

TECHNICAL NOTE



FW2285_TN_001 V2

Subject: Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024

Project Number: FW2285

Project Address: Burbage Fields Farm, Burbage

Date: 19th August 2025

Author: JR

Checked By: TB

Approved By: RM

1.0 INTRODUCTION

- 1.1.1 This technical note has been prepared to discharge Leicestershire County Councils Lead Local Flood Authority Planning Application responses dated 19.03.2024 reference 2024/0083/04/F/R1.
- 1.1.2 The format of this technical note is to consider the information within the document and provide a response immediately below.
- 1.1.3 A copy of Leicestershire County Council Lead Local Flood Authority planning application response can be found within Appendix A.

2.0 RUNOFF RATES AND DISCHARGE POINT

- 2.1.1 *Leicestershire County Council as Lead Local Flood Authority (LLFA) notes that the 26.5ha greenfield site is located within Flood Zone 1 being at low risk of fluvial flooding and a generally low risk of surface water flooding, with high risk of surface water flooding in the vicinity of the ordinary watercourse which flows through the site. The proposals seek to discharge at 45.9l/s via dry detention basins to the on-site watercourse.*

Please note that while the application contains details of drainage layout, and other relevant information such as discharge rates and calculations contained within. The LLFA has had to search through large quantities of information and drawings to find much of this information. In the interest of avoiding confusion and missing key information. The LLFA would request that the applicant provides a consolidated drainage strategy with overview of the key surface water drainage details and supporting calculations.

The application appears to lack adequate consideration for sustainable drainage systems, without sufficient explanation as to why SuDS cannot be comprehensively incorporated into the proposals. The proposals are required to provide adequate treatment to all surface water run-off. Consideration of SuDS such as (but not limited to) pervious paving, swales and wet basins should be made.

- 2.1.2 Please see the attached consolidated drainage strategy contained within Appendix B.
- 2.1.3 We have increased the sheet sizes to A0 to reduce the amount of information required to review reducing the quantity of sheets from 6 to 3.

TECHNICAL NOTE



FW2285_TN_001 V2

Subject: Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024

Project Number: FW2285

Project Address: Burbage Fields Farm, Burbage

Date: 19th August 2025

Author: JR

Checked By: TB

Approved By: RM

-
- 2.1.4 The information shown within the consolidated drainage strategy highlights all of the key surface water drainage details and the key supporting calculations.
- 2.1.5 Since the last set of comments that we received from LCC LLFA, further SUDS have been introduced by the means of private swales & filter strips located adjacently to the shared driveways to treat higher pollutant areas at the source. Adoptable swales were considered, however based on a number of factors including the presence of the existing watercourse, topography of the land and the proposed site layout there wasn't any feasible locations where these can be utilised on this development.
- 2.1.6 Type 3 permeable paving has been considered for use across all shared driveways to provide treatment and delay peak surface water runoff. However, due to the fact that permeable paving is prone to clogging and that it is incredibly difficult to maintain. We have decided to proceed without utilising permeable paving across the site.
- 2.1.7 Detention basins are to be utilised on-site to provide attenuation prior to a controlled discharge utilising flow control chambers into the existing watercourse flowing through the site.
- 2.1.8 Further SUDS are to be introduced on site by the means of rain gardens & water butts with their final locations to be set at the detailed design stage of the development.
- 2.1.9 The development area for the site is 264,996m² (26.5ha) and it is proposed that 102,225m² (10.223ha) of the site will be impermeable and require collecting and attenuating prior to discharge.
- 2.1.10 The total surface water discharge rate for the site has been set to greenfield runoff rate equating to 4.36l/s/ha or 44.60l/s for the entire site based on the current impermeable area of 10.223ha.
- 2.1.11 An area of 1.626ha (Network 1) will be drained into the northern detention basin prior to a controlled release into the existing watercourse at a rate of 7.80l/s
- 2.1.12 An area of 5.406ha (Network 2) will be drained into the central detention basin prior to a controlled release into the existing watercourse at a rate of 23.60l/s.
- 2.1.13 An area of 1.976ha (Network 3) will be drained into the southern detention basin prior to a controlled release into the existing watercourse at a rate of 8.60l/s.

TECHNICAL NOTE



FW2285_TN_001 V2

Subject: Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024

Project Number: FW2285

Project Address: Burbage Fields Farm, Burbage

Date: 19th August 2025

Author: JR

Checked By: TB

Approved By: RM

2.1.14 An area of 1.053ha (Network 4) will be drained into the eastern detention basin prior to a controlled release into the existing watercourse at a rate of 4.60l/s.

2.1.15 A copy of the hydraulic calculations are contained within Appendix C.

TECHNICAL NOTE



FW2285_TN_001 V2

Subject: Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024

Project Number: FW2285

Project Address: Burbage Fields Farm, Burbage

Date: 19th August 2025

Author: JR

Checked By: TB

Approved By: RM

APPENDIX A – LEICESTERSHIRE COUNTY COUNCIL LEAD LOCAL FLOOD AUTHORITY PLANNING APPLICATION RESPONSE

Application address Land at Burbage Fields Farm Bullfurlong Lane Burbage Leicestershire		Planning ref.	24/00083/HYB
		Our ref.	2024/0083/04/F/R1
Description Hybrid planning application for 422 dwellings, public open space, associated infrastructure and outline planning application for a residential care home and up to 11no. self-build plots (all matters reserved except for access)		Consultation date	08/02/2024
		Response date	19/03/2024
Planning officer	Alex Jelley	Reviewing officer	Andrew Smallwood
Application type	Hybrid	Extension requested	☒
Refer to standing advice ☐	Conditions ☐	Further consultation required ☒	Concerns ☐

Consultation checklist

No.	Description	Check
1	Location plan	☒
2	Proposed layout plan	☒
3	Evidence that the site can be drained	☐
4	Topographic and ground investigation details	☐
5	The total impermeable area pre and post development	☒
6	All potential flood risk sources have been identified and assessed	☒
7	Existing and proposed peak discharge rates	☒
8	Consideration of sustainable drainage systems	☐
9	Attenuation volume calculations	☒
10	Consideration of the maintenance and management of all drainage elements	☐

LLFA Key Observations and Advice

Leicestershire County Council as Lead Local Flood Authority (LLFA) notes that the 26.5ha greenfield site is located within Flood Zone 1 being at low risk of fluvial flooding and a generally low risk of surface water flooding, with high risk of surface water flooding in the vicinity of the ordinary watercourse which flows through the site. The proposals seek to discharge at 45.9l/s via dry detention basins to the on-site watercourse.

Please note that while the application contains details of drainage layout, and other relevant information such as discharge rates and calculations contained within. The LLFA has had to search through large quantities of information and drawings to find much of this information. In the interest of avoiding confusion and missing key information. The LLFA would request that the applicant provides a consolidated drainage strategy with overview of the key surface water drainage details and supporting calculations.

The application appears to lack adequate consideration for sustainable drainage systems, without sufficient explanation as to why SuDS cannot be comprehensively incorporated into the proposals. The proposals are required to provide adequate treatment to all surface water run-off. Consideration of SuDS such as (but not limited to) pervious paving, swales and wet basins should be made.

Leicestershire County Council as Lead Local Flood Authority (LLFA) advises the Local Planning Authority (LPA) that the application documents as submitted are insufficient for the LLFA to provide a substantive response at this stage. In order to provide a substantive response, the above information is required.

Advice to the Local Planning Authority

1. Standing Advice – National Planning Policy Framework

When determining planning applications, the local planning authority should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where informed by a site specific Flood Risk Assessment (FRA) confirming it will not put the users of the development at risk. Where an FRA is applicable this should be undertaken in accordance with the requirements of the National Planning Policy Framework and accompanying Planning Practice Guidance.

2. Standing Advice – Consent

Where there are any works proposed as part of an application which are likely to affect flows in an ordinary watercourse or ditch, the applicant will require consent under Section 23 of the Land Drainage Act 1991. This is in addition to any planning permission that may be granted. Guidance on this process and a sample application form can be found via the following website: <http://www.leicestershire.gov.uk/flood-risk-management>

Applicants are advised to refer to Leicestershire County Council's culverting policy contained within the Local Flood Risk Management Strategy Appendix document, available at the above link. No development should take place within 5 metres of any watercourse or ditch without first contacting the County Council for advice.

This consent does not consider local watercourse bylaws. It is the responsibility of the applicant to check if the local borough or district council has their own bylaws which the proposals will also need to consider.

3. Standing Advice – Maintenance

Note that it is the responsibility of the Local Planning Authority under the DEFRA/DCLG legislation (April 2015) to ensure that a system to facilitate the future maintenance of SuDS features can be managed and maintained in perpetuity before commencement of the works.

4. Standing Advice – Greenfield Development Runoff

For greenfield sites, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event.

The runoff volume from the development in the 1 in 100 year, 6 hour rainfall event should not exceed the greenfield runoff volume for the same event. Where an increase in discharge volume is unavoidable, the proposals should discharge at QBar or provide alternative mitigation in line with CIRIA C753.

5. Standing Advice – Drainage and waste disposal

Where a drainage or waste disposal system is to be constructed or altered that is not proposed to be adopted by either the WASC (Water and Sewerage Company) or the County Council as highway authority then the system should be constructed in accordance with Part H of Building Regulations 2010.

6. Standing Advice – Overland flow routes

Overland flow routes as shown on the 'extent of flooding from surface water' maps should be considered such that buildings are not placed directly at risk of surface water flooding. Such flow routes should be utilised for roads and green infrastructure.

7. Standing Advice – External surfaces

To prevent an increase in the discharge rate or volume due to development of external surfaces, permeable surface material should be utilised where possible, without an impermeable lining unless required to prevent mobilisation of contaminants or groundwater flooding.

Additional information and guidance is available here:

<https://www.leicestershire.gov.uk/environment-and-planning/flooding-and-drainage/>

Note: Response provided by the Lead Local Flood Authority under the delegated authority of the Director of Environment and Transport.

TECHNICAL NOTE



FW2285_TN_001 V2

Subject:	Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024		
Project Number:	FW2285	Author:	JR
Project Address:	Burbage Fields Farm, Burbage	Checked By:	TB
Date:	19 th August 2025	Approved By:	RM

APPENDIX B – CONSOLIDATED DRAINAGE STRATEGY

64.96mm² / 26.5ha : Development area
2.65mm² / 0.66ha : Existing impermeable area
102.223m² / 10.223ha : Proposed impermeable area
115.6 t/a : Existing Obar storm discharge rate
4.30ha/s² : Existing Obar / hectare storm discharge rate

Development impermeable areas to be drained into the storm sewers via filter drains, attenuation basins and rain garden with 100% SuDS treatment to C17Gr3, to be unsewered wastewater

Minimum surface cover to suffice to be per the Seamer School Guidance (Appendix C BS 17):

- 0.35m - domestic gardens and pathways without vehicle access
- 0.5m - domestic gardens, parking areas and yards for vehicles
- 0.75 gross weight
- 0.9m - domestic driveways, parking areas, shared spaces
- 0.9m - domestic driveways, parking areas, shared spaces
- 0.9m - agricultural land and public open space
- 1.2m - highway and parking areas with unrestricted access for vehicles
- 1.2m - highway and parking areas with unrestricted access for vehicles

Any pipes with cover to suffice less than those stated above are to have a Class 2 concrete pipe bed & surround.

Internal road grate minimum gradings:

- 1.80 from S&W & WC to IC
- 1.40 from Basin & Sink to IC

Refer to Architects/S&W drawings for pipe sizes and setting-out information.

Maximum Drainage Chamber Depths:

- 0315mm P10C - 1.2m - Type 1 (BS EN 13598-2)
- 0425mm P10C - 1.2m - Type 1 (BS EN 13598-2)
- 0600mm P10C - 3.0m - Type 1 (BS EN 13598-2)
- 0600mm P10C - 3.0m - Type 1 (BS EN 13598-2)
- 01200mm Concrete - 6.0m (with standard detail)

A CCTV and level survey of the as-built drainage to OS Datum and Grid is to be undertaken by the Contractor and provided to the Engineer for final approval.

Sewer details shown have been taken from STW Water sewer records. Contractor to validate drainage locations and levels prior to commencement of the works.

Construction Note:
It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions along drainage route (such as unrecorded services). If the drainage is laid from the site out to the outfall, it can result in significant abortive works to relay and overcome such obstructions.

SAFETY, HEALTH AND ENVIRONMENTAL

HAZARD INFORMATION BOX

THE HAZARDS NOTED BELOW ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPES OF WORKS DETAILED ON THIS DRAWING.

CONSTRUCTION RISKS

EXISTING UNNAMED WATERCOURSE
EXISTING HIGHWAY
EXISTING SERVICES

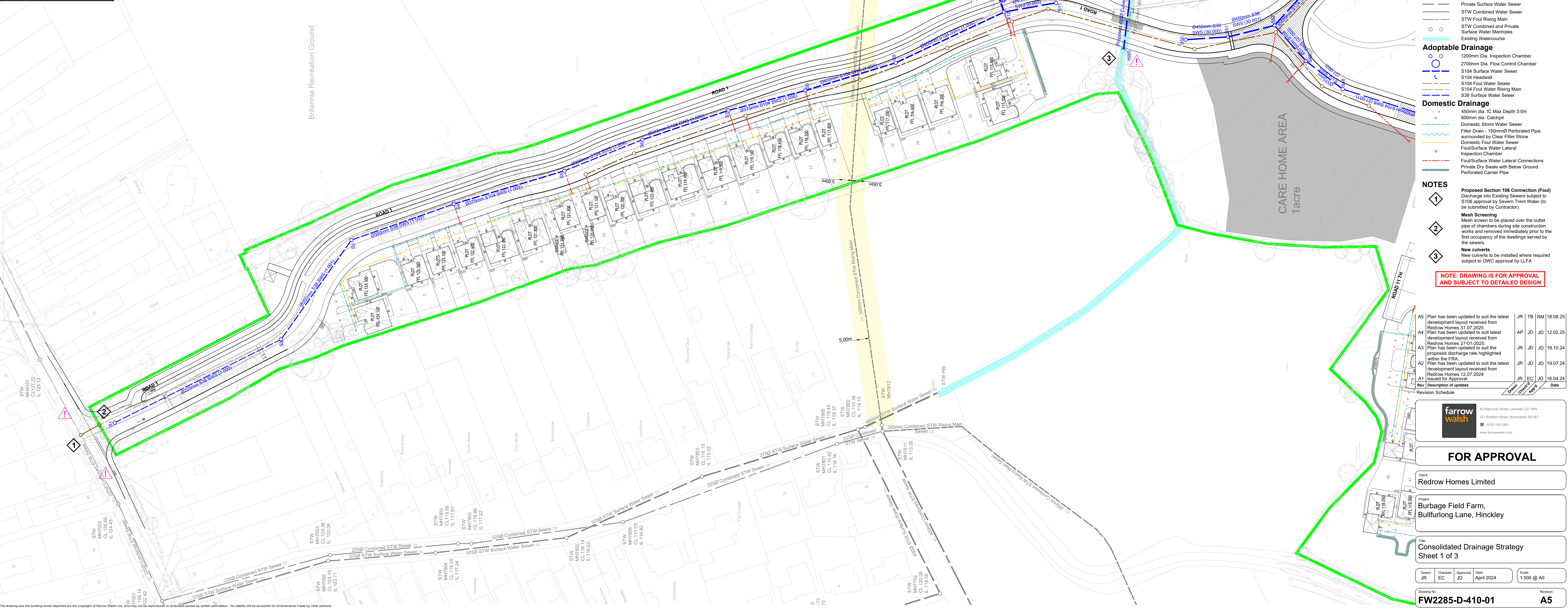
MAINTENANCE / CLEANING RISKS

NONE RELEVANT TO THIS DRAWING.

DEMOLITION RISK:

NONE RELEVANT TO THIS DRAWING.

Flow Control Chamber	Catchment Area ha	Proposed Discharge Rate 1:100+40%CG
S19	1.626	7.80 l/s
S66	5.406	23.60 l/s
S101	1.976	8.60 l/s
S121	1.053	4.60 l/s
Total	10.222	44.60 l/s



1. DO NOT SC

3. This drawing is to be read in conjunction with all other relevant drawings and details.
3. Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be informed PRIOR to construction on site.
4. Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given it is entirely at their own risk.
5. Sketch proposals are for illustrative purposes only and as such are subject to detailed site investigation including ground conditions / contaminants, drainage, design and planning / diversity negotiations.
6. All dimensions are in millimetres unless otherwise stated.
7. The Farrow Wash Designers Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.

NOTES

1. This drawing to be read in conjunction with all other relevant Engineers and Architects's details.
2. All work to be carried out in accordance with the current British Standards, codes of practice and building regulations.
3. The design of any temporary works required shall be the responsibility of the Contractor.
4. Do not scale this drawing. All dimensions are in millimetres unless noted otherwise. Any discrepancies are to be recorded and reported to the Engineer immediately.
5. All work is to be to the satisfaction of the Engineer.
6. The Contractor is responsible for and must take all necessary precautions to ensure the stability of the existing structure on this construction.
7. All workmanship and materials are to be to current British Standards.
8. All services are to be located and protected as necessary by the Contractor prior to the commencement of the works.
9. All details and materials used on this drawing are for guidance only and are to be checked on site by the Engineer. Any variations are to be recorded and reported to the Engineer immediately.

General Drainage Notes:

- Information shown is for APPROVAL purposes only and not to be used for construction.
- This drawing to be read in conjunction with all other relevant Engineering Documents.
- All work is to be carried out in accordance with the current British Standards, codes of practice and building regulations.
- Where necessary, the size and use of existing services to be confirmed on site. Any discrepancies to be reported to the Engineer prior to construction of the works.
- All uncovered and shallow pipework to be protected against construction traffic as part of the Contractors temporary works requirements.
- Where necessary, the size and use of existing services to be confirmed with each in-situ overlaid pipework.
- Where necessary, the size and use of existing services to existing manholes in the road to be confirmed on site prior to construction.
- See Architects details for all setting out dimensions to buildings and structures etc.
- All connections to road gutters and channels shall be 150mm nominal bore and 100mm internal diameter. All connections to be confirmed on site prior to construction of RWP assets and/or design flow. No pipe work to be downsized in the direction of flow.
- All connections to the downpipes shall be 100mm nominal bore pipework subject to confirmation of above ground pipe diameters and/or design flow.
- All un-noted pipework to be 100mm dia. Unless advised by the notes above.
- All pipework to be LUPVC type in accordance with WS14-3-5:01 unless otherwise noted.
- All pipes connecting to adopted manholes up to and including 300mm dia. shall be LUPVC.
- All pipes connecting to adopted manholes greater than 300mm dia. shall be LUPVC.
- All pipes under buildings without suspended floors above Class B structures shall be LUPVC.
- All pipework entering and exiting manholes to be connected with pipe sockets level.
- The free-formed channels to be used as all manholes.
- High strength concrete benching to be slotted trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the current BS 5493.

LEGEND

- | | |
|---|---|
| PLOT
FFL 54,000 | Proposed Finished Floor Level |
|  | Development Boundary |
|  | Sewer Easement |
|  | Private Surface Water Sewer |
|  | STW Combined Water Sewer |
|  | STW Foul Rising Main |
|  | STW Combined and Private Surface Water Manholes |
|  | Existing Watercourse |

Adoptable Drainage

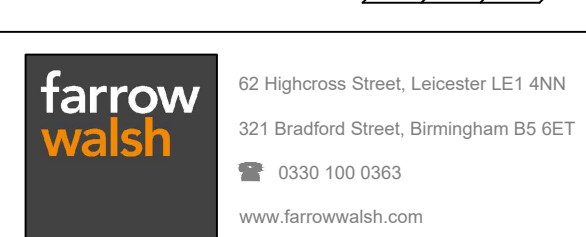
-  1200mm Dia. Inspection Chamber
 2700mm Dia. Flow Control Chamber
 S104 Surface Water Sewer
 S104 Headwall
 S104 Foul Water Sewer
 S104 Foul Water Rising Main
 S38 Surface Water Sewer
- ## Domestic Drainage
-  450mm dia. IC Max Depth 3.0m
 600mm dia. Catchpit
 Domestic Storm Water Sewer
 Filter Drain / 150mmØ Perforated Pipe surrounded by Clear Filter Stone
 Domestic Foul Water Sewer
 Foul/Surface Water Lateral
 Inspection Chamber
 Four/Surface Water Lateral Connections
 Private Dry Swale with Below Ground
 Perforated Carrier Pipe

NOTES

- 1** **Proposed Section 106 Connection (Foul)**
Discharge into Existing Sewers Subject to S106 approval by Severn Trent Water (to be submitted by Contractor).
- 2** **Mesh Screening**
Mesh screen to be placed over the outlet pipe of chambers during site construction works and removed immediately prior to the first occupancy of the dwellings served by the sewers.
- 3** **New culverts**
New culverts to be installed where required subject to OWC approval by LLFA.

**NOTE: DRAWING IS FOR APPROVAL
AND SUBJECT TO DETAILED DESIGN**

A5	Plan has been updated to suit the latest development layout received from Redrow Homes 31.07.2025	JR	TB	RM	18.08.25		
A4	Plan has been updated to suit latest development layout received from Redrow Homes 27.01.2025.	AP	JD	JD	12.02.25		
A3	Plan has been updated to suit the proposed discharge rate highlighted within the FRA.	JR	JD	JD	18.10.24		
A2	Plan has been updated to suit the latest development layout received from Redrow Homes 12.07.2024. Issued for Approval.	JR	JD	JD	19.07.24		
A1	Description of updates	JR	EC	JD	16.04.24		
Revision Schedule		Drawn	Checked	Design	Date		



FOR APPROVAL

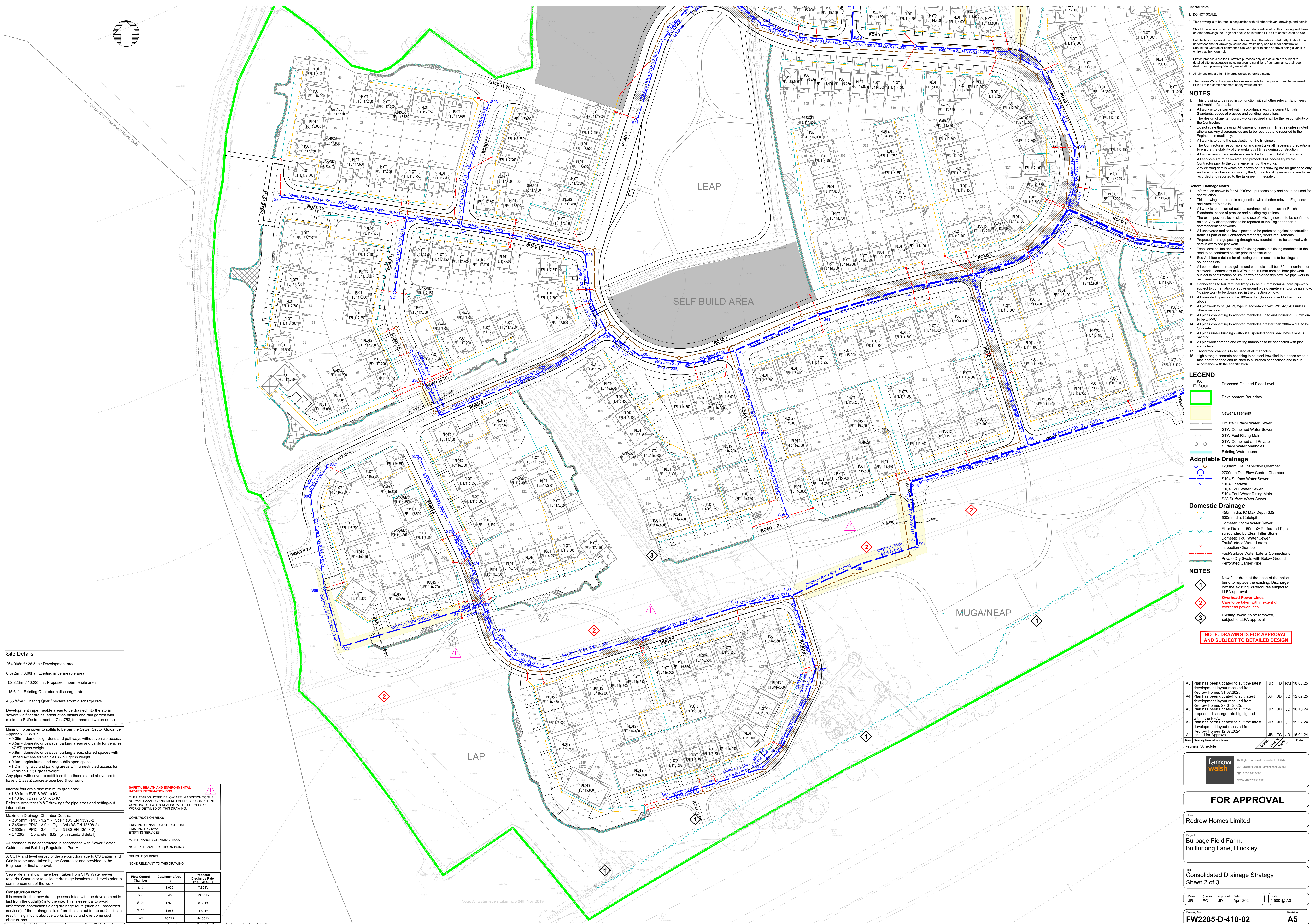
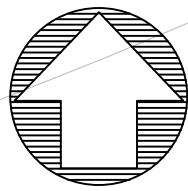
Client:
Redrow Homes Limited

Project:
**Burbage Field Farm,
Bullfurlong Lane, Hinckley**

Title:
Consolidated Drainage Strategy
Sheet 1 of 3

Drawn: JR	Checked: EC	Approved: JD	Date: April 2024	Scale: 1:500 @ A0
--------------	----------------	-----------------	---------------------	----------------------

Drawing No. **FW2285-D-410-01** Revision: **A5**



Site Details

264.996m² / 26.5ha : Development area
6.572m² / 0.66ha : Existing impermeable area
102.223m² / 10.223ha : Proposed impermeable area
115.6 l/s : Existing Qbar storm discharge rate
4.36l/s/ha : Existing Qbar / hectare storm discharge rate

Development impermeable areas to be drained into the storm sewers via filter drains, attenuation basins and rain garden with minimum SUDs treatment to Cria753, to unrain watercourse.

Minimum pipe cover to soffits to be per the Sewer Sector Guidance Appendix C B5.1.7:
• 0.35m - domestic gardens and pathways without vehicle access
• 0.5m - domestic driveways, parking areas and yards for vehicles
• < 0.5m - ST gross weight
• 0.8m - domestic driveways, parking areas, shared spaces with limited access for vehicles > 7.5T gross weight
• 0.9m - agricultural land and public open space
• 1.2m - highway and parking areas with unrestricted access for vehicles > 7.5T gross weight
Any pipes with cover to soffits less than those stated above are to have a Class Z concrete pipe bed & surround.

Internal foul drain pipe minimum gradients:
• 1:80 from SVP & WC to IC
• 1:40 from Basin & Sink to IC
Refer to Architect's/M&E drawings for pipe sizes and setting-out information.

Maximum Drainage Chamber Depths:
• Ø315mm PPIC - 1.2m - Type 4 (BS EN 13598-2)
• Ø450mm PPIC - 3.0m - Type 3/4 (BS EN 13598-2)
• Ø600mm PPIC - 3.0m - Type 3 (BS EN 13598-2)
• Ø1200mm Concrete - 6.0m (with standard detail)

All drainage to be constructed in accordance with Sewer Sector Guidance and Building Regulations Part H.

A CCTV and level survey of the as-built drainage to OS Datum and Grid is to be undertaken by the Contractor and provided to the Engineer for final approval.

Sewer details shown have been taken from STW Water sewer records. Contractor to validate drainage locations and levels prior to commencement of the works.

Construction Note:
It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions along drainage route (such as unrecorded services). If the drainage is laid from the site out to the outfall, it can result in significant abortive works to relay and overcome such obstructions.

SAFETY, HEALTH AND ENVIRONMENTAL HAZARD INFORMATION BOX

THE HAZARDS NOTED BELOW ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPES OF WORKS DETAILED ON THIS DRAWING.

CONSTRUCTION RISKS
EXISTING UNNAMED WATERCOURSE
EXISTING HIGHWAY
EXISTING SERVICES

MAINTENANCE / CLEANING RISKS
NONE RELEVANT TO THIS DRAWING.

DEMOLITION RISKS
NONE RELEVANT TO THIS DRAWING.

Flow Control Chamber	Catchment Area ha	Proposed Discharge Rate l/s @ 1.19m AHD	Proposed Discharge Rate l/s @ 1.19m AHD
S19	1.626	7.90 l/s	
S66	5.408	23.60 l/s	
S101	1.976	8.60 l/s	
S121	1.053	4.60 l/s	
Total	10.222	44.60 l/s	

NOTES

1. This drawing is to be read in conjunction with all other relevant drawings and details.
2. This drawing is to be read in conjunction with all other relevant drawings and details.
3. Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be referred PRIOR to construction on site.
4. Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given it is entirely at their own risk.
5. Sketch proposals are for illustrative purposes only and as such are subject to detailed site investigation including ground conditions / contaminants, drainage, design and planning / density negotiations.
6. All dimensions are in millimetres unless otherwise stated.
7. The Farrow Walsh Designers Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.

General Drainage Notes

1. Information shown is for APPROVAL purposes only and not to be used for construction.
2. This drawing is to be read in conjunction with all other relevant Engineers and Architects details.
3. All work is to be carried out in accordance with the current British Standards, codes of practice and building regulations.
4. The design of any temporary works required shall be the responsibility of the Contractor.
5. Do not scale this drawing. All dimensions are in millimetres unless noted otherwise. Any discrepancies are to be recorded and reported to the Engineers immediately.
6. All work is to be to the satisfaction of the Engineer.
7. The Contractor is responsible for and must take all necessary precautions to ensure the stability of the works at all times during construction.
8. All workmanship and materials are to be to current British Standards.
9. All services are to be located and protected as necessary by the Contractor prior to the commencement of the works.
10. Any existing details which are shown on this drawing are for guidance only and are to be checked on site by the Contractor. Any variations are to be recorded and reported to the Engineer immediately.

LEGEND

Proposed Finished Floor Level
Development Boundary
Sewer Easement
Private Surface Water Sewer
STW Combined Water Sewer
STW Foul Rising Main
STW Combined and Private Surface Water Manholes
Existing Watercourse

Adoptable Drainage

1200mm Dia. Inspection Chamber
2700mm Dia. Flow Control Chamber
S104 Surface Water Sewer
S104 Headwall
S104 Foul Water Sewer
S104 Foul Water Rising Main
S38 Surface Water Sewer

Domestic Drainage

450mm dia. IC Max Depth 3.0m
600mm dia. Catchpit
Domestic Storm Water Sewer
Filter Drain - 150mmØ Perforated Pipe surrounded by Clear Filter Stone
Domestic Foul Water Sewer
Foul/Surface Water Lateral
Inspection Chamber
Foul/Surface Water Lateral Connections
Private Dry Scape with Below Ground Perforated Carrier Pipe

NOTES

1. New filter drain at the base of the noise bund to replace the existing. Discharge into the existing watercourse subject to LLFA approval.
2. Overhead Power Lines
Care to be taken within extent of overhead power lines
3. Existing swale, to be removed, subject to LLFA approval

NOTE: DRAWING IS FOR APPROVAL AND SUBJECT TO DETAILED DESIGN

A5	Plan has been updated to suit the latest development layout received from Redrow Homes 31.07.2025	JR	TB	RM	18.08.25
A4	Plan has been updated to suit latest development layout received from Redrow Homes 27.01.2025.	AP	JD	JD	12.02.25
A3	Plan has been updated to suit the proposed discharge rate highlighted within the FRU	JR	JD	JD	18.10.24
A2	Plan has been updated to suit the latest development layout received from Redrow Homes 12.07.2024	JR	EC	JD	19.07.24
A1	Issued for Approval.	JR	EC	JD	16.04.24

Revision Schedule

Rev	Description of updates	Drawn	Checked	Approved	Date
1		JR	EC	JD	16.04.24

farrow walsh

12 Highcross Street, Leicester LE1 6NN
21 Bradford Street, Birmingham B5 8ET
03330 500 0363
www.farrowwalsh.com

FOR APPROVAL

Client:
Redrow Homes Limited

Project:
Burbage Field Farm,
Bullfurlong Lane, Hinckley

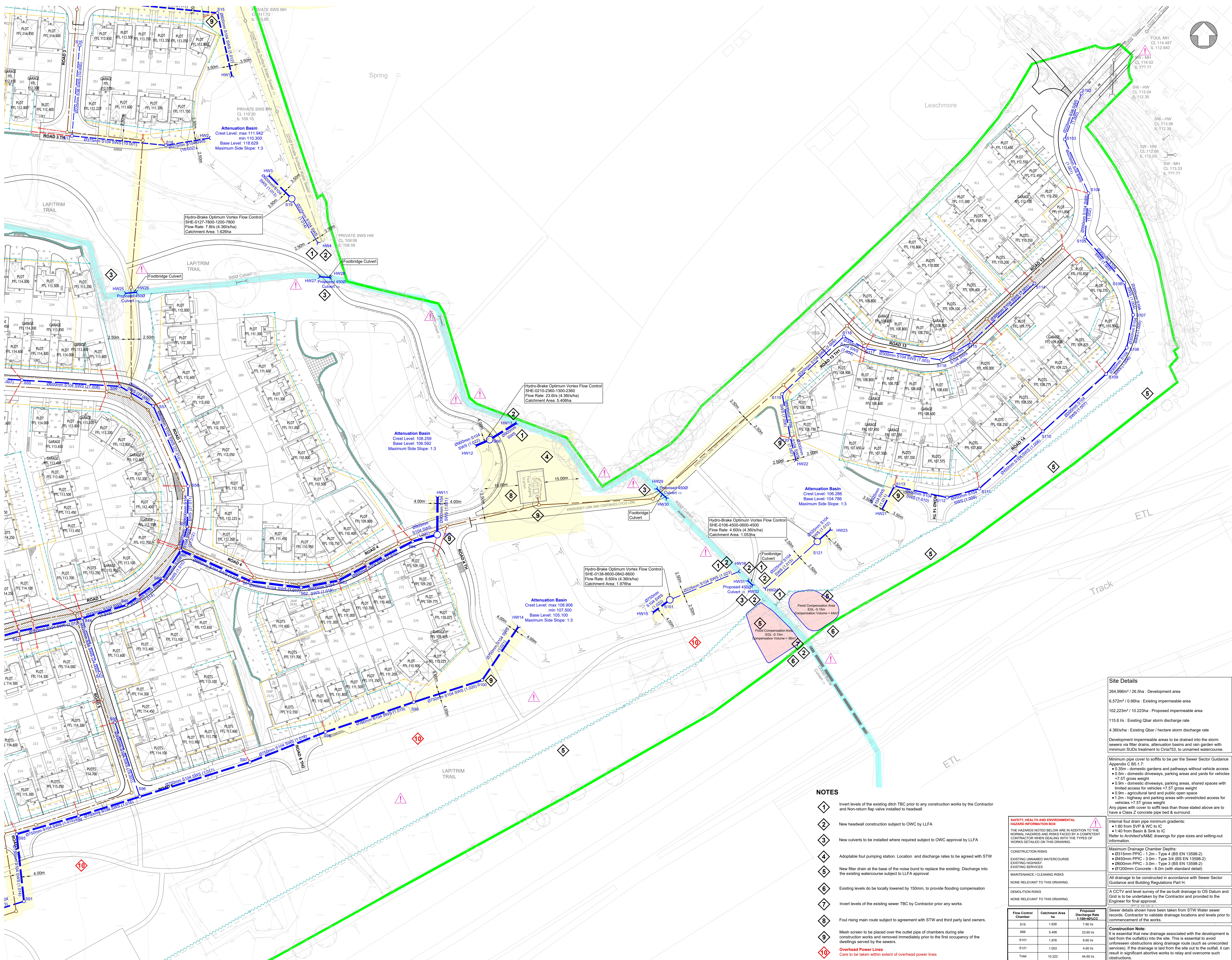
Title:
Consolidated Drainage Strategy
Sheet 2 of 3

Drawn	Checked	Approved	Date	Scale
JR	EC	JD	April 2024	1:500 @ A0

Drawing No:
FW2285-D-410-02

Revision:
A5

Note: All water levels taken with 04th Nov 2019



General Notes

1. Do NOT SCALE.
2. This drawing is to be read in conjunction with all other relevant drawings and details.
3. Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be referred PRIOR to construction on site.
4. Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given it is entirely at their own risk.
5. Sketch proposals are for illustrative purposes only and as such are subject to detailed site investigation including ground conditions / contaminants, drainage, design and planning / density negotiations.
6. All dimensions are in millimetres unless otherwise stated.
7. The Farrow Walsh Designers Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.

