indices that exceed the pollution hazard index. It is therefore concluded that the proposed drainage system would incorporate adequate water treatment function with no requirement for additional treatment prior to off-Site discharge.

5. Management and maintenance

- 5.1 For both the operational and post-restoration phases of development, the proposed development surface water drainage system is relatively simple with few components. Management and maintenance requirements are expected to be minimal. However, drainage system components would be equipped with access systems for any maintenance required. Management and maintenance functions and responsibilities are summarised in Table 3.
- 5.2 Responsibility for the management and maintenance of all SuDS drainage components would be retained by the Site operator during operational phases of the development and transferred to the Site owner following completion of restoration.

Table 3: Drainage system management and maintenance provision

SuDS component	Access provision	Maintenance activity	Frequency	Responsibility
Operational Phase				
Internal excavation drainage systems and sump	Open access	Maintain effective internal drainage routes to excavation sump	Continuous	Site operator
Water Treatment Area	Open access	Condition survey	Annual	Site operator
		De-silting	As required	
		Vegetation removal	Annual	
Temporary outfall to East Hill Beck	Open access	Condition survey	Annual	Site operator
Post-Restoration				
Field drainage systems	Open access	Vegetation clearance	As required	Site owner
		Drainage repair	As required	
Stormwater attenuation basin	Open access	De-silting	Annual	Site owner
		Vegetation control	As required	
Outfall to East Hill Beck	Open access	Condition survey	Annual	Site owner

6. Summary


- 6.1 The proposed surface water drainage system for the eastern extension to Bromley Farm Quarry has been designed in accordance with current best practice for drainage design, national sustainable drainage standards and local drainage policy.
- 6.2 The information contained in the Surface Water Drainage Scheme report is intended to allow discharge of Condition 50.

For S M Foster Associates Limited



Dr Stephen M Foster
BSc MSc PhD CGEOL C.WEM FIQ
Principal Consultant

Drawings

 Approximate site boundary

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Silkstone Environmental Ltd

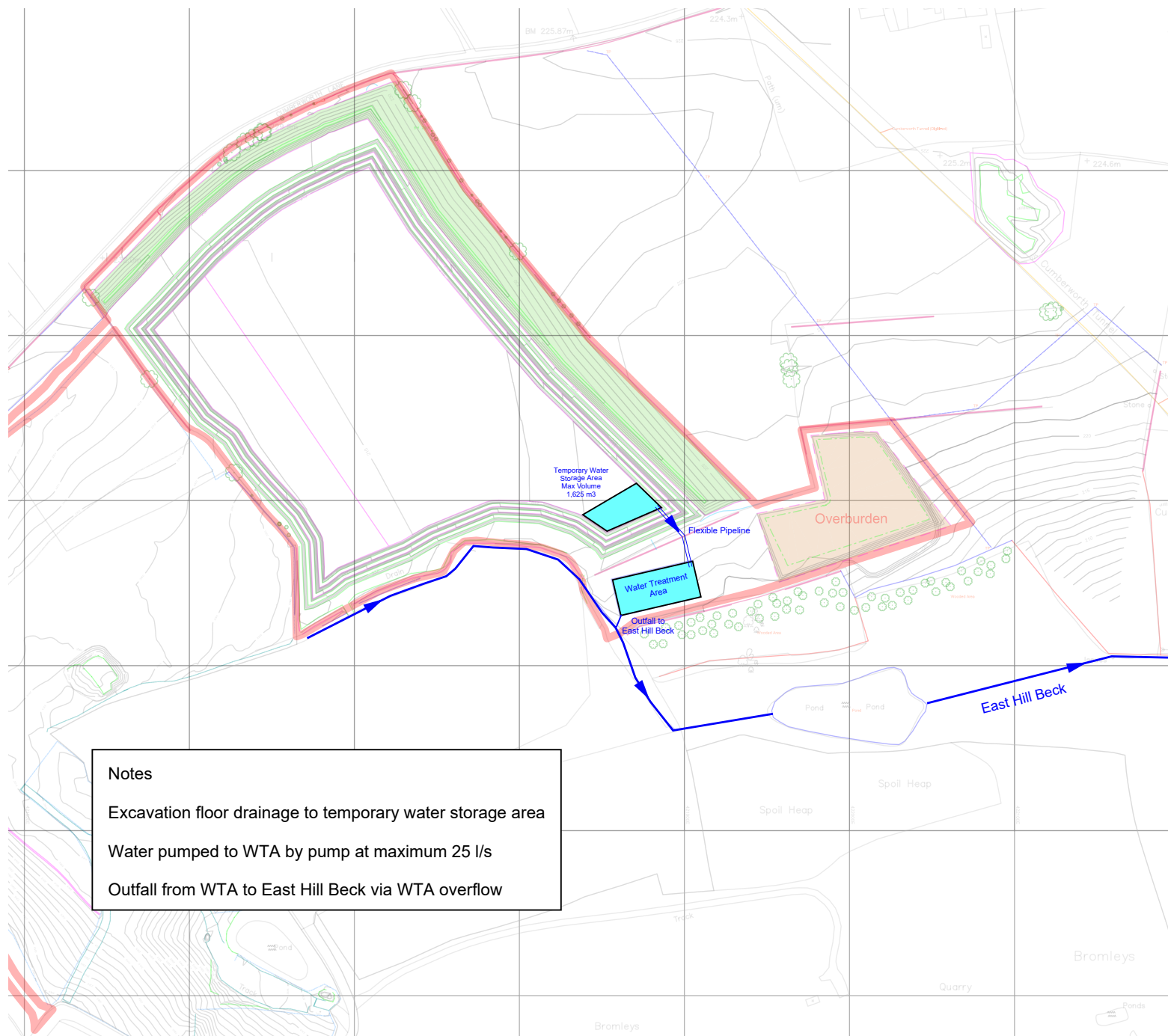
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Ref: 033/56/01/1222 Date: November 2025

Approved: Rev:

**DRAWING 261/01/01
EXCAVATION DRAINAGE
SCHEME**



Notes
Excavation floor drainage to temporary water storage area
Water pumped to WTA by pump at maximum 25 l/s
Outfall from WTA to East Hill Beck via WTA overflow

 Approximate site boundary

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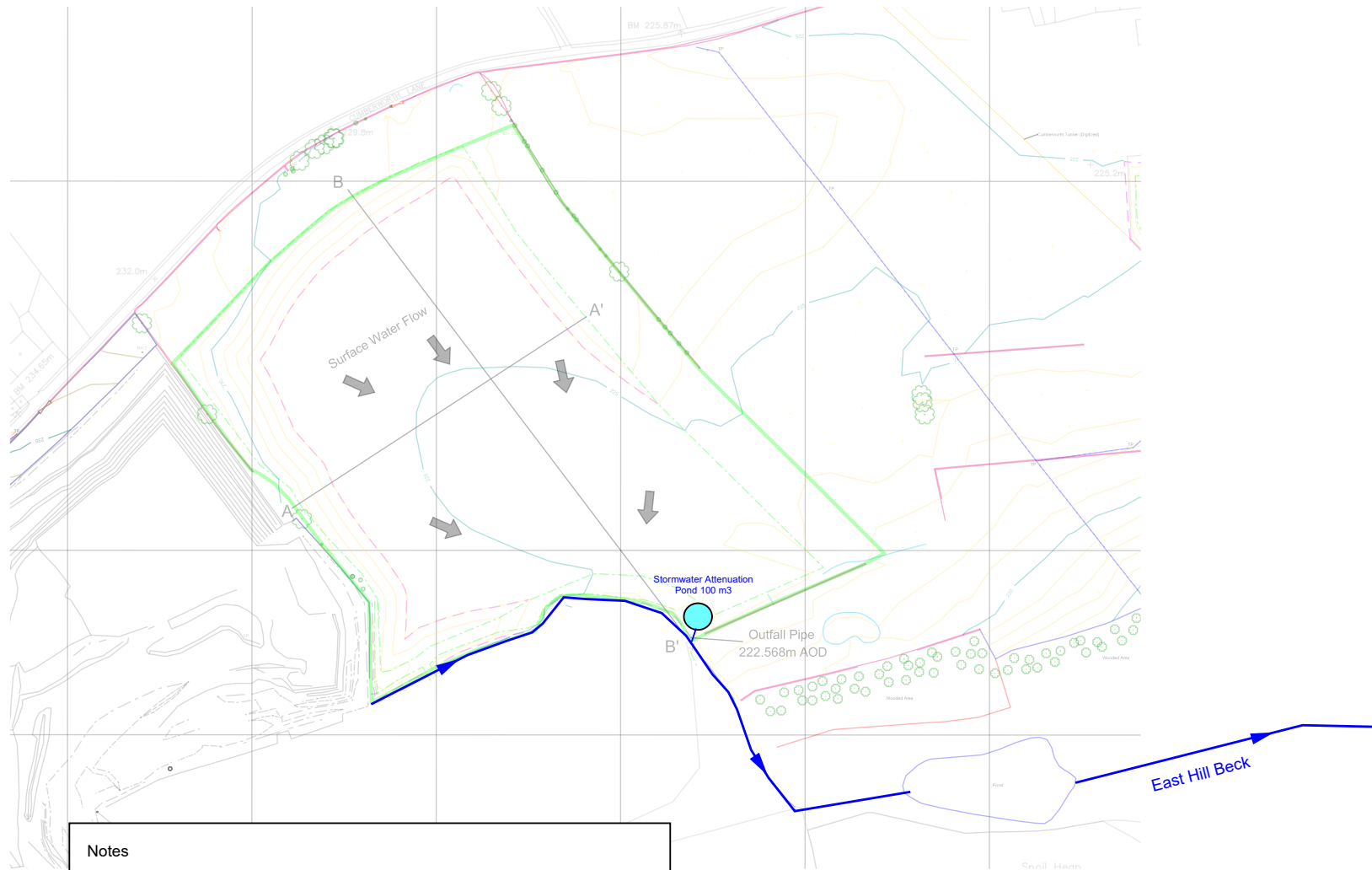
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CUMBERWORTH, WEST YORKSHIRE

**SURFACE WATER
MANAGEMENT SCHEME**

Ref: 033/56/02/1222 Date: November 2025

Approved: Rev:

**DRAWING 261/01/02
RESTORATION DRAINAGE
SCHEME**



Notes
Natural runoff from greenfield surfaces to attenuation pond at southern boundary
Gravity outfall to East Hill Beck

Appendix A

FEH Rainfall data

VERSION "FEH Web : Version 1.0.0 exported at 18:58:33 GMT Mon 03-Nov-25

Parameters

Rainfall mo FEH22

Calculation Design rainfall

Calculation For a point

Calculation Point GB 421889 408865 SE 21889 08865

Duration= 6 Hours

Fixed durat no

Return peri 100 Years

Annual max yes

A design rainfall of 68.4 mm was calculated.

This design rainfall has been calculated for a return period on the annual maximum scale.

The data in the following table have been computed using sliding durations.

Duration hc	Duration d	2 year rainf	5 year rainf	10 year rain	20 year rain	30 year rain	50 year rain	75 year rain	100 year ra	150 year rai	200 year rai	500 year rai	1000 year r
0.25	0.010417	7.2	11.32	14.2	17.1	18.72	20.77	22.53	23.85	25.74	27.1	31.82	35.87
0.5	0.020833	9.51	14.99	18.91	22.79	25.14	28.15	30.62	32.42	35.07	37.03	43.8	49.75
0.75	0.03125	11.02	17.35	21.9	26.59	29.35	32.79	35.69	37.86	41.1	43.47	51.53	58.61
1	0.041667	12.16	19.18	24.21	29.31	32.41	36.37	39.64	42.05	45.58	48.18	57.28	65.26
1.25	0.052083	13.46	20.84	26.1	31.39	34.61	38.77	42.19	44.71	48.41	51.16	60.82	69.37
1.5	0.0625	14.73	22.33	27.72	33.13	36.41	40.69	44.22	46.81	50.65	53.51	63.62	72.6
1.75	0.072917	15.95	23.67	29.15	34.64	37.96	42.33	45.94	48.6	52.56	55.51	66	75.34
2	0.083333	17.09	24.88	30.43	36	39.35	43.79	47.46	50.18	54.24	57.28	68.1	77.76
2.25	0.09375	18.03	25.97	31.61	37.27	40.68	45.21	48.98	51.77	55.93	59.06	70.25	80.23
2.5	0.104167	18.89	26.97	32.69	38.45	41.92	46.54	50.39	53.25	57.51	60.72	72.27	82.54
2.75	0.114583	19.7	27.9	33.7	39.55	43.07	47.78	51.72	54.64	58.99	62.29	74.17	84.71
3	0.125	20.45	28.77	34.64	40.58	44.16	48.95	52.97	55.96	60.4	63.78	75.98	86.78
3.25	0.135417	21.16	29.59	35.53	41.55	45.19	50.06	54.16	57.21	61.75	65.2	77.71	88.74
3.5	0.145833	21.83	30.37	36.38	42.48	46.17	51.12	55.29	58.4	63.03	66.56	79.37	90.63
3.75	0.15625	22.47	31.11	37.18	43.36	47.11	52.14	56.38	59.55	64.27	67.87	80.97	92.44
4	0.166667	23.08	31.82	37.95	44.2	48.01	53.11	57.43	60.66	65.47	69.14	82.51	94.19
4.25	0.177083	23.66	32.5	38.68	45.02	48.87	54.05	58.44	61.73	66.63	70.38	84.03	95.91

4.5	0.1875	24.22	33.15	39.39	45.8	49.7	54.96	59.42	62.76	67.76	71.59	85.5	97.57
4.75	0.197917	24.75	33.77	40.08	46.55	50.51	55.84	60.37	63.77	68.86	72.76	86.93	99.17
5	0.208333	25.27	34.37	40.73	47.28	51.29	56.69	61.29	64.74	69.93	73.9	88.32	100.73
5.25	0.21875	25.76	34.95	41.37	47.99	52.04	57.52	62.18	65.69	70.97	75.02	89.67	102.24
5.5	0.229167	26.24	35.51	41.98	48.67	52.77	58.32	63.05	66.61	71.99	76.1	90.98	103.71
5.75	0.239583	26.7	36.05	42.58	49.33	53.48	59.11	63.9	67.52	72.98	77.17	92.26	105.14
6	0.25	27.15	36.58	43.16	49.98	54.17	59.87	64.73	68.4	73.95	78.21	93.52	106.53
6.25	0.260417	27.59	37.08	43.72	50.6	54.85	60.61	65.55	69.27	74.91	79.23	94.75	107.88
6.5	0.270833	28.01	37.57	44.26	51.21	55.5	61.34	66.34	70.12	75.86	80.24	95.95	109.2
6.75	0.28125	28.42	38.04	44.8	51.81	56.15	62.05	67.12	70.96	76.78	81.22	97.12	110.48
7	0.291667	28.82	38.51	45.31	52.39	56.77	62.75	67.89	71.78	77.68	82.19	98.26	111.73
7.25	0.302083	29.21	38.95	45.82	52.95	57.39	63.43	68.64	72.58	78.57	83.14	99.39	112.95
7.5	0.3125	29.59	39.39	46.31	53.51	57.99	64.1	69.37	73.37	79.44	84.07	100.48	114.14
7.75	0.322917	29.96	39.82	46.79	54.05	58.57	64.76	70.1	74.15	80.29	84.98	101.56	115.3
8	0.333333	30.32	40.23	47.26	54.58	59.15	65.4	70.81	74.91	81.14	85.88	102.61	116.44
8.25	0.34375	30.67	40.64	47.72	55.1	59.72	66.03	71.5	75.66	81.96	86.76	103.65	117.55
8.5	0.354167	31.01	41.03	48.17	55.6	60.27	66.65	72.19	76.4	82.78	87.63	104.66	118.64
8.75	0.364583	31.35	41.42	48.61	56.1	60.81	67.26	72.86	77.12	83.58	88.48	105.66	119.71
9	0.375	31.67	41.8	49.04	56.59	61.35	67.86	73.53	77.84	84.36	89.32	106.64	120.76
9.25	0.385417	31.99	42.17	49.47	57.07	61.87	68.45	74.18	78.54	85.14	90.15	107.6	121.79
9.5	0.395833	32.3	42.54	49.88	57.55	62.39	69.04	74.83	79.24	85.9	90.96	108.55	122.8
9.75	0.40625	32.61	42.89	50.29	58.01	62.9	69.61	75.46	79.92	86.66	91.76	109.47	123.79
10	0.416667	32.91	43.24	50.69	58.47	63.4	70.17	76.09	80.6	87.4	92.55	110.39	124.77
10.25	0.427083	33.2	43.59	51.08	58.92	63.89	70.73	76.71	81.26	88.14	93.33	111.29	125.72
10.5	0.4375	33.49	43.93	51.47	59.36	64.38	71.28	77.32	81.92	88.86	94.1	112.17	126.66
10.75	0.447917	33.77	44.26	51.84	59.8	64.86	71.82	77.92	82.57	89.57	94.86	113.05	127.59
11	0.458333	34.05	44.58	52.22	60.22	65.33	72.36	78.51	83.21	90.28	95.61	113.9	128.5
11.25	0.46875	34.32	44.9	52.58	60.65	65.79	72.88	79.1	83.84	90.97	96.35	114.75	129.39
11.5	0.479167	34.59	45.22	52.95	61.06	66.25	73.4	79.68	84.47	91.66	97.08	115.58	130.27
11.75	0.489583	34.85	45.53	53.3	61.48	66.7	73.92	80.25	85.09	92.34	97.8	116.4	131.14
12	0.5	35.11	45.84	53.65	61.88	67.15	74.43	80.82	85.7	93.01	98.51	117.21	131.99

Appendix B

ReFH2 report

UK Design Flood Estimation

Generated on Wednesday, November 5, 2025 5:20:53 PM by SMF
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

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

Site details

Checksum: 496F-92EC

Site name: FEH_Point_Descriptors_421889_408865_v5_1_0 Bromley Farm

Easting: 421889

Northing: 408865

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.05

Using plot scale calculations: Yes

Model: 2.3

Site description: None

Model run: 100 year

Summary of results

Rainfall - FEH22 (mm):	49.57	Total runoff (ML):	0.21
Total Rainfall (mm):	32.93	Total flow (ML):	0.77
Peak Rainfall (mm):	4.49	Peak flow (m ³ /s):	0.03