NOTES

1. This drawing is to be read in conjunction with all other relevant Engineers and Architects details.
2. All work is to be carried out in accordance with the current British Standards, codes of practice and building regulations.
3. The design of any temporary works required shall be the responsibility of the Contractor.
4. Do not scale this drawing. All dimensions are in millimetres unless noted otherwise. Any discrepancies are to be recorded and reported to the Engineers immediately.
5. All work is to be to the satisfaction of the Engineer.
6. The Contractor is responsible for and must take all necessary precautions to ensure the stability of the works at all times during construction.
7. All workmanship and materials are to be to current British Standards.
8. All services are to be located and protected as necessary by the Contractor prior to the commencement of the works.
9. Any existing details which are shown on this drawing are for guidance only and are to be checked on site by the Contractor. Any variations are to be recorded and reported to the Engineer immediately.

General Drainage Notes

1. Information shown is for APPROVAL purposes only and not to be used for construction.
2. This drawing is to be read in conjunction with all other relevant Engineers and Architects details.
3. All work is to be carried out in accordance with the current British Standards, codes of practice and building regulations.
4. The exact position, level, size and use of existing sewers to be confirmed on site. Any discrepancies to be reported to the Engineer prior to commencement of works.
5. All uncovered and shallow pipework to be protected against construction traffic as part of the Contractors temporary works requirements.
6. Proposed drainage passing through new foundations to be sleeved with cast-in oversized pipework.
7. Exact location line and level of existing stubs to existing manholes in the road to be confirmed on site prior to construction.
8. See Architect's details for all setting out dimensions to buildings and boundaries etc.
9. All connectors to road gullies and channels shall be 150mm nominal bore pipework. Connections to RWPs to be 100mm nominal bore pipework subject to confirmation of RWPs sizes and/or design flow. No pipe work to be downsized in the direction of flow.
10. Connections to foul terminal fittings to be 100mm nominal bore pipework subject to confirmation of above ground pipe diameters and/or design flow. No pipe work to be downsized in the direction of flow.
11. All un-noted pipework to be 100mm dia. Unless subject to the notes above.
12. All pipework to be U-PVC type in accordance with WIS 4-35-01 unless otherwise noted.
13. All pipes connecting to adopted manholes up to and including 300mm dia. to be U-PVC.
14. All pipes connecting to adopted manholes greater than 300mm dia. to be Concrete.
15. All pipes under buildings without suspended floors shall have Class 8 bedding.
16. All pipework entering and exiting manholes to be connected with pipe socket level.
17. Pre-formed channels to be used at all manholes.
18. High strength concrete benching to be steel trowelled to a dense smooth face ready shaped and finished to all branch connections and laid in accordance with the specification.

LEGEND

PROT
FLL 54.000

Proposed Finished Floor Level

Development Boundary

Sewer Easement

Private Surface Water Sewer

STW Combined Water Sewer

STW Foul Rising Main

STW Combined and Private Surface Water Manholes

Existing Watercourse

Adoptable Drainage

1200mm Dia. Inspection Chamber

2700mm Dia. Flow Control Chamber

S104 Surface Water Sewer

S104 Headwater

S104 Foul Water Sewer

S104 Foul Water Rising Main

S38 Surface Water Sewer

Domestic Drainage

450mm dia. IC Max Depth 3.0m

600mm dia. Catchpit

Domestic Storm Water Sewer

Filter Drain - 150mmØ Perforated Pipe surrounded by Clear Filter Stone

Domestic Foul Water Sewer

Foul/Surface Water Lateral

Inspection Chamber

Foul/Surface Water Lateral Connections

Private Dry Syle with Below Ground Perforated Carrier Pipe

NOTE: DRAWING IS FOR APPROVAL AND SUBJECT TO DETAILED DESIGN

Site Details

264,996m² / 26.5ha : Development area

6,572m² / 0.66ha : Existing impermeable area

102,223m² / 10.223ha : Proposed impermeable area

115.6 l/s : Existing Qbar storm discharge rate

4.36l/s/ha : Existing Qbar / hectare storm discharge rate

Development impermeable areas to be drained into the storm sewers via filter drains, attenuation basins and rain garden with minimum SUDs treatment to Cn1a753, to unnamed watercourse.

Minimum pipe cover to soffits to be per the Sewer Sector Guidance Appendix C BS 1.7.

- 0.35m - domestic gardens and pathways without vehicle access
- 0.5m - domestic driveways, parking areas and yards for vehicles >7.5T gross weight
- 0.9m - domestic driveways, parking areas, shared spaces with limited access for vehicles >7.5T gross weight
- 0.9m - agricultural land and public open space
- 1.2m - highway and parking areas with unrestricted access for vehicles >7.5T gross weight

Any pipes with cover to soffit less than those stated above are to have a Class 2 concrete pipe bed & surround.

Internal foul drain pipe minimum gradients:

- 1:80 from SVP & WC to IC
- 1:40 from Basin & Sink to IC

Refer to Architect's/ENGINEER drawings for pipe sizes and setting-out information.

Maximum Drainage Chamber Depths:

- Ø315mm PPIC - 1.2m - Type 4 (BS EN 13598-2)
- Ø450mm PPIC - 3.0m - Type 3A (BS EN 13598-2)
- Ø600mm PPIC - 3.0m - Type 3 (BS EN 13598-2)
- Ø1200mm Concrete - 6.0m (with standard detail)

All drainage to be constructed in accordance with Sewer Sector Guidance and Building Regulations Part H.

A CCTV and level survey of the as-built drainage to OS Datum and Grid is to be undertaken by the Contractor and provided to the Engineer for final approval.

Sewer details shown have been taken from STW Water sewer records. Contractor to validate drainage locations and levels prior to commencement of the works.

Construction Note:

It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions along drainage route (such as unrecorded services). If the drainage is laid from the site out to the outfall, it can result in significant abortive works to relay and overcome such obstructions.

Flow Control Chamber	Catchment Area ha	Proposed Discharge Rate l/s @ 1.5m
S19	1.626	7.98 l/s
S86	5.406	23.60 l/s
S101	1.976	8.60 l/s
S121	1.053	4.60 l/s
Total	10.222	44.60 l/s

SAFETY, HEALTH AND ENVIRONMENTAL HAZARD INFORMATION BOX

THE HAZARDS NOTED BELOW ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPES OF WORKS DETAILED ON THIS DRAWING.

CONSTRUCTION RISKS

EXISTING UNNAMED WATERCOURSE

EXISTING HIGHWAY

MAINTENANCE / CLEANING RISKS

NONE RELEVANT TO THIS DRAWING.

DEMOLITION RISKS

NONE RELEVANT TO THIS DRAWING.

NOTES

1. Invert levels of the existing ditch TBC prior to any construction works by the Contractor and Non-return flap valve installed to headwall
2. New headwall construction subject to OWC by LLFA
3. New culverts to be installed where required subject to OWC approval by LLFA
4. Adoptable foul pumping station. Location and discharge rates to be agreed with STW
5. New filter drain at the base of the noise bund to replace the existing. Discharge into the existing watercourse subject to LLFA approval
6. Existing levels do be locally lowered by 150mm, to provide flooding compensation
7. Invert levels of the existing sewer TBC by Contractor prior any works
8. Foul rising main route subject to agreement with STW and third party land owners.
9. Mesh screen to be placed over the outlet pipe of chambers during the first occupancy of the dwellings served by the sewers.
10. Overhead Power Lines
Care to be taken within extent of overhead power lines

Revision Schedule

Rev	Description of updates	Drawn	Checked	EC	JD	RM	Date
A5	Plan has been updated to suit the latest development layout received from Redrow Homes 31.07.2025	JR	TB	RM	18.08.25		
A4	Plan has been updated to suit latest development layout received from Redrow Homes 27.01.2025	AP	JD	JD	12.02.25		
A3	Plan has been updated to suit the proposed discharge rate highlighted within the FRA	JR	JD	JD	18.10.24		
A2	Plan has been updated to suit the latest development layout received from Redrow Homes 12.07.2024	JR	JD	JD	19.07.24		
A1	Issued for Approval	JR	EC	JD	16.04.24		

FOR APPROVAL

Client: Redrow Homes Limited

Project: Burbage Field Farm, Bulliflrong Lane, Hinckley

Title: Consolidated Drainage Strategy Sheet 3 of 3

Drawn: JR, Checked: EC, Approved: JD, Date: April 2024, Scale: 1:500 @ A0

Drawing No: FW2285-D-410-03, Revision: A5

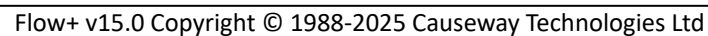
TECHNICAL NOTE



FW2285_TN_001 V2

Subject:	Technical Note responding to Leicestershire County Council Lead Local Flood Authority Planning Application Responses dated 19.03.2024		
Project Number:	FW2285	Author:	JR
Project Address:	Burbage Fields Farm, Burbage	Checked By:	TB
Date:	19 th August 2025	Approved By:	RM

APPENDIX C – HYDRAULIC CALCULATIONS



Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.132	5.00	126.691	1200	443780.322	292095.366	1.425
S2	0.059	5.00	125.148	1200	443811.651	292032.768	2.567
S3	0.086	5.00	124.103	1200	443849.024	292006.292	2.235
S4L	0.094	5.00	122.880	1200	443855.033	291965.225	1.313
S4	0.073	5.00	122.667	1200	443862.558	291967.791	1.425
S5L	0.074	5.00	121.330	1200	443866.640	291923.297	1.432
S5	0.054	5.00	121.160	1200	443875.078	291926.184	1.575
S6	0.058	5.00	120.009	1200	443886.751	291896.824	2.992
S7L	0.097	5.00	119.002	1200	443890.235	291861.968	1.644
S7	0.054	5.00	118.789	1200	443897.765	291864.526	2.454
S8L	0.042	5.00	117.863	1200	443898.054	291833.354	1.388
S8	0.041	5.00	117.728	1200	443905.256	291835.588	2.070
S9	0.088	5.00	116.862	1200	443915.687	291801.539	2.901
S11	0.107	5.00	114.742	1200	443938.239	291741.277	1.404
S12L	0.110	5.00	115.030	1200	443926.223	291757.975	1.643
S12	0.010	5.00	114.797	1200	443934.794	291760.778	2.125
S13	0.045	5.00	114.526	1200	443959.652	291769.476	2.364
S14L	0.063	5.00	115.226	1200	444010.876	291792.484	3.145
S14	0.038	5.00	115.228	1200	444011.452	291798.673	4.219
S14AL	0.123	5.00	114.800	1200	444058.661	291810.851	2.697
S14A			113.804	1200	444057.288	291794.406	3.802
S15L	0.098	5.00	112.519	1200	444098.935	291788.163	2.348
S15	0.000		112.406	1200	444104.606	291789.708	3.273
HW1	0.000		111.000		444110.468	291768.192	2.146
S16	0.037	5.00	113.645	1200	444044.465	291775.704	1.425
S17L	0.124	5.00	112.450	1200	444017.898	291738.814	1.868
S17	0.028	5.00	111.732	1200	444041.536	291736.382	1.425
S18L	0.096	5.00	111.000	1200	444080.688	291732.672	1.175
S18			111.000	1200	444080.507	291730.206	1.400
HW2			110.200		444101.211	291735.442	1.296
HW3		5.00	110.200		444130.785	291715.646	1.346
S19			110.200	2700	444136.861	291709.120	1.410
HW4			109.400		444140.891	291690.812	0.700

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S2	70.000	0.600	125.266	122.656	2.610	26.8	225	5.46	50.0
1.001	S2	S3	45.801	0.600	122.581	121.868	0.713	64.2	300	5.85	50.0
1.002	S3	S4	40.810	0.600	121.868	121.317	0.551	74.1	300	6.22	49.5
2.000	S4L	S4	10.043	0.600	121.567	121.467	0.100	100.4	150	5.17	50.0
1.003	S4	S5	43.626	0.600	121.242	119.585	1.657	26.3	375	6.43	48.7
3.000	S5L	S5	8.841	0.600	119.898	119.735	0.163	54.2	225	5.08	50.0
1.004	S5	S6	31.818	0.600	119.585	117.017	2.568	12.4	300	6.54	48.3
1.005	S6	S7	34.125	0.600	117.017	116.335	0.682	50.0	375	6.77	47.5
4.000	S7L	S7	10.210	0.600	117.358	116.560	0.798	12.8	150	5.06	50.0
1.006	S7	S8	30.074	0.600	116.335	115.733	0.602	50.0	375	6.96	46.9
5.000	S8L	S8	9.749	0.600	116.475	115.958	0.517	18.9	150	5.07	50.0
1.007	S8	S9	35.611	0.600	115.658	113.961	1.697	21.0	450	7.09	46.4
1.008	S9	S12	45.017	0.600	113.961	112.822	1.139	39.5	450	7.33	45.7
6.000	S11	S12	20.299	0.600	113.338	112.822	0.516	39.3	450	5.10	50.0
7.000	S12L	S12	9.018	0.600	113.387	113.047	0.340	26.5	225	5.06	50.0
1.009	S12	S13	26.336	0.600	112.672	112.162	0.510	51.6	600	7.45	45.3
1.010	S13	S14	57.670	0.600	112.162	111.009	1.153	50.0	600	7.73	44.4
8.000	S14L	S14	6.755	0.600	112.081	111.459	0.622	10.9	150	5.04	50.0
1.011	S14	S14A	46.034	0.600	111.009	110.002	1.007	45.7	600	7.95	43.8
44.000	S14AL	S14A	16.502	0.600	112.103	110.452	1.651	10.0	150	5.09	50.0
1.012	S14A	S15	47.551	0.600	110.002	109.133	0.869	54.7	600	8.19	43.1
9.000	S15L	S15	5.878	0.600	110.171	109.583	0.588	10.0	150	5.03	50.0
1.013	S15	HW1	22.300	0.600	109.133	108.854	0.279	79.9	600	8.32	42.8
10.000	S16	S17	40.850	0.600	112.220	110.457	1.763	23.2	225	5.25	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.536	100.8	17.9	1.200	2.267	0.132	0.0
1.001	1.964	138.9	25.9	2.267	1.935	0.191	0.0
1.002	1.829	129.3	37.2	1.935	1.050	0.277	0.0
2.000	1.002	17.7	12.7	1.163	1.050	0.094	0.0
1.003	3.543	391.3	58.7	1.050	1.200	0.444	0.0
3.000	1.779	70.8	10.0	1.207	1.200	0.074	0.0
1.004	4.490	317.4	74.9	1.275	2.692	0.572	0.0
1.005	2.566	283.4	81.2	2.617	2.079	0.630	0.0
4.000	2.831	50.0	13.1	1.494	2.079	0.097	0.0
1.006	2.568	283.7	99.2	2.079	1.620	0.781	0.0
5.000	2.330	41.2	5.7	1.238	1.620	0.042	0.0
1.007	4.453	708.2	108.7	1.620	2.451	0.864	0.0
1.008	3.241	515.5	117.9	2.451	1.525	0.952	0.0
6.000	3.249	516.7	14.5	0.954	1.525	0.107	0.0
7.000	2.550	101.4	14.9	1.418	1.525	0.110	0.0
1.009	3.393	959.5	144.7	1.525	1.764	1.179	0.0
1.010	3.448	975.0	147.4	1.764	3.619	1.224	0.0
8.000	3.074	54.3	8.5	2.995	3.619	0.063	0.0
1.011	3.608	1020.0	157.3	3.619	3.202	1.325	0.0
44.000	3.205	56.6	16.7	2.547	3.202	0.123	0.0
1.012	3.296	932.0	169.3	3.202	2.673	1.448	0.0
9.000	3.205	56.6	13.3	2.198	2.673	0.098	0.0
1.013	2.725	770.5	179.2	2.673	1.546	1.546	0.0
10.000	2.729	108.5	5.0	1.200	1.050	0.037	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.000	S17L	S17	23.763	0.600	110.582	110.457	0.125	190.1	225	5.42	50.0
10.001	S17	S18	39.457	0.600	110.307	109.600	0.707	55.8	375	5.69	50.0
12.000	S18L	S18	2.473	0.600	109.825	109.800	0.025	98.9	150	5.04	50.0
10.002	S18	HW2	21.355	0.600	109.600	109.459	0.141	151.5	375	5.93	50.0
1.014	HW3	S19	8.916	0.600	108.854	108.790	0.064	139.3	600	5.07	50.0
1.015	S19	HW4	18.747	0.600	109.165	108.700	0.465	40.3	225	5.22	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	0.945	37.6	16.8	1.643	1.050	0.124	0.0
10.001	2.429	268.3	25.6	1.050	1.025	0.189	0.0
12.000	1.010	17.9	13.0	1.025	1.050	0.096	0.0
10.002	1.470	162.3	38.6	1.025	0.366	0.285	0.0
1.014	2.061	582.7	0.0	0.746	0.810	0.000	0.0
1.015	2.066	82.1	0.0	0.810	0.475	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	70.000	26.8	225	1	126.691	125.266	1.200	125.148	122.656	2.267
1.001	45.801	64.2	300	1	125.148	122.581	2.267	124.103	121.868	1.935
1.002	40.810	74.1	300	1	124.103	121.868	1.935	122.667	121.317	1.050
2.000	10.043	100.4	150	1	122.880	121.567	1.163	122.667	121.467	1.050
1.003	43.626	26.3	375	1	122.667	121.242	1.050	121.160	119.585	1.200
3.000	8.841	54.2	225	1	121.330	119.898	1.207	121.160	119.735	1.200
1.004	31.818	12.4	300	1	121.160	119.585	1.275	120.009	117.017	2.692
1.005	34.125	50.0	375	1	120.009	117.017	2.617	118.789	116.335	2.079
4.000	10.210	12.8	150	1	119.002	117.358	1.494	118.789	116.560	2.079
1.006	30.074	50.0	375	1	118.789	116.335	2.079	117.728	115.733	1.620
5.000	9.749	18.9	150	1	117.863	116.475	1.238	117.728	115.958	1.620
1.007	35.611	21.0	450	1	117.728	115.658	1.620	116.862	113.961	2.451
1.008	45.017	39.5	450	1	116.862	113.961	2.451	114.797	112.822	1.525
6.000	20.299	39.3	450	1	114.742	113.338	0.954	114.797	112.822	1.525

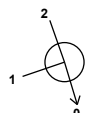
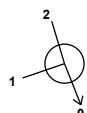
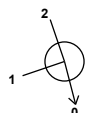
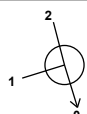
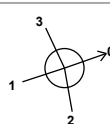
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S1	1200	Manhole	S2	1200	Manhole
1.001	S2	1200	Manhole	S3	1200	Manhole
1.002	S3	1200	Manhole	S4	1200	Manhole
2.000	S4L	1200	Manhole	S4	1200	Manhole
1.003	S4	1200	Manhole	S5	1200	Manhole
3.000	S5L	1200	Manhole	S5	1200	Manhole
1.004	S5	1200	Manhole	S6	1200	Manhole
1.005	S6	1200	Manhole	S7	1200	Manhole
4.000	S7L	1200	Manhole	S7	1200	Manhole
1.006	S7	1200	Manhole	S8	1200	Manhole
5.000	S8L	1200	Manhole	S8	1200	Manhole
1.007	S8	1200	Manhole	S9	1200	Manhole
1.008	S9	1200	Manhole	S12	1200	Manhole
6.000	S11	1200	Manhole	S12	1200	Manhole

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	9.018	26.5	225	1	115.030	113.387	1.418	114.797	113.047	1.525
1.009	26.336	51.6	600	1	114.797	112.672	1.525	114.526	112.162	1.764
1.010	57.670	50.0	600	1	114.526	112.162	1.764	115.228	111.009	3.619
8.000	6.755	10.9	150	1	115.226	112.081	2.995	115.228	111.459	3.619
1.011	46.034	45.7	600	1	115.228	111.009	3.619	113.804	110.002	3.202
44.000	16.502	10.0	150	1	114.800	112.103	2.547	113.804	110.452	3.202
1.012	47.551	54.7	600	1	113.804	110.002	3.202	112.406	109.133	2.673
9.000	5.878	10.0	150	1	112.519	110.171	2.198	112.406	109.583	2.673
1.013	22.300	79.9	600	1	112.406	109.133	2.673	111.000	108.854	1.546
10.000	40.850	23.2	225	1	113.645	112.220	1.200	111.732	110.457	1.050
11.000	23.763	190.1	225	1	112.450	110.582	1.643	111.732	110.457	1.050
10.001	39.457	55.8	375	1	111.732	110.307	1.050	111.000	109.600	1.025
12.000	2.473	98.9	150	1	111.000	109.825	1.025	111.000	109.800	1.050
10.002	21.355	151.5	375	1	111.000	109.600	1.025	110.200	109.459	0.366
1.014	8.916	139.3	600	1	110.200	108.854	0.746	110.200	108.790	0.810
1.015	18.747	40.3	225	1	110.200	109.165	0.810	109.400	108.700	0.475

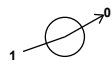
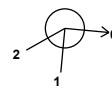
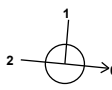
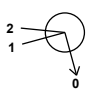
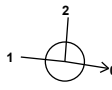
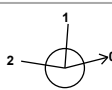
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
7.000	S12L	1200	Manhole	S12	1200	Manhole
1.009	S12	1200	Manhole	S13	1200	Manhole
1.010	S13	1200	Manhole	S14	1200	Manhole
8.000	S14L	1200	Manhole	S14	1200	Manhole
1.011	S14	1200	Manhole	S14A	1200	Manhole
44.000	S14AL	1200	Manhole	S14A	1200	Manhole
1.012	S14A	1200	Manhole	S15	1200	Manhole
9.000	S15L	1200	Manhole	S15	1200	Manhole
1.013	S15	1200	Manhole	HW1		Manhole
10.000	S16	1200	Manhole	S17	1200	Manhole
11.000	S17L	1200	Manhole	S17	1200	Manhole
10.001	S17	1200	Manhole	S18	1200	Manhole
12.000	S18L	1200	Manhole	S18	1200	Manhole
10.002	S18	1200	Manhole	HW2		Manhole
1.014	HW3		Manhole	S19	2700	Manhole
1.015	S19	2700	Manhole	HW4		Manhole

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S1	443780.322	292095.366	126.691	1.425	1200	1		0	1.000	125.266	225
S2	443811.651	292032.768	125.148	2.567	1200	1		1	1.000	122.656	225
								0	1.001	122.581	300
S3	443849.024	292006.292	124.103	2.235	1200	1		1	1.001	121.868	300
								0	1.002	121.868	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S4L	443855.033	291965.225	122.880	1.313	1200	1		0	2.000	121.567	150
S4	443862.558	291967.791	122.667	1.425	1200	1		1	2.000	121.467	150
								2	1.002	121.317	300
								0	1.003	121.242	375
S5L	443866.640	291923.297	121.330	1.432	1200	1		0	3.000	119.898	225
S5	443875.078	291926.184	121.160	1.575	1200	1		1	3.000	119.735	225
								2	1.003	119.585	375
								0	1.004	119.585	300
S6	443886.751	291896.824	120.009	2.992	1200	1		1	1.004	117.017	300
								0	1.005	117.017	375
S7L	443890.235	291861.968	119.002	1.644	1200	1		0	4.000	117.358	150
S7	443897.765	291864.526	118.789	2.454	1200	1		1	4.000	116.560	150
								2	1.005	116.335	375
								0	1.006	116.335	375
S8L	443898.054	291833.354	117.863	1.388	1200	1		0	5.000	116.475	150
S8	443905.256	291835.588	117.728	2.070	1200	1		1	5.000	115.958	150
								2	1.006	115.733	375
								0	1.007	115.658	450
S9	443915.687	291801.539	116.862	2.901	1200	1		1	1.007	113.961	450
								0	1.008	113.961	450
S11	443938.239	291741.277	114.742	1.404	1200	1		0	6.000	113.338	450
S12L	443926.223	291757.975	115.030	1.643	1200	1		0	7.000	113.387	225
S12	443934.794	291760.778	114.797	2.125	1200	1		1	7.000	113.047	225
								2	6.000	112.822	450
								3	1.008	112.822	450
								0	1.009	112.672	600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S13	443959.652	291769.476	114.526	2.364	1200	1		1	1.009	112.162	600
								0	1.010	112.162	600
S14L	444010.876	291792.484	115.226	3.145	1200	1					
								0	8.000	112.081	150
S14	444011.452	291798.673	115.228	4.219	1200	1		1	8.000	111.459	150
								2	1.010	111.009	600
								0	1.011	111.009	600
S14AL	444058.661	291810.851	114.800	2.697	1200	1					
								0	44.000	112.103	150
S14A	444057.288	291794.406	113.804	3.802	1200	1		1	44.000	110.452	150
								2	1.011	110.002	600
								0	1.012	110.002	600
S15L	444098.935	291788.163	112.519	2.348	1200	1					
								0	9.000	110.171	150
S15	444104.606	291789.708	112.406	3.273	1200	1		1	9.000	109.583	150
								2	1.012	109.133	600
								0	1.013	109.133	600
HW1	444110.468	291768.192	111.000	2.146		1		1	1.013	108.854	600
S16	444044.465	291775.704	113.645	1.425	1200	1					
								0	10.000	112.220	225
S17L	444017.898	291738.814	112.450	1.868	1200	1					
								0	11.000	110.582	225
S17	444041.536	291736.382	111.732	1.425	1200	1		1	11.000	110.457	225
								2	10.000	110.457	225
								0	10.001	110.307	375
S18L	444080.688	291732.672	111.000	1.175	1200	1					
								0	12.000	109.825	150
S18	444080.507	291730.206	111.000	1.400	1200	1		1	12.000	109.800	150
								2	10.001	109.600	375
								0	10.002	109.600	375

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	827.0	0.0	1.191	1315.0	0.0	1.192	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.338	0.072	22.9	0.0811	0.0000	OK
15 minute summer	S2	11	122.679	0.097	32.5	0.1102	0.0000	OK
15 minute summer	S3	11	121.992	0.124	46.9	0.1398	0.0000	OK
15 minute summer	S4L	10	121.679	0.112	16.3	0.1266	0.0000	OK
15 minute summer	S4	11	121.352	0.110	74.7	0.1242	0.0000	OK
15 minute summer	S5L	10	119.962	0.064	12.8	0.0728	0.0000	OK
15 minute summer	S5	11	119.697	0.112	96.0	0.1271	0.0000	OK
15 minute summer	S6	11	117.174	0.157	105.9	0.1773	0.0000	OK
15 minute summer	S7L	10	117.418	0.060	16.8	0.0677	0.0000	OK
15 minute summer	S7	11	116.512	0.177	131.1	0.1999	0.0000	OK
15 minute summer	S8L	10	116.518	0.043	7.3	0.0483	0.0000	OK
15 minute summer	S8	11	115.794	0.136	145.4	0.1542	0.0000	OK
15 minute summer	S9	11	114.131	0.169	160.1	0.1917	0.0000	OK
15 minute summer	S11	10	113.396	0.058	18.6	0.0651	0.0000	OK
15 minute summer	S12L	10	113.453	0.066	19.1	0.0745	0.0000	OK
15 minute summer	S12	11	112.853	0.181	197.8	0.2046	0.0000	OK
15 minute summer	S13	11	112.345	0.183	205.2	0.2067	0.0000	OK
15 minute summer	S14L	10	112.127	0.046	10.9	0.0516	0.0000	OK
15 minute summer	S14	11	111.194	0.185	221.7	0.2096	0.0000	OK
15 minute summer	S14AL	10	112.167	0.064	21.3	0.0721	0.0000	OK
15 minute summer	S14A	11	110.204	0.202	240.6	0.2289	0.0000	OK
15 minute summer	S15L	10	110.227	0.056	17.0	0.0638	0.0000	OK
1440 minute summer	S15	1470	109.416	0.283	31.5	0.3203	0.0000	OK
1440 minute summer	HW1	1470	109.416	0.562	19.2	0.0000	0.0000	OK
15 minute summer	S16	10	112.257	0.037	6.4	0.0415	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	22.3	2.055	0.221	0.7602	
15 minute summer	S2	1.001	S3	32.2	1.380	0.232	1.0805	
15 minute summer	S3	1.002	S4	46.9	1.713	0.363	1.1170	
15 minute summer	S4L	2.000	S4	16.1	1.144	0.909	0.1414	
15 minute summer	S4	1.003	S5	74.9	2.744	0.191	1.1901	
15 minute summer	S5L	3.000	S5	12.7	1.361	0.180	0.0826	
15 minute summer	S5	1.004	S6	96.3	3.147	0.303	0.9754	
15 minute summer	S6	1.005	S7	106.1	2.243	0.374	1.6151	
15 minute summer	S7L	4.000	S7	16.7	2.553	0.334	0.0669	
15 minute summer	S7	1.006	S8	131.6	2.578	0.464	1.5358	
15 minute summer	S8L	5.000	S8	7.2	1.758	0.176	0.0402	
15 minute summer	S8	1.007	S9	145.4	3.066	0.205	1.6923	
15 minute summer	S9	1.008	S12	160.0	2.934	0.310	2.4545	
15 minute summer	S11	6.000	S12	18.4	1.567	0.036	0.2387	
15 minute summer	S12L	7.000	S12	19.0	1.972	0.187	0.0870	
15 minute summer	S12	1.009	S13	197.8	2.747	0.206	1.8964	
15 minute summer	S13	1.010	S14	204.9	2.799	0.210	4.2223	
15 minute summer	S14L	8.000	S14	10.9	2.404	0.200	0.0305	
15 minute summer	S14	1.011	S14A	220.2	2.798	0.216	3.6229	
15 minute summer	S14AL	44.000	S14A	21.2	2.978	0.374	0.1174	
15 minute summer	S14A	1.012	S15	238.1	2.583	0.255	4.3869	
15 minute summer	S15L	9.000	S15	16.9	2.805	0.299	0.0355	
1440 minute summer	S15	1.013	HW1	19.2	0.287	0.025	4.5177	
1440 minute summer	HW1	Flow through Pond	HW3	-25.3	0.018	-0.001	503.6849	
15 minute summer	S16	10.000	S17	6.3	1.496	0.058	0.1711	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.702	0.120	21.5	0.1356	0.0000	OK
15 minute summer	S17	10	110.393	0.086	32.3	0.0978	0.0000	OK
15 minute summer	S18L	10	109.938	0.113	16.6	0.1282	0.0000	OK
15 minute summer	S18	11	109.738	0.138	48.5	0.1564	0.0000	OK
1440 minute summer	HW2	1470	109.420	0.516	11.5	0.0000	0.0000	OK
1440 minute summer	HW3	1500	109.416	0.562	11.6	0.0000	0.0000	OK
1440 minute summer	S19	1500	109.416	0.626	0.7	3.5856	0.0000	SURCHARGED
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	21.1	0.988	0.563	0.5098	
15 minute summer	S17	10.001	S18	32.0	1.162	0.119	1.1046	
15 minute summer	S18L	12.000	S18	16.5	1.156	0.924	0.0353	
15 minute summer	S18	10.002	HW2	48.6	1.318	0.300	0.7882	
1440 minute summer	HW2	Flow through Pond	HW3	-25.3	0.018	-0.001	503.6849	
1440 minute summer	HW3	1.014	S19	0.7	0.118	0.001	2.4788	
1440 minute summer	S19	1.015	HW4	0.2	0.005	0.002	0.7456	2.9

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.368	0.102	43.4	0.1150	0.0000	OK
15 minute summer	S2	10	122.719	0.138	61.9	0.1562	0.0000	OK
15 minute summer	S3	11	122.049	0.181	89.6	0.2044	0.0000	OK
15 minute summer	S4L	10	121.912	0.345	30.9	0.3901	0.0000	SURCHARGED
15 minute summer	S4	11	121.397	0.154	142.2	0.1747	0.0000	OK
15 minute summer	S5L	10	119.989	0.090	24.4	0.1023	0.0000	OK
15 minute summer	S5	11	119.747	0.162	182.9	0.1833	0.0000	OK
15 minute summer	S6	11	117.247	0.230	201.7	0.2602	0.0000	OK
15 minute summer	S7L	10	117.445	0.087	31.9	0.0984	0.0000	OK
15 minute summer	S7	11	116.603	0.268	249.9	0.3033	0.0000	OK
15 minute summer	S8L	10	116.535	0.060	13.8	0.0676	0.0000	OK
15 minute summer	S8	11	115.850	0.192	277.3	0.2176	0.0000	OK
15 minute summer	S9	11	114.206	0.245	305.1	0.2769	0.0000	OK
15 minute summer	S11	10	113.416	0.078	35.2	0.0887	0.0000	OK
15 minute summer	S12L	10	113.479	0.092	36.2	0.1045	0.0000	OK
15 minute summer	S12	11	112.927	0.255	377.3	0.2887	0.0000	OK
15 minute summer	S13	11	112.420	0.258	391.6	0.2920	0.0000	OK
15 minute summer	S14L	10	112.145	0.064	20.7	0.0727	0.0000	OK
15 minute summer	S14	11	111.272	0.263	423.3	0.2972	0.0000	OK
15 minute summer	S14AL	10	112.197	0.094	40.5	0.1061	0.0000	OK
15 minute summer	S14A	11	110.292	0.290	461.3	0.3282	0.0000	OK
15 minute summer	S15L	10	110.252	0.081	32.3	0.0919	0.0000	OK
1440 minute summer	S15	1020	109.573	0.440	47.0	0.4975	0.0000	OK
1440 minute summer	HW1	990	109.572	0.718	46.4	0.0000	0.0000	OK
15 minute summer	S16	10	112.270	0.050	12.2	0.0570	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	42.5	2.449	0.422	1.2161	
15 minute summer	S2	1.001	S3	61.3	1.622	0.442	1.7378	
15 minute summer	S3	1.002	S4	89.3	2.012	0.691	1.8113	
15 minute summer	S4L	2.000	S4	30.3	1.722	1.711	0.1750	
15 minute summer	S4	1.003	S5	142.5	3.228	0.364	1.9268	
15 minute summer	S5L	3.000	S5	24.3	1.628	0.343	0.1317	
15 minute summer	S5	1.004	S6	183.5	3.763	0.578	1.5397	
15 minute summer	S6	1.005	S7	202.2	2.602	0.713	2.6480	
15 minute summer	S7L	4.000	S7	31.8	3.003	0.635	0.1080	
15 minute summer	S7	1.006	S8	251.1	2.976	0.885	2.5379	
15 minute summer	S8L	5.000	S8	13.7	2.101	0.333	0.0637	
15 minute summer	S8	1.007	S9	277.5	3.635	0.392	2.7200	
15 minute summer	S9	1.008	S12	305.8	3.471	0.593	3.9656	
15 minute summer	S11	6.000	S12	35.0	1.816	0.068	0.4680	
15 minute summer	S12L	7.000	S12	36.0	2.354	0.356	0.1381	
15 minute summer	S12	1.009	S13	377.4	3.280	0.393	3.0306	
15 minute summer	S13	1.010	S14	391.5	3.338	0.402	6.7643	
15 minute summer	S14L	8.000	S14	20.6	2.868	0.380	0.0486	
15 minute summer	S14	1.011	S14A	422.5	3.332	0.414	5.8380	
15 minute summer	S14AL	44.000	S14A	40.3	3.484	0.711	0.1909	
15 minute summer	S14A	1.012	S15	459.6	3.084	0.493	7.0856	
15 minute summer	S15L	9.000	S15	32.2	3.312	0.569	0.0571	
1440 minute summer	S15	1.013	HW1	46.4	0.388	0.060	5.6094	
1440 minute summer	HW1	Flow through Pond	HW3	-33.8	0.049	-0.001	671.9689	
15 minute summer	S16	10.000	S17	12.0	1.812	0.111	0.2704	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.770	0.188	40.8	0.2131	0.0000	OK
15 minute summer	S17	10	110.427	0.120	61.2	0.1355	0.0000	OK
15 minute summer	S18L	10	110.027	0.202	31.6	0.2285	0.0000	SURCHARGED
15 minute summer	S18	11	109.798	0.198	92.2	0.2242	0.0000	OK
1440 minute summer	HW2	1020	109.572	0.668	11.3	0.0000	0.0000	OK
1440 minute summer	HW3	1020	109.572	0.718	33.3	0.0000	0.0000	SURCHARGED
1440 minute summer	S19	1020	109.572	0.782	7.1	4.4785	0.0000	SURCHARGED
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	40.0	1.192	1.066	0.7996	
15 minute summer	S17	10.001	S18	60.8	1.370	0.227	1.7622	
15 minute summer	S18L	12.000	S18	31.4	1.785	1.760	0.0431	
15 minute summer	S18	10.002	HW2	92.2	1.558	0.568	1.2641	
1440 minute summer	HW2	Flow through Pond	HW3	-33.8	0.049	-0.001	671.9689	
1440 minute summer	HW3	1.014	S19	7.1	0.239	0.012	2.5114	
1440 minute summer	S19	1.015	HW4	7.1	0.179	0.086	0.7456	315.1