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 - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	01:54:00	No
Timestep (hh:mm:ss)	00:06:00	No
SCF (Seasonal correction factor)	0.67	No
ARF (Areal reduction factor)	0.99	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	71.47	No
Cmax (mm)	686.58	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0	No
BL (hr)	41.68	No
BR	2.66	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m ³ /s)	0	No
Exporting drained area (km ²)	0	No
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
00:00:00	0.3725	0.0000	0.0389	0.0000	0.000909	0.000909
00:06:00	0.5028	0.0000	0.0528	0.0000	0.000907	0.000924
00:12:00	0.6776	0.0000	0.0717	0.0001	0.000905	0.000981
00:18:00	0.9118	0.0000	0.0976	0.0002	0.000903	0.0011
00:24:00	1.2243	0.0000	0.1329	0.0004	0.000903	0.00129
00:30:00	1.6396	0.0000	0.1814	0.0007	0.000904	0.00158
00:36:00	2.1876	0.0000	0.2482	0.0011	0.000908	0.00202
00:42:00	2.9017	0.0000	0.3399	0.0017	0.000915	0.00266
00:48:00	3.8010	0.0000	0.4638	0.0026	0.000927	0.00357
00:54:00	4.4897	0.0000	0.5750	0.0039	0.000945	0.00485
01:00:00	3.8010	0.0000	0.5097	0.0056	0.000973	0.00661
01:06:00	2.9017	0.0000	0.4033	0.0078	0.00101	0.00884
01:12:00	2.1876	0.0000	0.3122	0.0104	0.00107	0.0114
01:18:00	1.6396	0.0000	0.2385	0.0131	0.00114	0.0143
01:24:00	1.2243	0.0000	0.1807	0.0160	0.00123	0.0173
01:30:00	0.9118	0.0000	0.1360	0.0190	0.00134	0.0203
01:36:00	0.6776	0.0000	0.1018	0.0218	0.00147	0.0233
01:42:00	0.5028	0.0000	0.0760	0.0244	0.00161	0.026
01:48:00	0.3725	0.0000	0.0565	0.0267	0.00177	0.0285
01:54:00	0.0000	0.0000	0.0000	0.0285	0.00194	0.0305
02:00:00	0.0000	0.0000	0.0000	0.0296	0.00212	0.0317
02:06:00	0.0000	0.0000	0.0000	0.0299	0.00231	0.0322
02:12:00	0.0000	0.0000	0.0000	0.0295	0.00249	0.032
02:18:00	0.0000	0.0000	0.0000	0.0287	0.00267	0.0314
02:24:00	0.0000	0.0000	0.0000	0.0275	0.00284	0.0303
02:30:00	0.0000	0.0000	0.0000	0.0260	0.00301	0.029
02:36:00	0.0000	0.0000	0.0000	0.0244	0.00316	0.0275
02:42:00	0.0000	0.0000	0.0000	0.0226	0.0033	0.0259
02:48:00	0.0000	0.0000	0.0000	0.0208	0.00343	0.0242
02:54:00	0.0000	0.0000	0.0000	0.0190	0.00355	0.0226
03:00:00	0.0000	0.0000	0.0000	0.0174	0.00366	0.021
03:06:00	0.0000	0.0000	0.0000	0.0159	0.00376	0.0196
03:12:00	0.0000	0.0000	0.0000	0.0145	0.00384	0.0183
03:18:00	0.0000	0.0000	0.0000	0.0132	0.00392	0.0171
03:24:00	0.0000	0.0000	0.0000	0.0120	0.00399	0.016

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
03:30:00	0.0000	0.0000	0.0000	0.0109	0.00406	0.015
03:36:00	0.0000	0.0000	0.0000	0.0098	0.00411	0.0139
03:42:00	0.0000	0.0000	0.0000	0.0088	0.00416	0.013
03:48:00	0.0000	0.0000	0.0000	0.0078	0.00421	0.012
03:54:00	0.0000	0.0000	0.0000	0.0068	0.00424	0.0111
04:00:00	0.0000	0.0000	0.0000	0.0059	0.00427	0.0102
04:06:00	0.0000	0.0000	0.0000	0.0050	0.0043	0.00927
04:12:00	0.0000	0.0000	0.0000	0.0041	0.00431	0.00841
04:18:00	0.0000	0.0000	0.0000	0.0033	0.00433	0.0076
04:24:00	0.0000	0.0000	0.0000	0.0025	0.00434	0.00686
04:30:00	0.0000	0.0000	0.0000	0.0019	0.00434	0.00621
04:36:00	0.0000	0.0000	0.0000	0.0013	0.00434	0.00567
04:42:00	0.0000	0.0000	0.0000	0.0009	0.00434	0.00526
04:48:00	0.0000	0.0000	0.0000	0.0006	0.00433	0.00495
04:54:00	0.0000	0.0000	0.0000	0.0004	0.00432	0.00472
05:00:00	0.0000	0.0000	0.0000	0.0002	0.00432	0.00456
05:06:00	0.0000	0.0000	0.0000	0.0001	0.00431	0.00445
05:12:00	0.0000	0.0000	0.0000	0.0001	0.0043	0.00437
05:18:00	0.0000	0.0000	0.0000	0.0000	0.00429	0.00431
05:24:00	0.0000	0.0000	0.0000	0.0000	0.00428	0.00428
05:30:00	0.0000	0.0000	0.0000	0.0000	0.00427	0.00427
05:36:00	0.0000	0.0000	0.0000	0.0000	0.00426	0.00426
05:42:00	0.0000	0.0000	0.0000	0.0000	0.00425	0.00425
05:48:00	0.0000	0.0000	0.0000	0.0000	0.00424	0.00424
05:54:00	0.0000	0.0000	0.0000	0.0000	0.00423	0.00423
06:00:00	0.0000	0.0000	0.0000	0.0000	0.00422	0.00422
06:06:00	0.0000	0.0000	0.0000	0.0000	0.00421	0.00421
06:12:00	0.0000	0.0000	0.0000	0.0000	0.0042	0.0042
06:18:00	0.0000	0.0000	0.0000	0.0000	0.00419	0.00419
06:24:00	0.0000	0.0000	0.0000	0.0000	0.00418	0.00418
06:30:00	0.0000	0.0000	0.0000	0.0000	0.00417	0.00417
06:36:00	0.0000	0.0000	0.0000	0.0000	0.00416	0.00416
06:42:00	0.0000	0.0000	0.0000	0.0000	0.00415	0.00415
06:48:00	0.0000	0.0000	0.0000	0.0000	0.00414	0.00414
06:54:00	0.0000	0.0000	0.0000	0.0000	0.00413	0.00413
07:00:00	0.0000	0.0000	0.0000	0.0000	0.00412	0.00412

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
07:06:00	0.0000	0.0000	0.0000	0.0000	0.00411	0.00411
07:12:00	0.0000	0.0000	0.0000	0.0000	0.0041	0.0041
07:18:00	0.0000	0.0000	0.0000	0.0000	0.00409	0.00409
07:24:00	0.0000	0.0000	0.0000	0.0000	0.00408	0.00408
07:30:00	0.0000	0.0000	0.0000	0.0000	0.00407	0.00407
07:36:00	0.0000	0.0000	0.0000	0.0000	0.00406	0.00406
07:42:00	0.0000	0.0000	0.0000	0.0000	0.00405	0.00405
07:48:00	0.0000	0.0000	0.0000	0.0000	0.00404	0.00404
07:54:00	0.0000	0.0000	0.0000	0.0000	0.00403	0.00403
08:00:00	0.0000	0.0000	0.0000	0.0000	0.00402	0.00402
08:06:00	0.0000	0.0000	0.0000	0.0000	0.00401	0.00401
08:12:00	0.0000	0.0000	0.0000	0.0000	0.004	0.004
08:18:00	0.0000	0.0000	0.0000	0.0000	0.00399	0.00399
08:24:00	0.0000	0.0000	0.0000	0.0000	0.00398	0.00398
08:30:00	0.0000	0.0000	0.0000	0.0000	0.00397	0.00397
08:36:00	0.0000	0.0000	0.0000	0.0000	0.00396	0.00396
08:42:00	0.0000	0.0000	0.0000	0.0000	0.00395	0.00395
08:48:00	0.0000	0.0000	0.0000	0.0000	0.00394	0.00394
08:54:00	0.0000	0.0000	0.0000	0.0000	0.00393	0.00393
09:00:00	0.0000	0.0000	0.0000	0.0000	0.00392	0.00392
09:06:00	0.0000	0.0000	0.0000	0.0000	0.00391	0.00391
09:12:00	0.0000	0.0000	0.0000	0.0000	0.0039	0.0039
09:18:00	0.0000	0.0000	0.0000	0.0000	0.00389	0.00389
09:24:00	0.0000	0.0000	0.0000	0.0000	0.00389	0.00389
09:30:00	0.0000	0.0000	0.0000	0.0000	0.00388	0.00388
09:36:00	0.0000	0.0000	0.0000	0.0000	0.00387	0.00387
09:42:00	0.0000	0.0000	0.0000	0.0000	0.00386	0.00386
09:48:00	0.0000	0.0000	0.0000	0.0000	0.00385	0.00385
09:54:00	0.0000	0.0000	0.0000	0.0000	0.00384	0.00384
10:00:00	0.0000	0.0000	0.0000	0.0000	0.00383	0.00383
10:06:00	0.0000	0.0000	0.0000	0.0000	0.00382	0.00382
10:12:00	0.0000	0.0000	0.0000	0.0000	0.00381	0.00381
10:18:00	0.0000	0.0000	0.0000	0.0000	0.0038	0.0038
10:24:00	0.0000	0.0000	0.0000	0.0000	0.00379	0.00379
10:30:00	0.0000	0.0000	0.0000	0.0000	0.00378	0.00378
10:36:00	0.0000	0.0000	0.0000	0.0000	0.00377	0.00377

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
10:42:00	0.0000	0.0000	0.0000	0.0000	0.00377	0.00377
10:48:00	0.0000	0.0000	0.0000	0.0000	0.00376	0.00376
10:54:00	0.0000	0.0000	0.0000	0.0000	0.00375	0.00375
11:00:00	0.0000	0.0000	0.0000	0.0000	0.00374	0.00374
11:06:00	0.0000	0.0000	0.0000	0.0000	0.00373	0.00373
11:12:00	0.0000	0.0000	0.0000	0.0000	0.00372	0.00372
11:18:00	0.0000	0.0000	0.0000	0.0000	0.00371	0.00371
11:24:00	0.0000	0.0000	0.0000	0.0000	0.0037	0.0037
11:30:00	0.0000	0.0000	0.0000	0.0000	0.00369	0.00369
11:36:00	0.0000	0.0000	0.0000	0.0000	0.00369	0.00369
11:42:00	0.0000	0.0000	0.0000	0.0000	0.00368	0.00368
11:48:00	0.0000	0.0000	0.0000	0.0000	0.00367	0.00367
11:54:00	0.0000	0.0000	0.0000	0.0000	0.00366	0.00366
12:00:00	0.0000	0.0000	0.0000	0.0000	0.00365	0.00365
12:06:00	0.0000	0.0000	0.0000	0.0000	0.00364	0.00364
12:12:00	0.0000	0.0000	0.0000	0.0000	0.00363	0.00363
12:18:00	0.0000	0.0000	0.0000	0.0000	0.00362	0.00362
12:24:00	0.0000	0.0000	0.0000	0.0000	0.00362	0.00362
12:30:00	0.0000	0.0000	0.0000	0.0000	0.00361	0.00361
12:36:00	0.0000	0.0000	0.0000	0.0000	0.0036	0.0036
12:42:00	0.0000	0.0000	0.0000	0.0000	0.00359	0.00359
12:48:00	0.0000	0.0000	0.0000	0.0000	0.00358	0.00358
12:54:00	0.0000	0.0000	0.0000	0.0000	0.00357	0.00357
13:00:00	0.0000	0.0000	0.0000	0.0000	0.00356	0.00356
13:06:00	0.0000	0.0000	0.0000	0.0000	0.00356	0.00356
13:12:00	0.0000	0.0000	0.0000	0.0000	0.00355	0.00355
13:18:00	0.0000	0.0000	0.0000	0.0000	0.00354	0.00354
13:24:00	0.0000	0.0000	0.0000	0.0000	0.00353	0.00353
13:30:00	0.0000	0.0000	0.0000	0.0000	0.00352	0.00352
13:36:00	0.0000	0.0000	0.0000	0.0000	0.00351	0.00351
13:42:00	0.0000	0.0000	0.0000	0.0000	0.0035	0.0035
13:48:00	0.0000	0.0000	0.0000	0.0000	0.0035	0.0035
13:54:00	0.0000	0.0000	0.0000	0.0000	0.00349	0.00349
14:00:00	0.0000	0.0000	0.0000	0.0000	0.00348	0.00348
14:06:00	0.0000	0.0000	0.0000	0.0000	0.00347	0.00347
14:12:00	0.0000	0.0000	0.0000	0.0000	0.00346	0.00346

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
14:18:00	0.0000	0.0000	0.0000	0.0000	0.00345	0.00345
14:24:00	0.0000	0.0000	0.0000	0.0000	0.00345	0.00345
14:30:00	0.0000	0.0000	0.0000	0.0000	0.00344	0.00344
14:36:00	0.0000	0.0000	0.0000	0.0000	0.00343	0.00343
14:42:00	0.0000	0.0000	0.0000	0.0000	0.00342	0.00342
14:48:00	0.0000	0.0000	0.0000	0.0000	0.00341	0.00341
14:54:00	0.0000	0.0000	0.0000	0.0000	0.0034	0.0034
15:00:00	0.0000	0.0000	0.0000	0.0000	0.0034	0.0034
15:06:00	0.0000	0.0000	0.0000	0.0000	0.00339	0.00339
15:12:00	0.0000	0.0000	0.0000	0.0000	0.00338	0.00338
15:18:00	0.0000	0.0000	0.0000	0.0000	0.00337	0.00337
15:24:00	0.0000	0.0000	0.0000	0.0000	0.00336	0.00336
15:30:00	0.0000	0.0000	0.0000	0.0000	0.00336	0.00336
15:36:00	0.0000	0.0000	0.0000	0.0000	0.00335	0.00335
15:42:00	0.0000	0.0000	0.0000	0.0000	0.00334	0.00334
15:48:00	0.0000	0.0000	0.0000	0.0000	0.00333	0.00333
15:54:00	0.0000	0.0000	0.0000	0.0000	0.00332	0.00332
16:00:00	0.0000	0.0000	0.0000	0.0000	0.00332	0.00332
16:06:00	0.0000	0.0000	0.0000	0.0000	0.00331	0.00331
16:12:00	0.0000	0.0000	0.0000	0.0000	0.0033	0.0033
16:18:00	0.0000	0.0000	0.0000	0.0000	0.00329	0.00329
16:24:00	0.0000	0.0000	0.0000	0.0000	0.00328	0.00328
16:30:00	0.0000	0.0000	0.0000	0.0000	0.00328	0.00328
16:36:00	0.0000	0.0000	0.0000	0.0000	0.00327	0.00327
16:42:00	0.0000	0.0000	0.0000	0.0000	0.00326	0.00326
16:48:00	0.0000	0.0000	0.0000	0.0000	0.00325	0.00325
16:54:00	0.0000	0.0000	0.0000	0.0000	0.00325	0.00325
17:00:00	0.0000	0.0000	0.0000	0.0000	0.00324	0.00324
17:06:00	0.0000	0.0000	0.0000	0.0000	0.00323	0.00323
17:12:00	0.0000	0.0000	0.0000	0.0000	0.00322	0.00322
17:18:00	0.0000	0.0000	0.0000	0.0000	0.00321	0.00321
17:24:00	0.0000	0.0000	0.0000	0.0000	0.00321	0.00321
17:30:00	0.0000	0.0000	0.0000	0.0000	0.0032	0.0032
17:36:00	0.0000	0.0000	0.0000	0.0000	0.00319	0.00319
17:42:00	0.0000	0.0000	0.0000	0.0000	0.00318	0.00318
17:48:00	0.0000	0.0000	0.0000	0.0000	0.00318	0.00318

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:54:00	0.0000	0.0000	0.0000	0.0000	0.00317	0.00317
18:00:00	0.0000	0.0000	0.0000	0.0000	0.00316	0.00316
18:06:00	0.0000	0.0000	0.0000	0.0000	0.00315	0.00315
18:12:00	0.0000	0.0000	0.0000	0.0000	0.00315	0.00315
18:18:00	0.0000	0.0000	0.0000	0.0000	0.00314	0.00314
18:24:00	0.0000	0.0000	0.0000	0.0000	0.00313	0.00313
18:30:00	0.0000	0.0000	0.0000	0.0000	0.00312	0.00312
18:36:00	0.0000	0.0000	0.0000	0.0000	0.00312	0.00312
18:42:00	0.0000	0.0000	0.0000	0.0000	0.00311	0.00311
18:48:00	0.0000	0.0000	0.0000	0.0000	0.0031	0.0031
18:54:00	0.0000	0.0000	0.0000	0.0000	0.00309	0.00309
19:00:00	0.0000	0.0000	0.0000	0.0000	0.00309	0.00309
19:06:00	0.0000	0.0000	0.0000	0.0000	0.00308	0.00308
19:12:00	0.0000	0.0000	0.0000	0.0000	0.00307	0.00307
19:18:00	0.0000	0.0000	0.0000	0.0000	0.00306	0.00306
19:24:00	0.0000	0.0000	0.0000	0.0000	0.00306	0.00306
19:30:00	0.0000	0.0000	0.0000	0.0000	0.00305	0.00305
19:36:00	0.0000	0.0000	0.0000	0.0000	0.00304	0.00304
19:42:00	0.0000	0.0000	0.0000	0.0000	0.00303	0.00303
19:48:00	0.0000	0.0000	0.0000	0.0000	0.00303	0.00303
19:54:00	0.0000	0.0000	0.0000	0.0000	0.00302	0.00302
20:00:00	0.0000	0.0000	0.0000	0.0000	0.00301	0.00301
20:06:00	0.0000	0.0000	0.0000	0.0000	0.00301	0.00301
20:12:00	0.0000	0.0000	0.0000	0.0000	0.003	0.003
20:18:00	0.0000	0.0000	0.0000	0.0000	0.00299	0.00299
20:24:00	0.0000	0.0000	0.0000	0.0000	0.00298	0.00298
20:30:00	0.0000	0.0000	0.0000	0.0000	0.00298	0.00298
20:36:00	0.0000	0.0000	0.0000	0.0000	0.00297	0.00297
20:42:00	0.0000	0.0000	0.0000	0.0000	0.00296	0.00296
20:48:00	0.0000	0.0000	0.0000	0.0000	0.00296	0.00296
20:54:00	0.0000	0.0000	0.0000	0.0000	0.00295	0.00295
21:00:00	0.0000	0.0000	0.0000	0.0000	0.00294	0.00294
21:06:00	0.0000	0.0000	0.0000	0.0000	0.00293	0.00293
21:12:00	0.0000	0.0000	0.0000	0.0000	0.00293	0.00293
21:18:00	0.0000	0.0000	0.0000	0.0000	0.00292	0.00292
21:24:00	0.0000	0.0000	0.0000	0.0000	0.00291	0.00291

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
21:30:00	0.0000	0.0000	0.0000	0.0000	0.00291	0.00291
21:36:00	0.0000	0.0000	0.0000	0.0000	0.0029	0.0029
21:42:00	0.0000	0.0000	0.0000	0.0000	0.00289	0.00289
21:48:00	0.0000	0.0000	0.0000	0.0000	0.00289	0.00289
21:54:00	0.0000	0.0000	0.0000	0.0000	0.00288	0.00288
22:00:00	0.0000	0.0000	0.0000	0.0000	0.00287	0.00287
22:06:00	0.0000	0.0000	0.0000	0.0000	0.00286	0.00286
22:12:00	0.0000	0.0000	0.0000	0.0000	0.00286	0.00286
22:18:00	0.0000	0.0000	0.0000	0.0000	0.00285	0.00285
22:24:00	0.0000	0.0000	0.0000	0.0000	0.00284	0.00284
22:30:00	0.0000	0.0000	0.0000	0.0000	0.00284	0.00284
22:36:00	0.0000	0.0000	0.0000	0.0000	0.00283	0.00283
22:42:00	0.0000	0.0000	0.0000	0.0000	0.00282	0.00282
22:48:00	0.0000	0.0000	0.0000	0.0000	0.00282	0.00282
22:54:00	0.0000	0.0000	0.0000	0.0000	0.00281	0.00281
23:00:00	0.0000	0.0000	0.0000	0.0000	0.0028	0.0028
23:06:00	0.0000	0.0000	0.0000	0.0000	0.0028	0.0028
23:12:00	0.0000	0.0000	0.0000	0.0000	0.00279	0.00279
23:18:00	0.0000	0.0000	0.0000	0.0000	0.00278	0.00278
23:24:00	0.0000	0.0000	0.0000	0.0000	0.00278	0.00278
23:30:00	0.0000	0.0000	0.0000	0.0000	0.00277	0.00277
23:36:00	0.0000	0.0000	0.0000	0.0000	0.00276	0.00276
23:42:00	0.0000	0.0000	0.0000	0.0000	0.00276	0.00276
23:48:00	0.0000	0.0000	0.0000	0.0000	0.00275	0.00275
23:54:00	0.0000	0.0000	0.0000	0.0000	0.00274	0.00274
24:00:00	0.0000	0.0000	0.0000	0.0000	0.00274	0.00274
24:06:00	0.0000	0.0000	0.0000	0.0000	0.00273	0.00273
24:12:00	0.0000	0.0000	0.0000	0.0000	0.00272	0.00272
24:18:00	0.0000	0.0000	0.0000	0.0000	0.00272	0.00272
24:24:00	0.0000	0.0000	0.0000	0.0000	0.00271	0.00271
24:30:00	0.0000	0.0000	0.0000	0.0000	0.0027	0.0027
24:36:00	0.0000	0.0000	0.0000	0.0000	0.0027	0.0027
24:42:00	0.0000	0.0000	0.0000	0.0000	0.00269	0.00269
24:48:00	0.0000	0.0000	0.0000	0.0000	0.00269	0.00269
24:54:00	0.0000	0.0000	0.0000	0.0000	0.00268	0.00268
25:00:00	0.0000	0.0000	0.0000	0.0000	0.00267	0.00267