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.413	0.147	78.8	0.1665	0.0000	OK
15 minute summer	S2	11	122.805	0.224	112.8	0.2532	0.0000	OK
15 minute summer	S3	11	122.428	0.560	161.4	0.6336	0.0000	SURCHARGED
15 minute summer	S4L	11	122.582	1.015	56.2	1.1479	0.0000	FLOOD RISK
15 minute summer	S4	12	121.474	0.232	254.8	0.2626	0.0000	OK
15 minute summer	S5L	12	120.697	0.799	44.3	0.9032	0.0000	SURCHARGED
15 minute summer	S5	12	120.654	1.069	315.6	1.2092	0.0000	SURCHARGED
15 minute summer	S6	12	118.236	1.218	327.0	1.3781	0.0000	SURCHARGED
15 minute summer	S7L	11	118.311	0.953	58.0	1.0773	0.0000	SURCHARGED
15 minute summer	S7	12	117.297	0.962	404.2	1.0875	0.0000	SURCHARGED
15 minute summer	S8L	10	116.560	0.085	25.1	0.0956	0.0000	OK
15 minute summer	S8	11	115.913	0.255	450.0	0.2887	0.0000	OK
15 minute summer	S9	10	114.306	0.345	499.5	0.3903	0.0000	OK
15 minute summer	S11	10	113.443	0.105	64.0	0.1190	0.0000	OK
15 minute summer	S12L	10	113.518	0.131	65.8	0.1483	0.0000	OK
15 minute summer	S12	10	113.018	0.346	625.3	0.3918	0.0000	OK
15 minute summer	S13	10	112.511	0.349	650.3	0.3944	0.0000	OK
15 minute summer	S14L	10	112.173	0.092	37.7	0.1041	0.0000	OK
15 minute summer	S14	11	111.368	0.359	708.6	0.4056	0.0000	OK
15 minute summer	S14AL	11	113.153	1.050	73.5	1.1877	0.0000	SURCHARGED
15 minute summer	S14A	11	110.411	0.409	780.5	0.4627	0.0000	OK
15 minute summer	S15L	10	110.297	0.126	58.6	0.1421	0.0000	OK
1440 minute summer	S15	1320	110.031	0.897	57.9	1.0151	0.0000	SURCHARGED
1440 minute summer	HW1	1290	110.030	1.176	57.1	0.0000	0.0000	OK
15 minute summer	S16	10	112.288	0.068	22.1	0.0772	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	77.5	2.821	0.769	1.9229	
15 minute summer	S2	1.001	S3	110.0	1.791	0.792	2.9039	
15 minute summer	S3	1.002	S4	158.7	2.253	1.228	2.8446	
15 minute summer	S4L	2.000	S4	54.5	3.096	3.077	0.1750	
15 minute summer	S4	1.003	S5	250.4	3.491	0.640	3.9689	
15 minute summer	S5L	3.000	S5	41.9	1.859	0.593	0.3516	
15 minute summer	S5	1.004	S6	299.7	4.256	0.944	2.2406	
15 minute summer	S6	1.005	S7	328.0	2.974	1.157	3.7639	
15 minute summer	S7L	4.000	S7	54.1	3.174	1.081	0.1797	
15 minute summer	S7	1.006	S8	405.2	3.674	1.428	3.2835	
15 minute summer	S8L	5.000	S8	25.0	2.446	0.607	0.0996	
15 minute summer	S8	1.007	S9	449.3	4.011	0.634	3.9745	
15 minute summer	S9	1.008	S12	495.3	3.820	0.961	5.8614	
15 minute summer	S11	6.000	S12	63.7	1.778	0.123	0.9601	
15 minute summer	S12L	7.000	S12	65.6	2.736	0.647	0.2161	
15 minute summer	S12	1.009	S13	624.5	3.712	0.651	4.4562	
15 minute summer	S13	1.010	S14	650.9	3.768	0.668	9.9637	
15 minute summer	S14L	8.000	S14	37.6	3.322	0.692	0.0764	
15 minute summer	S14	1.011	S14A	711.3	3.737	0.697	8.7559	
15 minute summer	S14AL	44.000	S14A	69.2	3.929	1.221	0.2903	
15 minute summer	S14A	1.012	S15	787.7	3.363	0.845	11.0432	
15 minute summer	S15L	9.000	S15	58.3	3.598	1.030	0.0980	
1440 minute summer	S15	1.013	HW1	57.1	0.532	0.074	6.2814	
1440 minute summer	HW1	Flow through Pond	HW3	37.9	0.040	0.002	1220.8445	
15 minute summer	S16	10.000	S17	21.8	2.152	0.201	0.4143	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	111.144	0.562	74.1	0.6353	0.0000	SURCHARGED
15 minute summer	S17	10	110.473	0.166	111.8	0.1876	0.0000	OK
15 minute summer	S18L	10	110.220	0.395	57.4	0.4470	0.0000	SURCHARGED
1440 minute summer	S18	1230	110.031	0.431	10.8	0.4877	0.0000	SURCHARGED
1440 minute summer	HW2	1260	110.035	1.131	13.9	0.0000	0.0000	OK
1440 minute summer	HW3	1260	110.028	1.174	37.9	0.0000	0.0000	FLOOD RISK
1440 minute summer	S19	1260	110.028	1.238	8.0	7.0906	0.0000	FLOOD RISK
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	73.3	1.843	1.951	0.9324	
15 minute summer	S17	10.001	S18	111.2	1.538	0.414	2.8093	
15 minute summer	S18L	12.000	S18	56.9	3.232	3.187	0.0431	
1440 minute summer	S18	10.002	HW2	10.7	0.807	0.066	2.3554	
1440 minute summer	HW2	Flow through Pond	HW3	37.9	0.040	0.002	1220.8445	
1440 minute summer	HW3	1.014	S19	8.0	0.269	0.014	2.5114	
1440 minute summer	S19	1.015	HW4	7.8	0.195	0.095	0.7456	441.5

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.132	5.00	126.691	1200	443780.322	292095.366	1.425
S2	0.059	5.00	125.148	1200	443811.651	292032.768	2.567
S3	0.086	5.00	124.103	1200	443849.024	292006.292	2.235
S4L	0.094	5.00	122.880	1200	443855.033	291965.225	1.313
S4	0.073	5.00	122.667	1200	443862.558	291967.791	1.425
S5L	0.074	5.00	121.330	1200	443866.640	291923.297	1.432
S5	0.054	5.00	121.160	1200	443875.078	291926.184	1.575
S6	0.058	5.00	120.009	1200	443886.751	291896.824	2.992
S7L	0.097	5.00	119.002	1200	443890.235	291861.968	1.644
S7	0.054	5.00	118.789	1200	443897.765	291864.526	2.454
S8L	0.042	5.00	117.863	1200	443898.054	291833.354	1.388
S8	0.041	5.00	117.728	1200	443905.256	291835.588	2.070
S9	0.088	5.00	116.862	1200	443915.687	291801.539	2.901
S11	0.107	5.00	114.742	1200	443938.239	291741.277	1.404
S12L	0.110	5.00	115.030	1200	443926.223	291757.975	1.643
S12	0.010	5.00	114.797	1200	443934.794	291760.778	2.125
S13	0.045	5.00	114.526	1200	443959.652	291769.476	2.364
S14L	0.063	5.00	115.226	1200	444010.876	291792.484	3.145
S14	0.038	5.00	115.228	1200	444011.452	291798.673	4.219
S14AL	0.123	5.00	114.800	1200	444058.661	291810.851	2.697
S14A			113.804	1200	444057.288	291794.406	3.802
S15L	0.098	5.00	112.519	1200	444098.935	291788.163	2.348
S15	0.000		112.406	1200	444104.606	291789.708	3.273
HW1	0.000		111.000		444110.468	291768.192	2.146
S16	0.037	5.00	113.645	1200	444044.465	291775.704	1.425
S17L	0.124	5.00	112.450	1200	444017.898	291738.814	1.868
S17	0.028	5.00	111.732	1200	444041.536	291736.382	1.425
S18L	0.096	5.00	111.000	1200	444080.688	291732.672	1.175
S18			111.000	1200	444080.507	291730.206	1.400
HW2			110.200		444101.211	291735.442	1.296
HW3		5.00	110.200		444130.785	291715.646	1.346
S19			110.200	2700	444136.861	291709.120	1.410
HW4			109.400		444140.891	291690.812	0.700

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S2	70.000	0.600	125.266	122.656	2.610	26.8	225	5.46	50.0
1.001	S2	S3	45.801	0.600	122.581	121.868	0.713	64.2	300	5.85	50.0
1.002	S3	S4	40.810	0.600	121.868	121.317	0.551	74.1	300	6.22	49.5
2.000	S4L	S4	7.950	0.600	121.567	121.467	0.100	79.5	150	5.12	50.0
1.003	S4	S5	43.450	0.600	121.242	119.585	1.657	26.2	375	6.42	48.7
3.000	S5L	S5	8.918	0.600	119.898	119.735	0.163	54.7	225	5.08	50.0
1.004	S5	S6	31.595	0.600	119.585	117.017	2.568	12.3	300	6.54	48.3
1.005	S6	S7	34.124	0.600	117.017	116.335	0.682	50.0	375	6.76	47.5
4.000	S7L	S7	7.953	0.600	117.358	116.560	0.798	10.0	150	5.04	50.0
1.006	S7	S8	29.892	0.600	116.335	115.733	0.602	49.7	375	6.96	46.9
5.000	S8L	S8	7.541	0.600	116.475	115.958	0.517	14.6	150	5.05	50.0
1.007	S8	S9	35.611	0.600	115.658	113.961	1.697	21.0	450	7.09	46.4
1.008	S9	S12	45.017	0.600	113.961	112.822	1.139	39.5	450	7.32	45.7
6.000	S11	S12	19.803	0.600	113.338	112.822	0.516	38.4	450	5.10	50.0
7.000	S12L	S12	9.018	0.600	113.387	113.047	0.340	26.5	225	5.06	50.0
1.009	S12	S13	26.336	0.600	112.672	112.162	0.510	51.6	600	7.45	45.3
1.010	S13	S14	59.462	0.600	112.162	111.009	1.153	51.6	600	7.74	44.4
8.000	S14L	S14	6.216	0.600	112.081	111.459	0.622	10.0	150	5.03	50.0
1.011	S14	S14A	46.034	0.600	111.009	110.002	1.007	45.7	600	7.96	43.8
44.000	S14AL	S14A	16.502	0.600	112.103	110.452	1.651	10.0	150	5.09	50.0
1.012	S14A	S15	47.551	0.600	110.002	109.133	0.869	54.7	600	8.20	43.1
9.000	S15L	S15	5.878	0.600	110.171	109.583	0.588	10.0	150	5.03	50.0
1.013	S15	HW1	22.300	0.600	109.133	108.854	0.279	79.9	600	8.33	42.7
10.000	S16	S17	39.431	0.600	112.220	110.457	1.763	22.4	225	5.24	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.536	100.8	17.9	1.200	2.267	0.132	0.0
1.001	1.964	138.9	25.9	2.267	1.935	0.191	0.0
1.002	1.829	129.3	37.2	1.935	1.050	0.277	0.0
2.000	1.128	19.9	12.7	1.163	1.050	0.094	0.0
1.003	3.550	392.1	58.7	1.050	1.200	0.444	0.0
3.000	1.772	70.4	10.0	1.207	1.200	0.074	0.0
1.004	4.505	318.5	74.9	1.275	2.692	0.572	0.0
1.005	2.566	283.4	81.2	2.617	2.079	0.630	0.0
4.000	3.210	56.7	13.1	1.494	2.079	0.097	0.0
1.006	2.576	284.5	99.2	2.079	1.620	0.781	0.0
5.000	2.651	46.8	5.7	1.238	1.620	0.042	0.0
1.007	4.453	708.2	108.8	1.620	2.451	0.864	0.0
1.008	3.241	515.5	117.9	2.451	1.525	0.952	0.0
6.000	3.289	523.1	14.5	0.954	1.525	0.107	0.0
7.000	2.550	101.4	14.9	1.418	1.525	0.110	0.0
1.009	3.393	959.5	144.7	1.525	1.764	1.179	0.0
1.010	3.396	960.1	147.3	1.764	3.619	1.224	0.0
8.000	3.205	56.6	8.5	2.995	3.619	0.063	0.0
1.011	3.608	1020.0	157.2	3.619	3.202	1.325	0.0
44.000	3.205	56.6	16.7	2.547	3.202	0.123	0.0
1.012	3.296	932.0	169.2	3.202	2.673	1.448	0.0
9.000	3.205	56.6	13.3	2.198	2.673	0.098	0.0
1.013	2.725	770.5	179.1	2.673	1.546	1.546	0.0
10.000	2.778	110.5	5.0	1.200	1.050	0.037	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.000	S17L	S17	23.763	0.600	110.582	110.457	0.125	190.1	225	5.42	50.0
10.001	S17	S18	39.457	0.600	110.307	109.600	0.707	55.8	375	5.69	50.0
12.000	S18L	S18	2.473	0.600	109.825	109.800	0.025	98.9	150	5.04	50.0
10.002	S18	HW2	21.356	0.600	109.600	109.459	0.141	151.5	375	5.93	50.0
1.014	HW3	S19	8.917	0.600	108.854	108.790	0.064	139.3	600	5.07	50.0
1.015	S19	HW4	18.746	0.600	109.165	108.700	0.465	40.3	225	5.22	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	0.945	37.6	16.8	1.643	1.050	0.124	0.0
10.001	2.429	268.3	25.6	1.050	1.025	0.189	0.0
12.000	1.010	17.9	13.0	1.025	1.050	0.096	0.0
10.002	1.470	162.3	38.6	1.025	0.366	0.285	0.0
1.014	2.061	582.7	0.0	0.746	0.810	0.000	0.0
1.015	2.066	82.1	0.0	0.810	0.475	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	70.000	26.8	225	1	126.691	125.266	1.200	125.148	122.656	2.267
1.001	45.801	64.2	300	1	125.148	122.581	2.267	124.103	121.868	1.935
1.002	40.810	74.1	300	1	124.103	121.868	1.935	122.667	121.317	1.050
2.000	7.950	79.5	150	1	122.880	121.567	1.163	122.667	121.467	1.050
1.003	43.450	26.2	375	1	122.667	121.242	1.050	121.160	119.585	1.200
3.000	8.918	54.7	225	1	121.330	119.898	1.207	121.160	119.735	1.200
1.004	31.595	12.3	300	1	121.160	119.585	1.275	120.009	117.017	2.692
1.005	34.124	50.0	375	1	120.009	117.017	2.617	118.789	116.335	2.079
4.000	7.953	10.0	150	1	119.002	117.358	1.494	118.789	116.560	2.079
1.006	29.892	49.7	375	1	118.789	116.335	2.079	117.728	115.733	1.620
5.000	7.541	14.6	150	1	117.863	116.475	1.238	117.728	115.958	1.620
1.007	35.611	21.0	450	1	117.728	115.658	1.620	116.862	113.961	2.451
1.008	45.017	39.5	450	1	116.862	113.961	2.451	114.797	112.822	1.525
6.000	19.803	38.4	450	1	114.742	113.338	0.954	114.797	112.822	1.525

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S1	1200	Manhole	S2	1200	Manhole
1.001	S2	1200	Manhole	S3	1200	Manhole
1.002	S3	1200	Manhole	S4	1200	Manhole
2.000	S4L	1200	Manhole	S4	1200	Manhole
1.003	S4	1200	Manhole	S5	1200	Manhole
3.000	S5L	1200	Manhole	S5	1200	Manhole
1.004	S5	1200	Manhole	S6	1200	Manhole
1.005	S6	1200	Manhole	S7	1200	Manhole
4.000	S7L	1200	Manhole	S7	1200	Manhole
1.006	S7	1200	Manhole	S8	1200	Manhole
5.000	S8L	1200	Manhole	S8	1200	Manhole
1.007	S8	1200	Manhole	S9	1200	Manhole
1.008	S9	1200	Manhole	S12	1200	Manhole
6.000	S11	1200	Manhole	S12	1200	Manhole

Pipeline Schedule

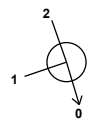
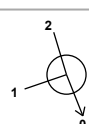
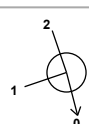
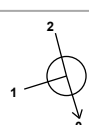
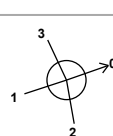
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	9.018	26.5	225	1	115.030	113.387	1.418	114.797	113.047	1.525
1.009	26.336	51.6	600	1	114.797	112.672	1.525	114.526	112.162	1.764
1.010	59.462	51.6	600	1	114.526	112.162	1.764	115.228	111.009	3.619
8.000	6.216	10.0	150	1	115.226	112.081	2.995	115.228	111.459	3.619
1.011	46.034	45.7	600	1	115.228	111.009	3.619	113.804	110.002	3.202
44.000	16.502	10.0	150	1	114.800	112.103	2.547	113.804	110.452	3.202
1.012	47.551	54.7	600	1	113.804	110.002	3.202	112.406	109.133	2.673
9.000	5.878	10.0	150	1	112.519	110.171	2.198	112.406	109.583	2.673
1.013	22.300	79.9	600	1	112.406	109.133	2.673	111.000	108.854	1.546
10.000	39.431	22.4	225	1	113.645	112.220	1.200	111.732	110.457	1.050
11.000	23.763	190.1	225	1	112.450	110.582	1.643	111.732	110.457	1.050
10.001	39.457	55.8	375	1	111.732	110.307	1.050	111.000	109.600	1.025
12.000	2.473	98.9	150	1	111.000	109.825	1.025	111.000	109.800	1.050
10.002	21.356	151.5	375	1	111.000	109.600	1.025	110.200	109.459	0.366
1.014	8.917	139.3	600	1	110.200	108.854	0.746	110.200	108.790	0.810
1.015	18.746	40.3	225	1	110.200	109.165	0.810	109.400	108.700	0.475

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
7.000	S12L	1200	Manhole	S12	1200	Manhole
1.009	S12	1200	Manhole	S13	1200	Manhole
1.010	S13	1200	Manhole	S14	1200	Manhole
8.000	S14L	1200	Manhole	S14	1200	Manhole
1.011	S14	1200	Manhole	S14A	1200	Manhole
44.000	S14AL	1200	Manhole	S14A	1200	Manhole
1.012	S14A	1200	Manhole	S15	1200	Manhole
9.000	S15L	1200	Manhole	S15	1200	Manhole
1.013	S15	1200	Manhole	HW1		Manhole
10.000	S16	1200	Manhole	S17	1200	Manhole
11.000	S17L	1200	Manhole	S17	1200	Manhole
10.001	S17	1200	Manhole	S18	1200	Manhole
12.000	S18L	1200	Manhole	S18	1200	Manhole
10.002	S18	1200	Manhole	HW2		Manhole
1.014	HW3		Manhole	S19	2700	Manhole
1.015	S19	2700	Manhole	HW4		Manhole

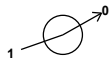
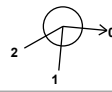
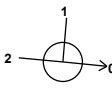
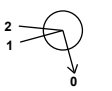
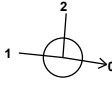
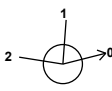
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S1	443780.322	292095.366	126.691	1.425	1200	1		0	1.000	125.266	225
S2	443811.651	292032.768	125.148	2.567	1200	1		1	1.000	122.656	225
S3	443849.024	292006.292	124.103	2.235	1200	1		0	1.001	122.581	300
								1	1.001	121.868	300
								0	1.002	121.868	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S4L	443855.033	291965.225	122.880	1.313	1200	1		0	2.000	121.567	150
S4	443862.558	291967.791	122.667	1.425	1200	1		1	2.000	121.467	150
								2	1.002	121.317	300
								0	1.003	121.242	375
S5L	443866.640	291923.297	121.330	1.432	1200	1		0	3.000	119.898	225
S5	443875.078	291926.184	121.160	1.575	1200	1		1	3.000	119.735	225
								2	1.003	119.585	375
								0	1.004	119.585	300
S6	443886.751	291896.824	120.009	2.992	1200	1		1	1.004	117.017	300
								0	1.005	117.017	375
S7L	443890.235	291861.968	119.002	1.644	1200	1		0	4.000	117.358	150
S7	443897.765	291864.526	118.789	2.454	1200	1		1	4.000	116.560	150
								2	1.005	116.335	375
								0	1.006	116.335	375
S8L	443898.054	291833.354	117.863	1.388	1200	1		0	5.000	116.475	150
S8	443905.256	291835.588	117.728	2.070	1200	1		1	5.000	115.958	150
								2	1.006	115.733	375
								0	1.007	115.658	450
S9	443915.687	291801.539	116.862	2.901	1200	1		1	1.007	113.961	450
								0	1.008	113.961	450
S11	443938.239	291741.277	114.742	1.404	1200	1		0	6.000	113.338	450
S12L	443926.223	291757.975	115.030	1.643	1200	1		0	7.000	113.387	225
S12	443934.794	291760.778	114.797	2.125	1200	1		1	7.000	113.047	225
								2	6.000	112.822	450
								3	1.008	112.822	450
								0	1.009	112.672	600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S13	443959.652	291769.476	114.526	2.364	1200	1		1 1.009	112.162	600
								0 1.010	112.162	600
S14L	444010.876	291792.484	115.226	3.145	1200	1		0 8.000	112.081	150
S14	444011.452	291798.673	115.228	4.219	1200	1		1 8.000	111.459	150
								2 1.010	111.009	600
								0 1.011	111.009	600
S14AL	444058.661	291810.851	114.800	2.697	1200	1		0 44.000	112.103	150
S14A	444057.288	291794.406	113.804	3.802	1200	1		1 44.000	110.452	150
								2 1.011	110.002	600
								0 1.012	110.002	600
S15L	444098.935	291788.163	112.519	2.348	1200	1		0 9.000	110.171	150
S15	444104.606	291789.708	112.406	3.273	1200	1		1 9.000	109.583	150
								2 1.012	109.133	600
								0 1.013	109.133	600
HW1	444110.468	291768.192	111.000	2.146		1		1 1.013	108.854	600
S16	444044.465	291775.704	113.645	1.425	1200	1		0 10.000	112.220	225
S17L	444017.898	291738.814	112.450	1.868	1200	1		0 11.000	110.582	225
S17	444041.536	291736.382	111.732	1.425	1200	1		1 11.000	110.457	225
								2 10.000	110.457	225
								0 10.001	110.307	375
S18L	444080.688	291732.672	111.000	1.175	1200	1		0 12.000	109.825	150
S18	444080.507	291730.206	111.000	1.400	1200	1		1 12.000	109.800	150
								2 10.001	109.600	375
								0 10.002	109.600	375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
HW2	444101.211	291735.442	110.200	1.296		1		1	10.002	109.459	375
HW3	444130.785	291715.646	110.200	1.346		1		0	1.014	108.854	600
S19	444136.861	291709.120	110.200	1.410	2700	1		1	1.014	108.790	600
								0	1.015	109.165	225
HW4	444140.891	291690.812	109.400	0.700		1		1	1.015	108.700	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Detailed		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0

Node S19 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	109.165	Product Number	CTL-SHE-0127-7800-1200-7800
Design Depth (m)	1.200	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.8	Min Node Diameter (mm)	1200

Node HW3 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	108.854	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets

HW1	HW2
-----	-----

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	827.0	0.0	1.191	1315.0	0.0	1.192	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.338	0.072	22.9	0.0811	0.0000	OK
15 minute summer	S2	11	122.679	0.097	32.5	0.1102	0.0000	OK
15 minute summer	S3	11	121.992	0.124	46.9	0.1398	0.0000	OK
15 minute summer	S4L	10	121.669	0.102	16.3	0.1157	0.0000	OK
15 minute summer	S4	11	121.352	0.110	74.6	0.1240	0.0000	OK
15 minute summer	S5L	10	119.963	0.065	12.8	0.0730	0.0000	OK
15 minute summer	S5	11	119.697	0.112	96.0	0.1268	0.0000	OK
15 minute summer	S6	11	117.174	0.157	105.9	0.1772	0.0000	OK
15 minute summer	S7L	10	117.414	0.056	16.8	0.0633	0.0000	OK
15 minute summer	S7	11	116.511	0.176	131.1	0.1996	0.0000	OK
15 minute summer	S8L	10	116.515	0.040	7.3	0.0453	0.0000	OK
15 minute summer	S8	11	115.794	0.136	145.4	0.1542	0.0000	OK
15 minute summer	S9	11	114.131	0.169	160.0	0.1917	0.0000	OK
15 minute summer	S11	10	113.395	0.057	18.6	0.0647	0.0000	OK
15 minute summer	S12L	10	113.453	0.066	19.1	0.0745	0.0000	OK
15 minute summer	S12	11	112.853	0.181	197.9	0.2046	0.0000	OK
15 minute summer	S13	11	112.346	0.184	205.2	0.2086	0.0000	OK
15 minute summer	S14L	10	112.126	0.045	10.9	0.0505	0.0000	OK
15 minute summer	S14	11	111.194	0.185	221.9	0.2097	0.0000	OK
15 minute summer	S14AL	10	112.167	0.064	21.3	0.0721	0.0000	OK
15 minute summer	S14A	11	110.204	0.202	240.6	0.2289	0.0000	OK
15 minute summer	S15L	10	110.227	0.056	17.0	0.0638	0.0000	OK
1440 minute summer	S15	1470	109.416	0.283	31.3	0.3203	0.0000	OK
1440 minute summer	HW1	1470	109.416	0.562	19.2	0.0000	0.0000	OK
15 minute summer	S16	10	112.256	0.036	6.4	0.0411	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	22.3	2.055	0.221	0.7602	
15 minute summer	S2	1.001	S3	32.2	1.380	0.232	1.0805	
15 minute summer	S3	1.002	S4	46.9	1.713	0.363	1.1170	
15 minute summer	S4L	2.000	S4	16.2	1.264	0.810	0.1016	
15 minute summer	S4	1.003	S5	74.8	2.749	0.191	1.1823	
15 minute summer	S5L	3.000	S5	12.7	1.357	0.181	0.0836	
15 minute summer	S5	1.004	S6	96.3	3.150	0.302	0.9673	
15 minute summer	S6	1.005	S7	106.1	2.246	0.374	1.6127	
15 minute summer	S7L	4.000	S7	16.7	2.798	0.295	0.0476	
15 minute summer	S7	1.006	S8	131.6	2.584	0.463	1.5228	
15 minute summer	S8L	5.000	S8	7.3	1.928	0.155	0.0284	
15 minute summer	S8	1.007	S9	145.4	3.066	0.205	1.6923	
15 minute summer	S9	1.008	S12	160.0	2.934	0.310	2.4548	
15 minute summer	S11	6.000	S12	18.4	1.580	0.035	0.2310	
15 minute summer	S12L	7.000	S12	19.0	1.972	0.187	0.0870	
15 minute summer	S12	1.009	S13	197.8	2.730	0.206	1.9083	
15 minute summer	S13	1.010	S14	205.2	2.785	0.214	4.3809	
15 minute summer	S14L	8.000	S14	10.9	2.477	0.192	0.0272	
15 minute summer	S14	1.011	S14A	220.2	2.799	0.216	3.6234	
15 minute summer	S14AL	44.000	S14A	21.2	2.978	0.374	0.1174	
15 minute summer	S14A	1.012	S15	238.1	2.583	0.256	4.3871	
15 minute summer	S15L	9.000	S15	16.9	2.805	0.299	0.0355	
1440 minute summer	S15	1.013	HW1	19.2	0.287	0.025	4.5176	
1440 minute summer	HW1	Flow through Pond	HW3	-24.9	0.018	-0.001	503.6849	
15 minute summer	S16	10.000	S17	6.3	1.516	0.057	0.1632	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.702	0.120	21.5	0.1356	0.0000	OK
15 minute summer	S17	10	110.393	0.086	32.3	0.0978	0.0000	OK
15 minute summer	S18L	10	109.938	0.113	16.6	0.1282	0.0000	OK
15 minute summer	S18	11	109.738	0.138	48.5	0.1564	0.0000	OK
1440 minute summer	HW2	1470	109.420	0.516	9.7	0.0000	0.0000	OK
1440 minute summer	HW3	1500	109.416	0.562	11.8	0.0000	0.0000	OK
1440 minute summer	S19	1500	109.416	0.626	0.4	3.5856	0.0000	SURCHARGED
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	21.1	0.988	0.563	0.5098	
15 minute summer	S17	10.001	S18	32.0	1.162	0.119	1.1046	
15 minute summer	S18L	12.000	S18	16.5	1.156	0.924	0.0353	
15 minute summer	S18	10.002	HW2	48.6	1.318	0.300	0.7882	
1440 minute summer	HW2	Flow through Pond	HW3	-24.9	0.018	-0.001	503.6849	
1440 minute summer	HW3	1.014	S19	-0.5	0.118	-0.001	2.4791	
1440 minute summer	S19	1.015	HW4	0.2	0.005	0.002	0.7455	2.9

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.368	0.102	43.4	0.1150	0.0000	OK
15 minute summer	S2	10	122.719	0.138	61.9	0.1562	0.0000	OK
15 minute summer	S3	11	122.049	0.181	89.6	0.2044	0.0000	OK
15 minute summer	S4L	10	121.852	0.285	30.9	0.3225	0.0000	SURCHARGED
15 minute summer	S4	11	121.396	0.154	142.1	0.1744	0.0000	OK
15 minute summer	S5L	10	119.989	0.091	24.4	0.1026	0.0000	OK
15 minute summer	S5	11	119.747	0.162	182.8	0.1828	0.0000	OK
15 minute summer	S6	11	117.247	0.230	201.6	0.2602	0.0000	OK
15 minute summer	S7L	10	117.439	0.081	31.9	0.0911	0.0000	OK
15 minute summer	S7	11	116.603	0.268	249.8	0.3026	0.0000	OK
15 minute summer	S8L	10	116.531	0.056	13.8	0.0631	0.0000	OK
15 minute summer	S8	11	115.850	0.192	277.3	0.2176	0.0000	OK
15 minute summer	S9	11	114.206	0.245	305.1	0.2769	0.0000	OK
15 minute summer	S11	10	113.416	0.078	35.2	0.0881	0.0000	OK
15 minute summer	S12L	10	113.479	0.092	36.2	0.1045	0.0000	OK
15 minute summer	S12	11	112.927	0.255	377.4	0.2887	0.0000	OK
15 minute summer	S13	11	112.423	0.261	391.6	0.2947	0.0000	OK
15 minute summer	S14L	10	112.144	0.063	20.7	0.0710	0.0000	OK
15 minute summer	S14	11	111.272	0.263	423.6	0.2974	0.0000	OK
15 minute summer	S14AL	10	112.197	0.094	40.5	0.1061	0.0000	OK
15 minute summer	S14A	11	110.292	0.290	461.8	0.3284	0.0000	OK
15 minute summer	S15L	10	110.252	0.081	32.3	0.0919	0.0000	OK
1440 minute summer	S15	1020	109.573	0.440	46.8	0.4974	0.0000	OK
1440 minute summer	HW1	1050	109.573	0.719	46.3	0.0000	0.0000	OK
15 minute summer	S16	10	112.270	0.050	12.2	0.0566	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	42.5	2.449	0.422	1.2161	
15 minute summer	S2	1.001	S3	61.3	1.622	0.442	1.7378	
15 minute summer	S3	1.002	S4	89.3	2.012	0.691	1.8113	
15 minute summer	S4L	2.000	S4	30.5	1.730	1.527	0.1385	
15 minute summer	S4	1.003	S5	142.5	3.234	0.363	1.9143	
15 minute summer	S5L	3.000	S5	24.3	1.623	0.344	0.1333	
15 minute summer	S5	1.004	S6	183.4	3.766	0.576	1.5271	
15 minute summer	S6	1.005	S7	202.2	2.606	0.713	2.6441	
15 minute summer	S7L	4.000	S7	31.8	3.306	0.561	0.0765	
15 minute summer	S7	1.006	S8	251.2	2.984	0.883	2.5161	
15 minute summer	S8L	5.000	S8	13.7	2.308	0.293	0.0449	
15 minute summer	S8	1.007	S9	277.5	3.635	0.392	2.7203	
15 minute summer	S9	1.008	S12	305.9	3.472	0.593	3.9663	
15 minute summer	S11	6.000	S12	35.0	1.825	0.067	0.4551	
15 minute summer	S12L	7.000	S12	36.0	2.354	0.356	0.1381	
15 minute summer	S12	1.009	S13	377.5	3.261	0.393	3.0488	
15 minute summer	S13	1.010	S14	391.8	3.320	0.408	7.0184	
15 minute summer	S14L	8.000	S14	20.6	2.958	0.364	0.0434	
15 minute summer	S14	1.011	S14A	423.0	3.334	0.415	5.8426	
15 minute summer	S14AL	44.000	S14A	40.3	3.484	0.711	0.1909	
15 minute summer	S14A	1.012	S15	460.1	3.085	0.494	7.0900	
15 minute summer	S15L	9.000	S15	32.2	3.312	0.569	0.0571	
1440 minute summer	S15	1.013	HW1	46.3	0.387	0.060	5.6091	
1440 minute summer	HW1	Flow through Pond	HW3	-33.5	0.049	-0.001	671.9843	
15 minute summer	S16	10.000	S17	12.0	1.836	0.109	0.2579	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.770	0.188	40.8	0.2131	0.0000	OK
15 minute summer	S17	10	110.427	0.120	61.2	0.1355	0.0000	OK
15 minute summer	S18L	10	110.027	0.202	31.6	0.2285	0.0000	SURCHARGED
15 minute summer	S18	11	109.798	0.198	92.2	0.2242	0.0000	OK
1440 minute summer	HW2	1020	109.573	0.669	13.1	0.0000	0.0000	OK
1440 minute summer	HW3	1020	109.572	0.718	33.1	0.0000	0.0000	SURCHARGED
1440 minute summer	S19	1020	109.572	0.782	7.1	4.4786	0.0000	SURCHARGED
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	40.0	1.192	1.066	0.7996	
15 minute summer	S17	10.001	S18	60.8	1.370	0.227	1.7622	
15 minute summer	S18L	12.000	S18	31.4	1.785	1.760	0.0431	
15 minute summer	S18	10.002	HW2	92.2	1.558	0.568	1.2642	
1440 minute summer	HW2	Flow through Pond	HW3	-33.5	0.049	-0.001	671.9843	
1440 minute summer	HW3	1.014	S19	7.1	0.239	0.012	2.5117	
1440 minute summer	S19	1.015	HW4	7.1	0.179	0.086	0.7455	315.1