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
25:06:00	0.0000	0.0000	0.0000	0.0000	0.00267	0.00267
25:12:00	0.0000	0.0000	0.0000	0.0000	0.00266	0.00266
25:18:00	0.0000	0.0000	0.0000	0.0000	0.00265	0.00265
25:24:00	0.0000	0.0000	0.0000	0.0000	0.00265	0.00265
25:30:00	0.0000	0.0000	0.0000	0.0000	0.00264	0.00264
25:36:00	0.0000	0.0000	0.0000	0.0000	0.00263	0.00263
25:42:00	0.0000	0.0000	0.0000	0.0000	0.00263	0.00263
25:48:00	0.0000	0.0000	0.0000	0.0000	0.00262	0.00262
25:54:00	0.0000	0.0000	0.0000	0.0000	0.00262	0.00262
26:00:00	0.0000	0.0000	0.0000	0.0000	0.00261	0.00261
26:06:00	0.0000	0.0000	0.0000	0.0000	0.0026	0.0026
26:12:00	0.0000	0.0000	0.0000	0.0000	0.0026	0.0026
26:18:00	0.0000	0.0000	0.0000	0.0000	0.00259	0.00259
26:24:00	0.0000	0.0000	0.0000	0.0000	0.00258	0.00258
26:30:00	0.0000	0.0000	0.0000	0.0000	0.00258	0.00258
26:36:00	0.0000	0.0000	0.0000	0.0000	0.00257	0.00257
26:42:00	0.0000	0.0000	0.0000	0.0000	0.00257	0.00257
26:48:00	0.0000	0.0000	0.0000	0.0000	0.00256	0.00256
26:54:00	0.0000	0.0000	0.0000	0.0000	0.00255	0.00255
27:00:00	0.0000	0.0000	0.0000	0.0000	0.00255	0.00255
27:06:00	0.0000	0.0000	0.0000	0.0000	0.00254	0.00254
27:12:00	0.0000	0.0000	0.0000	0.0000	0.00253	0.00253
27:18:00	0.0000	0.0000	0.0000	0.0000	0.00253	0.00253
27:24:00	0.0000	0.0000	0.0000	0.0000	0.00252	0.00252
27:30:00	0.0000	0.0000	0.0000	0.0000	0.00252	0.00252
27:36:00	0.0000	0.0000	0.0000	0.0000	0.00251	0.00251
27:42:00	0.0000	0.0000	0.0000	0.0000	0.0025	0.0025
27:48:00	0.0000	0.0000	0.0000	0.0000	0.0025	0.0025
27:54:00	0.0000	0.0000	0.0000	0.0000	0.00249	0.00249
28:00:00	0.0000	0.0000	0.0000	0.0000	0.00249	0.00249
28:06:00	0.0000	0.0000	0.0000	0.0000	0.00248	0.00248
28:12:00	0.0000	0.0000	0.0000	0.0000	0.00247	0.00247
28:18:00	0.0000	0.0000	0.0000	0.0000	0.00247	0.00247
28:24:00	0.0000	0.0000	0.0000	0.0000	0.00246	0.00246
28:30:00	0.0000	0.0000	0.0000	0.0000	0.00246	0.00246
28:36:00	0.0000	0.0000	0.0000	0.0000	0.00245	0.00245

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
28:42:00	0.0000	0.0000	0.0000	0.0000	0.00245	0.00245
28:48:00	0.0000	0.0000	0.0000	0.0000	0.00244	0.00244
28:54:00	0.0000	0.0000	0.0000	0.0000	0.00243	0.00243
29:00:00	0.0000	0.0000	0.0000	0.0000	0.00243	0.00243
29:06:00	0.0000	0.0000	0.0000	0.0000	0.00242	0.00242
29:12:00	0.0000	0.0000	0.0000	0.0000	0.00242	0.00242
29:18:00	0.0000	0.0000	0.0000	0.0000	0.00241	0.00241
29:24:00	0.0000	0.0000	0.0000	0.0000	0.0024	0.0024
29:30:00	0.0000	0.0000	0.0000	0.0000	0.0024	0.0024
29:36:00	0.0000	0.0000	0.0000	0.0000	0.00239	0.00239
29:42:00	0.0000	0.0000	0.0000	0.0000	0.00239	0.00239
29:48:00	0.0000	0.0000	0.0000	0.0000	0.00238	0.00238
29:54:00	0.0000	0.0000	0.0000	0.0000	0.00238	0.00238
30:00:00	0.0000	0.0000	0.0000	0.0000	0.00237	0.00237
30:06:00	0.0000	0.0000	0.0000	0.0000	0.00236	0.00236
30:12:00	0.0000	0.0000	0.0000	0.0000	0.00236	0.00236
30:18:00	0.0000	0.0000	0.0000	0.0000	0.00235	0.00235
30:24:00	0.0000	0.0000	0.0000	0.0000	0.00235	0.00235
30:30:00	0.0000	0.0000	0.0000	0.0000	0.00234	0.00234
30:36:00	0.0000	0.0000	0.0000	0.0000	0.00234	0.00234
30:42:00	0.0000	0.0000	0.0000	0.0000	0.00233	0.00233
30:48:00	0.0000	0.0000	0.0000	0.0000	0.00233	0.00233
30:54:00	0.0000	0.0000	0.0000	0.0000	0.00232	0.00232
31:00:00	0.0000	0.0000	0.0000	0.0000	0.00231	0.00231
31:06:00	0.0000	0.0000	0.0000	0.0000	0.00231	0.00231
31:12:00	0.0000	0.0000	0.0000	0.0000	0.0023	0.0023
31:18:00	0.0000	0.0000	0.0000	0.0000	0.0023	0.0023
31:24:00	0.0000	0.0000	0.0000	0.0000	0.00229	0.00229
31:30:00	0.0000	0.0000	0.0000	0.0000	0.00229	0.00229
31:36:00	0.0000	0.0000	0.0000	0.0000	0.00228	0.00228
31:42:00	0.0000	0.0000	0.0000	0.0000	0.00228	0.00228
31:48:00	0.0000	0.0000	0.0000	0.0000	0.00227	0.00227
31:54:00	0.0000	0.0000	0.0000	0.0000	0.00226	0.00226
32:00:00	0.0000	0.0000	0.0000	0.0000	0.00226	0.00226
32:06:00	0.0000	0.0000	0.0000	0.0000	0.00225	0.00225
32:12:00	0.0000	0.0000	0.0000	0.0000	0.00225	0.00225

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
32:18:00	0.0000	0.0000	0.0000	0.0000	0.00224	0.00224
32:24:00	0.0000	0.0000	0.0000	0.0000	0.00224	0.00224
32:30:00	0.0000	0.0000	0.0000	0.0000	0.00223	0.00223
32:36:00	0.0000	0.0000	0.0000	0.0000	0.00223	0.00223
32:42:00	0.0000	0.0000	0.0000	0.0000	0.00222	0.00222
32:48:00	0.0000	0.0000	0.0000	0.0000	0.00222	0.00222
32:54:00	0.0000	0.0000	0.0000	0.0000	0.00221	0.00221
33:00:00	0.0000	0.0000	0.0000	0.0000	0.00221	0.00221
33:06:00	0.0000	0.0000	0.0000	0.0000	0.0022	0.0022
33:12:00	0.0000	0.0000	0.0000	0.0000	0.00219	0.00219
33:18:00	0.0000	0.0000	0.0000	0.0000	0.00219	0.00219
33:24:00	0.0000	0.0000	0.0000	0.0000	0.00218	0.00218
33:30:00	0.0000	0.0000	0.0000	0.0000	0.00218	0.00218
33:36:00	0.0000	0.0000	0.0000	0.0000	0.00217	0.00217
33:42:00	0.0000	0.0000	0.0000	0.0000	0.00217	0.00217
33:48:00	0.0000	0.0000	0.0000	0.0000	0.00216	0.00216
33:54:00	0.0000	0.0000	0.0000	0.0000	0.00216	0.00216
34:00:00	0.0000	0.0000	0.0000	0.0000	0.00215	0.00215
34:06:00	0.0000	0.0000	0.0000	0.0000	0.00215	0.00215
34:12:00	0.0000	0.0000	0.0000	0.0000	0.00214	0.00214
34:18:00	0.0000	0.0000	0.0000	0.0000	0.00214	0.00214
34:24:00	0.0000	0.0000	0.0000	0.0000	0.00213	0.00213
34:30:00	0.0000	0.0000	0.0000	0.0000	0.00213	0.00213
34:36:00	0.0000	0.0000	0.0000	0.0000	0.00212	0.00212
34:42:00	0.0000	0.0000	0.0000	0.0000	0.00212	0.00212
34:48:00	0.0000	0.0000	0.0000	0.0000	0.00211	0.00211
34:54:00	0.0000	0.0000	0.0000	0.0000	0.00211	0.00211
35:00:00	0.0000	0.0000	0.0000	0.0000	0.0021	0.0021
35:06:00	0.0000	0.0000	0.0000	0.0000	0.0021	0.0021
35:12:00	0.0000	0.0000	0.0000	0.0000	0.00209	0.00209
35:18:00	0.0000	0.0000	0.0000	0.0000	0.00209	0.00209
35:24:00	0.0000	0.0000	0.0000	0.0000	0.00208	0.00208
35:30:00	0.0000	0.0000	0.0000	0.0000	0.00208	0.00208
35:36:00	0.0000	0.0000	0.0000	0.0000	0.00207	0.00207
35:42:00	0.0000	0.0000	0.0000	0.0000	0.00207	0.00207
35:48:00	0.0000	0.0000	0.0000	0.0000	0.00206	0.00206