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.78%

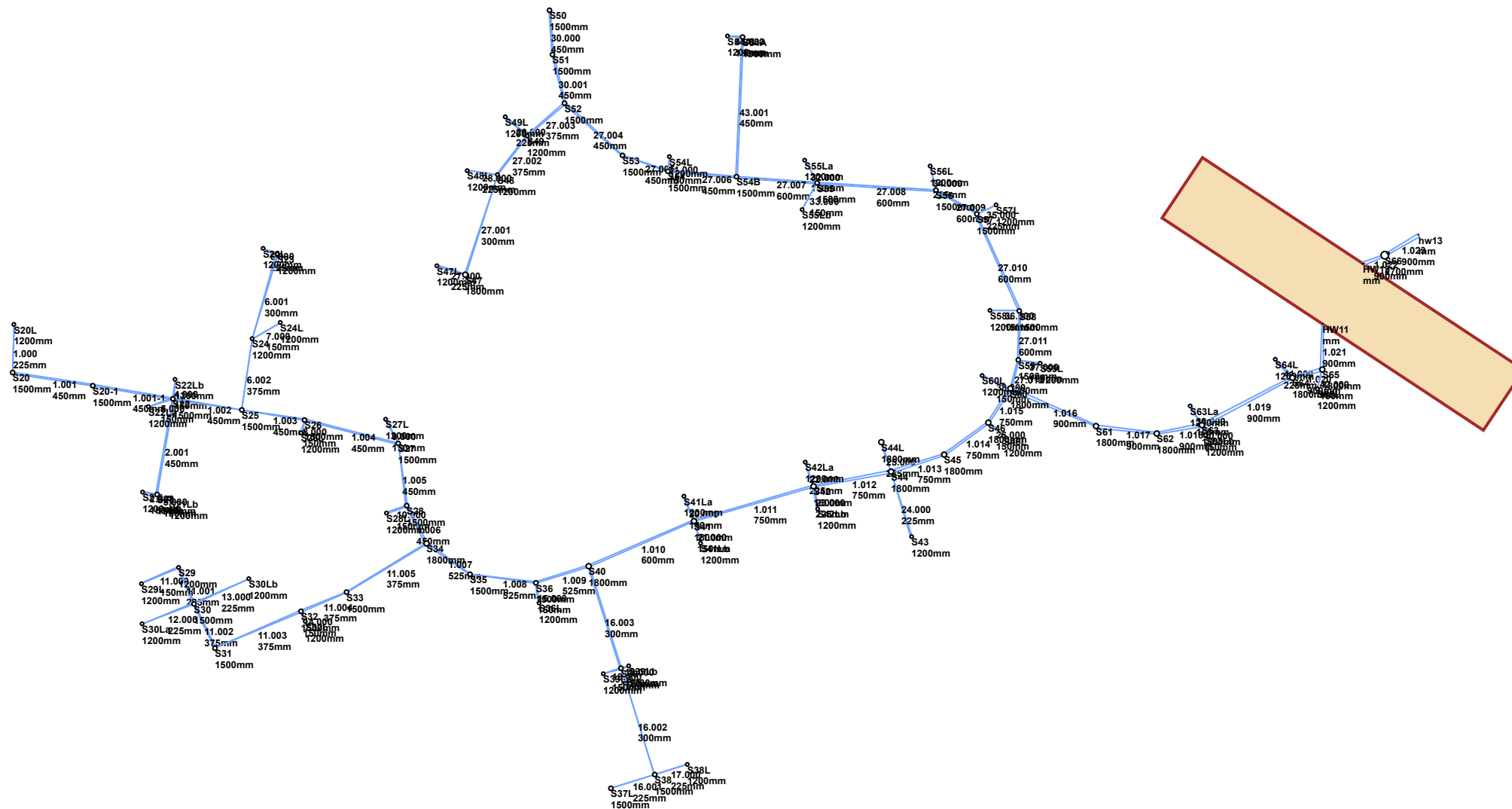
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.413	0.147	78.8	0.1665	0.0000	OK
15 minute summer	S2	11	122.805	0.224	112.8	0.2531	0.0000	OK
15 minute summer	S3	11	122.428	0.560	161.4	0.6335	0.0000	SURCHARGED
15 minute summer	S4L	11	122.385	0.818	56.2	0.9256	0.0000	SURCHARGED
15 minute summer	S4	12	121.473	0.231	254.9	0.2608	0.0000	OK
15 minute summer	S5L	12	120.692	0.794	44.3	0.8977	0.0000	SURCHARGED
15 minute summer	S5	12	120.648	1.063	316.4	1.2025	0.0000	SURCHARGED
15 minute summer	S6	12	118.236	1.219	327.7	1.3783	0.0000	SURCHARGED
15 minute summer	S7L	11	118.097	0.739	58.0	0.8361	0.0000	SURCHARGED
15 minute summer	S7	11	117.294	0.959	405.5	1.0845	0.0000	SURCHARGED
15 minute summer	S8L	10	116.553	0.078	25.1	0.0884	0.0000	OK
15 minute summer	S8	11	115.914	0.256	451.5	0.2893	0.0000	OK
15 minute summer	S9	10	114.307	0.346	501.0	0.3915	0.0000	OK
15 minute summer	S11	10	113.443	0.105	64.0	0.1183	0.0000	OK
15 minute summer	S12L	10	113.518	0.131	65.8	0.1483	0.0000	OK
15 minute summer	S12	10	113.019	0.347	627.2	0.3927	0.0000	OK
15 minute summer	S13	10	112.515	0.353	652.0	0.3995	0.0000	OK
15 minute summer	S14L	10	112.171	0.090	37.7	0.1013	0.0000	OK
15 minute summer	S14	11	111.368	0.359	710.4	0.4063	0.0000	OK
15 minute summer	S14AL	11	113.153	1.050	73.5	1.1878	0.0000	SURCHARGED
15 minute summer	S14A	11	110.412	0.410	782.3	0.4634	0.0000	OK
15 minute summer	S15L	10	110.297	0.126	58.6	0.1421	0.0000	OK
1440 minute summer	S15	1260	110.030	0.897	57.9	1.0147	0.0000	SURCHARGED
1440 minute summer	HW1	1230	110.031	1.177	57.2	0.0000	0.0000	OK
15 minute summer	S16	10	112.288	0.068	22.1	0.0765	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	77.5	2.821	0.769	1.9229	
15 minute summer	S2	1.001	S3	110.0	1.791	0.792	2.9037	
15 minute summer	S3	1.002	S4	158.7	2.253	1.227	2.8446	
15 minute summer	S4L	2.000	S4	54.6	3.101	2.738	0.1385	
15 minute summer	S4	1.003	S5	250.4	3.504	0.639	3.9404	
15 minute summer	S5L	3.000	S5	42.2	1.853	0.599	0.3547	
15 minute summer	S5	1.004	S6	300.4	4.266	0.943	2.2249	
15 minute summer	S6	1.005	S7	328.9	2.982	1.160	3.7638	
15 minute summer	S7L	4.000	S7	54.5	3.533	0.960	0.1400	
15 minute summer	S7	1.006	S8	405.7	3.679	1.426	3.2637	
15 minute summer	S8L	5.000	S8	25.0	2.699	0.534	0.0699	
15 minute summer	S8	1.007	S9	450.8	4.011	0.637	3.9861	
15 minute summer	S9	1.008	S12	497.1	3.821	0.964	5.8804	
15 minute summer	S11	6.000	S12	63.8	1.795	0.122	0.9376	
15 minute summer	S12L	7.000	S12	65.6	2.736	0.647	0.2161	
15 minute summer	S12	1.009	S13	626.3	3.691	0.653	4.4972	
15 minute summer	S13	1.010	S14	652.7	3.748	0.680	10.3549	
15 minute summer	S14L	8.000	S14	37.6	3.433	0.663	0.0680	
15 minute summer	S14	1.011	S14A	713.1	3.739	0.699	8.7721	
15 minute summer	S14AL	44.000	S14A	69.2	3.929	1.221	0.2903	
15 minute summer	S14A	1.012	S15	789.3	3.365	0.847	11.0656	
15 minute summer	S15L	9.000	S15	58.3	3.598	1.029	0.0980	
1440 minute summer	S15	1.013	HW1	57.2	0.532	0.074	6.2814	
1440 minute summer	HW1	Flow through Pond	HW3	37.7	0.040	0.002	1220.7817	
15 minute summer	S16	10.000	S17	21.8	2.180	0.198	0.3950	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	111.144	0.562	74.1	0.6353	0.0000	SURCHARGED
15 minute summer	S17	10	110.473	0.166	111.8	0.1876	0.0000	OK
15 minute summer	S18L	10	110.220	0.395	57.4	0.4470	0.0000	SURCHARGED
1440 minute summer	S18	1260	110.031	0.431	10.8	0.4874	0.0000	SURCHARGED
1440 minute summer	HW2	1290	110.034	1.130	11.2	0.0000	0.0000	OK
1440 minute summer	HW3	1260	110.028	1.174	37.7	0.0000	0.0000	FLOOD RISK
1440 minute summer	S19	1260	110.028	1.238	8.0	7.0899	0.0000	FLOOD RISK
15 minute summer	HW4	1	109.400	0.700	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S17L	11.000	S17	73.3	1.843	1.951	0.9324	
15 minute summer	S17	10.001	S18	111.2	1.539	0.414	2.8096	
15 minute summer	S18L	12.000	S18	56.9	3.232	3.187	0.0431	
1440 minute summer	S18	10.002	HW2	10.7	0.807	0.066	2.3555	
1440 minute summer	HW2	Flow through Pond	HW3	37.7	0.040	0.002	1220.7817	
1440 minute summer	HW3	1.014	S19	8.0	0.269	0.014	2.5117	
1440 minute summer	S19	1.015	HW4	7.8	0.195	0.095	0.7455	441.5



Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S20L	0.096	5.00	118.050	1200	443733.375	291579.662	1.942
S20	0.056	5.00	117.871	1500	443732.941	291562.390	2.627
S20-1	0.041	5.00	117.331	1500	443761.515	291557.676	2.242
S21La	0.062	5.00	117.280	1200	443779.275	291519.489	1.644
S21Lb	0.016	5.00	117.262	1200	443788.793	291517.177	1.646
S21	0.030	5.00	117.286	1500	443784.452	291518.651	2.005
S22Lb	0.089	5.00	117.400	1200	443790.843	291559.937	2.070
S22La	0.044	5.00	117.490	1200	443781.363	291550.151	2.185
S22	0.012	5.00	117.331	1500	443790.088	291552.962	2.398
S23L	0.108	5.00	117.642	1200	443822.239	291606.954	1.659
S23	0.037	5.00	117.763	1200	443827.290	291604.948	2.306
S24L	0.039	5.00	117.800	1200	443828.381	291580.361	2.317
S24	0.022	5.00	117.836	1200	443818.334	291574.570	2.726
S25	0.027	5.00	117.627	1500	443814.665	291548.978	2.895
S26L	0.067	5.00	117.490	1200	443835.771	291540.759	2.373
S26	0.031	5.00	117.358	1500	443837.046	291545.359	2.943
S27L	0.059	5.00	117.100	1200	443865.956	291545.642	1.828
S27	0.071	5.00	116.932	1500	443870.449	291536.970	2.862
S28L	0.048	5.00	116.896	1200	443866.251	291511.974	2.206
S28	0.032	5.00	116.646	1500	443873.473	291514.657	2.951
S29L	0.036	5.00	116.950	1200	443778.867	291486.594	1.774
S29	0.014	5.00	116.911	1200	443792.126	291492.477	1.868
S30La	0.184	5.00	117.200	1200	443779.089	291472.233	1.457
S30Lb	0.075	5.00	116.880	1200	443817.168	291488.420	1.064
S30	0.042	5.00	117.074	1500	443797.614	291479.383	2.248
S31	0.028	5.00	117.088	1500	443805.080	291463.496	2.429
S32L	0.106	5.00	117.485	1200	443837.292	291473.128	2.702
S32	0.018	5.00	117.368	1500	443835.770	291476.718	3.311
S33	0.025	5.00	117.038	1500	443852.007	291483.605	3.202
S34	0.031	5.00	116.415	1800	443880.545	291501.065	2.986
S35	0.031	5.00	116.157	1500	443896.046	291490.017	2.966
S36L	0.106	5.00	116.035	1200	443920.666	291479.743	2.345
S36	0.016	5.00	115.816	1500	443919.537	291486.928	3.490
S37L	0.037	5.00	116.002	1500	443946.282	291413.204	2.229
S38L	0.082	5.00	116.000	1200	443973.534	291421.779	2.046
S38	0.014	5.00	115.939	1500	443961.926	291418.152	2.305
S39La	0.056	5.00	116.060	1200	443943.565	291454.311	2.144
S39Lb	0.036	5.00	116.085	1200	443952.616	291457.154	2.317
S39	0.032	5.00	116.079	1500	443949.864	291456.290	2.862
S40	0.060	5.00	115.528	1800	443938.361	291492.914	3.885

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S41La	0.120	5.00	115.040	1200	443972.335	291518.035	2.372
S41Lb	0.057	5.00	115.044	1200	443978.271	291501.141	2.524
S41	0.050	5.00	114.833	1800	443975.924	291509.094	3.731
S42La	0.215	5.00	114.136	1200	444015.588	291530.233	1.956
S42Lb	0.101	5.00	114.155	1200	444020.020	291513.499	2.109
S42	0.031	5.00	113.942	1800	444018.565	291521.581	3.318
S43	0.023	5.00	114.031	1200	444053.518	291503.522	2.862
S44L	0.198	5.00	113.620	1800	444042.718	291537.421	2.753
S44	0.025	5.00	113.380	1800	444046.213	291526.845	3.225
S45	0.022	5.00	113.033	1800	444065.128	291532.942	3.077
S46L	0.132	5.00	112.900	1200	444086.341	291539.566	2.381
S46	0.023	5.00	112.686	1800	444080.870	291544.415	2.973
S47L	0.058	5.00	117.070	1200	443884.230	291600.704	2.611
S47	0.074	5.00	116.846	1800	443894.371	291597.505	2.568
S48L	0.000	5.00	116.240	1200	443895.036	291634.825	1.720
S48	0.029	5.00	115.969	1200	443905.812	291633.399	2.068
S49L	0.204	5.00	115.795	1200	443908.595	291654.145	1.889
S49	0.013	5.00	115.553	1200	443916.433	291647.285	1.827
S50	0.064	5.00	115.179	1500	443924.387	291692.392	1.292
S51			115.200	1500	443925.446	291676.490	1.472
S52	0.060	5.00	115.288	1500	443929.752	291659.028	1.816
S53	0.020	5.00	115.655	1500	443950.409	291640.307	2.462
S54L	0.043	5.00	115.742	1200	443967.124	291639.883	2.083
S54	0.021	5.00	115.655	1500	443966.632	291634.596	2.634
S54AL	0.080	5.00	113.962	1200	443987.860	291683.145	1.355
S54A	0.068	5.00	113.831	1500	443993.232	291682.789	1.714
S54B	0.041	5.00	114.791	1500	443991.065	291632.693	3.145
S55La	0.081	5.00	114.400	1200	444015.384	291638.573	2.896
S55Lb	0.082	5.00	114.400	1200	444014.478	291620.844	2.722
S55	0.052	5.00	114.066	1500	444019.822	291630.453	3.862
S56L	0.094	5.00	113.400	1200	444060.124	291636.503	2.347
S56	0.023	5.00	112.973	1500	444062.200	291627.854	3.194
S57L	0.103	5.00	112.800	1200	444083.653	291622.557	2.781
S57	0.052	5.00	112.566	1500	444076.774	291619.291	3.073
S58L	0.079	5.00	112.110	1200	444081.447	291584.691	2.326
S58			111.935	1500	444091.916	291584.485	2.917
S59L	0.085	5.00	112.400	1200	444099.362	291565.725	3.072
S59	0.027	5.00	112.248	1500	444091.570	291566.932	3.449
S60L	0.066	5.00	112.600	1200	444078.664	291561.316	2.433
S60	0.034	5.00	112.440	1800	444088.748	291556.668	4.086
S61	0.022	5.00	111.587	1800	444119.267	291543.174	3.898
S62	0.017	5.00	111.074	1800	444140.948	291540.513	3.658
S63La	0.076	5.00	110.756	1200	444152.851	291550.401	2.721
S63Lb	0.130	5.00	110.670	1200	444158.283	291539.860	2.670
S63	0.028	5.00	110.556	1800	444157.041	291543.522	3.345
S64L	0.189	5.00	109.400	1200	444183.206	291567.153	1.713
S64	0.014	5.00	109.193	1800	444189.306	291560.527	2.346
S65L	0.088	5.00	108.900	1200	444198.204	291556.517	0.648
S65	0.041	5.00	108.753	1800	444199.982	291563.469	1.919
HW11			108.259		444200.122	291579.769	1.442
HW12		5.00	108.259		444214.527	291601.442	1.442
S66			108.300	2700	444222.278	291604.489	1.492

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
hw13			107.769		444234.306	291611.790	1.044

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S20L	S20	17.277	0.600	116.108	115.469	0.639	27.0	225	5.11	50.0
1.001	S20	S20-1	28.960	0.600	115.244	115.089	0.155	186.8	450	5.44	50.0
1.001-1	S20-1	S22	28.959	0.600	115.089	114.933	0.156	185.6	450	5.76	50.0
2.000	S21La	S21	5.244	0.600	115.636	115.581	0.055	95.3	150	5.08	50.0
3.000	S21Lb	S21	4.584	0.600	115.616	115.581	0.035	131.0	150	5.09	50.0
2.001	S21	S22	34.771	0.600	115.281	114.933	0.348	99.9	450	5.37	50.0
4.000	S22Lb	S22	7.016	0.600	115.330	115.233	0.097	72.3	150	5.10	50.0
5.000	S22La	S22	9.167	0.600	115.305	115.233	0.072	127.3	150	5.17	50.0
1.002	S22	S25	24.898	0.600	114.933	114.732	0.201	123.9	450	5.99	50.0
6.000	S23L	S23	5.435	0.600	115.983	115.532	0.451	12.1	225	5.02	50.0
6.001	S23	S24	31.671	0.600	115.457	115.185	0.272	116.4	300	5.39	50.0
7.000	S24L	S24	11.596	0.600	115.483	115.335	0.148	78.4	150	5.17	50.0
6.002	S24	S25	25.854	0.600	115.110	114.806	0.304	85.0	375	5.61	50.0
1.003	S25	S26	22.672	0.600	114.732	114.415	0.317	71.5	450	6.15	49.8
8.000	S26L	S26	4.774	0.600	115.117	114.715	0.402	11.9	150	5.03	50.0
1.004	S26	S27	34.440	0.600	114.415	114.071	0.344	100.1	450	6.43	48.7
9.000	S27L	S27	9.766	0.600	115.272	114.370	0.902	10.8	150	5.05	50.0
1.005	S27	S28	22.518	0.600	114.070	113.695	0.375	60.0	450	6.57	48.2
10.000	S28L	S28	7.704	0.600	114.690	113.995	0.695	11.1	150	5.04	50.0
1.006	S28	S34	15.321	0.600	113.695	113.503	0.192	79.8	450	6.69	47.8
11.000	S29L	S29	14.506	0.600	115.176	115.118	0.058	250.1	150	5.38	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.526	100.4	13.0	1.717	2.177	0.096	0.0
1.001	1.484	236.0	20.6	2.177	1.792	0.152	0.0
1.001-1	1.489	236.7	26.2	1.792	1.948	0.193	0.0
2.000	1.029	18.2	8.4	1.494	1.555	0.062	0.0
3.000	0.876	15.5	2.2	1.496	1.555	0.016	0.0
2.001	2.034	323.4	14.6	1.555	1.948	0.108	0.0
4.000	1.183	20.9	12.1	1.920	1.948	0.089	0.0
5.000	0.889	15.7	6.0	2.035	1.948	0.044	0.0
1.002	1.825	290.3	60.4	1.948	2.445	0.446	0.0
6.000	3.790	150.7	14.6	1.434	2.006	0.108	0.0
6.001	1.456	102.9	19.7	2.006	2.351	0.145	0.0
7.000	1.137	20.1	5.3	2.167	2.351	0.039	0.0
6.002	1.965	217.1	27.9	2.351	2.446	0.206	0.0
1.003	2.406	382.7	91.6	2.445	2.493	0.679	0.0
8.000	2.939	51.9	9.1	2.223	2.493	0.067	0.0
1.004	2.032	323.1	102.6	2.493	2.411	0.777	0.0
9.000	3.079	54.4	8.0	1.678	2.412	0.059	0.0
1.005	2.627	417.8	118.5	2.412	2.501	0.907	0.0
10.000	3.043	53.8	6.5	2.056	2.501	0.048	0.0
1.006	2.277	362.2	127.9	2.501	2.462	0.987	0.0
11.000	0.631	11.1	4.9	1.624	1.643	0.036	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.001	S29	S30	14.198	0.600	115.043	114.976	0.067	211.9	225	5.65	50.0
12.000	S30La	S30	19.857	0.600	115.743	114.977	0.766	25.9	225	5.13	50.0
13.000	S30Lb	S30	21.541	0.600	115.816	114.977	0.839	25.7	225	5.14	50.0
11.002	S30	S31	17.554	0.600	114.826	114.659	0.167	105.1	375	5.81	50.0
11.003	S31	S32	33.417	0.600	114.659	114.057	0.602	55.5	375	6.04	50.0
14.000	S32L	S32	3.899	0.600	114.783	114.282	0.501	7.8	150	5.02	50.0
11.004	S32	S33	17.637	0.600	114.057	113.836	0.221	79.8	375	6.19	49.6
11.005	S33	S34	33.455	0.600	113.836	113.503	0.333	100.5	375	6.50	48.5
1.007	S34	S35	19.035	0.600	113.429	113.191	0.238	80.0	525	6.81	47.4
1.008	S35	S36	23.693	0.600	113.191	112.326	0.865	27.4	525	6.90	47.1
15.000	S36L	S36	7.274	0.600	113.690	112.701	0.989	7.4	150	5.03	50.0
1.009	S36	S40	19.753	0.600	112.326	111.718	0.608	32.5	525	6.99	46.8
16.001	S37L	S38	16.408	0.600	113.773	113.710	0.063	260.4	225	5.34	50.0
17.000	S38L	S38	12.161	0.600	113.954	113.709	0.245	49.6	225	5.11	50.0
16.002	S38	S39	40.000	0.600	113.634	113.217	0.417	95.9	300	5.75	50.0
18.000	S39La	S39	6.603	0.600	113.916	113.367	0.549	12.0	150	5.04	50.0
19.000	S39Lb	S39	2.884	0.600	113.768	113.368	0.400	7.2	150	5.01	50.0
16.003	S39	S40	38.388	0.600	113.217	111.942	1.275	30.1	300	5.98	50.0
1.010	S40	S41	40.900	0.600	111.643	111.253	0.390	104.9	600	7.27	45.8
20.000	S41La	S41	9.634	0.600	112.668	111.702	0.966	10.0	150	5.05	50.0
21.000	S41Lb	S41	8.292	0.600	112.520	111.703	0.817	10.1	150	5.04	50.0
1.011	S41	S42	44.432	0.600	111.102	110.624	0.478	93.0	750	7.53	45.0
22.000	S42La	S42	9.150	0.600	112.180	111.149	1.031	8.9	225	5.03	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.001	0.894	35.5	6.8	1.643	1.873	0.050	0.0
12.000	2.580	102.6	24.9	1.232	1.872	0.184	0.0
13.000	2.592	103.1	10.2	0.839	1.872	0.075	0.0
11.002	1.767	195.1	47.6	1.873	2.054	0.351	0.0
11.003	2.436	269.0	51.4	2.054	2.936	0.379	0.0
14.000	3.634	64.2	14.4	2.552	2.936	0.106	0.0
11.004	2.029	224.1	67.7	2.936	2.827	0.503	0.0
11.005	1.807	199.6	69.4	2.827	2.537	0.528	0.0
1.007	2.506	542.4	198.5	2.461	2.441	1.546	0.0
1.008	4.291	928.9	201.2	2.441	2.965	1.577	0.0
15.000	3.739	66.1	14.4	2.195	2.965	0.106	0.0
1.009	3.939	852.7	215.4	2.965	3.285	1.699	0.0
16.001	0.805	32.0	5.0	2.004	2.004	0.037	0.0
17.000	1.861	74.0	11.1	1.821	2.005	0.082	0.0
16.002	1.605	113.5	18.0	2.005	2.562	0.133	0.0
18.000	2.921	51.6	7.6	1.994	2.562	0.056	0.0
19.000	3.776	66.7	4.9	2.167	2.561	0.036	0.0
16.003	2.875	203.2	34.8	2.562	3.286	0.257	0.0
1.010	2.377	672.2	250.5	3.285	2.980	2.016	0.0
20.000	3.209	56.7	16.3	2.222	2.981	0.120	0.0
21.000	3.181	56.2	7.7	2.374	2.980	0.057	0.0
1.011	2.903	1282.4	273.9	2.981	2.568	2.243	0.0
22.000	4.418	175.7	29.1	1.731	2.568	0.215	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
23.000	S42Lb	S42	8.212	0.600	112.046	111.149	0.897	9.2	225	5.03	50.0
1.012	S42	S44	28.044	0.600	110.624	110.155	0.469	59.8	750	7.66	44.7
24.000	S43	S44	24.836	0.600	111.169	110.680	0.489	50.8	225	5.23	50.0
25.000	S44L	S44	10.741	0.600	110.867	110.680	0.187	57.4	225	5.10	50.0
1.013	S44	S45	19.933	0.600	110.155	109.956	0.199	100.2	750	7.78	44.3
1.014	S45	S46	19.479	0.600	109.957	109.713	0.244	79.8	750	7.88	44.0
26.000	S46L	S46	7.311	0.600	110.519	109.788	0.731	10.0	150	5.04	50.0
1.015	S46	S60	14.567	0.600	109.713	108.504	1.209	12.0	750	7.91	43.9
27.000	S47L	S47	10.634	0.600	114.459	114.353	0.106	100.3	225	5.14	50.0
27.001	S47	S48	37.674	0.600	114.278	113.976	0.302	124.7	300	5.58	50.0
28.000	S48L	S48	10.870	0.600	114.520	114.051	0.469	23.2	225	5.07	50.0
27.002	S48	S49	17.482	0.600	113.901	113.726	0.175	99.9	375	5.74	50.0
29.000	S49L	S49	10.416	0.600	113.906	113.876	0.030	347.2	225	5.25	50.0
27.003	S49	S52	17.756	0.600	113.726	113.547	0.179	99.2	375	5.91	50.0
30.000	S50	S51	15.937	0.600	113.887	113.728	0.159	100.2	450	5.13	50.0
30.001	S51	S52	17.986	0.600	113.728	113.472	0.256	70.3	450	5.25	50.0
27.004	S52	S53	27.878	0.600	113.472	113.193	0.279	99.9	450	6.13	49.8
27.005	S53	S54	17.199	0.600	113.268	113.021	0.247	69.6	450	6.25	49.4
31.000	S54L	S54	5.310	0.600	113.659	113.321	0.338	15.7	150	5.03	50.0
27.006	S54	S54B	24.507	0.600	113.021	111.796	1.225	20.0	450	6.34	49.1
43.000	S54AL	S54A	5.384	0.600	112.607	112.417	0.190	28.3	150	5.05	50.0
43.001	S54A	S54B	50.143	0.600	112.117	111.796	0.321	156.2	450	5.56	50.0
27.007	S54B	S55	28.844	0.600	111.646	110.204	1.442	20.0	600	6.43	48.7
32.000	S55La	S55	9.253	0.600	111.504	110.654	0.850	10.9	150	5.05	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
23.000	4.350	173.0	13.7	1.884	2.568	0.101	0.0
1.012	3.622	1600.3	313.5	2.568	2.475	2.590	0.0
24.000	1.839	73.1	3.1	2.637	2.475	0.023	0.0
25.000	1.729	68.7	26.8	2.528	2.475	0.198	0.0
1.013	2.796	1235.2	340.5	2.475	2.327	2.836	0.0
1.014	3.133	1384.2	340.8	2.326	2.223	2.858	0.0
26.000	3.204	56.6	17.9	2.231	2.748	0.132	0.0
1.015	8.086	3572.3	358.6	2.223	3.186	3.013	0.0
27.000	1.305	51.9	7.9	2.386	2.268	0.058	0.0
27.001	1.406	99.4	17.9	2.268	1.693	0.132	0.0
28.000	2.729	108.5	0.0	1.495	1.693	0.000	0.0
27.002	1.812	200.2	21.8	1.693	1.452	0.161	0.0
29.000	0.696	27.7	27.6	1.664	1.452	0.204	0.0
27.003	1.819	200.9	51.2	1.452	1.366	0.378	0.0
30.000	2.030	322.9	8.7	0.842	1.022	0.064	0.0
30.001	2.428	386.1	8.7	1.022	1.366	0.064	0.0
27.004	2.034	323.4	67.8	1.366	2.012	0.502	0.0
27.005	2.439	387.8	69.9	1.937	2.184	0.522	0.0
31.000	2.554	45.1	5.8	1.933	2.184	0.043	0.0
27.006	4.561	725.4	77.9	2.184	2.545	0.586	0.0
43.000	1.898	33.5	10.8	1.205	1.264	0.080	0.0
43.001	1.624	258.3	20.1	1.264	2.545	0.148	0.0
27.007	5.460	1543.9	102.4	2.545	3.262	0.775	0.0
32.000	3.071	54.3	11.0	2.746	3.262	0.081	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
33.000	S55Lb	S55	10.996	0.600	111.678	110.654	1.024	10.7	150	5.06	50.0
27.008	S55	S56	42.458	0.600	110.204	109.779	0.425	99.9	600	6.72	47.7
34.000	S56L	S56	8.895	0.600	111.053	110.154	0.899	9.9	225	5.04	50.0
27.009	S56	S57	16.903	0.600	109.779	109.493	0.286	59.1	600	6.81	47.4
35.000	S57L	S57	7.615	0.600	110.019	109.868	0.151	50.4	225	5.07	50.0
27.010	S57	S58	37.958	0.600	109.493	109.018	0.475	79.9	600	7.04	46.6
36.000	S58L	S58	10.471	0.600	109.784	109.468	0.316	33.1	150	5.10	50.0
27.011	S58	S59	17.556	0.600	109.018	108.799	0.219	80.2	600	7.15	46.2
37.000	S59L	S59	7.885	0.600	109.328	109.249	0.079	99.8	150	5.13	50.0
27.012	S59	S60	10.645	0.600	108.799	108.654	0.145	73.4	600	7.21	46.0
38.000	S60L	S60	11.104	0.600	110.167	109.104	1.063	10.4	150	5.06	50.0
1.016	S60	S61	33.369	0.600	108.354	107.689	0.665	50.2	900	8.04	43.6
1.017	S61	S62	21.844	0.600	107.689	107.416	0.273	80.0	900	8.14	43.3
1.018	S62	S63	16.372	0.600	107.416	107.211	0.205	79.9	900	8.22	43.0
39.000	S63La	S63	8.055	0.600	108.035	107.962	0.073	110.3	150	5.14	50.0
40.000	S63Lb	S63	3.867	0.600	108.000	107.961	0.039	99.2	150	5.06	50.0
1.019	S63	S64	36.472	0.600	107.212	106.847	0.365	99.9	900	8.41	42.5
41.000	S64L	S64	9.006	0.600	107.687	107.522	0.165	54.6	225	5.08	50.0
1.020	S64	S65	11.074	0.600	106.847	106.834	0.013	851.8	900	8.59	42.1
42.000	S65L	S65	7.176	0.600	108.252	107.585	0.667	10.8	150	5.04	50.0
1.021	S65	HW11	16.301	0.600	106.834	106.817	0.017	958.9	900	8.86	41.4
1.022	HW12	S66	8.328	0.600	106.817	106.808	0.009	925.3	900	5.14	50.0
1.023	S66	hw13	14.071	0.600	106.808	106.725	0.083	169.5	900	5.23	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
33.000	3.092	54.6	11.1	2.572	3.262	0.082	0.0
27.008	2.436	688.8	128.0	3.262	2.594	0.990	0.0
34.000	4.184	166.3	12.7	2.122	2.594	0.094	0.0
27.009	3.171	896.6	142.2	2.594	2.473	1.107	0.0
35.000	1.846	73.4	14.0	2.556	2.473	0.103	0.0
27.010	2.725	770.6	159.4	2.473	2.317	1.262	0.0
36.000	1.754	31.0	10.7	2.176	2.317	0.079	0.0
27.011	2.721	769.4	168.1	2.317	2.849	1.341	0.0
37.000	1.006	17.8	11.5	2.922	2.849	0.085	0.0
27.012	2.844	804.1	181.3	2.849	3.186	1.453	0.0
38.000	3.135	55.4	8.9	2.283	3.186	0.066	0.0
1.016	4.428	2817.1	539.0	3.186	2.998	4.566	0.0
1.017	3.504	2229.2	538.0	2.998	2.758	4.588	0.0
1.018	3.507	2231.3	537.2	2.758	2.445	4.605	0.0
39.000	0.956	16.9	10.3	2.571	2.444	0.076	0.0
40.000	1.009	17.8	17.6	2.520	2.445	0.130	0.0
1.019	3.134	1993.9	557.6	2.444	1.446	4.839	0.0
41.000	1.774	70.5	25.6	1.488	1.446	0.189	0.0
1.020	1.065	677.6	574.7	1.446	1.019	5.042	0.0
42.000	3.089	54.6	11.9	0.498	1.018	0.088	0.0
1.021	1.003	638.3	579.7	1.019	0.542	5.171	0.0
1.022	1.022	649.9	0.0	0.542	0.592	0.000	0.0
1.023	2.403	1528.9	0.0	0.592	0.144	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	17.277	27.0	225	1	118.050	116.108	1.717	117.871	115.469	2.177
1.001	28.960	186.8	450	1	117.871	115.244	2.177	117.331	115.089	1.792
1.001-1	28.959	185.6	450	1	117.331	115.089	1.792	117.331	114.933	1.948
2.000	5.244	95.3	150	1	117.280	115.636	1.494	117.286	115.581	1.555
3.000	4.584	131.0	150	1	117.262	115.616	1.496	117.286	115.581	1.555
2.001	34.771	99.9	450	1	117.286	115.281	1.555	117.331	114.933	1.948
4.000	7.016	72.3	150	1	117.400	115.330	1.920	117.331	115.233	1.948
5.000	9.167	127.3	150	1	117.490	115.305	2.035	117.331	115.233	1.948
1.002	24.898	123.9	450	1	117.331	114.933	1.948	117.627	114.732	2.445
6.000	5.435	12.1	225	1	117.642	115.983	1.434	117.763	115.532	2.006
6.001	31.671	116.4	300	1	117.763	115.457	2.006	117.836	115.185	2.351
7.000	11.596	78.4	150	1	117.800	115.483	2.167	117.836	115.335	2.351
6.002	25.854	85.0	375	1	117.836	115.110	2.351	117.627	114.806	2.446
1.003	22.672	71.5	450	1	117.627	114.732	2.445	117.358	114.415	2.493
8.000	4.774	11.9	150	1	117.490	115.117	2.223	117.358	114.715	2.493
1.004	34.440	100.1	450	1	117.358	114.415	2.493	116.932	114.071	2.411
9.000	9.766	10.8	150	1	117.100	115.272	1.678	116.932	114.370	2.412
1.005	22.518	60.0	450	1	116.932	114.070	2.412	116.646	113.695	2.501
10.000	7.704	11.1	150	1	116.896	114.690	2.056	116.646	113.995	2.501
1.006	15.321	79.8	450	1	116.646	113.695	2.501	116.415	113.503	2.462
11.000	14.506	250.1	150	1	116.950	115.176	1.624	116.911	115.118	1.643
11.001	14.198	211.9	225	1	116.911	115.043	1.643	117.074	114.976	1.873
12.000	19.857	25.9	225	1	117.200	115.743	1.232	117.074	114.977	1.872
13.000	21.541	25.7	225	1	116.880	115.816	0.839	117.074	114.977	1.872
11.002	17.554	105.1	375	1	117.074	114.826	1.873	117.088	114.659	2.054