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
35:54:00	0.0000	0.0000	0.0000	0.0000	0.00206	0.00206
36:00:00	0.0000	0.0000	0.0000	0.0000	0.00205	0.00205
36:06:00	0.0000	0.0000	0.0000	0.0000	0.00205	0.00205
36:12:00	0.0000	0.0000	0.0000	0.0000	0.00204	0.00204
36:18:00	0.0000	0.0000	0.0000	0.0000	0.00204	0.00204
36:24:00	0.0000	0.0000	0.0000	0.0000	0.00203	0.00203
36:30:00	0.0000	0.0000	0.0000	0.0000	0.00203	0.00203
36:36:00	0.0000	0.0000	0.0000	0.0000	0.00202	0.00202
36:42:00	0.0000	0.0000	0.0000	0.0000	0.00202	0.00202
36:48:00	0.0000	0.0000	0.0000	0.0000	0.00201	0.00201
36:54:00	0.0000	0.0000	0.0000	0.0000	0.00201	0.00201
37:00:00	0.0000	0.0000	0.0000	0.0000	0.002	0.002
37:06:00	0.0000	0.0000	0.0000	0.0000	0.002	0.002
37:12:00	0.0000	0.0000	0.0000	0.0000	0.00199	0.00199
37:18:00	0.0000	0.0000	0.0000	0.0000	0.00199	0.00199
37:24:00	0.0000	0.0000	0.0000	0.0000	0.00198	0.00198
37:30:00	0.0000	0.0000	0.0000	0.0000	0.00198	0.00198
37:36:00	0.0000	0.0000	0.0000	0.0000	0.00198	0.00198
37:42:00	0.0000	0.0000	0.0000	0.0000	0.00197	0.00197
37:48:00	0.0000	0.0000	0.0000	0.0000	0.00197	0.00197
37:54:00	0.0000	0.0000	0.0000	0.0000	0.00196	0.00196
38:00:00	0.0000	0.0000	0.0000	0.0000	0.00196	0.00196
38:06:00	0.0000	0.0000	0.0000	0.0000	0.00195	0.00195
38:12:00	0.0000	0.0000	0.0000	0.0000	0.00195	0.00195
38:18:00	0.0000	0.0000	0.0000	0.0000	0.00194	0.00194
38:24:00	0.0000	0.0000	0.0000	0.0000	0.00194	0.00194
38:30:00	0.0000	0.0000	0.0000	0.0000	0.00193	0.00193
38:36:00	0.0000	0.0000	0.0000	0.0000	0.00193	0.00193
38:42:00	0.0000	0.0000	0.0000	0.0000	0.00192	0.00192
38:48:00	0.0000	0.0000	0.0000	0.0000	0.00192	0.00192
38:54:00	0.0000	0.0000	0.0000	0.0000	0.00191	0.00191
39:00:00	0.0000	0.0000	0.0000	0.0000	0.00191	0.00191
39:06:00	0.0000	0.0000	0.0000	0.0000	0.00191	0.00191
39:12:00	0.0000	0.0000	0.0000	0.0000	0.0019	0.0019
39:18:00	0.0000	0.0000	0.0000	0.0000	0.0019	0.0019
39:24:00	0.0000	0.0000	0.0000	0.0000	0.00189	0.00189

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
39:30:00	0.0000	0.0000	0.0000	0.0000	0.00189	0.00189
39:36:00	0.0000	0.0000	0.0000	0.0000	0.00188	0.00188
39:42:00	0.0000	0.0000	0.0000	0.0000	0.00188	0.00188
39:48:00	0.0000	0.0000	0.0000	0.0000	0.00187	0.00187
39:54:00	0.0000	0.0000	0.0000	0.0000	0.00187	0.00187
40:00:00	0.0000	0.0000	0.0000	0.0000	0.00186	0.00186
40:06:00	0.0000	0.0000	0.0000	0.0000	0.00186	0.00186
40:12:00	0.0000	0.0000	0.0000	0.0000	0.00186	0.00186
40:18:00	0.0000	0.0000	0.0000	0.0000	0.00185	0.00185
40:24:00	0.0000	0.0000	0.0000	0.0000	0.00185	0.00185
40:30:00	0.0000	0.0000	0.0000	0.0000	0.00184	0.00184
40:36:00	0.0000	0.0000	0.0000	0.0000	0.00184	0.00184
40:42:00	0.0000	0.0000	0.0000	0.0000	0.00183	0.00183
40:48:00	0.0000	0.0000	0.0000	0.0000	0.00183	0.00183
40:54:00	0.0000	0.0000	0.0000	0.0000	0.00182	0.00182
41:00:00	0.0000	0.0000	0.0000	0.0000	0.00182	0.00182
41:06:00	0.0000	0.0000	0.0000	0.0000	0.00182	0.00182
41:12:00	0.0000	0.0000	0.0000	0.0000	0.00181	0.00181
41:18:00	0.0000	0.0000	0.0000	0.0000	0.00181	0.00181
41:24:00	0.0000	0.0000	0.0000	0.0000	0.0018	0.0018
41:30:00	0.0000	0.0000	0.0000	0.0000	0.0018	0.0018
41:36:00	0.0000	0.0000	0.0000	0.0000	0.00179	0.00179
41:42:00	0.0000	0.0000	0.0000	0.0000	0.00179	0.00179
41:48:00	0.0000	0.0000	0.0000	0.0000	0.00179	0.00179
41:54:00	0.0000	0.0000	0.0000	0.0000	0.00178	0.00178
42:00:00	0.0000	0.0000	0.0000	0.0000	0.00178	0.00178
42:06:00	0.0000	0.0000	0.0000	0.0000	0.00177	0.00177
42:12:00	0.0000	0.0000	0.0000	0.0000	0.00177	0.00177
42:18:00	0.0000	0.0000	0.0000	0.0000	0.00176	0.00176
42:24:00	0.0000	0.0000	0.0000	0.0000	0.00176	0.00176
42:30:00	0.0000	0.0000	0.0000	0.0000	0.00176	0.00176
42:36:00	0.0000	0.0000	0.0000	0.0000	0.00175	0.00175
42:42:00	0.0000	0.0000	0.0000	0.0000	0.00175	0.00175
42:48:00	0.0000	0.0000	0.0000	0.0000	0.00174	0.00174
42:54:00	0.0000	0.0000	0.0000	0.0000	0.00174	0.00174
43:00:00	0.0000	0.0000	0.0000	0.0000	0.00174	0.00174

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
43:06:00	0.0000	0.0000	0.0000	0.0000	0.00173	0.00173
43:12:00	0.0000	0.0000	0.0000	0.0000	0.00173	0.00173
43:18:00	0.0000	0.0000	0.0000	0.0000	0.00172	0.00172
43:24:00	0.0000	0.0000	0.0000	0.0000	0.00172	0.00172
43:30:00	0.0000	0.0000	0.0000	0.0000	0.00171	0.00171
43:36:00	0.0000	0.0000	0.0000	0.0000	0.00171	0.00171
43:42:00	0.0000	0.0000	0.0000	0.0000	0.00171	0.00171
43:48:00	0.0000	0.0000	0.0000	0.0000	0.0017	0.0017
43:54:00	0.0000	0.0000	0.0000	0.0000	0.0017	0.0017
44:00:00	0.0000	0.0000	0.0000	0.0000	0.00169	0.00169
44:06:00	0.0000	0.0000	0.0000	0.0000	0.00169	0.00169
44:12:00	0.0000	0.0000	0.0000	0.0000	0.00169	0.00169
44:18:00	0.0000	0.0000	0.0000	0.0000	0.00168	0.00168
44:24:00	0.0000	0.0000	0.0000	0.0000	0.00168	0.00168
44:30:00	0.0000	0.0000	0.0000	0.0000	0.00167	0.00167
44:36:00	0.0000	0.0000	0.0000	0.0000	0.00167	0.00167
44:42:00	0.0000	0.0000	0.0000	0.0000	0.00167	0.00167
44:48:00	0.0000	0.0000	0.0000	0.0000	0.00166	0.00166
44:54:00	0.0000	0.0000	0.0000	0.0000	0.00166	0.00166
45:00:00	0.0000	0.0000	0.0000	0.0000	0.00165	0.00165
45:06:00	0.0000	0.0000	0.0000	0.0000	0.00165	0.00165
45:12:00	0.0000	0.0000	0.0000	0.0000	0.00165	0.00165
45:18:00	0.0000	0.0000	0.0000	0.0000	0.00164	0.00164
45:24:00	0.0000	0.0000	0.0000	0.0000	0.00164	0.00164
45:30:00	0.0000	0.0000	0.0000	0.0000	0.00163	0.00163
45:36:00	0.0000	0.0000	0.0000	0.0000	0.00163	0.00163
45:42:00	0.0000	0.0000	0.0000	0.0000	0.00163	0.00163
45:48:00	0.0000	0.0000	0.0000	0.0000	0.00162	0.00162
45:54:00	0.0000	0.0000	0.0000	0.0000	0.00162	0.00162
46:00:00	0.0000	0.0000	0.0000	0.0000	0.00161	0.00161
46:06:00	0.0000	0.0000	0.0000	0.0000	0.00161	0.00161
46:12:00	0.0000	0.0000	0.0000	0.0000	0.00161	0.00161
46:18:00	0.0000	0.0000	0.0000	0.0000	0.0016	0.0016
46:24:00	0.0000	0.0000	0.0000	0.0000	0.0016	0.0016
46:30:00	0.0000	0.0000	0.0000	0.0000	0.0016	0.0016
46:36:00	0.0000	0.0000	0.0000	0.0000	0.00159	0.00159