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S20L	1200	Manhole	S20	1500	Manhole
1.001	S20	1500	Manhole	S20-1	1500	Manhole
1.001-1	S20-1	1500	Manhole	S22	1500	Manhole
2.000	S21La	1200	Manhole	S21	1500	Manhole
3.000	S21Lb	1200	Manhole	S21	1500	Manhole
2.001	S21	1500	Manhole	S22	1500	Manhole
4.000	S22Lb	1200	Manhole	S22	1500	Manhole
5.000	S22La	1200	Manhole	S22	1500	Manhole
1.002	S22	1500	Manhole	S25	1500	Manhole
6.000	S23L	1200	Manhole	S23	1200	Manhole
6.001	S23	1200	Manhole	S24	1200	Manhole
7.000	S24L	1200	Manhole	S24	1200	Manhole
6.002	S24	1200	Manhole	S25	1500	Manhole
1.003	S25	1500	Manhole	S26	1500	Manhole
8.000	S26L	1200	Manhole	S26	1500	Manhole
1.004	S26	1500	Manhole	S27	1500	Manhole
9.000	S27L	1200	Manhole	S27	1500	Manhole
1.005	S27	1500	Manhole	S28	1500	Manhole
10.000	S28L	1200	Manhole	S28	1500	Manhole
1.006	S28	1500	Manhole	S34	1800	Manhole
11.000	S29L	1200	Manhole	S29	1200	Manhole
11.001	S29	1200	Manhole	S30	1500	Manhole
12.000	S30La	1200	Manhole	S30	1500	Manhole
13.000	S30Lb	1200	Manhole	S30	1500	Manhole
11.002	S30	1500	Manhole	S31	1500	Manhole

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.003	33.417	55.5	375	1	117.088	114.659	2.054	117.368	114.057	2.936
14.000	3.899	7.8	150	1	117.485	114.783	2.552	117.368	114.282	2.936
11.004	17.637	79.8	375	1	117.368	114.057	2.936	117.038	113.836	2.827
11.005	33.455	100.5	375	1	117.038	113.836	2.827	116.415	113.503	2.537
1.007	19.035	80.0	525	1	116.415	113.429	2.461	116.157	113.191	2.441
1.008	23.693	27.4	525	1	116.157	113.191	2.441	115.816	112.326	2.965
15.000	7.274	7.4	150	1	116.035	113.690	2.195	115.816	112.701	2.965
1.009	19.753	32.5	525	1	115.816	112.326	2.965	115.528	111.718	3.285
16.001	16.408	260.4	225	1	116.002	113.773	2.004	115.939	113.710	2.004
17.000	12.161	49.6	225	1	116.000	113.954	1.821	115.939	113.709	2.005
16.002	40.000	95.9	300	1	115.939	113.634	2.005	116.079	113.217	2.562
18.000	6.603	12.0	150	1	116.060	113.916	1.994	116.079	113.367	2.562
19.000	2.884	7.2	150	1	116.085	113.768	2.167	116.079	113.368	2.561
16.003	38.388	30.1	300	1	116.079	113.217	2.562	115.528	111.942	3.286
1.010	40.900	104.9	600	1	115.528	111.643	3.285	114.833	111.253	2.980
20.000	9.634	10.0	150	1	115.040	112.668	2.222	114.833	111.702	2.981
21.000	8.292	10.1	150	1	115.044	112.520	2.374	114.833	111.703	2.980
1.011	44.432	93.0	750	1	114.833	111.102	2.981	113.942	110.624	2.568
22.000	9.150	8.9	225	1	114.136	112.180	1.731	113.942	111.149	2.568
23.000	8.212	9.2	225	1	114.155	112.046	1.884	113.942	111.149	2.568
1.012	28.044	59.8	750	1	113.942	110.624	2.568	113.380	110.155	2.475
24.000	24.836	50.8	225	1	114.031	111.169	2.637	113.380	110.680	2.475
25.000	10.741	57.4	225	1	113.620	110.867	2.528	113.380	110.680	2.475
1.013	19.933	100.2	750	1	113.380	110.155	2.475	113.033	109.956	2.327

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
11.003	S31	1500	Manhole	S32	1500	Manhole
14.000	S32L	1200	Manhole	S32	1500	Manhole
11.004	S32	1500	Manhole	S33	1500	Manhole
11.005	S33	1500	Manhole	S34	1800	Manhole
1.007	S34	1800	Manhole	S35	1500	Manhole
1.008	S35	1500	Manhole	S36	1500	Manhole
15.000	S36L	1200	Manhole	S36	1500	Manhole
1.009	S36	1500	Manhole	S40	1800	Manhole
16.001	S37L	1500	Manhole	S38	1500	Manhole
17.000	S38L	1200	Manhole	S38	1500	Manhole
16.002	S38	1500	Manhole	S39	1500	Manhole
18.000	S39La	1200	Manhole	S39	1500	Manhole
19.000	S39Lb	1200	Manhole	S39	1500	Manhole
16.003	S39	1500	Manhole	S40	1800	Manhole
1.010	S40	1800	Manhole	S41	1800	Manhole
20.000	S41La	1200	Manhole	S41	1800	Manhole
21.000	S41Lb	1200	Manhole	S41	1800	Manhole
1.011	S41	1800	Manhole	S42	1800	Manhole
22.000	S42La	1200	Manhole	S42	1800	Manhole
23.000	S42Lb	1200	Manhole	S42	1800	Manhole
1.012	S42	1800	Manhole	S44	1800	Manhole
24.000	S43	1200	Manhole	S44	1800	Manhole
25.000	S44L	1800	Manhole	S44	1800	Manhole
1.013	S44	1800	Manhole	S45	1800	Manhole

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.014	19.479	79.8	750	1	113.033	109.957	2.326	112.686	109.713	2.223
26.000	7.311	10.0	150	1	112.900	110.519	2.231	112.686	109.788	2.748
1.015	14.567	12.0	750	1	112.686	109.713	2.223	112.440	108.504	3.186
27.000	10.634	100.3	225	1	117.070	114.459	2.386	116.846	114.353	2.268
27.001	37.674	124.7	300	1	116.846	114.278	2.268	115.969	113.976	1.693
28.000	10.870	23.2	225	1	116.240	114.520	1.495	115.969	114.051	1.693
27.002	17.482	99.9	375	1	115.969	113.901	1.693	115.553	113.726	1.452
29.000	10.416	347.2	225	1	115.795	113.906	1.664	115.553	113.876	1.452
27.003	17.756	99.2	375	1	115.553	113.726	1.452	115.288	113.547	1.366
30.000	15.937	100.2	450	1	115.179	113.887	0.842	115.200	113.728	1.022
30.001	17.986	70.3	450	1	115.200	113.728	1.022	115.288	113.472	1.366
27.004	27.878	99.9	450	1	115.288	113.472	1.366	115.655	113.193	2.012
27.005	17.199	69.6	450	1	115.655	113.268	1.937	115.655	113.021	2.184
31.000	5.310	15.7	150	1	115.742	113.659	1.933	115.655	113.321	2.184
27.006	24.507	20.0	450	1	115.655	113.021	2.184	114.791	111.796	2.545
43.000	5.384	28.3	150	1	113.962	112.607	1.205	113.831	112.417	1.264
43.001	50.143	156.2	450	1	113.831	112.117	1.264	114.791	111.796	2.545
27.007	28.844	20.0	600	1	114.791	111.646	2.545	114.066	110.204	3.262
32.000	9.253	10.9	150	1	114.400	111.504	2.746	114.066	110.654	3.262
33.000	10.996	10.7	150	1	114.400	111.678	2.572	114.066	110.654	3.262
27.008	42.458	99.9	600	1	114.066	110.204	3.262	112.973	109.779	2.594
34.000	8.895	9.9	225	1	113.400	111.053	2.122	112.973	110.154	2.594
27.009	16.903	59.1	600	1	112.973	109.779	2.594	112.566	109.493	2.473
35.000	7.615	50.4	225	1	112.800	110.019	2.556	112.566	109.868	2.473
27.010	37.958	79.9	600	1	112.566	109.493	2.473	111.935	109.018	2.317

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.014	S45	1800	Manhole	S46	1800	Manhole
26.000	S46L	1200	Manhole	S46	1800	Manhole
1.015	S46	1800	Manhole	S60	1800	Manhole
27.000	S47L	1200	Manhole	S47	1800	Manhole
27.001	S47	1800	Manhole	S48	1200	Manhole
28.000	S48L	1200	Manhole	S48	1200	Manhole
27.002	S48	1200	Manhole	S49	1200	Manhole
29.000	S49L	1200	Manhole	S49	1200	Manhole
27.003	S49	1200	Manhole	S52	1500	Manhole
30.000	S50	1500	Manhole	S51	1500	Manhole
30.001	S51	1500	Manhole	S52	1500	Manhole
27.004	S52	1500	Manhole	S53	1500	Manhole
27.005	S53	1500	Manhole	S54	1500	Manhole
31.000	S54L	1200	Manhole	S54	1500	Manhole
27.006	S54	1500	Manhole	S54B	1500	Manhole
43.000	S54AL	1200	Manhole	S54A	1500	Manhole
43.001	S54A	1500	Manhole	S54B	1500	Manhole
27.007	S54B	1500	Manhole	S55	1500	Manhole
32.000	S55La	1200	Manhole	S55	1500	Manhole
33.000	S55Lb	1200	Manhole	S55	1500	Manhole
27.008	S55	1500	Manhole	S56	1500	Manhole
34.000	S56L	1200	Manhole	S56	1500	Manhole
27.009	S56	1500	Manhole	S57	1500	Manhole
35.000	S57L	1200	Manhole	S57	1500	Manhole
27.010	S57	1500	Manhole	S58	1500	Manhole

Pipeline Schedule

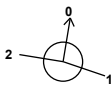
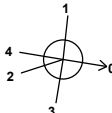
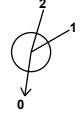
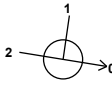
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
36.000	10.471	33.1	150	1	112.110	109.784	2.176	111.935	109.468	2.317
27.011	17.556	80.2	600	1	111.935	109.018	2.317	112.248	108.799	2.849
37.000	7.885	99.8	150	1	112.400	109.328	2.922	112.248	109.249	2.849
27.012	10.645	73.4	600	1	112.248	108.799	2.849	112.440	108.654	3.186
38.000	11.104	10.4	150	1	112.600	110.167	2.283	112.440	109.104	3.186
1.016	33.369	50.2	900	1	112.440	108.354	3.186	111.587	107.689	2.998
1.017	21.844	80.0	900	1	111.587	107.689	2.998	111.074	107.416	2.758
1.018	16.372	79.9	900	1	111.074	107.416	2.758	110.556	107.211	2.445
39.000	8.055	110.3	150	1	110.756	108.035	2.571	110.556	107.962	2.444
40.000	3.867	99.2	150	1	110.670	108.000	2.520	110.556	107.961	2.445
1.019	36.472	99.9	900	1	110.556	107.212	2.444	109.193	106.847	1.446
41.000	9.006	54.6	225	1	109.400	107.687	1.488	109.193	107.522	1.446
1.020	11.074	851.8	900	1	109.193	106.847	1.446	108.753	106.834	1.019
42.000	7.176	10.8	150	1	108.900	108.252	0.498	108.753	107.585	1.018
1.021	16.301	958.9	900	1	108.753	106.834	1.019	108.259	106.817	0.542
1.022	8.328	925.3	900	1	108.259	106.817	0.542	108.300	106.808	0.592
1.023	14.071	169.5	900	1	108.300	106.808	0.592	107.769	106.725	0.144

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
36.000	S58L	1200	Manhole	S58	1500	Manhole
27.011	S58	1500	Manhole	S59	1500	Manhole
37.000	S59L	1200	Manhole	S59	1500	Manhole
27.012	S59	1500	Manhole	S60	1800	Manhole
38.000	S60L	1200	Manhole	S60	1800	Manhole
1.016	S60	1800	Manhole	S61	1800	Manhole
1.017	S61	1800	Manhole	S62	1800	Manhole
1.018	S62	1800	Manhole	S63	1800	Manhole
39.000	S63La	1200	Manhole	S63	1800	Manhole
40.000	S63Lb	1200	Manhole	S63	1800	Manhole
1.019	S63	1800	Manhole	S64	1800	Manhole
41.000	S64L	1200	Manhole	S64	1800	Manhole
1.020	S64	1800	Manhole	S65	1800	Manhole
42.000	S65L	1200	Manhole	S65	1800	Manhole
1.021	S65	1800	Manhole	HW11		Manhole
1.022	HW12		Manhole	S66	2700	Manhole
1.023	S66	2700	Manhole	hw13		Manhole

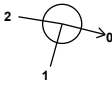
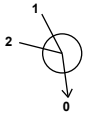
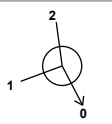
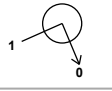
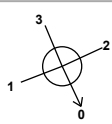
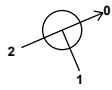
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S20L	443733.375	291579.662	118.050	1.942	1200	1		0	1.000	116.108	225
S20	443732.941	291562.390	117.871	2.627	1500	1		1	1.000	115.469	225
								0	1.001	115.244	450

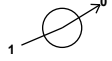
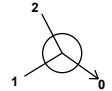
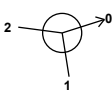
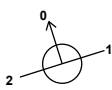
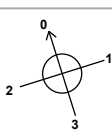
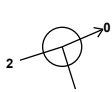
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S20-1	443761.515	291557.676	117.331	2.242	1500	1		1 1.001	115.089	450
								0 1.001-1	115.089	450
S21La	443779.275	291519.489	117.280	1.644	1200	1		0 2.000	115.636	150
S21Lb	443788.793	291517.177	117.262	1.646	1200	1		0 3.000	115.616	150
								1 3.000	115.581	150
S21	443784.452	291518.651	117.286	2.005	1500	1		2 2.000	115.581	150
								0 2.001	115.281	450
S22Lb	443790.843	291559.937	117.400	2.070	1200	1		0 4.000	115.330	150
S22La	443781.363	291550.151	117.490	2.185	1200	1		0 5.000	115.305	150
S22	443790.088	291552.962	117.331	2.398	1500	1		1 4.000	115.233	150
								2 5.000	115.233	150
								3 2.001	114.933	450
								4 1.001-1	114.933	450
								0 1.002	114.933	450
S23L	443822.239	291606.954	117.642	1.659	1200	1		0 6.000	115.983	225
S23	443827.290	291604.948	117.763	2.306	1200	1		1 6.000	115.532	225
								0 6.001	115.457	300
S24L	443828.381	291580.361	117.800	2.317	1200	1		0 7.000	115.483	150
S24	443818.334	291574.570	117.836	2.726	1200	1		1 7.000	115.335	150
								2 6.001	115.185	300
								0 6.002	115.110	375
S25	443814.665	291548.978	117.627	2.895	1500	1		1 6.002	114.806	375
								2 1.002	114.732	450
								0 1.003	114.732	450
S26L	443835.771	291540.759	117.490	2.373	1200	1		0 8.000	115.117	150

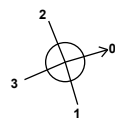
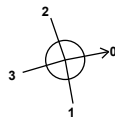
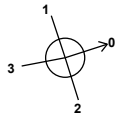
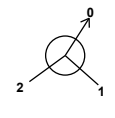
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S26	443837.046	291545.359	117.358	2.943	1500	1		1 8.000	114.715	150
								2 1.003	114.415	450
								0 1.004	114.415	450
S27L	443865.956	291545.642	117.100	1.828	1200	1		0 9.000	115.272	150
S27	443870.449	291536.970	116.932	2.862	1500	1		1 9.000	114.370	150
								2 1.004	114.071	450
								0 1.005	114.070	450
S28L	443866.251	291511.974	116.896	2.206	1200	1		0 10.000	114.690	150
S28	443873.473	291514.657	116.646	2.951	1500	1		1 10.000	113.995	150
								2 1.005	113.695	450
								0 1.006	113.695	450
S29L	443778.867	291486.594	116.950	1.774	1200	1		0 11.000	115.176	150
S29	443792.126	291492.477	116.911	1.868	1200	1		1 11.000	115.118	150
								0 11.001	115.043	225
S30La	443779.089	291472.233	117.200	1.457	1200	1		0 12.000	115.743	225
S30Lb	443817.168	291488.420	116.880	1.064	1200	1		0 13.000	115.816	225
S30	443797.614	291479.383	117.074	2.248	1500	1		1 12.000	114.977	225
								2 13.000	114.977	225
								3 11.001	114.976	225
								0 11.002	114.826	375
S31	443805.080	291463.496	117.088	2.429	1500	1		1 11.002	114.659	375
								0 11.003	114.659	375
S32L	443837.292	291473.128	117.485	2.702	1200	1		0 14.000	114.783	150
S32	443835.770	291476.718	117.368	3.311	1500	1		1 14.000	114.282	150
								2 11.003	114.057	375
								0 11.004	114.057	375

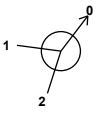
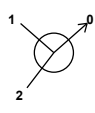
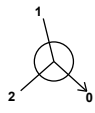
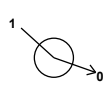
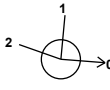
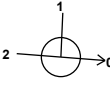
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S33	443852.007	291483.605	117.038	3.202	1500	1		1 11.004	113.836	375
								0 11.005	113.836	375
S34	443880.545	291501.065	116.415	2.986	1800	1		1 11.005	113.503	375
								2 1.006	113.503	450
								0 1.007	113.429	525
S35	443896.046	291490.017	116.157	2.966	1500	1		1 1.007	113.191	525
								0 1.008	113.191	525
S36L	443920.666	291479.743	116.035	2.345	1200	1				
								0 15.000	113.690	150
S36	443919.537	291486.928	115.816	3.490	1500	1		1 15.000	112.701	150
								2 1.008	112.326	525
								0 1.009	112.326	525
S37L	443946.282	291413.204	116.002	2.229	1500	1				
								0 16.001	113.773	225
S38L	443973.534	291421.779	116.000	2.046	1200	1				
								0 17.000	113.954	225
S38	443961.926	291418.152	115.939	2.305	1500	1		1 17.000	113.709	225
								2 16.001	113.710	225
								0 16.002	113.634	300
S39La	443943.565	291454.311	116.060	2.144	1200	1				
								0 18.000	113.916	150
S39Lb	443952.616	291457.154	116.085	2.317	1200	1				
								0 19.000	113.768	150
S39	443949.864	291456.290	116.079	2.862	1500	1		1 19.000	113.368	150
								2 18.000	113.367	150
								3 16.002	113.217	300
								0 16.003	113.217	300
S40	443938.361	291492.914	115.528	3.885	1800	1		1 16.003	111.942	300
								2 1.009	111.718	525
								0 1.010	111.643	600
S41La	443972.335	291518.035	115.040	2.372	1200	1				
								0 20.000	112.668	150

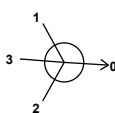
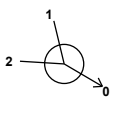
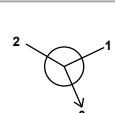
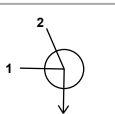
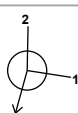
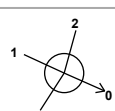
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S41Lb	443978.271	291501.141	115.044	2.524	1200	1		0	21.000	112.520	150
S41	443975.924	291509.094	114.833	3.731	1800	1		1 2 3 0	21.000 20.000 1.010 1.011	111.703 111.702 111.253 111.102	150 150 600 750
S42La	444015.588	291530.233	114.136	1.956	1200	1		0	22.000	112.180	225
S42Lb	444020.020	291513.499	114.155	2.109	1200	1		0	23.000	112.046	225
S42	444018.565	291521.581	113.942	3.318	1800	1		1 2 3 0	23.000 22.000 1.011 1.012	111.149 111.149 110.624 110.624	225 225 750 750
S43	444053.518	291503.522	114.031	2.862	1200	1		0	24.000	111.169	225
S44L	444042.718	291537.421	113.620	2.753	1800	1		0	25.000	110.867	225
S44	444046.213	291526.845	113.380	3.225	1800	1		1 2 3 0	25.000 24.000 1.012 1.013	110.680 110.680 110.155 110.155	225 225 750 750
S45	444065.128	291532.942	113.033	3.077	1800	1		1 0	1.013 1.014	109.956 109.957	750 750
S46L	444086.341	291539.566	112.900	2.381	1200	1		0	26.000	110.519	150
S46	444080.870	291544.415	112.686	2.973	1800	1		1 2 0	26.000 1.014 1.015	109.788 109.713 109.713	150 750 750
S47L	443884.230	291600.704	117.070	2.611	1200	1		0	27.000	114.459	225
S47	443894.371	291597.505	116.846	2.568	1800	1		1 0	27.000 27.001	114.353 114.278	225 300

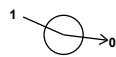
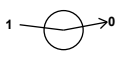
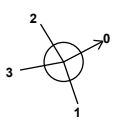
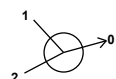
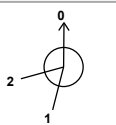
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S48L	443895.036	291634.825	116.240	1.720	1200	1		0	28.000	114.520	225
S48	443905.812	291633.399	115.969	2.068	1200	1		1	28.000	114.051	225
							2	27.001	113.976	300	
							0	27.002	113.901	375	
S49L	443908.595	291654.145	115.795	1.889	1200	1		0	29.000	113.906	225
S49	443916.433	291647.285	115.553	1.827	1200	1		1	29.000	113.876	225
							2	27.002	113.726	375	
							0	27.003	113.726	375	
S50	443924.387	291692.392	115.179	1.292	1500	1		0	30.000	113.887	450
S51	443925.446	291676.490	115.200	1.472	1500	1		1	30.000	113.728	450
							0	30.001	113.728	450	
S52	443929.752	291659.028	115.288	1.816	1500	1		1	30.001	113.472	450
							2	27.003	113.547	375	
							0	27.004	113.472	450	
S53	443950.409	291640.307	115.655	2.462	1500	1		1	27.004	113.193	450
							0	27.005	113.268	450	
S54L	443967.124	291639.883	115.742	2.083	1200	1		0	31.000	113.659	150
S54	443966.632	291634.596	115.655	2.634	1500	1		1	31.000	113.321	150
							2	27.005	113.021	450	
							0	27.006	113.021	450	
S54AL	443987.860	291683.145	113.962	1.355	1200	1		0	43.000	112.607	150
S54A	443993.232	291682.789	113.831	1.714	1500	1		1	43.000	112.417	150
							0	43.001	112.117	450	
S54B	443991.065	291632.693	114.791	3.145	1500	1		1	43.001	111.796	450
							2	27.006	111.796	450	
							0	27.007	111.646	600	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S55La	444015.384	291638.573	114.400	2.896	1200	1		0	32.000	111.504	150
S55Lb	444014.478	291620.844	114.400	2.722	1200	1		0	33.000	111.678	150
S55	444019.822	291630.453	114.066	3.862	1500	1		1 2 3 0	32.000 33.000 27.007 27.008	110.654 110.654 110.204 110.204	150 150 600 600
S56L	444060.124	291636.503	113.400	2.347	1200	1		0	34.000	111.053	225
S56	444062.200	291627.854	112.973	3.194	1500	1		1 2 0	34.000 27.008 27.009	110.154 109.779 109.779	225 600 600
S57L	444083.653	291622.557	112.800	2.781	1200	1		0	35.000	110.019	225
S57	444076.774	291619.291	112.566	3.073	1500	1		1 2 0	35.000 27.009 27.010	109.868 109.493 109.493	225 600 600
S58L	444081.447	291584.691	112.110	2.326	1200	1		0	36.000	109.784	150
S58	444091.916	291584.485	111.935	2.917	1500	1		1 2 0	36.000 27.010 27.011	109.468 109.018 109.018	150 600 600
S59L	444099.362	291565.725	112.400	3.072	1200	1		0	37.000	109.328	150
S59	444091.570	291566.932	112.248	3.449	1500	1		1 2 0	37.000 27.011 27.012	109.249 108.799 108.799	150 600 600
S60L	444078.664	291561.316	112.600	2.433	1200	1		0	38.000	110.167	150
S60	444088.748	291556.668	112.440	4.086	1800	1		1 2 3 0	38.000 27.012 1.015 1.016	109.104 108.654 108.504 108.354	150 600 750 900

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S61	444119.267	291543.174	111.587	3.898	1800	1		1 1.016	107.689	900
								0 1.017	107.689	900
S62	444140.948	291540.513	111.074	3.658	1800	1		1 1.017	107.416	900
								0 1.018	107.416	900
S63La	444152.851	291550.401	110.756	2.721	1200	1		0 39.000	108.035	150
S63Lb	444158.283	291539.860	110.670	2.670	1200	1		0 40.000	108.000	150
S63	444157.041	291543.522	110.556	3.345	1800	1		1 40.000	107.961	150
								2 39.000	107.962	150
								3 1.018	107.211	900
								0 1.019	107.212	900
S64L	444183.206	291567.153	109.400	1.713	1200	1		0 41.000	107.687	225
S64	444189.306	291560.527	109.193	2.346	1800	1		1 41.000	107.522	225
								2 1.019	106.847	900
								0 1.020	106.847	900
S65L	444198.204	291556.517	108.900	0.648	1200	1		0 42.000	108.252	150
S65	444199.982	291563.469	108.753	1.919	1800	1		1 42.000	107.585	150
								2 1.020	106.834	900
								0 1.021	106.834	900
HW11	444200.122	291579.769	108.259	1.442		1		1 1.021	106.817	900
HW12	444214.527	291601.442	108.259	1.442		1		0 1.022	106.817	900
S66	444222.278	291604.489	108.300	1.492	2700	1		1 1.022	106.808	900
								0 1.023	106.808	900
hw13	444234.306	291611.790	107.769	1.044		1		1 1.023	106.725	900

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Detailed		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0

Node S66 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	106.808	Product Number	CTL-SHE-0210-2360-1300-2360
Design Depth (m)	1.300	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	23.6	Min Node Diameter (mm)	1800

Node HW12 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	106.817	Main Channel Slope (1:X)	100000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets
HW11

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	2225.0	0.0	1.666	3580.3	0.0	1.667	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.170	0.062	16.6	0.0696	0.0000	OK
15 minute summer	S20	10	115.343	0.099	26.2	0.1756	0.0000	OK
15 minute summer	S20-1	11	115.200	0.111	33.1	0.1964	0.0000	OK
15 minute summer	S21La	10	115.719	0.083	10.8	0.0935	0.0000	OK
15 minute summer	S21Lb	10	115.659	0.043	2.8	0.0484	0.0000	OK
15 minute summer	S21	10	115.353	0.072	18.7	0.1271	0.0000	OK
15 minute summer	S22Lb	10	115.425	0.095	15.4	0.1076	0.0000	OK
15 minute summer	S22La	10	115.378	0.073	7.6	0.0826	0.0000	OK
15 minute summer	S22	11	115.088	0.155	75.6	0.2732	0.0000	OK
15 minute summer	S23L	10	116.036	0.053	18.7	0.0604	0.0000	OK
15 minute summer	S23	10	115.556	0.099	25.0	0.1124	0.0000	OK
15 minute summer	S24L	10	115.543	0.060	6.8	0.0676	0.0000	OK
15 minute summer	S24	10	115.211	0.101	35.2	0.1138	0.0000	OK
15 minute summer	S25	11	114.899	0.167	115.6	0.2950	0.0000	OK
15 minute summer	S26L	10	115.165	0.048	11.6	0.0546	0.0000	OK
15 minute summer	S26	11	114.612	0.197	132.1	0.3484	0.0000	OK
15 minute summer	S27L	10	115.316	0.044	10.2	0.0498	0.0000	OK
15 minute summer	S27	11	114.256	0.186	154.2	0.3286	0.0000	OK
15 minute summer	S28L	10	114.730	0.040	8.3	0.0451	0.0000	OK
15 minute summer	S28	11	113.906	0.211	167.4	0.3730	0.0000	OK
15 minute summer	S29L	10	115.254	0.078	6.2	0.0885	0.0000	OK
15 minute summer	S29	10	115.117	0.074	8.5	0.0837	0.0000	OK
15 minute summer	S30La	10	115.829	0.086	31.9	0.0968	0.0000	OK
15 minute summer	S30Lb	10	115.870	0.054	13.0	0.0606	0.0000	OK
15 minute summer	S30	10	114.967	0.141	60.2	0.2484	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	16.5	1.880	0.164	0.1515	
15 minute summer	S20	1.001	S20-1	26.0	0.928	0.110	0.8114	
15 minute summer	S20-1	1.001-1	S22	32.7	0.837	0.138	1.1375	
15 minute summer	S21La	2.000	S21	10.7	1.078	0.589	0.0521	
15 minute summer	S21Lb	3.000	S21	2.8	0.667	0.178	0.0189	
15 minute summer	S21	2.001	S22	18.4	0.594	0.057	1.1184	
15 minute summer	S22Lb	4.000	S22	15.3	1.299	0.731	0.0826	
15 minute summer	S22La	5.000	S22	7.5	0.886	0.479	0.0778	
15 minute summer	S22	1.002	S25	76.1	1.497	0.262	1.2655	
15 minute summer	S23L	6.000	S23	18.6	2.599	0.124	0.0390	
15 minute summer	S23	6.001	S24	24.7	1.218	0.240	0.6430	
15 minute summer	S24L	7.000	S24	6.7	1.029	0.335	0.0758	
15 minute summer	S24	6.002	S25	35.0	1.479	0.161	0.6125	
15 minute summer	S25	1.003	S26	115.9	1.929	0.303	1.3634	
15 minute summer	S26L	8.000	S26	11.6	2.369	0.223	0.0233	
15 minute summer	S26	1.004	S27	132.6	1.986	0.410	2.2996	
15 minute summer	S27L	9.000	S27	10.2	2.362	0.187	0.0420	
15 minute summer	S27	1.005	S28	154.2	2.288	0.369	1.5177	
15 minute summer	S28L	10.000	S28	8.3	2.208	0.154	0.0288	
15 minute summer	S28	1.006	S34	167.4	2.295	0.462	1.1179	
15 minute summer	S29L	11.000	S29	6.1	0.697	0.548	0.1274	
15 minute summer	S29	11.001	S30	8.5	0.745	0.238	0.1613	
15 minute summer	S30La	12.000	S30	31.7	2.292	0.309	0.2745	
15 minute summer	S30Lb	13.000	S30	12.9	1.783	0.125	0.1556	
15 minute summer	S30	11.002	S31	59.9	1.735	0.307	0.6068	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	10	114.782	0.123	64.8	0.2175	0.0000	OK
15 minute summer	S32L	10	114.838	0.055	18.4	0.0623	0.0000	OK
15 minute summer	S32	10	114.216	0.159	85.6	0.2802	0.0000	OK
15 minute summer	S33	11	114.010	0.174	89.3	0.3069	0.0000	OK
15 minute summer	S34	11	113.681	0.252	262.5	0.6405	0.0000	OK
15 minute summer	S35	11	113.380	0.189	267.5	0.3341	0.0000	OK
15 minute summer	S36L	10	113.744	0.054	18.4	0.0613	0.0000	OK
15 minute summer	S36	11	112.532	0.206	287.5	0.3636	0.0000	OK
15 minute summer	S37L	10	113.840	0.067	6.4	0.1181	0.0000	OK
15 minute summer	S38L	10	114.020	0.066	14.2	0.0750	0.0000	OK
15 minute summer	S38	10	113.724	0.090	22.7	0.1584	0.0000	OK
15 minute summer	S39La	10	113.960	0.044	9.7	0.0499	0.0000	OK
15 minute summer	S39Lb	10	113.799	0.031	6.2	0.0350	0.0000	OK
15 minute summer	S39	11	113.311	0.093	43.8	0.1651	0.0000	OK
15 minute summer	S40	11	111.938	0.295	340.6	0.7513	0.0000	OK
15 minute summer	S41La	10	112.731	0.063	20.8	0.0712	0.0000	OK
15 minute summer	S41Lb	10	112.563	0.043	9.9	0.0482	0.0000	OK
15 minute summer	S41	11	111.374	0.272	377.2	0.6919	0.0000	OK
15 minute summer	S42La	10	112.250	0.070	37.3	0.0794	0.0000	OK
15 minute summer	S42Lb	10	112.094	0.048	17.5	0.0545	0.0000	OK
15 minute summer	S42	11	110.883	0.259	434.2	0.6601	0.0000	OK
15 minute summer	S43	10	111.204	0.035	4.0	0.0399	0.0000	OK
15 minute summer	S44L	10	110.978	0.111	34.3	0.2833	0.0000	OK
15 minute summer	S44	11	110.468	0.313	474.4	0.7954	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	64.2	1.699	0.238	1.2652	
15 minute summer	S32L	14.000	S32	18.3	3.141	0.286	0.0228	
15 minute summer	S32	11.004	S33	85.2	1.814	0.380	0.8284	
15 minute summer	S33	11.005	S34	90.0	1.777	0.451	1.6945	
15 minute summer	S34	1.007	S35	262.4	3.054	0.484	1.6389	
15 minute summer	S35	1.008	S36	267.4	3.606	0.288	1.7576	
15 minute summer	S36L	15.000	S36	18.3	3.205	0.278	0.0416	
15 minute summer	S36	1.009	S40	287.2	3.498	0.337	1.6222	
15 minute summer	S37L	16.001	S38	6.2	0.655	0.195	0.1570	
15 minute summer	S38L	17.000	S38	14.1	1.447	0.191	0.1186	
15 minute summer	S38	16.002	S39	22.5	1.238	0.198	0.7268	
15 minute summer	S39La	18.000	S39	9.7	2.243	0.187	0.0285	
15 minute summer	S39Lb	19.000	S39	6.2	2.368	0.093	0.0075	
15 minute summer	S39	16.003	S40	43.5	2.326	0.214	0.7184	
15 minute summer	S40	1.010	S41	339.6	2.475	0.505	5.6294	
15 minute summer	S41La	20.000	S41	20.7	2.963	0.365	0.0674	
15 minute summer	S41Lb	21.000	S41	9.9	2.397	0.175	0.0341	
15 minute summer	S41	1.011	S42	376.7	2.701	0.294	6.1971	
15 minute summer	S42La	22.000	S42	37.2	3.534	0.212	0.0963	
15 minute summer	S42Lb	23.000	S42	17.4	2.812	0.101	0.0509	
15 minute summer	S42	1.012	S44	433.4	2.812	0.271	4.3270	
15 minute summer	S43	24.000	S44	3.9	0.987	0.053	0.0984	
15 minute summer	S44L	25.000	S44	34.0	1.742	0.495	0.2099	
15 minute summer	S44	1.013	S45	473.2	2.829	0.383	3.3345	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.251	0.295	476.8	0.7518	0.0000	OK
15 minute summer	S46L	10	110.585	0.066	22.9	0.0750	0.0000	OK
15 minute summer	S46	11	109.898	0.185	500.8	0.4715	0.0000	OK
15 minute summer	S47L	10	114.526	0.067	10.1	0.0754	0.0000	OK
15 minute summer	S47	10	114.374	0.096	22.8	0.2437	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	113.993	0.092	27.2	0.1045	0.0000	OK
15 minute summer	S49L	10	114.090	0.184	35.4	0.2081	0.0000	OK
15 minute summer	S49	10	113.869	0.143	64.2	0.1621	0.0000	OK
15 minute summer	S50	10	113.944	0.057	11.1	0.1004	0.0000	OK
15 minute summer	S51	10	113.779	0.051	11.0	0.0908	0.0000	OK
15 minute summer	S52	11	113.627	0.155	84.9	0.2747	0.0000	OK
15 minute summer	S53	11	113.414	0.221	89.0	0.3909	0.0000	OK
15 minute summer	S54L	10	113.700	0.041	7.5	0.0468	0.0000	OK
15 minute summer	S54	11	113.133	0.111	100.1	0.1970	0.0000	OK
15 minute summer	S54AL	10	112.674	0.067	13.9	0.0760	0.0000	OK
15 minute summer	S54A	11	112.210	0.093	25.6	0.1643	0.0000	OK
15 minute summer	S54B	11	111.762	0.116	132.1	0.2057	0.0000	OK
15 minute summer	S55La	10	111.556	0.052	14.0	0.0588	0.0000	OK
15 minute summer	S55Lb	10	111.730	0.052	14.2	0.0591	0.0000	OK
15 minute summer	S55	11	110.403	0.199	167.9	0.3509	0.0000	OK
15 minute summer	S56L	10	111.100	0.047	16.3	0.0536	0.0000	OK
15 minute summer	S56	11	109.962	0.183	187.9	0.3229	0.0000	OK
15 minute summer	S57L	10	110.094	0.075	17.9	0.0851	0.0000	OK
15 minute summer	S57	11	109.704	0.211	214.1	0.3733	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	475.1	3.920	0.343	2.3834	
15 minute summer	S46L	26.000	S46	22.8	2.812	0.403	0.0773	
15 minute summer	S46	1.015	S60	499.8	5.929	0.140	1.2281	
15 minute summer	S47L	27.000	S47	10.0	1.019	0.193	0.1043	
15 minute summer	S47	27.001	S48	22.4	1.158	0.225	0.7280	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	27.3	0.923	0.136	0.5215	
15 minute summer	S49L	29.000	S49	35.0	1.086	1.267	0.3351	
15 minute summer	S49	27.003	S52	64.2	1.659	0.320	0.6872	
15 minute summer	S50	30.000	S51	11.0	1.024	0.034	0.1715	
15 minute summer	S51	30.001	S52	10.9	0.396	0.028	0.5256	
15 minute summer	S52	27.004	S53	85.7	1.364	0.265	1.7571	
15 minute summer	S53	27.005	S54	89.4	2.391	0.231	0.6461	
15 minute summer	S54L	31.000	S54	7.5	1.893	0.165	0.0209	
15 minute summer	S54	27.006	S54B	100.2	3.284	0.138	0.7479	
15 minute summer	S54AL	43.000	S54A	13.8	1.812	0.412	0.0411	
15 minute summer	S54A	43.001	S54B	25.1	1.061	0.097	1.1852	
15 minute summer	S54B	27.007	S55	132.2	2.245	0.086	1.7254	
15 minute summer	S55La	32.000	S55	13.9	2.576	0.257	0.0501	
15 minute summer	S55Lb	33.000	S55	14.1	2.599	0.259	0.0598	
15 minute summer	S55	27.008	S56	168.6	2.192	0.245	3.2652	
15 minute summer	S56L	34.000	S56	16.2	2.678	0.098	0.0539	
15 minute summer	S56	27.009	S57	188.4	2.342	0.210	1.3610	
15 minute summer	S57L	35.000	S57	17.8	1.535	0.243	0.0883	
15 minute summer	S57	27.010	S58	214.0	2.359	0.278	3.4436	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	10	109.854	0.070	13.7	0.0788	0.0000	OK
15 minute summer	S58	11	109.237	0.219	227.2	0.3867	0.0000	OK
15 minute summer	S59L	10	109.431	0.103	14.7	0.1167	0.0000	OK
15 minute summer	S59	11	109.022	0.223	246.0	0.3933	0.0000	OK
15 minute summer	S60L	10	110.213	0.046	11.4	0.0523	0.0000	OK
15 minute summer	S60	11	108.664	0.309	762.4	0.7876	0.0000	OK
15 minute summer	S61	11	108.048	0.358	764.6	0.9124	0.0000	OK
15 minute summer	S62	11	107.795	0.379	767.4	0.9652	0.0000	OK
15 minute summer	S63La	10	108.134	0.099	13.2	0.1118	0.0000	OK
15 minute summer	S63Lb	10	108.158	0.158	22.5	0.1792	0.0000	SURCHARGED
15 minute summer	S63	11	107.646	0.435	802.0	1.1074	0.0000	OK
15 minute summer	S64L	10	107.794	0.107	32.8	0.1211	0.0000	OK
15 minute summer	S64	12	107.516	0.669	831.5	1.7025	0.0000	OK
15 minute summer	S65L	10	108.306	0.054	15.3	0.0615	0.0000	OK
15 minute summer	S65	12	107.482	0.648	850.8	1.6489	0.0000	OK
1440 minute summer	HW11	1530	107.391	0.574	242.9	0.0000	0.0000	OK
1440 minute summer	HW12	1680	107.391	0.574	161.3	0.0000	0.0000	OK
1440 minute summer	S66	1680	107.391	0.583	1.3	3.3362	0.0000	OK
15 minute summer	hw13	1	107.765	1.040	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	13.6	1.703	0.439	0.0837	
15 minute summer	S58	27.011	S59	227.3	2.419	0.295	1.6499	
15 minute summer	S59L	37.000	S59	14.6	1.130	0.820	0.1017	
15 minute summer	S59	27.012	S60	246.0	2.589	0.306	1.0116	
15 minute summer	S60L	38.000	S60	11.3	2.469	0.205	0.0510	
15 minute summer	S60	1.016	S61	761.0	3.562	0.270	7.1454	
15 minute summer	S61	1.017	S62	764.6	3.184	0.343	5.3414	
15 minute summer	S62	1.018	S63	763.0	2.804	0.342	4.5618	
15 minute summer	S63La	39.000	S63	13.1	1.063	0.774	0.0990	
15 minute summer	S63Lb	40.000	S63	22.3	1.275	1.250	0.0662	
15 minute summer	S63	1.019	S64	803.3	1.985	0.403	14.6369	
15 minute summer	S64L	41.000	S64	32.6	1.757	0.463	0.1673	
15 minute summer	S64	1.020	S65	833.0	1.676	1.229	5.5042	
15 minute summer	S65L	42.000	S65	15.2	2.652	0.279	0.0412	
15 minute summer	S65	1.021	HW11	910.7	4.095	1.427	4.2516	
1440 minute summer	HW11	Flow through Pond	HW12	-242.9	0.016	-0.015	1406.1915	
1440 minute summer	HW12	1.022	S66	-1.9	0.096	-0.003	3.5835	
1440 minute summer	S66	1.023	hw13	0.0	0.000	0.000	7.5084	0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.194	0.086	31.6	0.0974	0.0000	OK
15 minute summer	S20	10	115.383	0.139	49.8	0.2453	0.0000	OK
15 minute summer	S20-1	11	115.243	0.154	62.8	0.2729	0.0000	OK
15 minute summer	S21La	10	115.772	0.136	20.4	0.1535	0.0000	OK
15 minute summer	S21Lb	10	115.676	0.060	5.3	0.0679	0.0000	OK
15 minute summer	S21	10	115.380	0.098	35.4	0.1740	0.0000	OK
15 minute summer	S22Lb	10	115.570	0.239	29.3	0.2708	0.0000	SURCHARGED
15 minute summer	S22La	10	115.417	0.112	14.5	0.1267	0.0000	OK
15 minute summer	S22	11	115.156	0.223	144.1	0.3936	0.0000	OK
15 minute summer	S23L	10	116.057	0.074	35.5	0.0838	0.0000	OK
15 minute summer	S23	10	115.598	0.141	47.6	0.1597	0.0000	OK
15 minute summer	S24L	10	115.569	0.086	12.8	0.0977	0.0000	OK
15 minute summer	S24	10	115.251	0.140	66.9	0.1589	0.0000	OK
15 minute summer	S25	11	114.975	0.243	219.2	0.4300	0.0000	OK
15 minute summer	S26L	10	115.185	0.068	22.1	0.0773	0.0000	OK
15 minute summer	S26	11	114.707	0.292	251.4	0.5167	0.0000	OK
15 minute summer	S27L	10	115.334	0.062	19.4	0.0700	0.0000	OK
15 minute summer	S27	11	114.346	0.276	293.7	0.4871	0.0000	OK
15 minute summer	S28L	10	114.746	0.056	15.8	0.0631	0.0000	OK
15 minute summer	S28	11	114.015	0.320	319.2	0.5653	0.0000	OK
15 minute summer	S29L	10	115.296	0.120	11.8	0.1352	0.0000	OK
15 minute summer	S29	10	115.148	0.105	16.2	0.1187	0.0000	OK
15 minute summer	S30La	10	115.867	0.123	60.6	0.1396	0.0000	OK
15 minute summer	S30Lb	10	115.891	0.074	24.7	0.0843	0.0000	OK
15 minute summer	S30	10	115.028	0.202	114.5	0.3577	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	31.4	2.252	0.313	0.2410	
15 minute summer	S20	1.001	S20-1	49.3	1.103	0.209	1.2959	
15 minute summer	S20-1	1.001-1	S22	62.1	0.986	0.262	1.8289	
15 minute summer	S21La	2.000	S21	20.2	1.227	1.112	0.0864	
15 minute summer	S21Lb	3.000	S21	5.2	0.798	0.338	0.0301	
15 minute summer	S21	2.001	S22	35.0	0.690	0.108	1.8032	
15 minute summer	S22Lb	4.000	S22	28.9	1.644	1.384	0.1223	
15 minute summer	S22La	5.000	S22	14.3	1.020	0.913	0.1288	
15 minute summer	S22	1.002	S25	144.8	1.747	0.499	2.0626	
15 minute summer	S23L	6.000	S23	35.4	3.120	0.235	0.0617	
15 minute summer	S23	6.001	S24	47.0	1.449	0.457	1.0292	
15 minute summer	S24L	7.000	S24	12.7	1.208	0.631	0.1216	
15 minute summer	S24	6.002	S25	66.6	1.609	0.307	1.1073	
15 minute summer	S25	1.003	S26	220.6	2.243	0.576	2.2274	
15 minute summer	S26L	8.000	S26	22.0	2.823	0.424	0.0373	
15 minute summer	S26	1.004	S27	252.8	2.318	0.782	3.7560	
15 minute summer	S27L	9.000	S27	19.3	2.822	0.355	0.0669	
15 minute summer	S27	1.005	S28	294.1	2.642	0.704	2.5031	
15 minute summer	S28L	10.000	S28	15.7	2.647	0.293	0.0458	
15 minute summer	S28	1.006	S34	319.6	2.652	0.883	1.8466	
15 minute summer	S29L	11.000	S29	11.6	0.841	1.038	0.1994	
15 minute summer	S29	11.001	S30	16.1	0.890	0.452	0.2564	
15 minute summer	S30La	12.000	S30	60.3	2.706	0.587	0.4422	
15 minute summer	S30Lb	13.000	S30	24.5	2.142	0.238	0.2465	
15 minute summer	S30	11.002	S31	114.0	2.056	0.584	0.9737	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	10	114.834	0.175	123.2	0.3087	0.0000	OK
15 minute summer	S32L	10	114.862	0.079	34.9	0.0893	0.0000	OK
15 minute summer	S32	10	114.295	0.238	163.0	0.4198	0.0000	OK
15 minute summer	S33	11	114.102	0.266	169.5	0.4704	0.0000	OK
15 minute summer	S34	11	113.814	0.384	500.4	0.9784	0.0000	OK
15 minute summer	S35	11	113.462	0.271	510.2	0.4795	0.0000	OK
15 minute summer	S36L	10	113.768	0.078	34.9	0.0878	0.0000	OK
15 minute summer	S36	11	112.625	0.299	548.4	0.5281	0.0000	OK
15 minute summer	S37L	10	113.867	0.094	12.2	0.1661	0.0000	OK
15 minute summer	S38L	10	114.047	0.093	27.0	0.1056	0.0000	OK
15 minute summer	S38	10	113.761	0.127	43.4	0.2237	0.0000	OK
15 minute summer	S39La	10	113.978	0.062	18.4	0.0701	0.0000	OK
15 minute summer	S39Lb	10	113.811	0.043	11.8	0.0484	0.0000	OK
15 minute summer	S39	10	113.349	0.132	83.6	0.2336	0.0000	OK
15 minute summer	S40	11	112.099	0.456	649.1	1.1604	0.0000	OK
15 minute summer	S41La	10	112.760	0.092	39.5	0.1044	0.0000	OK
15 minute summer	S41Lb	10	112.580	0.060	18.8	0.0676	0.0000	OK
15 minute summer	S41	11	111.492	0.390	719.4	0.9917	0.0000	OK
15 minute summer	S42La	10	112.279	0.099	70.8	0.1119	0.0000	OK
15 minute summer	S42Lb	10	112.113	0.067	33.2	0.0753	0.0000	OK
15 minute summer	S42	11	111.003	0.379	828.4	0.9636	0.0000	OK
15 minute summer	S43	10	111.217	0.048	7.6	0.0548	0.0000	OK
15 minute summer	S44L	10	111.039	0.172	65.2	0.4373	0.0000	OK
15 minute summer	S44	11	110.614	0.459	904.5	1.1673	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	122.2	1.970	0.454	2.0700	
15 minute summer	S32L	14.000	S32	34.8	3.715	0.542	0.0366	
15 minute summer	S32	11.004	S33	161.7	2.063	0.721	1.3829	
15 minute summer	S33	11.005	S34	171.1	1.948	0.857	3.0317	
15 minute summer	S34	1.007	S35	500.4	3.529	0.923	2.6843	
15 minute summer	S35	1.008	S36	510.0	4.259	0.549	2.8369	
15 minute summer	S36L	15.000	S36	34.8	3.794	0.527	0.0667	
15 minute summer	S36	1.009	S40	548.1	3.707	0.643	2.9111	
15 minute summer	S37L	16.001	S38	12.0	0.788	0.374	0.2499	
15 minute summer	S38L	17.000	S38	26.8	1.728	0.363	0.1888	
15 minute summer	S38	16.002	S39	43.0	1.478	0.379	1.1630	
15 minute summer	S39La	18.000	S39	18.3	2.677	0.355	0.0452	
15 minute summer	S39Lb	19.000	S39	11.8	2.852	0.176	0.0119	
15 minute summer	S39	16.003	S40	82.9	2.716	0.408	1.2860	
15 minute summer	S40	1.010	S41	647.9	2.843	0.964	9.3789	
15 minute summer	S41La	20.000	S41	39.4	3.471	0.694	0.1093	
15 minute summer	S41Lb	21.000	S41	18.7	2.866	0.333	0.0542	
15 minute summer	S41	1.011	S42	719.2	3.183	0.561	10.0827	
15 minute summer	S42La	22.000	S42	70.6	4.213	0.402	0.1534	
15 minute summer	S42Lb	23.000	S42	33.1	3.382	0.191	0.0804	
15 minute summer	S42	1.012	S44	826.6	3.272	0.517	7.0803	
15 minute summer	S43	24.000	S44	7.5	1.195	0.102	0.1553	
15 minute summer	S44L	25.000	S44	64.6	1.990	0.940	0.3489	
15 minute summer	S44	1.013	S45	901.8	3.326	0.730	5.4041	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.385	0.429	908.8	1.0910	0.0000	OK
15 minute summer	S46L	10	110.617	0.098	43.4	0.1112	0.0000	OK
15 minute summer	S46	11	109.971	0.258	955.1	0.6555	0.0000	OK
15 minute summer	S47L	10	114.553	0.094	19.1	0.1058	0.0000	OK
15 minute summer	S47	10	114.414	0.136	43.3	0.3463	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	10	114.032	0.131	52.0	0.1485	0.0000	OK
15 minute summer	S49L	10	114.260	0.354	67.1	0.4002	0.0000	SURCHARGED
15 minute summer	S49	10	113.934	0.208	122.7	0.2349	0.0000	OK
15 minute summer	S50	10	113.964	0.077	21.1	0.1366	0.0000	OK
15 minute summer	S51	10	113.798	0.070	21.0	0.1236	0.0000	OK
15 minute summer	S52	10	113.698	0.226	161.9	0.3995	0.0000	OK
15 minute summer	S53	11	113.472	0.279	168.5	0.4933	0.0000	OK
15 minute summer	S54L	10	113.717	0.058	14.2	0.0654	0.0000	OK
15 minute summer	S54	11	113.176	0.155	189.5	0.2735	0.0000	OK
15 minute summer	S54AL	10	112.707	0.100	26.3	0.1129	0.0000	OK
15 minute summer	S54A	10	112.246	0.129	48.6	0.2280	0.0000	OK
15 minute summer	S54B	11	111.806	0.160	250.8	0.2833	0.0000	OK
15 minute summer	S55La	10	111.578	0.074	26.7	0.0841	0.0000	OK
15 minute summer	S55Lb	10	111.753	0.075	27.0	0.0843	0.0000	OK
15 minute summer	S55	11	110.484	0.280	318.7	0.4950	0.0000	OK
15 minute summer	S56L	10	111.119	0.065	30.9	0.0740	0.0000	OK
15 minute summer	S56	11	110.040	0.261	356.8	0.4611	0.0000	OK
15 minute summer	S57L	10	110.126	0.107	33.9	0.1206	0.0000	OK
15 minute summer	S57	11	109.796	0.303	407.2	0.5350	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	906.4	4.628	0.655	3.8281	
15 minute summer	S46L	26.000	S46	43.3	3.016	0.765	0.1091	
15 minute summer	S46	1.015	S60	954.2	6.560	0.267	2.1601	
15 minute summer	S47L	27.000	S47	18.9	1.216	0.365	0.1657	
15 minute summer	S47	27.001	S48	42.5	1.381	0.428	1.1662	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	51.8	1.080	0.259	0.8474	
15 minute summer	S49L	29.000	S49	66.7	1.677	2.409	0.4061	
15 minute summer	S49	27.003	S52	121.5	1.956	0.605	1.1084	
15 minute summer	S50	30.000	S51	21.0	1.244	0.065	0.2685	
15 minute summer	S51	30.001	S52	20.7	0.457	0.054	0.8574	
15 minute summer	S52	27.004	S53	162.2	1.778	0.502	2.5429	
15 minute summer	S53	27.005	S54	169.3	2.873	0.437	1.0160	
15 minute summer	S54L	31.000	S54	14.1	2.264	0.313	0.0332	
15 minute summer	S54	27.006	S54B	190.2	3.942	0.262	1.1825	
15 minute summer	S54AL	43.000	S54A	26.2	2.105	0.781	0.0670	
15 minute summer	S54A	43.001	S54B	47.7	1.279	0.185	1.8722	
15 minute summer	S54B	27.007	S55	251.1	2.680	0.163	2.7308	
15 minute summer	S55La	32.000	S55	26.6	3.060	0.490	0.0804	
15 minute summer	S55Lb	33.000	S55	26.9	3.084	0.492	0.0959	
15 minute summer	S55	27.008	S56	320.0	2.596	0.465	5.2337	
15 minute summer	S56L	34.000	S56	30.8	3.222	0.185	0.0851	
15 minute summer	S56	27.009	S57	358.5	2.758	0.400	2.1981	
15 minute summer	S57L	35.000	S57	33.7	1.825	0.460	0.1409	
15 minute summer	S57	27.010	S58	409.0	2.792	0.531	5.5614	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	10	109.889	0.105	26.0	0.1185	0.0000	OK
15 minute summer	S58	11	109.334	0.316	434.0	0.5586	0.0000	OK
15 minute summer	S59L	10	109.589	0.261	28.0	0.2956	0.0000	SURCHARGED
15 minute summer	S59	11	109.121	0.322	471.2	0.5683	0.0000	OK
15 minute summer	S60L	10	110.232	0.065	21.7	0.0738	0.0000	OK
15 minute summer	S60	11	108.802	0.448	1456.8	1.1400	0.0000	OK
15 minute summer	S61	11	108.242	0.553	1462.0	1.4068	0.0000	OK
15 minute summer	S62	11	108.045	0.629	1453.4	1.6011	0.0000	OK
15 minute summer	S63La	10	108.263	0.228	25.0	0.2578	0.0000	SURCHARGED
15 minute summer	S63Lb	10	108.338	0.338	42.8	0.3820	0.0000	SURCHARGED
15 minute summer	S63	11	107.944	0.733	1538.1	1.8647	0.0000	OK
15 minute summer	S64L	11	107.976	0.289	62.2	0.3265	0.0000	SURCHARGED
15 minute summer	S64	11	107.863	1.016	1664.7	2.5857	0.0000	SURCHARGED
15 minute summer	S65L	10	108.330	0.078	29.0	0.0879	0.0000	OK
1440 minute summer	S65	1440	107.764	0.930	155.1	2.3668	0.0000	SURCHARGED
1440 minute summer	HW11	1590	107.763	0.946	1233.0	0.0000	0.0000	OK
1440 minute summer	HW12	1620	107.763	0.946	957.0	0.0000	0.0000	SURCHARGED
1440 minute summer	S66	1620	107.763	0.955	5.0	5.4675	0.0000	SURCHARGED
15 minute summer	hw13	1	107.765	1.040	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	25.8	1.968	0.833	0.1374	
15 minute summer	S58	27.011	S59	435.7	2.864	0.566	2.6712	
15 minute summer	S59L	37.000	S59	27.6	1.569	1.554	0.1373	
15 minute summer	S59	27.012	S60	471.1	3.065	0.586	1.6361	
15 minute summer	S60L	38.000	S60	21.6	2.946	0.390	0.0815	
15 minute summer	S60	1.016	S61	1455.1	4.047	0.517	12.0701	
15 minute summer	S61	1.017	S62	1448.1	3.473	0.650	9.6302	
15 minute summer	S62	1.018	S63	1475.1	3.041	0.661	8.4013	
15 minute summer	S63La	39.000	S63	24.6	1.398	1.457	0.1394	
15 minute summer	S63Lb	40.000	S63	42.4	2.407	2.376	0.0674	
15 minute summer	S63	1.019	S64	1590.0	2.701	0.797	21.6272	
15 minute summer	S64L	41.000	S64	71.0	1.994	1.007	0.3582	
15 minute summer	S64	1.020	S65	1691.3	2.732	2.496	6.8973	
15 minute summer	S65L	42.000	S65	28.9	3.143	0.530	0.0667	
1440 minute summer	S65	1.021	HW11	276.6	1.137	0.433	10.3311	
1440 minute summer	HW11	Flow through Pond	HW12	-1233.0	-0.028	-0.075	2466.1887	
1440 minute summer	HW12	1.022	S66	-6.8	0.122	-0.010	5.2781	
1440 minute summer	S66	1.023	hw13	0.0	0.000	0.000	8.9178	0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.229	0.121	57.4	0.1369	0.0000	OK
15 minute summer	S20	12	115.667	0.422	90.6	0.7465	0.0000	OK
15 minute summer	S20-1	12	115.674	0.585	114.3	1.0337	0.0000	SURCHARGED
15 minute summer	S21La	10	115.959	0.323	37.1	0.3648	0.0000	SURCHARGED
15 minute summer	S21Lb	10	115.701	0.085	9.6	0.0959	0.0000	OK
15 minute summer	S21	12	115.659	0.378	64.1	0.6684	0.0000	OK
15 minute summer	S22Lb	11	116.120	0.790	53.2	0.8932	0.0000	SURCHARGED
15 minute summer	S22La	12	115.766	0.461	26.3	0.5216	0.0000	SURCHARGED
15 minute summer	S22	12	115.657	0.724	247.8	1.2786	0.0000	SURCHARGED
15 minute summer	S23L	10	116.085	0.102	64.6	0.1157	0.0000	OK
15 minute summer	S23	10	115.663	0.206	86.6	0.2335	0.0000	OK
15 minute summer	S24L	12	115.731	0.248	23.3	0.2807	0.0000	SURCHARGED
15 minute summer	S24	12	115.586	0.476	120.9	0.5379	0.0000	SURCHARGED
15 minute summer	S25	12	115.546	0.814	342.8	1.4387	0.0000	SURCHARGED
15 minute summer	S26L	12	115.492	0.375	40.1	0.4244	0.0000	SURCHARGED
15 minute summer	S26	12	115.329	0.914	376.7	1.6153	0.0000	SURCHARGED
15 minute summer	S27L	11	115.362	0.090	35.3	0.1018	0.0000	OK
15 minute summer	S27	12	114.901	0.831	427.0	1.4677	0.0000	SURCHARGED
15 minute summer	S28L	11	114.773	0.083	28.7	0.0937	0.0000	OK
15 minute summer	S28	12	114.523	0.828	466.6	1.4622	0.0000	SURCHARGED
15 minute summer	S29L	12	115.775	0.599	21.5	0.6775	0.0000	SURCHARGED
15 minute summer	S29	12	115.617	0.574	29.3	0.6488	0.0000	SURCHARGED
15 minute summer	S30La	11	116.333	0.590	110.0	0.6674	0.0000	SURCHARGED
15 minute summer	S30Lb	10	115.919	0.103	44.9	0.1166	0.0000	OK
15 minute summer	S30	12	115.576	0.750	195.2	1.3251	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	57.1	2.629	0.569	0.4776	
15 minute summer	S20	1.001	S20-1	89.8	1.253	0.381	4.5315	
15 minute summer	S20-1	1.001-1	S22	112.5	1.066	0.475	4.5884	
15 minute summer	S21La	2.000	S21	36.7	2.083	2.017	0.0914	
15 minute summer	S21Lb	3.000	S21	9.5	0.928	0.614	0.0470	
15 minute summer	S21	2.001	S22	63.6	0.763	0.197	5.2274	
15 minute summer	S22Lb	4.000	S22	49.8	2.828	2.380	0.1235	
15 minute summer	S22La	5.000	S22	23.9	1.355	1.519	0.1614	
15 minute summer	S22	1.002	S25	256.3	1.782	0.883	3.9449	
15 minute summer	S23L	6.000	S23	64.5	3.329	0.428	0.1131	
15 minute summer	S23	6.001	S24	85.5	1.658	0.831	1.9157	
15 minute summer	S24L	7.000	S24	22.2	1.280	1.107	0.2041	
15 minute summer	S24	6.002	S25	115.8	1.643	0.534	2.8516	
15 minute summer	S25	1.003	S26	340.3	2.254	0.889	3.5922	
15 minute summer	S26L	8.000	S26	37.9	3.050	0.729	0.0840	
15 minute summer	S26	1.004	S27	369.3	2.565	1.143	5.4568	
15 minute summer	S27L	9.000	S27	35.1	3.057	0.645	0.1398	
15 minute summer	S27	1.005	S28	419.8	2.650	1.005	3.5678	
15 minute summer	S28L	10.000	S28	28.2	2.878	0.524	0.1062	
15 minute summer	S28	1.006	S34	465.6	2.939	1.286	2.4275	
15 minute summer	S29L	11.000	S29	20.9	1.191	1.877	0.2554	
15 minute summer	S29	11.001	S30	34.5	0.980	0.970	0.5647	
15 minute summer	S30La	12.000	S30	103.5	2.861	1.009	0.7897	
15 minute summer	S30Lb	13.000	S30	44.7	2.285	0.434	0.6192	
15 minute summer	S30	11.002	S31	189.2	2.234	0.970	1.9362	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.437	0.778	205.2	1.3747	0.0000	SURCHARGED
15 minute summer	S32L	11	115.506	0.723	63.4	0.8178	0.0000	SURCHARGED
15 minute summer	S32	12	115.122	1.065	261.9	1.8814	0.0000	SURCHARGED
15 minute summer	S33	12	114.830	0.994	272.2	1.7557	0.0000	SURCHARGED
15 minute summer	S34	12	114.214	0.785	744.4	1.9987	0.0000	SURCHARGED
15 minute summer	S35	12	113.769	0.578	757.3	1.0207	0.0000	SURCHARGED
15 minute summer	S36L	11	114.116	0.426	63.4	0.4821	0.0000	SURCHARGED
15 minute summer	S36	11	113.198	0.872	819.8	1.5416	0.0000	SURCHARGED
15 minute summer	S37L	10	113.905	0.132	22.1	0.2331	0.0000	OK
15 minute summer	S38L	10	114.087	0.133	49.0	0.1500	0.0000	OK
15 minute summer	S38	10	113.815	0.181	78.9	0.3196	0.0000	OK
15 minute summer	S39La	10	114.004	0.088	33.5	0.0996	0.0000	OK
15 minute summer	S39Lb	10	113.827	0.059	21.5	0.0664	0.0000	OK
15 minute summer	S39	11	113.425	0.208	152.3	0.3671	0.0000	OK
15 minute summer	S40	11	112.654	1.011	995.7	2.5741	0.0000	SURCHARGED
15 minute summer	S41La	11	113.354	0.686	71.8	0.7761	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.604	0.084	34.1	0.0955	0.0000	OK
15 minute summer	S41	11	111.637	0.535	1136.2	1.3612	0.0000	OK
15 minute summer	S42La	10	112.322	0.142	128.5	0.1608	0.0000	OK
15 minute summer	S42Lb	10	112.137	0.091	60.4	0.1034	0.0000	OK
15 minute summer	S42	11	111.184	0.560	1339.2	1.4259	0.0000	OK
15 minute summer	S43	10	111.235	0.066	13.8	0.0742	0.0000	OK
15 minute summer	S44L	10	111.440	0.573	118.4	1.4590	0.0000	SURCHARGED
15 minute summer	S44	11	110.863	0.708	1485.1	1.8008	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	193.3	2.022	0.719	3.6858	
15 minute summer	S32L	14.000	S32	59.1	3.987	0.920	0.0686	
15 minute summer	S32	11.004	S33	257.9	2.338	1.150	1.9453	
15 minute summer	S33	11.005	S34	268.3	2.433	1.344	3.6900	
15 minute summer	S34	1.007	S35	741.4	3.667	1.367	4.1122	
15 minute summer	S35	1.008	S36	764.1	4.358	0.823	5.1185	
15 minute summer	S36L	15.000	S36	60.7	4.233	0.919	0.1281	
15 minute summer	S36	1.009	S40	821.2	3.802	0.963	4.2673	
15 minute summer	S37L	16.001	S38	21.8	0.942	0.681	0.3798	
15 minute summer	S38L	17.000	S38	48.7	2.007	0.659	0.2954	
15 minute summer	S38	16.002	S39	78.3	1.662	0.690	1.9185	
15 minute summer	S39La	18.000	S39	33.4	3.111	0.647	0.0709	
15 minute summer	S39Lb	19.000	S39	21.5	3.371	0.321	0.0184	
15 minute summer	S39	16.003	S40	149.7	2.837	0.736	2.3509	
15 minute summer	S40	1.010	S41	1005.9	3.571	1.496	11.4041	
15 minute summer	S41La	20.000	S41	69.3	3.935	1.222	0.1693	
15 minute summer	S41Lb	21.000	S41	34.0	3.335	0.605	0.0845	
15 minute summer	S41	1.011	S42	1140.9	3.445	0.890	15.3021	
15 minute summer	S42La	22.000	S42	128.3	4.865	0.730	0.2414	
15 minute summer	S42Lb	23.000	S42	60.3	3.992	0.348	0.1240	
15 minute summer	S42	1.012	S44	1342.6	3.449	0.839	10.9816	
15 minute summer	S43	24.000	S44	13.7	1.380	0.187	0.5441	
15 minute summer	S44L	25.000	S44	116.0	2.918	1.688	0.4229	
15 minute summer	S44	1.013	S45	1458.6	3.526	1.181	8.2499	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.590	0.634	1471.2	1.6144	0.0000	OK
15 minute summer	S46L	11	111.502	0.983	78.9	1.1114	0.0000	SURCHARGED
15 minute summer	S46	11	110.071	0.358	1586.6	0.9122	0.0000	OK
15 minute summer	S47L	10	114.592	0.133	34.7	0.1505	0.0000	OK
15 minute summer	S47	10	114.475	0.197	78.7	0.5020	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	10	114.087	0.186	94.7	0.2100	0.0000	OK
15 minute summer	S49L	10	114.666	0.760	122.0	0.8595	0.0000	SURCHARGED
15 minute summer	S49	10	114.066	0.339	222.8	0.3839	0.0000	OK
15 minute summer	S50	10	113.990	0.103	38.3	0.1826	0.0000	OK
15 minute summer	S51	10	113.822	0.094	38.1	0.1656	0.0000	OK
15 minute summer	S52	10	113.812	0.340	294.9	0.6010	0.0000	OK
15 minute summer	S53	11	113.563	0.370	306.4	0.6545	0.0000	OK
15 minute summer	S54L	10	113.740	0.081	25.7	0.0918	0.0000	OK
15 minute summer	S54	11	113.236	0.215	344.0	0.3791	0.0000	OK
15 minute summer	S54AL	10	112.956	0.349	47.8	0.3952	0.0000	SURCHARGED
15 minute summer	S54A	10	112.294	0.177	87.7	0.3123	0.0000	OK
15 minute summer	S54B	11	111.864	0.218	455.3	0.3860	0.0000	OK
15 minute summer	S55La	10	111.615	0.111	48.4	0.1250	0.0000	OK
15 minute summer	S55Lb	10	111.789	0.111	49.0	0.1255	0.0000	OK
15 minute summer	S55	11	110.613	0.409	578.8	0.7233	0.0000	OK
15 minute summer	S56L	10	111.143	0.090	56.2	0.1015	0.0000	OK
15 minute summer	S56	12	110.301	0.522	644.1	0.9222	0.0000	OK
15 minute summer	S57L	12	110.283	0.264	61.6	0.2981	0.0000	SURCHARGED
15 minute summer	S57	12	110.214	0.721	720.2	1.2742	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	1497.7	4.969	1.082	5.8883	
15 minute summer	S46L	26.000	S46	75.8	4.305	1.338	0.1287	
15 minute summer	S46	1.015	S60	1579.9	7.043	0.442	4.7183	
15 minute summer	S47L	27.000	S47	34.5	1.413	0.664	0.2594	
15 minute summer	S47	27.001	S48	77.4	1.591	0.779	1.8443	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0219	
15 minute summer	S48	27.002	S49	94.3	1.169	0.471	1.3927	
15 minute summer	S49L	29.000	S49	121.0	3.042	4.372	0.4101	
15 minute summer	S49	27.003	S52	221.4	2.126	1.102	1.8569	
15 minute summer	S50	30.000	S51	38.1	1.488	0.118	0.4085	
15 minute summer	S51	30.001	S52	37.8	0.506	0.098	1.3705	
15 minute summer	S52	27.004	S53	295.0	2.208	0.912	3.7204	
15 minute summer	S53	27.005	S54	307.4	3.319	0.793	1.5897	
15 minute summer	S54L	31.000	S54	25.6	2.639	0.568	0.0515	
15 minute summer	S54	27.006	S54B	345.0	4.626	0.476	1.8279	
15 minute summer	S54AL	43.000	S54A	47.1	2.673	1.403	0.0938	
15 minute summer	S54A	43.001	S54B	86.8	1.512	0.336	2.8812	
15 minute summer	S54B	27.007	S55	455.8	3.055	0.295	4.2907	
15 minute summer	S55La	32.000	S55	48.2	3.473	0.889	0.1285	
15 minute summer	S55Lb	33.000	S55	48.8	3.500	0.893	0.1534	
15 minute summer	S55	27.008	S56	577.3	2.878	0.838	9.8312	
15 minute summer	S56L	34.000	S56	56.1	3.805	0.337	0.1772	
15 minute summer	S56	27.009	S57	627.8	3.001	0.700	4.5797	
15 minute summer	S57L	35.000	S57	61.3	2.089	0.836	0.3029	
15 minute summer	S57	27.010	S58	714.4	3.055	0.927	10.6919	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	11	110.470	0.686	47.2	0.7756	0.0000	SURCHARGED
15 minute summer	S58	11	109.851	0.833	759.9	1.4713	0.0000	SURCHARGED
15 minute summer	S59L	11	110.215	0.887	50.8	1.0030	0.0000	SURCHARGED
15 minute summer	S59	11	109.647	0.848	827.2	1.4977	0.0000	SURCHARGED
15 minute summer	S60L	10	110.261	0.094	39.5	0.1058	0.0000	OK
15 minute summer	S60	11	109.508	1.153	2389.1	2.9356	0.0000	SURCHARGED
15 minute summer	S61	11	109.043	1.354	2403.3	3.4464	0.0000	SURCHARGED
15 minute summer	S62	11	108.735	1.319	2400.5	3.3570	0.0000	SURCHARGED
15 minute summer	S63La	11	109.004	0.969	45.5	1.0958	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.227	1.227	77.7	1.3872	0.0000	SURCHARGED
15 minute summer	S63	11	108.505	1.294	2533.3	3.2929	0.0000	SURCHARGED
15 minute summer	S64L	11	108.341	0.654	113.0	0.7397	0.0000	SURCHARGED
1440 minute summer	S64	1170	108.125	1.278	455.9	3.2525	0.0000	SURCHARGED
15 minute summer	S65L	10	108.369	0.117	52.6	0.1328	0.0000	OK
1440 minute summer	S65	1170	108.124	1.290	365.3	3.2836	0.0000	SURCHARGED
1440 minute summer	HW11	1200	108.124	1.306	884.5	0.0000	0.0000	OK
1440 minute summer	HW12	1170	108.124	1.307	423.4	0.0000	0.0000	FLOOD RISK
1440 minute summer	S66	1170	108.124	1.316	24.9	7.5339	0.0000	FLOOD RISK
15 minute summer	hw13	1	107.765	1.040	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	45.5	2.587	1.469	0.1843	
15 minute summer	S58	27.011	S59	784.0	2.993	1.019	4.9451	
15 minute summer	S59L	37.000	S59	49.4	2.809	2.783	0.1388	
15 minute summer	S59	27.012	S60	844.0	3.254	1.050	2.9985	
15 minute summer	S60L	38.000	S60	39.4	3.358	0.711	0.1618	
15 minute summer	S60	1.016	S61	2390.7	4.079	0.849	21.1484	
15 minute summer	S61	1.017	S62	2390.7	3.773	1.072	13.8442	
15 minute summer	S62	1.018	S63	2411.1	3.805	1.081	10.3761	
15 minute summer	S63La	39.000	S63	42.4	2.406	2.508	0.1418	
15 minute summer	S63Lb	40.000	S63	73.8	4.191	4.138	0.0681	
15 minute summer	S63	1.019	S64	2545.9	4.018	1.277	23.1150	
15 minute summer	S64L	41.000	S64	114.9	2.890	1.629	0.3582	
1440 minute summer	S64	1.020	S65	360.5	0.569	0.532	7.0184	
15 minute summer	S65L	42.000	S65	52.1	3.496	0.954	0.1100	
1440 minute summer	S65	1.021	HW11	435.5	1.338	0.682	10.3311	
1440 minute summer	HW11	Flow through Pond	HW12	-502.9	0.030	-0.030	3598.3020	
1440 minute summer	HW12	1.022	S66	24.9	0.039	0.038	5.2781	
1440 minute summer	S66	1.023	hw13	23.5	0.037	0.015	8.9178	1222.5