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
46:42:00	0.0000	0.0000	0.0000	0.0000	0.00159	0.00159
46:48:00	0.0000	0.0000	0.0000	0.0000	0.00158	0.00158
46:54:00	0.0000	0.0000	0.0000	0.0000	0.00158	0.00158
47:00:00	0.0000	0.0000	0.0000	0.0000	0.00158	0.00158
47:06:00	0.0000	0.0000	0.0000	0.0000	0.00157	0.00157
47:12:00	0.0000	0.0000	0.0000	0.0000	0.00157	0.00157
47:18:00	0.0000	0.0000	0.0000	0.0000	0.00156	0.00156
47:24:00	0.0000	0.0000	0.0000	0.0000	0.00156	0.00156
47:30:00	0.0000	0.0000	0.0000	0.0000	0.00156	0.00156
47:36:00	0.0000	0.0000	0.0000	0.0000	0.00155	0.00155
47:42:00	0.0000	0.0000	0.0000	0.0000	0.00155	0.00155
47:48:00	0.0000	0.0000	0.0000	0.0000	0.00155	0.00155
47:54:00	0.0000	0.0000	0.0000	0.0000	0.00154	0.00154
48:00:00	0.0000	0.0000	0.0000	0.0000	0.00154	0.00154
48:06:00	0.0000	0.0000	0.0000	0.0000	0.00154	0.00154
48:12:00	0.0000	0.0000	0.0000	0.0000	0.00153	0.00153
48:18:00	0.0000	0.0000	0.0000	0.0000	0.00153	0.00153
48:24:00	0.0000	0.0000	0.0000	0.0000	0.00152	0.00152
48:30:00	0.0000	0.0000	0.0000	0.0000	0.00152	0.00152
48:36:00	0.0000	0.0000	0.0000	0.0000	0.00152	0.00152
48:42:00	0.0000	0.0000	0.0000	0.0000	0.00151	0.00151
48:48:00	0.0000	0.0000	0.0000	0.0000	0.00151	0.00151
48:54:00	0.0000	0.0000	0.0000	0.0000	0.00151	0.00151
49:00:00	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015
49:06:00	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015
49:12:00	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015
49:18:00	0.0000	0.0000	0.0000	0.0000	0.00149	0.00149
49:24:00	0.0000	0.0000	0.0000	0.0000	0.00149	0.00149
49:30:00	0.0000	0.0000	0.0000	0.0000	0.00148	0.00148
49:36:00	0.0000	0.0000	0.0000	0.0000	0.00148	0.00148
49:42:00	0.0000	0.0000	0.0000	0.0000	0.00148	0.00148
49:48:00	0.0000	0.0000	0.0000	0.0000	0.00147	0.00147
49:54:00	0.0000	0.0000	0.0000	0.0000	0.00147	0.00147
50:00:00	0.0000	0.0000	0.0000	0.0000	0.00147	0.00147
50:06:00	0.0000	0.0000	0.0000	0.0000	0.00146	0.00146
50:12:00	0.0000	0.0000	0.0000	0.0000	0.00146	0.00146

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
50:18:00	0.0000	0.0000	0.0000	0.0000	0.00146	0.00146
50:24:00	0.0000	0.0000	0.0000	0.0000	0.00145	0.00145
50:30:00	0.0000	0.0000	0.0000	0.0000	0.00145	0.00145
50:36:00	0.0000	0.0000	0.0000	0.0000	0.00145	0.00145
50:42:00	0.0000	0.0000	0.0000	0.0000	0.00144	0.00144
50:48:00	0.0000	0.0000	0.0000	0.0000	0.00144	0.00144
50:54:00	0.0000	0.0000	0.0000	0.0000	0.00144	0.00144
51:00:00	0.0000	0.0000	0.0000	0.0000	0.00143	0.00143
51:06:00	0.0000	0.0000	0.0000	0.0000	0.00143	0.00143
51:12:00	0.0000	0.0000	0.0000	0.0000	0.00143	0.00143
51:18:00	0.0000	0.0000	0.0000	0.0000	0.00142	0.00142
51:24:00	0.0000	0.0000	0.0000	0.0000	0.00142	0.00142
51:30:00	0.0000	0.0000	0.0000	0.0000	0.00141	0.00141
51:36:00	0.0000	0.0000	0.0000	0.0000	0.00141	0.00141
51:42:00	0.0000	0.0000	0.0000	0.0000	0.00141	0.00141
51:48:00	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014
51:54:00	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014
52:00:00	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014
52:06:00	0.0000	0.0000	0.0000	0.0000	0.00139	0.00139
52:12:00	0.0000	0.0000	0.0000	0.0000	0.00139	0.00139
52:18:00	0.0000	0.0000	0.0000	0.0000	0.00139	0.00139
52:24:00	0.0000	0.0000	0.0000	0.0000	0.00138	0.00138
52:30:00	0.0000	0.0000	0.0000	0.0000	0.00138	0.00138
52:36:00	0.0000	0.0000	0.0000	0.0000	0.00138	0.00138
52:42:00	0.0000	0.0000	0.0000	0.0000	0.00137	0.00137
52:48:00	0.0000	0.0000	0.0000	0.0000	0.00137	0.00137
52:54:00	0.0000	0.0000	0.0000	0.0000	0.00137	0.00137
53:00:00	0.0000	0.0000	0.0000	0.0000	0.00136	0.00136
53:06:00	0.0000	0.0000	0.0000	0.0000	0.00136	0.00136
53:12:00	0.0000	0.0000	0.0000	0.0000	0.00136	0.00136
53:18:00	0.0000	0.0000	0.0000	0.0000	0.00136	0.00136
53:24:00	0.0000	0.0000	0.0000	0.0000	0.00135	0.00135
53:30:00	0.0000	0.0000	0.0000	0.0000	0.00135	0.00135
53:36:00	0.0000	0.0000	0.0000	0.0000	0.00135	0.00135
53:42:00	0.0000	0.0000	0.0000	0.0000	0.00134	0.00134
53:48:00	0.0000	0.0000	0.0000	0.0000	0.00134	0.00134

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
53:54:00	0.0000	0.0000	0.0000	0.0000	0.00134	0.00134
54:00:00	0.0000	0.0000	0.0000	0.0000	0.00133	0.00133
54:06:00	0.0000	0.0000	0.0000	0.0000	0.00133	0.00133
54:12:00	0.0000	0.0000	0.0000	0.0000	0.00133	0.00133
54:18:00	0.0000	0.0000	0.0000	0.0000	0.00132	0.00132
54:24:00	0.0000	0.0000	0.0000	0.0000	0.00132	0.00132
54:30:00	0.0000	0.0000	0.0000	0.0000	0.00132	0.00132
54:36:00	0.0000	0.0000	0.0000	0.0000	0.00131	0.00131
54:42:00	0.0000	0.0000	0.0000	0.0000	0.00131	0.00131
54:48:00	0.0000	0.0000	0.0000	0.0000	0.00131	0.00131
54:54:00	0.0000	0.0000	0.0000	0.0000	0.0013	0.0013
55:00:00	0.0000	0.0000	0.0000	0.0000	0.0013	0.0013
55:06:00	0.0000	0.0000	0.0000	0.0000	0.0013	0.0013
55:12:00	0.0000	0.0000	0.0000	0.0000	0.00129	0.00129
55:18:00	0.0000	0.0000	0.0000	0.0000	0.00129	0.00129
55:24:00	0.0000	0.0000	0.0000	0.0000	0.00129	0.00129
55:30:00	0.0000	0.0000	0.0000	0.0000	0.00129	0.00129
55:36:00	0.0000	0.0000	0.0000	0.0000	0.00128	0.00128
55:42:00	0.0000	0.0000	0.0000	0.0000	0.00128	0.00128
55:48:00	0.0000	0.0000	0.0000	0.0000	0.00128	0.00128
55:54:00	0.0000	0.0000	0.0000	0.0000	0.00127	0.00127
56:00:00	0.0000	0.0000	0.0000	0.0000	0.00127	0.00127
56:06:00	0.0000	0.0000	0.0000	0.0000	0.00127	0.00127
56:12:00	0.0000	0.0000	0.0000	0.0000	0.00126	0.00126
56:18:00	0.0000	0.0000	0.0000	0.0000	0.00126	0.00126
56:24:00	0.0000	0.0000	0.0000	0.0000	0.00126	0.00126
56:30:00	0.0000	0.0000	0.0000	0.0000	0.00125	0.00125
56:36:00	0.0000	0.0000	0.0000	0.0000	0.00125	0.00125
56:42:00	0.0000	0.0000	0.0000	0.0000	0.00125	0.00125
56:48:00	0.0000	0.0000	0.0000	0.0000	0.00125	0.00125
56:54:00	0.0000	0.0000	0.0000	0.0000	0.00124	0.00124
57:00:00	0.0000	0.0000	0.0000	0.0000	0.00124	0.00124
57:06:00	0.0000	0.0000	0.0000	0.0000	0.00124	0.00124
57:12:00	0.0000	0.0000	0.0000	0.0000	0.00123	0.00123
57:18:00	0.0000	0.0000	0.0000	0.0000	0.00123	0.00123
57:24:00	0.0000	0.0000	0.0000	0.0000	0.00123	0.00123