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S20L	0.096	5.00	118.050	1200	443733.375	291579.662	1.942
S20	0.056	5.00	117.871	1500	443732.941	291562.390	2.627
S20-1	0.041	5.00	117.331	1500	443761.515	291557.676	2.242
S21La	0.062	5.00	117.280	1200	443779.275	291519.489	1.644
S21Lb	0.016	5.00	117.262	1200	443788.793	291517.177	1.646
S21	0.030	5.00	117.286	1500	443784.452	291518.651	2.005
S22Lb	0.089	5.00	117.400	1200	443790.843	291559.937	2.070
S22La	0.044	5.00	117.490	1200	443781.363	291550.151	2.185
S22	0.012	5.00	117.331	1500	443790.088	291552.962	2.398
S23L	0.108	5.00	117.642	1200	443822.239	291606.954	1.659
S23	0.037	5.00	117.763	1200	443827.290	291604.948	2.306
S24L	0.039	5.00	117.800	1200	443828.381	291580.361	2.317
S24	0.022	5.00	117.836	1200	443818.334	291574.570	2.726
S25	0.027	5.00	117.627	1500	443814.665	291548.978	2.895
S26L	0.067	5.00	117.490	1200	443835.771	291540.759	2.373
S26	0.031	5.00	117.358	1500	443837.046	291545.359	2.943
S27L	0.059	5.00	117.100	1200	443865.956	291545.642	1.828
S27	0.071	5.00	116.932	1500	443870.449	291536.970	2.862
S28L	0.048	5.00	116.896	1200	443866.251	291511.974	2.206
S28	0.032	5.00	116.646	1500	443873.473	291514.657	2.951
S29L	0.036	5.00	116.950	1200	443778.867	291486.594	1.774
S29	0.014	5.00	116.911	1200	443792.126	291492.477	1.868
S30La	0.184	5.00	117.200	1200	443779.089	291472.233	1.457
S30Lb	0.075	5.00	116.880	1200	443817.168	291488.420	1.064
S30	0.042	5.00	117.074	1500	443797.614	291479.383	2.248
S31	0.028	5.00	117.088	1500	443805.080	291463.496	2.429
S32L	0.106	5.00	117.485	1200	443837.292	291473.128	2.702
S32	0.018	5.00	117.368	1500	443835.770	291476.718	3.311
S33	0.025	5.00	117.038	1500	443852.007	291483.605	3.202
S34	0.031	5.00	116.415	1800	443880.545	291501.065	2.986
S35	0.031	5.00	116.157	1500	443896.046	291490.017	2.966
S36L	0.106	5.00	116.035	1200	443920.666	291479.743	2.345
S36	0.016	5.00	115.816	1500	443919.537	291486.928	3.490
S37L	0.037	5.00	116.002	1500	443946.282	291413.204	2.229
S38L	0.082	5.00	116.000	1200	443973.534	291421.779	2.046
S38	0.014	5.00	115.939	1500	443961.926	291418.152	2.305
S39La	0.056	5.00	116.060	1200	443943.565	291454.311	2.144
S39Lb	0.036	5.00	116.085	1200	443952.616	291457.154	2.317
S39	0.032	5.00	116.079	1500	443949.864	291456.290	2.862
S40	0.060	5.00	115.528	1800	443938.361	291492.914	3.885

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S41La	0.120	5.00	115.040	1200	443972.335	291518.035	2.372
S41Lb	0.057	5.00	115.044	1200	443978.271	291501.141	2.524
S41	0.050	5.00	114.833	1800	443975.924	291509.094	3.731
S42La	0.215	5.00	114.136	1200	444015.588	291530.233	1.956
S42Lb	0.101	5.00	114.155	1200	444020.020	291513.499	2.109
S42	0.031	5.00	113.942	1800	444018.565	291521.581	3.318
S43	0.023	5.00	114.031	1200	444053.518	291503.522	2.862
S44L	0.198	5.00	113.620	1800	444042.718	291537.421	2.753
S44	0.025	5.00	113.380	1800	444046.213	291526.845	3.225
S45	0.022	5.00	113.033	1800	444065.128	291532.942	3.077
S46L	0.132	5.00	112.900	1200	444086.341	291539.566	2.381
S46	0.023	5.00	112.686	1800	444080.870	291544.415	2.973
S47L	0.058	5.00	117.070	1200	443884.230	291600.704	2.611
S47	0.074	5.00	116.846	1800	443894.371	291597.505	2.568
S48L	0.000	5.00	116.240	1200	443895.036	291634.825	1.720
S48	0.029	5.00	115.969	1200	443905.812	291633.399	2.068
S49L	0.245	5.00	115.795	1200	443908.595	291654.145	1.889
S49	0.013	5.00	115.553	1200	443916.433	291647.285	1.827
S50	0.064	5.00	115.179	1500	443924.387	291692.392	1.292
S51			115.200	1500	443925.446	291676.490	1.472
S52	0.060	5.00	115.288	1500	443929.752	291659.028	1.816
S53	0.020	5.00	115.655	1500	443950.409	291640.307	2.462
S54L	0.043	5.00	115.742	1200	443967.124	291639.883	2.083
S54	0.021	5.00	115.655	1500	443966.632	291634.596	2.634
S54AL	0.080	5.00	113.962	1200	443987.860	291683.145	1.355
S54A	0.068	5.00	113.831	1500	443993.232	291682.789	1.714
S54B	0.041	5.00	114.791	1500	443991.065	291632.693	3.145
S55La	0.081	5.00	114.400	1200	444015.384	291638.573	2.896
S55Lb	0.082	5.00	114.400	1200	444014.478	291620.844	2.722
S55	0.052	5.00	114.066	1500	444019.822	291630.453	3.862
S56L	0.094	5.00	113.400	1200	444060.124	291636.503	2.347
S56	0.023	5.00	112.973	1500	444062.200	291627.854	3.194
S57L	0.103	5.00	112.800	1200	444083.653	291622.557	2.781
S57	0.052	5.00	112.566	1500	444076.774	291619.291	3.073
S58L	0.079	5.00	112.110	1200	444081.447	291584.691	2.326
S58			111.935	1500	444091.916	291584.485	2.917
S59L	0.085	5.00	112.400	1200	444099.362	291565.725	3.072
S59	0.027	5.00	112.248	1500	444091.570	291566.932	3.449
S60L	0.066	5.00	112.600	1200	444078.664	291561.316	2.433
S60	0.034	5.00	112.440	1800	444088.748	291556.668	4.086
S61	0.022	5.00	111.587	1800	444119.267	291543.174	3.898
S62	0.017	5.00	111.074	1800	444140.948	291540.513	3.658
S63La	0.076	5.00	110.756	1200	444152.851	291550.401	2.721
S63Lb	0.130	5.00	110.670	1200	444158.283	291539.860	2.670
S63	0.028	5.00	110.556	1800	444157.041	291543.522	3.345
S64L	0.189	5.00	109.400	1200	444183.206	291567.153	1.713
S64	0.014	5.00	109.193	1800	444189.306	291560.527	2.346
S65L	0.088	5.00	108.900	1200	444198.204	291556.517	0.648
S65	0.041	5.00	108.753	1800	444199.982	291563.469	1.919
HW11			108.259		444200.122	291579.769	1.442
HW12		5.00	108.259		444214.527	291601.442	1.442
S66			108.300	2700	444222.278	291604.489	1.492

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
hw13			107.769		444234.306	291611.790	1.044

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S20L	S20	17.277	0.600	116.108	115.469	0.639	27.0	225	5.11	50.0
1.001	S20	S20-1	28.960	0.600	115.244	115.089	0.155	186.8	450	5.44	50.0
1.001-1	S20-1	S22	28.959	0.600	115.089	114.933	0.156	185.6	450	5.76	50.0
2.000	S21La	S21	5.244	0.600	115.636	115.581	0.055	95.4	150	5.08	50.0
3.000	S21Lb	S21	4.584	0.600	115.616	115.581	0.035	131.0	150	5.09	50.0
2.001	S21	S22	34.771	0.600	115.281	114.933	0.348	99.9	450	5.37	50.0
4.000	S22Lb	S22	7.016	0.600	115.330	115.233	0.097	72.3	150	5.10	50.0
5.000	S22La	S22	9.167	0.600	115.305	115.233	0.072	127.3	150	5.17	50.0
1.002	S22	S25	24.898	0.600	114.933	114.732	0.201	123.9	450	5.99	50.0
6.000	S23L	S23	5.435	0.600	115.983	115.532	0.451	12.1	225	5.02	50.0
6.001	S23	S24	31.671	0.600	115.457	115.185	0.272	116.4	300	5.39	50.0
7.000	S24L	S24	11.596	0.600	115.483	115.335	0.148	78.4	150	5.17	50.0
6.002	S24	S25	25.854	0.600	115.110	114.806	0.304	85.0	375	5.61	50.0
1.003	S25	S26	22.672	0.600	114.732	114.415	0.317	71.5	450	6.15	49.8
8.000	S26L	S26	4.774	0.600	115.117	114.715	0.402	11.9	150	5.03	50.0
1.004	S26	S27	34.440	0.600	114.415	114.071	0.344	100.1	450	6.43	48.7
9.000	S27L	S27	9.766	0.600	115.272	114.370	0.902	10.8	150	5.05	50.0
1.005	S27	S28	22.518	0.600	114.070	113.695	0.375	60.0	450	6.57	48.2
10.000	S28L	S28	7.704	0.600	114.690	113.995	0.695	11.1	150	5.04	50.0
1.006	S28	S34	15.321	0.600	113.695	113.503	0.192	79.8	450	6.69	47.8
11.000	S29L	S29	14.506	0.600	115.176	115.118	0.058	250.1	150	5.38	50.0

Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.001	S29	S30	14.198	0.600	115.043	114.976	0.067	211.9	225	5.65	50.0
12.000	S30La	S30	19.857	0.600	115.743	114.977	0.766	25.9	225	5.13	50.0
13.000	S30Lb	S30	21.541	0.600	115.816	114.977	0.839	25.7	225	5.14	50.0
11.002	S30	S31	17.554	0.600	114.826	114.659	0.167	105.1	375	5.81	50.0
11.003	S31	S32	33.417	0.600	114.659	114.057	0.602	55.5	375	6.04	50.0
14.000	S32L	S32	3.899	0.600	114.783	114.282	0.501	7.8	150	5.02	50.0
11.004	S32	S33	17.637	0.600	114.057	113.836	0.221	79.8	375	6.19	49.6
11.005	S33	S34	33.455	0.600	113.836	113.503	0.333	100.5	375	6.50	48.5
1.007	S34	S35	19.035	0.600	113.429	113.191	0.238	80.0	525	6.81	47.4
1.008	S35	S36	23.693	0.600	113.191	112.326	0.865	27.4	525	6.90	47.1
15.000	S36L	S36	7.274	0.600	113.690	112.701	0.989	7.4	150	5.03	50.0
1.009	S36	S40	19.753	0.600	112.326	111.718	0.608	32.5	525	6.99	46.8
16.001	S37L	S38	16.408	0.600	113.773	113.710	0.063	260.4	225	5.34	50.0
17.000	S38L	S38	12.161	0.600	113.954	113.709	0.245	49.6	225	5.11	50.0
16.002	S38	S39	40.000	0.600	113.634	113.217	0.417	95.9	300	5.75	50.0
18.000	S39La	S39	6.603	0.600	113.916	113.367	0.549	12.0	150	5.04	50.0
19.000	S39Lb	S39	2.884	0.600	113.768	113.368	0.400	7.2	150	5.01	50.0
16.003	S39	S40	38.388	0.600	113.217	111.942	1.275	30.1	300	5.98	50.0
1.010	S40	S41	40.900	0.600	111.643	111.253	0.390	104.9	600	7.27	45.8
20.000	S41La	S41	9.634	0.600	112.668	111.702	0.966	10.0	150	5.05	50.0
21.000	S41Lb	S41	8.292	0.600	112.520	111.703	0.817	10.1	150	5.04	50.0
1.011	S41	S42	44.432	0.600	111.102	110.624	0.478	93.0	750	7.53	45.0
22.000	S42La	S42	9.150	0.600	112.180	111.149	1.031	8.9	225	5.03	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.001	0.894	35.5	6.8	1.643	1.873	0.050	0.0
12.000	2.580	102.6	24.9	1.232	1.872	0.184	0.0
13.000	2.592	103.1	10.2	0.839	1.872	0.075	0.0
11.002	1.767	195.1	47.6	1.873	2.054	0.351	0.0
11.003	2.436	269.0	51.4	2.054	2.936	0.379	0.0
14.000	3.634	64.2	14.4	2.552	2.936	0.106	0.0
11.004	2.029	224.1	67.7	2.936	2.827	0.503	0.0
11.005	1.807	199.6	69.4	2.827	2.537	0.528	0.0
1.007	2.506	542.4	198.5	2.461	2.441	1.546	0.0
1.008	4.291	928.9	201.2	2.441	2.965	1.577	0.0
15.000	3.739	66.1	14.4	2.195	2.965	0.106	0.0
1.009	3.939	852.7	215.4	2.965	3.285	1.699	0.0
16.001	0.805	32.0	5.0	2.004	2.004	0.037	0.0
17.000	1.861	74.0	11.1	1.821	2.005	0.082	0.0
16.002	1.605	113.5	18.0	2.005	2.562	0.133	0.0
18.000	2.921	51.6	7.6	1.994	2.562	0.056	0.0
19.000	3.776	66.7	4.9	2.167	2.561	0.036	0.0
16.003	2.875	203.2	34.8	2.562	3.286	0.257	0.0
1.010	2.377	672.2	250.5	3.285	2.980	2.016	0.0
20.000	3.209	56.7	16.3	2.222	2.981	0.120	0.0
21.000	3.181	56.2	7.7	2.374	2.980	0.057	0.0
1.011	2.903	1282.4	273.9	2.981	2.568	2.243	0.0
22.000	4.418	175.7	29.1	1.731	2.568	0.215	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
23.000	S42Lb	S42	8.212	0.600	112.046	111.149	0.897	9.2	225	5.03	50.0
1.012	S42	S44	28.044	0.600	110.624	110.155	0.469	59.8	750	7.66	44.7
24.000	S43	S44	24.836	0.600	111.169	110.680	0.489	50.8	225	5.23	50.0
25.000	S44L	S44	10.741	0.600	110.867	110.680	0.187	57.4	225	5.10	50.0
1.013	S44	S45	19.933	0.600	110.155	109.956	0.199	100.2	750	7.78	44.3
1.014	S45	S46	19.479	0.600	109.957	109.713	0.244	79.8	750	7.88	44.0
26.000	S46L	S46	7.311	0.600	110.519	109.788	0.731	10.0	150	5.04	50.0
1.015	S46	S60	14.567	0.600	109.713	108.504	1.209	12.0	750	7.91	43.9
27.000	S47L	S47	10.634	0.600	114.459	114.353	0.106	100.3	225	5.14	50.0
27.001	S47	S48	37.674	0.600	114.278	113.976	0.302	124.7	300	5.58	50.0
28.000	S48L	S48	10.870	0.600	114.520	114.051	0.469	23.2	225	5.07	50.0
27.002	S48	S49	17.482	0.600	113.901	113.726	0.175	99.9	375	5.74	50.0
29.000	S49L	S49	10.416	0.600	113.906	113.876	0.030	347.2	225	5.25	50.0
27.003	S49	S52	17.756	0.600	113.726	113.547	0.179	99.2	375	5.91	50.0
30.000	S50	S51	15.937	0.600	113.887	113.728	0.159	100.2	450	5.13	50.0
30.001	S51	S52	17.986	0.600	113.728	113.472	0.256	70.3	450	5.25	50.0
27.004	S52	S53	27.878	0.600	113.472	113.193	0.279	99.9	450	6.13	49.8
27.005	S53	S54	17.199	0.600	113.268	113.021	0.247	69.6	450	6.25	49.4
31.000	S54L	S54	5.310	0.600	113.659	113.321	0.338	15.7	150	5.03	50.0
27.006	S54	S54B	24.507	0.600	113.021	111.796	1.225	20.0	450	6.34	49.1
43.000	S54AL	S54A	5.384	0.600	112.607	112.417	0.190	28.3	150	5.05	50.0
43.001	S54A	S54B	50.143	0.600	112.117	111.796	0.321	156.2	450	5.56	50.0
27.007	S54B	S55	28.844	0.600	111.646	110.204	1.442	20.0	600	6.43	48.7
32.000	S55La	S55	9.253	0.600	111.504	110.654	0.850	10.9	150	5.05	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
23.000	4.350	173.0	13.7	1.884	2.568	0.101	0.0
1.012	3.622	1600.3	313.5	2.568	2.475	2.590	0.0
24.000	1.839	73.1	3.1	2.637	2.475	0.023	0.0
25.000	1.729	68.7	26.8	2.528	2.475	0.198	0.0
1.013	2.796	1235.2	340.5	2.475	2.327	2.836	0.0
1.014	3.133	1384.2	340.8	2.326	2.223	2.858	0.0
26.000	3.204	56.6	17.9	2.231	2.748	0.132	0.0
1.015	8.086	3572.3	358.6	2.223	3.186	3.013	0.0
27.000	1.305	51.9	7.9	2.386	2.268	0.058	0.0
27.001	1.406	99.4	17.9	2.268	1.693	0.132	0.0
28.000	2.729	108.5	0.0	1.495	1.693	0.000	0.0
27.002	1.812	200.2	21.8	1.693	1.452	0.161	0.0
29.000	0.696	27.7	33.2	1.664	1.452	0.245	0.0
27.003	1.819	200.9	56.8	1.452	1.366	0.419	0.0
30.000	2.030	322.9	8.7	0.842	1.022	0.064	0.0
30.001	2.428	386.1	8.7	1.022	1.366	0.064	0.0
27.004	2.034	323.4	73.4	1.366	2.012	0.543	0.0
27.005	2.439	387.8	75.4	1.937	2.184	0.563	0.0
31.000	2.554	45.1	5.8	1.933	2.184	0.043	0.0
27.006	4.561	725.4	83.4	2.184	2.545	0.627	0.0
43.000	1.898	33.5	10.8	1.205	1.264	0.080	0.0
43.001	1.624	258.3	20.1	1.264	2.545	0.148	0.0
27.007	5.460	1543.9	107.8	2.545	3.262	0.816	0.0
32.000	3.071	54.3	11.0	2.746	3.262	0.081	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
33.000	S55Lb	S55	10.996	0.600	111.678	110.654	1.024	10.7	150	5.06	50.0
27.008	S55	S56	42.458	0.600	110.204	109.779	0.425	99.9	600	6.72	47.7
34.000	S56L	S56	8.895	0.600	111.053	110.154	0.899	9.9	225	5.04	50.0
27.009	S56	S57	16.903	0.600	109.779	109.493	0.286	59.1	600	6.81	47.4
35.000	S57L	S57	7.615	0.600	110.019	109.868	0.151	50.4	225	5.07	50.0
27.010	S57	S58	37.958	0.600	109.493	109.018	0.475	79.9	600	7.04	46.6
36.000	S58L	S58	10.471	0.600	109.784	109.468	0.316	33.1	150	5.10	50.0
27.011	S58	S59	17.556	0.600	109.018	108.799	0.219	80.2	600	7.15	46.2
37.000	S59L	S59	7.885	0.600	109.328	109.249	0.079	99.8	150	5.13	50.0
27.012	S59	S60	10.645	0.600	108.799	108.654	0.145	73.4	600	7.21	46.0
38.000	S60L	S60	11.104	0.600	110.167	109.104	1.063	10.4	150	5.06	50.0
1.016	S60	S61	33.369	0.600	108.354	107.689	0.665	50.2	900	8.04	43.6
1.017	S61	S62	21.844	0.600	107.689	107.416	0.273	80.0	900	8.14	43.3
1.018	S62	S63	16.372	0.600	107.416	107.211	0.205	79.9	900	8.22	43.0
39.000	S63La	S63	8.055	0.600	108.035	107.962	0.073	110.3	150	5.14	50.0
40.000	S63Lb	S63	3.867	0.600	108.000	107.961	0.039	99.2	150	5.06	50.0
1.019	S63	S64	36.472	0.600	107.212	106.847	0.365	99.9	900	8.41	42.5
41.000	S64L	S64	9.006	0.600	107.687	107.522	0.165	54.6	225	5.08	50.0
1.020	S64	S65	11.074	0.600	106.847	106.834	0.013	851.8	900	8.59	42.1
42.000	S65L	S65	7.176	0.600	108.252	107.585	0.667	10.8	150	5.04	50.0
1.021	S65	HW11	16.301	0.600	106.834	106.817	0.017	958.9	900	8.86	41.4
1.022	HW12	S66	8.328	0.600	106.817	106.808	0.009	925.3	900	5.14	50.0
1.023	S66	hw13	14.071	0.600	106.808	106.725	0.083	169.5	900	5.23	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
33.000	3.092	54.6	11.1	2.572	3.262	0.082	0.0
27.008	2.436	688.8	133.3	3.262	2.594	1.031	0.0
34.000	4.184	166.3	12.7	2.122	2.594	0.094	0.0
27.009	3.171	896.6	147.4	2.594	2.473	1.148	0.0
35.000	1.846	73.4	14.0	2.556	2.473	0.103	0.0
27.010	2.725	770.6	164.6	2.473	2.317	1.303	0.0
36.000	1.754	31.0	10.7	2.176	2.317	0.079	0.0
27.011	2.721	769.4	173.2	2.317	2.849	1.382	0.0
37.000	1.006	17.8	11.5	2.922	2.849	0.085	0.0
27.012	2.844	804.1	186.5	2.849	3.186	1.494	0.0
38.000	3.135	55.4	8.9	2.283	3.186	0.066	0.0
1.016	4.428	2817.1	543.8	3.186	2.998	4.607	0.0
1.017	3.504	2229.2	542.8	2.998	2.758	4.629	0.0
1.018	3.507	2231.3	542.0	2.758	2.445	4.646	0.0
39.000	0.956	16.9	10.3	2.571	2.444	0.076	0.0
40.000	1.009	17.8	17.6	2.520	2.445	0.130	0.0
1.019	3.134	1993.9	562.3	2.444	1.446	4.880	0.0
41.000	1.774	70.5	25.6	1.488	1.446	0.189	0.0
1.020	1.065	677.6	579.4	1.446	1.019	5.083	0.0
42.000	3.089	54.6	11.9	0.498	1.018	0.088	0.0
1.021	1.003	638.3	584.3	1.019	0.542	5.212	0.0
1.022	1.022	649.9	0.0	0.542	0.592	0.000	0.0
1.023	2.403	1528.9	0.0	0.592	0.144	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	17.277	27.0	225	1	118.050	116.108	1.717	117.871	115.469	2.177
1.001	28.960	186.8	450	1	117.871	115.244	2.177	117.331	115.089	1.792
1.001-1	28.959	185.6	450	1	117.331	115.089	1.792	117.331	114.933	1.948
2.000	5.244	95.4	150	1	117.280	115.636	1.494	117.286	115.581	1.555
3.000	4.584	131.0	150	1	117.262	115.616	1.496	117.286	115.581	1.555
2.001	34.771	99.9	450	1	117.286	115.281	1.555	117.331	114.933	1.948
4.000	7.016	72.3	150	1	117.400	115.330	1.920	117.331	115.233	1.948
5.000	9.167	127.3	150	1	117.490	115.305	2.035	117.331	115.233	1.948
1.002	24.898	123.9	450	1	117.331	114.933	1.948	117.627	114.732	2.445
6.000	5.435	12.1	225	1	117.642	115.983	1.434	117.763	115.532	2.006
6.001	31.671	116.4	300	1	117.763	115.457	2.006	117.836	115.185	2.351
7.000	11.596	78.4	150	1	117.800	115.483	2.167	117.836	115.335	2.351
6.002	25.854	85.0	375	1	117.836	115.110	2.351	117.627	114.806	2.446
1.003	22.672	71.5	450	1	117.627	114.732	2.445	117.358	114.415	2.493
8.000	4.774	11.9	150	1	117.490	115.117	2.223	117.358	114.715	2.493
1.004	34.440	100.1	450	1	117.358	114.415	2.493	116.932	114.071	2.411
9.000	9.766	10.8	150	1	117.100	115.272	1.678	116.932	114.370	2.412
1.005	22.518	60.0	450	1	116.932	114.070	2.412	116.646	113.695	2.501
10.000	7.704	11.1	150	1	116.896	114.690	2.056	116.646	113.995	2.501
1.006	15.321	79.8	450	1	116.646	113.695	2.501	116.415	113.503	2.462
11.000	14.506	250.1	150	1	116.950	115.176	1.624	116.911	115.118	1.643
11.001	14.198	211.9	225	1	116.911	115.043	1.643	117.074	114.976	1.873
12.000	19.857	25.9	225	1	117.200	115.743	1.232	117.074	114.977	1.872
13.000	21.541	25.7	225	1	116.880	115.816	0.839	117.074	114.977	1.872
11.002	17.554	105.1	375	1	117.074	114.826	1.873	117.088	114.659	2.054

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S20L	1200	Manhole	S20	1500	Manhole
1.001	S20	1500	Manhole	S20-1	1500	Manhole
1.001-1	S20-1	1500	Manhole	S22	1500	Manhole
2.000	S21La	1200	Manhole	S21	1500	Manhole
3.000	S21Lb	1200	Manhole	S21	1500	Manhole
2.001	S21	1500	Manhole	S22	1500	Manhole
4.000	S22Lb	1200	Manhole	S22	1500	Manhole
5.000	S22La	1200	Manhole	S22	1500	Manhole
1.002	S22	1500	Manhole	S25	1500	Manhole
6.000	S23L	1200	Manhole	S23	1200	Manhole
6.001	S23	1200	Manhole	S24	1200	Manhole
7.000	S24L	1200	Manhole	S24	1200	Manhole
6.002	S24	1200	Manhole	S25	1500	Manhole
1.003	S25	1500	Manhole	S26	1500	Manhole
8.000	S26L	1200	Manhole	S26	1500	Manhole
1.004	S26	1500	Manhole	S27	1500	Manhole
9.000	S27L	1200	Manhole	S27	1500	Manhole
1.005	S27	1500	Manhole	S28	1500	Manhole
10.000	S28L	1200	Manhole	S28	1500	Manhole
1.006	S28	1500	Manhole	S34	1800	Manhole
11.000	S29L	1200	Manhole	S29	1200	Manhole
11.001	S29	1200	Manhole	S30	1500	Manhole
12.000	S30La	1200	Manhole	S30	1500	Manhole
13.000	S30Lb	1200	Manhole	S30	1500	Manhole
11.002	S30	1500	Manhole	S31	1500	Manhole

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.003	33.417	55.5	375	1	117.088	114.659	2.054	117.368	114.057	2.936
14.000	3.899	7.8	150	1	117.485	114.783	2.552	117.368	114.282	2.936
11.004	17.637	79.8	375	1	117.368	114.057	2.936	117.038	113.836	2.827
11.005	33.455	100.5	375	1	117.038	113.836	2.827	116.415	113.503	2.537
1.007	19.035	80.0	525	1	116.415	113.429	2.461	116.157	113.191	2.441
1.008	23.693	27.4	525	1	116.157	113.191	2.441	115.816	112.326	2.965
15.000	7.274	7.4	150	1	116.035	113.690	2.195	115.816	112.701	2.965
1.009	19.753	32.5	525	1	115.816	112.326	2.965	115.528	111.718	3.285
16.001	16.408	260.4	225	1	116.002	113.773	2.004	115.939	113.710	2.004
17.000	12.161	49.6	225	1	116.000	113.954	1.821	115.939	113.709	2.005
16.002	40.000	95.9	300	1	115.939	113.634	2.005	116.079	113.217	2.562
18.000	6.603	12.0	150	1	116.060	113.916	1.994	116.079	113.367	2.562
19.000	2.884	7.2	150	1	116.085	113.768	2.167	116.079	113.368	2.561
16.003	38.388	30.1	300	1	116.079	113.217	2.562	115.528	111.942	3.286
1.010	40.900	104.9	600	1	115.528	111.643	3.285	114.833	111.253	2.980
20.000	9.634	10.0	150	1	115.040	112.668	2.222	114.833	111.702	2.981
21.000	8.292	10.1	150	1	115.044	112.520	2.374	114.833	111.703	2.980
1.011	44.432	93.0	750	1	114.833	111.102	2.981	113.942	110.624	2.568
22.000	9.150	8.9	225	1	114.136	112.180	1.731	113.942	111.149	2.568
23.000	8.212	9.2	225	1	114.155	112.046	1.884	113.942	111.149	2.568
1.012	28.044	59.8	750	1	113.942	110.624	2.568	113.380	110.155	2.475
24.000	24.836	50.8	225	1	114.031	111.169	2.637	113.380	110.680	2.475
25.000	10.741	57.4	225	1	113.620	110.867	2.528	113.380	110.680	2.475
1.013	19.933	100.2	750	1	113.380	110.155	2.475	113.033	109.956	2.327

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
11.003	S31	1500	Manhole	S32	1500	Manhole
14.000	S32L	1200	Manhole	S32	1500	Manhole
11.004	S32	1500	Manhole	S33	1500	Manhole
11.005	S33	1500	Manhole	S34	1800	Manhole
1.007	S34	1800	Manhole	S35	1500	Manhole
1.008	S35	1500	Manhole	S36	1500	Manhole
15.000	S36L	1200	Manhole	S36	1500	Manhole
1.009	S36	1500	Manhole	S40	1800	Manhole
16.001	S37L	1500	Manhole	S38	1500	Manhole
17.000	S38L	1200	Manhole	S38	1500	Manhole
16.002	S38	1500	Manhole	S39	1500	Manhole
18.000	S39La	1200	Manhole	S39	1500	Manhole
19.000	S39Lb	1200	Manhole	S39	1500	Manhole
16.003	S39	1500	Manhole	S40	1800	Manhole
1.010	S40	1800	Manhole	S41	1800	Manhole
20.000	S41La	1200	Manhole	S41	1800	Manhole
21.000	S41Lb	1200	Manhole	S41	1800	Manhole
1.011	S41	1800	Manhole	S42	1800	Manhole
22.000	S42La	1200	Manhole	S42	1800	Manhole
23.000	S42Lb	1200	Manhole	S42	1800	Manhole
1.012	S42	1800	Manhole	S44	1800	Manhole
24.000	S43	1200	Manhole	S44	1800	Manhole
25.000	S44L	1800	Manhole	S44	1800	Manhole
1.013	S44	1800	Manhole	S45	1800	Manhole

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.014	19.479	79.8	750	1	113.033	109.957	2.326	112.686	109.713	2.223
26.000	7.311	10.0	150	1	112.900	110.519	2.231	112.686	109.788	2.748
1.015	14.567	12.0	750	1	112.686	109.713	2.223	112.440	108.504	3.186
27.000	10.634	100.3	225	1	117.070	114.459	2.386	116.846	114.353	2.268
27.001	37.674	124.7	300	1	116.846	114.278	2.268	115.969	113.976	1.693
28.000	10.870	23.2	225	1	116.240	114.520	1.495	115.969	114.051	1.693
27.002	17.482	99.9	375	1	115.969	113.901	1.693	115.553	113.726	1.452
29.000	10.416	347.2	225	1	115.795	113.906	1.664	115.553	113.876	1.452
27.003	17.756	99.2	375	1	115.553	113.726	1.452	115.288	113.547	1.366
30.000	15.937	100.2	450	1	115.179	113.887	0.842	115.200	113.728	1.022
30.001	17.986	70.3	450	1	115.200	113.728	1.022	115.288	113.472	1.366
27.004	27.878	99.9	450	1	115.288	113.472	1.366	115.655	113.193	2.012
27.005	17.199	69.6	450	1	115.655	113.268	1.937	115.655	113.021	2.184
31.000	5.310	15.7	150	1	115.742	113.659	1.933	115.655	113.321	2.184
27.006	24.507	20.0	450	1	115.655	113.021	2.184	114.791	111.796	2.545
43.000	5.384	28.3	150	1	113.962	112.607	1.205	113.831	112.417	1.264
43.001	50.143	156.2	450	1	113.831	112.117	1.264	114.791	111.796	2.545
27.007	28.844	20.0	600	1	114.791	111.646	2.545	114.066	110.204	3.262
32.000	9.253	10.9	150	1	114.400	111.504	2.746	114.066	110.654	3.262
33.000	10.996	10.7	150	1	114.400	111.678	2.572	114.066	110.654	3.262
27.008	42.458	99.9	600	1	114.066	110.204	3.262	112.973	109.779	2.594
34.000	8.895	9.9	225	1	113.400	111.053	2.122	112.973	110.154	2.594
27.009	16.903	59.1	600	1	112.973	109.779	2.594	112.566	109.493	2.473
35.000	7.615	50.4	225	1	112.800	110.019	2.556	112.566	109.868	2.473
27.010	37.958	79.9	600	1	112.566	109.493	2.473	111.935	109.018	2.317

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.014	S45	1800	Manhole	S46	1800	Manhole
26.000	S46L	1200	Manhole	S46	1800	Manhole
1.015	S46	1800	Manhole	S60	1800	Manhole
27.000	S47L	1200	Manhole	S47	1800	Manhole
27.001	S47	1800	Manhole	S48	1200	Manhole
28.000	S48L	1200	Manhole	S48	1200	Manhole
27.002	S48	1200	Manhole	S49	1200	Manhole
29.000	S49L	1200	Manhole	S49	1200	Manhole
27.003	S49	1200	Manhole	S52	1500	Manhole
30.000	S50	1500	Manhole	S51	1500	Manhole
30.001	S51	1500	Manhole	S52	1500	Manhole
27.004	S52	1500	Manhole	S53	1500	Manhole
27.005	S53	1500	Manhole	S54	1500	Manhole
31.000	S54L	1200	Manhole	S54	1500	Manhole
27.006	S54	1500	Manhole	S54B	1500	Manhole
43.000	S54AL	1200	Manhole	S54A	1500	Manhole
43.001	S54A	1500	Manhole	S54B	1500	Manhole
27.007	S54B	1500	Manhole	S55	1500	Manhole
32.000	S55La	1200	Manhole	S55	1500	Manhole
33.000	S55Lb	1200	Manhole	S55	1500	Manhole
27.008	S55	1500	Manhole	S56	1500	Manhole
34.000	S56L	1200	Manhole	S56	1500	Manhole
27.009	S56	1500	Manhole	S57	1500	Manhole
35.000	S57L	1200	Manhole	S57	1500	Manhole
27.010	S57	1500	Manhole	S58	1500	Manhole