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
57:30:00	0.0000	0.0000	0.0000	0.0000	0.00123	0.00123
57:36:00	0.0000	0.0000	0.0000	0.0000	0.00122	0.00122
57:42:00	0.0000	0.0000	0.0000	0.0000	0.00122	0.00122
57:48:00	0.0000	0.0000	0.0000	0.0000	0.00122	0.00122
57:54:00	0.0000	0.0000	0.0000	0.0000	0.00121	0.00121
58:00:00	0.0000	0.0000	0.0000	0.0000	0.00121	0.00121
58:06:00	0.0000	0.0000	0.0000	0.0000	0.00121	0.00121
58:12:00	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012
58:18:00	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012
58:24:00	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012
58:30:00	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012
58:36:00	0.0000	0.0000	0.0000	0.0000	0.00119	0.00119
58:42:00	0.0000	0.0000	0.0000	0.0000	0.00119	0.00119
58:48:00	0.0000	0.0000	0.0000	0.0000	0.00119	0.00119
58:54:00	0.0000	0.0000	0.0000	0.0000	0.00118	0.00118
59:00:00	0.0000	0.0000	0.0000	0.0000	0.00118	0.00118
59:06:00	0.0000	0.0000	0.0000	0.0000	0.00118	0.00118
59:12:00	0.0000	0.0000	0.0000	0.0000	0.00118	0.00118
59:18:00	0.0000	0.0000	0.0000	0.0000	0.00117	0.00117
59:24:00	0.0000	0.0000	0.0000	0.0000	0.00117	0.00117
59:30:00	0.0000	0.0000	0.0000	0.0000	0.00117	0.00117
59:36:00	0.0000	0.0000	0.0000	0.0000	0.00117	0.00117
59:42:00	0.0000	0.0000	0.0000	0.0000	0.00116	0.00116
59:48:00	0.0000	0.0000	0.0000	0.0000	0.00116	0.00116
59:54:00	0.0000	0.0000	0.0000	0.0000	0.00116	0.00116
60:00:00	0.0000	0.0000	0.0000	0.0000	0.00115	0.00115
60:06:00	0.0000	0.0000	0.0000	0.0000	0.00115	0.00115
60:12:00	0.0000	0.0000	0.0000	0.0000	0.00115	0.00115
60:18:00	0.0000	0.0000	0.0000	0.0000	0.00115	0.00115
60:24:00	0.0000	0.0000	0.0000	0.0000	0.00114	0.00114
60:30:00	0.0000	0.0000	0.0000	0.0000	0.00114	0.00114
60:36:00	0.0000	0.0000	0.0000	0.0000	0.00114	0.00114
60:42:00	0.0000	0.0000	0.0000	0.0000	0.00113	0.00113
60:48:00	0.0000	0.0000	0.0000	0.0000	0.00113	0.00113
60:54:00	0.0000	0.0000	0.0000	0.0000	0.00113	0.00113
61:00:00	0.0000	0.0000	0.0000	0.0000	0.00113	0.00113

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
61:06:00	0.0000	0.0000	0.0000	0.0000	0.00112	0.00112
61:12:00	0.0000	0.0000	0.0000	0.0000	0.00112	0.00112
61:18:00	0.0000	0.0000	0.0000	0.0000	0.00112	0.00112
61:24:00	0.0000	0.0000	0.0000	0.0000	0.00112	0.00112
61:30:00	0.0000	0.0000	0.0000	0.0000	0.00111	0.00111
61:36:00	0.0000	0.0000	0.0000	0.0000	0.00111	0.00111
61:42:00	0.0000	0.0000	0.0000	0.0000	0.00111	0.00111
61:48:00	0.0000	0.0000	0.0000	0.0000	0.00111	0.00111
61:54:00	0.0000	0.0000	0.0000	0.0000	0.0011	0.0011
62:00:00	0.0000	0.0000	0.0000	0.0000	0.0011	0.0011
62:06:00	0.0000	0.0000	0.0000	0.0000	0.0011	0.0011
62:12:00	0.0000	0.0000	0.0000	0.0000	0.00109	0.00109
62:18:00	0.0000	0.0000	0.0000	0.0000	0.00109	0.00109
62:24:00	0.0000	0.0000	0.0000	0.0000	0.00109	0.00109
62:30:00	0.0000	0.0000	0.0000	0.0000	0.00109	0.00109
62:36:00	0.0000	0.0000	0.0000	0.0000	0.00108	0.00108
62:42:00	0.0000	0.0000	0.0000	0.0000	0.00108	0.00108
62:48:00	0.0000	0.0000	0.0000	0.0000	0.00108	0.00108
62:54:00	0.0000	0.0000	0.0000	0.0000	0.00108	0.00108
63:00:00	0.0000	0.0000	0.0000	0.0000	0.00107	0.00107
63:06:00	0.0000	0.0000	0.0000	0.0000	0.00107	0.00107
63:12:00	0.0000	0.0000	0.0000	0.0000	0.00107	0.00107
63:18:00	0.0000	0.0000	0.0000	0.0000	0.00107	0.00107
63:24:00	0.0000	0.0000	0.0000	0.0000	0.00106	0.00106
63:30:00	0.0000	0.0000	0.0000	0.0000	0.00106	0.00106
63:36:00	0.0000	0.0000	0.0000	0.0000	0.00106	0.00106
63:42:00	0.0000	0.0000	0.0000	0.0000	0.00106	0.00106
63:48:00	0.0000	0.0000	0.0000	0.0000	0.00105	0.00105
63:54:00	0.0000	0.0000	0.0000	0.0000	0.00105	0.00105
64:00:00	0.0000	0.0000	0.0000	0.0000	0.00105	0.00105
64:06:00	0.0000	0.0000	0.0000	0.0000	0.00105	0.00105
64:12:00	0.0000	0.0000	0.0000	0.0000	0.00104	0.00104
64:18:00	0.0000	0.0000	0.0000	0.0000	0.00104	0.00104
64:24:00	0.0000	0.0000	0.0000	0.0000	0.00104	0.00104
64:30:00	0.0000	0.0000	0.0000	0.0000	0.00104	0.00104
64:36:00	0.0000	0.0000	0.0000	0.0000	0.00103	0.00103

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
64:42:00	0.0000	0.0000	0.0000	0.0000	0.00103	0.00103
64:48:00	0.0000	0.0000	0.0000	0.0000	0.00103	0.00103
64:54:00	0.0000	0.0000	0.0000	0.0000	0.00103	0.00103
65:00:00	0.0000	0.0000	0.0000	0.0000	0.00102	0.00102
65:06:00	0.0000	0.0000	0.0000	0.0000	0.00102	0.00102
65:12:00	0.0000	0.0000	0.0000	0.0000	0.00102	0.00102
65:18:00	0.0000	0.0000	0.0000	0.0000	0.00102	0.00102
65:24:00	0.0000	0.0000	0.0000	0.0000	0.00101	0.00101
65:30:00	0.0000	0.0000	0.0000	0.0000	0.00101	0.00101
65:36:00	0.0000	0.0000	0.0000	0.0000	0.00101	0.00101
65:42:00	0.0000	0.0000	0.0000	0.0000	0.00101	0.00101
65:48:00	0.0000	0.0000	0.0000	0.0000	0.001	0.001
65:54:00	0.0000	0.0000	0.0000	0.0000	0.001	0.001
66:00:00	0.0000	0.0000	0.0000	0.0000	0.000999	0.000999
66:06:00	0.0000	0.0000	0.0000	0.0000	0.000997	0.000997
66:12:00	0.0000	0.0000	0.0000	0.0000	0.000994	0.000994
66:18:00	0.0000	0.0000	0.0000	0.0000	0.000992	0.000992
66:24:00	0.0000	0.0000	0.0000	0.0000	0.00099	0.00099
66:30:00	0.0000	0.0000	0.0000	0.0000	0.000987	0.000987
66:36:00	0.0000	0.0000	0.0000	0.0000	0.000985	0.000985
66:42:00	0.0000	0.0000	0.0000	0.0000	0.000983	0.000983
66:48:00	0.0000	0.0000	0.0000	0.0000	0.00098	0.00098
66:54:00	0.0000	0.0000	0.0000	0.0000	0.000978	0.000978
67:00:00	0.0000	0.0000	0.0000	0.0000	0.000976	0.000976
67:06:00	0.0000	0.0000	0.0000	0.0000	0.000973	0.000973
67:12:00	0.0000	0.0000	0.0000	0.0000	0.000971	0.000971
67:18:00	0.0000	0.0000	0.0000	0.0000	0.000969	0.000969
67:24:00	0.0000	0.0000	0.0000	0.0000	0.000966	0.000966
67:30:00	0.0000	0.0000	0.0000	0.0000	0.000964	0.000964
67:36:00	0.0000	0.0000	0.0000	0.0000	0.000962	0.000962
67:42:00	0.0000	0.0000	0.0000	0.0000	0.000959	0.000959
67:48:00	0.0000	0.0000	0.0000	0.0000	0.000957	0.000957
67:54:00	0.0000	0.0000	0.0000	0.0000	0.000955	0.000955
68:00:00	0.0000	0.0000	0.0000	0.0000	0.000952	0.000952
68:06:00	0.0000	0.0000	0.0000	0.0000	0.00095	0.00095
68:12:00	0.0000	0.0000	0.0000	0.0000	0.000948	0.000948

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
68:18:00	0.0000	0.0000	0.0000	0.0000	0.000946	0.000946
68:24:00	0.0000	0.0000	0.0000	0.0000	0.000943	0.000943

Appendix

Catchment descriptors

Name	Value	User-defined value used?
BFIHOST	0.68	No
BFIHOST19	0.7	No
PROPWET	0.32	No
SAAR (mm)	896	No