Pipeline Schedule

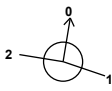
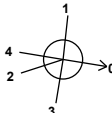
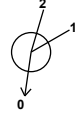
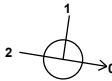
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
36.000	10.471	33.1	150	1	112.110	109.784	2.176	111.935	109.468	2.317
27.011	17.556	80.2	600	1	111.935	109.018	2.317	112.248	108.799	2.849
37.000	7.885	99.8	150	1	112.400	109.328	2.922	112.248	109.249	2.849
27.012	10.645	73.4	600	1	112.248	108.799	2.849	112.440	108.654	3.186
38.000	11.104	10.4	150	1	112.600	110.167	2.283	112.440	109.104	3.186
1.016	33.369	50.2	900	1	112.440	108.354	3.186	111.587	107.689	2.998
1.017	21.844	80.0	900	1	111.587	107.689	2.998	111.074	107.416	2.758
1.018	16.372	79.9	900	1	111.074	107.416	2.758	110.556	107.211	2.445
39.000	8.055	110.3	150	1	110.756	108.035	2.571	110.556	107.962	2.444
40.000	3.867	99.2	150	1	110.670	108.000	2.520	110.556	107.961	2.445
1.019	36.472	99.9	900	1	110.556	107.212	2.444	109.193	106.847	1.446
41.000	9.006	54.6	225	1	109.400	107.687	1.488	109.193	107.522	1.446
1.020	11.074	851.8	900	1	109.193	106.847	1.446	108.753	106.834	1.019
42.000	7.176	10.8	150	1	108.900	108.252	0.498	108.753	107.585	1.018
1.021	16.301	958.9	900	1	108.753	106.834	1.019	108.259	106.817	0.542
1.022	8.328	925.3	900	1	108.259	106.817	0.542	108.300	106.808	0.592
1.023	14.071	169.5	900	1	108.300	106.808	0.592	107.769	106.725	0.144

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
36.000	S58L	1200	Manhole	S58	1500	Manhole
27.011	S58	1500	Manhole	S59	1500	Manhole
37.000	S59L	1200	Manhole	S59	1500	Manhole
27.012	S59	1500	Manhole	S60	1800	Manhole
38.000	S60L	1200	Manhole	S60	1800	Manhole
1.016	S60	1800	Manhole	S61	1800	Manhole
1.017	S61	1800	Manhole	S62	1800	Manhole
1.018	S62	1800	Manhole	S63	1800	Manhole
39.000	S63La	1200	Manhole	S63	1800	Manhole
40.000	S63Lb	1200	Manhole	S63	1800	Manhole
1.019	S63	1800	Manhole	S64	1800	Manhole
41.000	S64L	1200	Manhole	S64	1800	Manhole
1.020	S64	1800	Manhole	S65	1800	Manhole
42.000	S65L	1200	Manhole	S65	1800	Manhole
1.021	S65	1800	Manhole	HW11		Manhole
1.022	HW12		Manhole	S66	2700	Manhole
1.023	S66	2700	Manhole	hw13		Manhole

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S20L	443733.375	291579.662	118.050	1.942	1200	1		0	1.000	116.108	225
S20	443732.941	291562.390	117.871	2.627	1500	1		1	1.000	115.469	225
								0	1.001	115.244	450

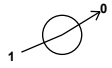
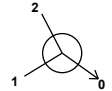
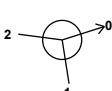
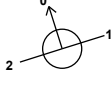
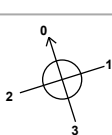
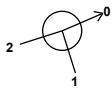
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S20-1	443761.515	291557.676	117.331	2.242	1500	1		1 1.001	115.089	450
								0 1.001-1	115.089	450
S21La	443779.275	291519.489	117.280	1.644	1200	1		0 2.000	115.636	150
S21Lb	443788.793	291517.177	117.262	1.646	1200	1		0 3.000	115.616	150
S21	443784.452	291518.651	117.286	2.005	1500	1		1 3.000	115.581	150
								2 2.000	115.581	150
								0 2.001	115.281	450
S22Lb	443790.843	291559.937	117.400	2.070	1200	1		0 4.000	115.330	150
S22La	443781.363	291550.151	117.490	2.185	1200	1		0 5.000	115.305	150
S22	443790.088	291552.962	117.331	2.398	1500	1		1 4.000	115.233	150
								2 5.000	115.233	150
								3 2.001	114.933	450
								4 1.001-1	114.933	450
								0 1.002	114.933	450
S23L	443822.239	291606.954	117.642	1.659	1200	1		0 6.000	115.983	225
S23	443827.290	291604.948	117.763	2.306	1200	1		1 6.000	115.532	225
								0 6.001	115.457	300
S24L	443828.381	291580.361	117.800	2.317	1200	1		0 7.000	115.483	150
S24	443818.334	291574.570	117.836	2.726	1200	1		1 7.000	115.335	150
								2 6.001	115.185	300
								0 6.002	115.110	375
S25	443814.665	291548.978	117.627	2.895	1500	1		1 6.002	114.806	375
								2 1.002	114.732	450
								0 1.003	114.732	450
S26L	443835.771	291540.759	117.490	2.373	1200	1		0 8.000	115.117	150

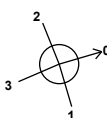
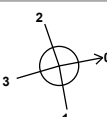
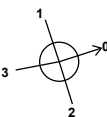
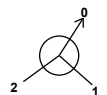
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S26	443837.046	291545.359	117.358	2.943	1500	1	2 0 1	1 2 0	8.000 1.003 1.004	114.715 114.415 114.415	150 450 450
S27L	443865.956	291545.642	117.100	1.828	1200	1	0	0	9.000	115.272	150
S27	443870.449	291536.970	116.932	2.862	1500	1	1 2 0	1 2 0	9.000 1.004 1.005	114.370 114.071 114.070	150 450 450
S28L	443866.251	291511.974	116.896	2.206	1200	1	0	0	10.000	114.690	150
S28	443873.473	291514.657	116.646	2.951	1500	1	2 1 0	1 2 0	10.000 1.005 1.006	113.995 113.695 113.695	150 450 450
S29L	443778.867	291486.594	116.950	1.774	1200	1	0	0	11.000	115.176	150
S29	443792.126	291492.477	116.911	1.868	1200	1	1 0	1 0	11.000 11.001	115.118 115.043	150 225
S30La	443779.089	291472.233	117.200	1.457	1200	1	0	0	12.000	115.743	225
S30Lb	443817.168	291488.420	116.880	1.064	1200	1	0	0	13.000	115.816	225
S30	443797.614	291479.383	117.074	2.248	1500	1	3 2 1 0	1 2 3 0	12.000 13.000 11.001 11.002	114.977 114.977 114.976 114.826	225 225 225 375
S31	443805.080	291463.496	117.088	2.429	1500	1	1 0	1 0	11.002 11.003	114.659 114.659	375 375
S32L	443837.292	291473.128	117.485	2.702	1200	1	0	0	14.000	114.783	150
S32	443835.770	291476.718	117.368	3.311	1500	1	2 0 1	1 2 0	14.000 11.003 11.004	114.282 114.057 114.057	150 375 375

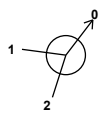
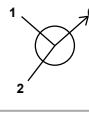
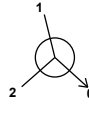
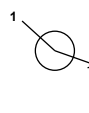
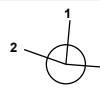
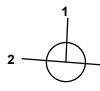
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S33	443852.007	291483.605	117.038	3.202	1500	1		1 11.004	113.836	375
								0 11.005	113.836	375
S34	443880.545	291501.065	116.415	2.986	1800	1		1 11.005	113.503	375
								2 1.006	113.503	450
								0 1.007	113.429	525
S35	443896.046	291490.017	116.157	2.966	1500	1		1 1.007	113.191	525
								0 1.008	113.191	525
S36L	443920.666	291479.743	116.035	2.345	1200	1				
								0 15.000	113.690	150
S36	443919.537	291486.928	115.816	3.490	1500	1		1 15.000	112.701	150
								2 1.008	112.326	525
								0 1.009	112.326	525
S37L	443946.282	291413.204	116.002	2.229	1500	1				
								0 16.001	113.773	225
S38L	443973.534	291421.779	116.000	2.046	1200	1				
								0 17.000	113.954	225
S38	443961.926	291418.152	115.939	2.305	1500	1		1 17.000	113.709	225
								2 16.001	113.710	225
								0 16.002	113.634	300
S39La	443943.565	291454.311	116.060	2.144	1200	1				
								0 18.000	113.916	150
S39Lb	443952.616	291457.154	116.085	2.317	1200	1				
								0 19.000	113.768	150
S39	443949.864	291456.290	116.079	2.862	1500	1		1 19.000	113.368	150
								2 18.000	113.367	150
								3 16.002	113.217	300
								0 16.003	113.217	300
S40	443938.361	291492.914	115.528	3.885	1800	1		1 16.003	111.942	300
								2 1.009	111.718	525
								0 1.010	111.643	600
S41La	443972.335	291518.035	115.040	2.372	1200	1				
								0 20.000	112.668	150

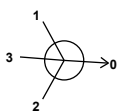
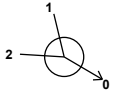
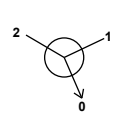
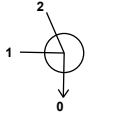
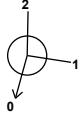
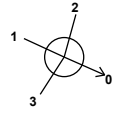
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S41Lb	443978.271	291501.141	115.044	2.524	1200	1		0	21.000	112.520	150
S41	443975.924	291509.094	114.833	3.731	1800	1		1	21.000	111.703	150
								2	20.000	111.702	150
								3	1.010	111.253	600
								0	1.011	111.102	750
S42La	444015.588	291530.233	114.136	1.956	1200	1		0	22.000	112.180	225
S42Lb	444020.020	291513.499	114.155	2.109	1200	1		0	23.000	112.046	225
S42	444018.565	291521.581	113.942	3.318	1800	1		1	23.000	111.149	225
								2	22.000	111.149	225
								3	1.011	110.624	750
								0	1.012	110.624	750
S43	444053.518	291503.522	114.031	2.862	1200	1		0	24.000	111.169	225
S44L	444042.718	291537.421	113.620	2.753	1800	1		0	25.000	110.867	225
S44	444046.213	291526.845	113.380	3.225	1800	1		1	25.000	110.680	225
								2	24.000	110.680	225
								3	1.012	110.155	750
								0	1.013	110.155	750
S45	444065.128	291532.942	113.033	3.077	1800	1		1	1.013	109.956	750
								0	1.014	109.957	750
S46L	444086.341	291539.566	112.900	2.381	1200	1		0	26.000	110.519	150
S46	444080.870	291544.415	112.686	2.973	1800	1		1	26.000	109.788	150
								2	1.014	109.713	750
								0	1.015	109.713	750
S47L	443884.230	291600.704	117.070	2.611	1200	1		0	27.000	114.459	225
S47	443894.371	291597.505	116.846	2.568	1800	1		1	27.000	114.353	225
								0	27.001	114.278	300

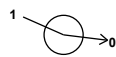
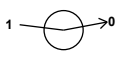
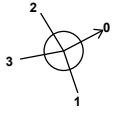
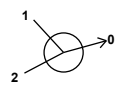
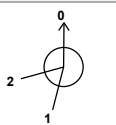
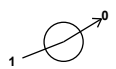
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S48L	443895.036	291634.825	116.240	1.720	1200	1		0	28.000	114.520	225
S48	443905.812	291633.399	115.969	2.068	1200	1		1	28.000	114.051	225
							2	27.001	113.976	300	
							0	27.002	113.901	375	
S49L	443908.595	291654.145	115.795	1.889	1200	1		0	29.000	113.906	225
S49	443916.433	291647.285	115.553	1.827	1200	1		1	29.000	113.876	225
							2	27.002	113.726	375	
							0	27.003	113.726	375	
S50	443924.387	291692.392	115.179	1.292	1500	1		0	30.000	113.887	450
S51	443925.446	291676.490	115.200	1.472	1500	1		1	30.000	113.728	450
							0	30.001	113.728	450	
S52	443929.752	291659.028	115.288	1.816	1500	1		1	30.001	113.472	450
							2	27.003	113.547	375	
							0	27.004	113.472	450	
S53	443950.409	291640.307	115.655	2.462	1500	1		1	27.004	113.193	450
							0	27.005	113.268	450	
S54L	443967.124	291639.883	115.742	2.083	1200	1		0	31.000	113.659	150
S54	443966.632	291634.596	115.655	2.634	1500	1		1	31.000	113.321	150
							2	27.005	113.021	450	
							0	27.006	113.021	450	
S54AL	443987.860	291683.145	113.962	1.355	1200	1		0	43.000	112.607	150
S54A	443993.232	291682.789	113.831	1.714	1500	1		1	43.000	112.417	150
							0	43.001	112.117	450	
S54B	443991.065	291632.693	114.791	3.145	1500	1		1	43.001	111.796	450
							2	27.006	111.796	450	
							0	27.007	111.646	600	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S55La	444015.384	291638.573	114.400	2.896	1200	1		0	32.000	111.504	150
S55Lb	444014.478	291620.844	114.400	2.722	1200	1		0	33.000	111.678	150
S55	444019.822	291630.453	114.066	3.862	1500	1		1 2 3 0	32.000 33.000 27.007 27.008	110.654 110.654 110.204 110.204	150 150 600 600
S56L	444060.124	291636.503	113.400	2.347	1200	1		0	34.000	111.053	225
S56	444062.200	291627.854	112.973	3.194	1500	1		1 2 0	34.000 27.008 27.009	110.154 109.779 109.779	225 600 600
S57L	444083.653	291622.557	112.800	2.781	1200	1		0	35.000	110.019	225
S57	444076.774	291619.291	112.566	3.073	1500	1		1 2 0	35.000 27.009 27.010	109.868 109.493 109.493	225 600 600
S58L	444081.447	291584.691	112.110	2.326	1200	1		0	36.000	109.784	150
S58	444091.916	291584.485	111.935	2.917	1500	1		1 2 0	36.000 27.010 27.011	109.468 109.018 109.018	150 600 600
S59L	444099.362	291565.725	112.400	3.072	1200	1		0	37.000	109.328	150
S59	444091.570	291566.932	112.248	3.449	1500	1		1 2 0	37.000 27.011 27.012	109.249 108.799 108.799	150 600 600
S60L	444078.664	291561.316	112.600	2.433	1200	1		0	38.000	110.167	150
S60	444088.748	291556.668	112.440	4.086	1800	1		1 2 3 0	38.000 27.012 1.015 1.016	109.104 108.654 108.504 108.354	150 600 750 900

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S61	444119.267	291543.174	111.587	3.898	1800	1		1 1.016	107.689	900
								0 1.017	107.689	900
S62	444140.948	291540.513	111.074	3.658	1800	1		1 1.017	107.416	900
								0 1.018	107.416	900
S63La	444152.851	291550.401	110.756	2.721	1200	1		0 39.000	108.035	150
S63Lb	444158.283	291539.860	110.670	2.670	1200	1		0 40.000	108.000	150
S63	444157.041	291543.522	110.556	3.345	1800	1		1 40.000	107.961	150
								2 39.000	107.962	150
								3 1.018	107.211	900
								0 1.019	107.212	900
S64L	444183.206	291567.153	109.400	1.713	1200	1		0 41.000	107.687	225
S64	444189.306	291560.527	109.193	2.346	1800	1		1 41.000	107.522	225
								2 1.019	106.847	900
								0 1.020	106.847	900
S65L	444198.204	291556.517	108.900	0.648	1200	1		0 42.000	108.252	150
S65	444199.982	291563.469	108.753	1.919	1800	1		1 42.000	107.585	150
								2 1.020	106.834	900
								0 1.021	106.834	900
HW11	444200.122	291579.769	108.259	1.442		1		1 1.021	106.817	900
HW12	444214.527	291601.442	108.259	1.442		1		0 1.022	106.817	900
S66	444222.278	291604.489	108.300	1.492	2700	1		1 1.022	106.808	900
								0 1.023	106.808	900
hw13	444234.306	291611.790	107.769	1.044		1		1 1.023	106.725	900

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m ³ /ha)	0.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Detailed		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0
100	40	10	0

Node S66 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	106.808	Product Number	CTL-SHE-0210-2360-1300-2360
Design Depth (m)	1.300	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	23.6	Min Node Diameter (mm)	1800

Node HW12 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	106.817	Main Channel Slope (1:X)	100000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets

HW11

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	2225.0	0.0	1.666	3580.3	0.0	1.667	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.170	0.062	16.6	0.0696	0.0000	OK
15 minute summer	S20	10	115.343	0.099	26.2	0.1756	0.0000	OK
15 minute summer	S20-1	11	115.200	0.111	33.1	0.1964	0.0000	OK
15 minute summer	S21La	10	115.719	0.083	10.8	0.0935	0.0000	OK
15 minute summer	S21Lb	10	115.659	0.043	2.8	0.0484	0.0000	OK
15 minute summer	S21	10	115.353	0.072	18.7	0.1271	0.0000	OK
15 minute summer	S22Lb	10	115.425	0.095	15.4	0.1076	0.0000	OK
15 minute summer	S22La	10	115.378	0.073	7.6	0.0826	0.0000	OK
15 minute summer	S22	11	115.088	0.155	75.6	0.2732	0.0000	OK
15 minute summer	S23L	10	116.036	0.053	18.7	0.0604	0.0000	OK
15 minute summer	S23	10	115.556	0.099	25.0	0.1124	0.0000	OK
15 minute summer	S24L	10	115.543	0.060	6.8	0.0676	0.0000	OK
15 minute summer	S24	10	115.211	0.101	35.2	0.1138	0.0000	OK
15 minute summer	S25	11	114.899	0.167	115.6	0.2950	0.0000	OK
15 minute summer	S26L	10	115.165	0.048	11.6	0.0546	0.0000	OK
15 minute summer	S26	11	114.612	0.197	132.1	0.3484	0.0000	OK
15 minute summer	S27L	10	115.316	0.044	10.2	0.0498	0.0000	OK
15 minute summer	S27	11	114.256	0.186	154.2	0.3286	0.0000	OK
15 minute summer	S28L	10	114.730	0.040	8.3	0.0451	0.0000	OK
15 minute summer	S28	11	113.906	0.211	167.4	0.3730	0.0000	OK
15 minute summer	S29L	10	115.254	0.078	6.2	0.0885	0.0000	OK
15 minute summer	S29	10	115.117	0.074	8.5	0.0837	0.0000	OK
15 minute summer	S30La	10	115.829	0.086	31.9	0.0968	0.0000	OK
15 minute summer	S30Lb	10	115.870	0.054	13.0	0.0606	0.0000	OK
15 minute summer	S30	10	114.967	0.141	60.2	0.2484	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	16.5	1.880	0.164	0.1515	
15 minute summer	S20	1.001	S20-1	26.0	0.928	0.110	0.8114	
15 minute summer	S20-1	1.001-1	S22	32.7	0.837	0.138	1.1375	
15 minute summer	S21La	2.000	S21	10.7	1.078	0.589	0.0521	
15 minute summer	S21Lb	3.000	S21	2.8	0.667	0.178	0.0189	
15 minute summer	S21	2.001	S22	18.4	0.594	0.057	1.1184	
15 minute summer	S22Lb	4.000	S22	15.3	1.299	0.731	0.0826	
15 minute summer	S22La	5.000	S22	7.5	0.886	0.479	0.0778	
15 minute summer	S22	1.002	S25	76.1	1.497	0.262	1.2655	
15 minute summer	S23L	6.000	S23	18.6	2.599	0.124	0.0390	
15 minute summer	S23	6.001	S24	24.7	1.218	0.240	0.6430	
15 minute summer	S24L	7.000	S24	6.7	1.029	0.335	0.0758	
15 minute summer	S24	6.002	S25	35.0	1.479	0.161	0.6125	
15 minute summer	S25	1.003	S26	115.9	1.929	0.303	1.3634	
15 minute summer	S26L	8.000	S26	11.6	2.369	0.223	0.0233	
15 minute summer	S26	1.004	S27	132.6	1.986	0.410	2.2996	
15 minute summer	S27L	9.000	S27	10.2	2.362	0.187	0.0420	
15 minute summer	S27	1.005	S28	154.2	2.288	0.369	1.5177	
15 minute summer	S28L	10.000	S28	8.3	2.208	0.154	0.0288	
15 minute summer	S28	1.006	S34	167.4	2.295	0.462	1.1179	
15 minute summer	S29L	11.000	S29	6.1	0.697	0.548	0.1274	
15 minute summer	S29	11.001	S30	8.5	0.745	0.238	0.1613	
15 minute summer	S30La	12.000	S30	31.7	2.292	0.309	0.2745	
15 minute summer	S30Lb	13.000	S30	12.9	1.783	0.125	0.1556	
15 minute summer	S30	11.002	S31	59.9	1.735	0.307	0.6068	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	10	114.782	0.123	64.8	0.2175	0.0000	OK
15 minute summer	S32L	10	114.838	0.055	18.4	0.0623	0.0000	OK
15 minute summer	S32	10	114.216	0.159	85.6	0.2802	0.0000	OK
15 minute summer	S33	11	114.010	0.174	89.3	0.3069	0.0000	OK
15 minute summer	S34	11	113.681	0.252	262.5	0.6405	0.0000	OK
15 minute summer	S35	11	113.380	0.189	267.5	0.3341	0.0000	OK
15 minute summer	S36L	10	113.744	0.054	18.4	0.0613	0.0000	OK
15 minute summer	S36	11	112.532	0.206	287.5	0.3636	0.0000	OK
15 minute summer	S37L	10	113.840	0.067	6.4	0.1181	0.0000	OK
15 minute summer	S38L	10	114.020	0.066	14.2	0.0750	0.0000	OK
15 minute summer	S38	10	113.724	0.090	22.7	0.1584	0.0000	OK
15 minute summer	S39La	10	113.960	0.044	9.7	0.0499	0.0000	OK
15 minute summer	S39Lb	10	113.799	0.031	6.2	0.0350	0.0000	OK
15 minute summer	S39	11	113.311	0.093	43.8	0.1651	0.0000	OK
15 minute summer	S40	11	111.938	0.295	340.6	0.7513	0.0000	OK
15 minute summer	S41La	10	112.731	0.063	20.8	0.0712	0.0000	OK
15 minute summer	S41Lb	10	112.563	0.043	9.9	0.0482	0.0000	OK
15 minute summer	S41	11	111.374	0.272	377.2	0.6919	0.0000	OK
15 minute summer	S42La	10	112.250	0.070	37.3	0.0794	0.0000	OK
15 minute summer	S42Lb	10	112.094	0.048	17.5	0.0545	0.0000	OK
15 minute summer	S42	11	110.883	0.259	434.2	0.6601	0.0000	OK
15 minute summer	S43	10	111.204	0.035	4.0	0.0399	0.0000	OK
15 minute summer	S44L	10	110.978	0.111	34.3	0.2833	0.0000	OK
15 minute summer	S44	11	110.468	0.313	474.4	0.7954	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	64.2	1.699	0.238	1.2652	
15 minute summer	S32L	14.000	S32	18.3	3.141	0.286	0.0228	
15 minute summer	S32	11.004	S33	85.2	1.814	0.380	0.8284	
15 minute summer	S33	11.005	S34	90.0	1.777	0.451	1.6945	
15 minute summer	S34	1.007	S35	262.4	3.054	0.484	1.6389	
15 minute summer	S35	1.008	S36	267.4	3.606	0.288	1.7576	
15 minute summer	S36L	15.000	S36	18.3	3.205	0.278	0.0416	
15 minute summer	S36	1.009	S40	287.2	3.498	0.337	1.6222	
15 minute summer	S37L	16.001	S38	6.2	0.655	0.195	0.1570	
15 minute summer	S38L	17.000	S38	14.1	1.447	0.191	0.1186	
15 minute summer	S38	16.002	S39	22.5	1.238	0.198	0.7268	
15 minute summer	S39La	18.000	S39	9.7	2.243	0.187	0.0285	
15 minute summer	S39Lb	19.000	S39	6.2	2.368	0.093	0.0075	
15 minute summer	S39	16.003	S40	43.5	2.326	0.214	0.7184	
15 minute summer	S40	1.010	S41	339.6	2.476	0.505	5.6293	
15 minute summer	S41La	20.000	S41	20.7	2.963	0.365	0.0674	
15 minute summer	S41Lb	21.000	S41	9.9	2.397	0.175	0.0341	
15 minute summer	S41	1.011	S42	376.7	2.701	0.294	6.1971	
15 minute summer	S42La	22.000	S42	37.2	3.534	0.212	0.0963	
15 minute summer	S42Lb	23.000	S42	17.4	2.812	0.101	0.0509	
15 minute summer	S42	1.012	S44	433.4	2.812	0.271	4.3271	
15 minute summer	S43	24.000	S44	3.9	0.987	0.053	0.0984	
15 minute summer	S44L	25.000	S44	34.0	1.742	0.495	0.2099	
15 minute summer	S44	1.013	S45	473.2	2.829	0.383	3.3346	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.251	0.295	476.8	0.7518	0.0000	OK
15 minute summer	S46L	10	110.585	0.066	22.9	0.0750	0.0000	OK
15 minute summer	S46	11	109.898	0.185	500.8	0.4715	0.0000	OK
15 minute summer	S47L	10	114.526	0.067	10.1	0.0754	0.0000	OK
15 minute summer	S47	10	114.374	0.096	22.8	0.2437	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	113.993	0.092	27.2	0.1045	0.0000	OK
15 minute summer	S49L	10	114.121	0.215	42.5	0.2427	0.0000	OK
15 minute summer	S49	10	113.878	0.152	71.3	0.1716	0.0000	OK
15 minute summer	S50	10	113.944	0.057	11.1	0.1004	0.0000	OK
15 minute summer	S51	10	113.779	0.051	11.0	0.0908	0.0000	OK
15 minute summer	S52	11	113.634	0.162	91.9	0.2870	0.0000	OK
15 minute summer	S53	11	113.420	0.227	96.0	0.4010	0.0000	OK
15 minute summer	S54L	10	113.700	0.041	7.5	0.0468	0.0000	OK
15 minute summer	S54	11	113.136	0.115	107.1	0.2038	0.0000	OK
15 minute summer	S54AL	10	112.674	0.067	13.9	0.0760	0.0000	OK
15 minute summer	S54A	11	112.210	0.093	25.6	0.1643	0.0000	OK
15 minute summer	S54B	11	111.765	0.119	139.2	0.2111	0.0000	OK
15 minute summer	S55La	10	111.556	0.052	14.0	0.0588	0.0000	OK
15 minute summer	S55Lb	10	111.730	0.052	14.2	0.0591	0.0000	OK
15 minute summer	S55	11	110.407	0.203	175.0	0.3584	0.0000	OK
15 minute summer	S56L	10	111.100	0.047	16.3	0.0536	0.0000	OK
15 minute summer	S56	11	109.965	0.186	195.0	0.3293	0.0000	OK
15 minute summer	S57L	10	110.094	0.075	17.9	0.0851	0.0000	OK
15 minute summer	S57	11	109.708	0.215	221.2	0.3799	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	475.1	3.920	0.343	2.3834	
15 minute summer	S46L	26.000	S46	22.8	2.812	0.403	0.0773	
15 minute summer	S46	1.015	S60	499.8	5.929	0.140	1.2281	
15 minute summer	S47L	27.000	S47	10.0	1.019	0.193	0.1043	
15 minute summer	S47	27.001	S48	22.4	1.158	0.225	0.7280	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	27.3	0.880	0.136	0.5477	
15 minute summer	S49L	29.000	S49	42.0	1.159	1.520	0.3729	
15 minute summer	S49	27.003	S52	71.1	1.706	0.354	0.7407	
15 minute summer	S50	30.000	S51	11.0	1.024	0.034	0.1714	
15 minute summer	S51	30.001	S52	10.9	0.378	0.028	0.5529	
15 minute summer	S52	27.004	S53	92.7	1.413	0.287	1.8345	
15 minute summer	S53	27.005	S54	96.5	2.451	0.249	0.6799	
15 minute summer	S54L	31.000	S54	7.5	1.893	0.165	0.0209	
15 minute summer	S54	27.006	S54B	107.3	3.350	0.148	0.7851	
15 minute summer	S54AL	43.000	S54A	13.8	1.812	0.412	0.0411	
15 minute summer	S54A	43.001	S54B	25.1	1.061	0.097	1.1852	
15 minute summer	S54B	27.007	S55	139.2	2.290	0.090	1.7811	
15 minute summer	S55La	32.000	S55	13.9	2.576	0.257	0.0501	
15 minute summer	S55Lb	33.000	S55	14.1	2.599	0.259	0.0598	
15 minute summer	S55	27.008	S56	175.6	2.221	0.255	3.3597	
15 minute summer	S56L	34.000	S56	16.2	2.678	0.098	0.0539	
15 minute summer	S56	27.009	S57	195.5	2.369	0.218	1.3961	
15 minute summer	S57L	35.000	S57	17.8	1.535	0.243	0.0883	
15 minute summer	S57	27.010	S58	221.1	2.382	0.287	3.5247	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	10	109.854	0.070	13.7	0.0788	0.0000	OK
15 minute summer	S58	11	109.241	0.223	234.3	0.3932	0.0000	OK
15 minute summer	S59L	10	109.431	0.103	14.7	0.1167	0.0000	OK
15 minute summer	S59	11	109.025	0.226	253.1	0.3993	0.0000	OK
15 minute summer	S60L	10	110.213	0.046	11.4	0.0523	0.0000	OK
15 minute summer	S60	11	108.665	0.311	769.2	0.7913	0.0000	OK
15 minute summer	S61	11	108.049	0.360	771.3	0.9165	0.0000	OK
15 minute summer	S62	11	107.797	0.381	773.8	0.9699	0.0000	OK
15 minute summer	S63La	10	108.134	0.099	13.2	0.1118	0.0000	OK
15 minute summer	S63Lb	10	108.158	0.158	22.5	0.1792	0.0000	SURCHARGED
15 minute summer	S63	11	107.649	0.438	808.8	1.1137	0.0000	OK
15 minute summer	S64L	10	107.794	0.107	32.8	0.1211	0.0000	OK
15 minute summer	S64	12	107.514	0.667	840.5	1.6970	0.0000	OK
15 minute summer	S65L	10	108.306	0.054	15.3	0.0615	0.0000	OK
15 minute summer	S65	12	107.482	0.648	851.8	1.6490	0.0000	OK
720 minute summer	HW11	495	107.158	0.341	106.8	0.0000	0.0000	OK
720 minute summer	HW12	495	107.158	0.341	62.6	0.0000	0.0000	OK
960 minute summer	S66	690	107.201	0.393	86.0	2.2487	0.0000	OK
1440 minute summer	hw13	990	106.801	0.076	23.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	13.6	1.703	0.439	0.0837	
15 minute summer	S58	27.011	S59	234.3	2.441	0.305	1.6858	
15 minute summer	S59L	37.000	S59	14.6	1.130	0.820	0.1017	
15 minute summer	S59	27.012	S60	252.8	2.608	0.314	1.0320	
15 minute summer	S60L	38.000	S60	11.3	2.469	0.205	0.0510	
15 minute summer	S60	1.016	S61	767.7	3.570	0.273	7.1894	
15 minute summer	S61	1.017	S62	771.0	3.183	0.346	5.3748	
15 minute summer	S62	1.018	S63	769.8	2.811	0.345	4.5933	
15 minute summer	S63La	39.000	S63	13.1	1.063	0.774	0.0990	
15 minute summer	S63Lb	40.000	S63	22.3	1.275	1.250	0.0662	
15 minute summer	S63	1.019	S64	812.3	2.001	0.407	14.6895	
15 minute summer	S64L	41.000	S64	32.6	1.757	0.463	0.1673	
15 minute summer	S64	1.020	S65	830.3	1.698	1.225	5.4951	
15 minute summer	S65L	42.000	S65	15.2	2.652	0.279	0.0412	
15 minute summer	S65	1.021	HW11	947.9	4.102	1.485	4.2528	
720 minute summer	HW11	Flow through Pond	HW12	62.6	0.023	0.004	804.4124	
720 minute summer	HW12	1.022	S66	86.0	0.419	0.132	1.9389	
960 minute summer	S66	1.023	hw13	23.3	0.917	0.015	0.3590	930.6

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.194	0.086	31.6	0.0974	0.0000	OK
15 minute summer	S20	10	115.383	0.139	49.8	0.2453	0.0000	OK
15 minute summer	S20-1	11	115.243	0.154	62.8	0.2729	0.0000	OK
15 minute summer	S21La	10	115.772	0.136	20.4	0.1535	0.0000	OK
15 minute summer	S21Lb	10	115.676	0.060	5.3	0.0679	0.0000	OK
15 minute summer	S21	10	115.380	0.098	35.4	0.1740	0.0000	OK
15 minute summer	S22Lb	10	115.570	0.239	29.3	0.2708	0.0000	SURCHARGED
15 minute summer	S22La	10	115.417	0.112	14.5	0.1267	0.0000	OK
15 minute summer	S22	11	115.156	0.223	144.1	0.3936	0.0000	OK
15 minute summer	S23L	10	116.057	0.074	35.5	0.0838	0.0000	OK
15 minute summer	S23	10	115.598	0.141	47.6	0.1597	0.0000	OK
15 minute summer	S24L	10	115.569	0.086	12.8	0.0977	0.0000	OK
15 minute summer	S24	10	115.251	0.140	66.9	0.1589	0.0000	OK
15 minute summer	S25	11	114.975	0.243	219.2	0.4300	0.0000	OK
15 minute summer	S26L	10	115.185	0.068	22.1	0.0773	0.0000	OK
15 minute summer	S26	11	114.707	0.292	251.4	0.5167	0.0000	OK
15 minute summer	S27L	10	115.334	0.062	19.4	0.0700	0.0000	OK
15 minute summer	S27	11	114.346	0.276	293.7	0.4871	0.0000	OK
15 minute summer	S28L	10	114.746	0.056	15.8	0.0631	0.0000	OK
15 minute summer	S28	11	114.015	0.320	319.2	0.5653	0.0000	OK
15 minute summer	S29L	10	115.296	0.120	11.8	0.1352	0.0000	OK
15 minute summer	S29	10	115.148	0.105	16.2	0.1187	0.0000	OK
15 minute summer	S30La	10	115.867	0.123	60.6	0.1396	0.0000	OK
15 minute summer	S30Lb	10	115.891	0.074	24.7	0.0843	0.0000	OK
15 minute summer	S30	10	115.028	0.202	114.5	0.3577	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	31.4	2.252	0.313	0.2410	
15 minute summer	S20	1.001	S20-1	49.3	1.103	0.209	1.2959	
15 minute summer	S20-1	1.001-1	S22	62.1	0.986	0.262	1.8289	
15 minute summer	S21La	2.000	S21	20.2	1.227	1.112	0.0864	
15 minute summer	S21Lb	3.000	S21	5.2	0.798	0.338	0.0301	
15 minute summer	S21	2.001	S22	35.0	0.690	0.108	1.8032	
15 minute summer	S22Lb	4.000	S22	28.9	1.644	1.384	0.1223	
15 minute summer	S22La	5.000	S22	14.3	1.020	0.913	0.1288	
15 minute summer	S22	1.002	S25	144.8	1.747	0.499	2.0626	
15 minute summer	S23L	6.000	S23	35.4	3.120	0.235	0.0617	
15 minute summer	S23	6.001	S24	47.0	1.449	0.457	1.0292	
15 minute summer	S24L	7.000	S24	12.7	1.208	0.631	0.1216	
15 minute summer	S24	6.002	S25	66.6	1.609	0.307	1.1073	
15 minute summer	S25	1.003	S26	220.6	2.243	0.576	2.2274	
15 minute summer	S26L	8.000	S26	22.0	2.823	0.424	0.0373	
15 minute summer	S26	1.004	S27	252.8	2.318	0.782	3.7560	
15 minute summer	S27L	9.000	S27	19.3	2.822	0.355	0.0669	
15 minute summer	S27	1.005	S28	294.1	2.642	0.704	2.5031	
15 minute summer	S28L	10.000	S28	15.7	2.647	0.293	0.0458	
15 minute summer	S28	1.006	S34	319.6	2.652	0.883	1.8466	
15 minute summer	S29L	11.000	S29	11.6	0.841	1.038	0.1994	
15 minute summer	S29	11.001	S30	16.1	0.890	0.452	0.2564	
15 minute summer	S30La	12.000	S30	60.3	2.706	0.587	0.4422	
15 minute summer	S30Lb	13.000	S30	24.5	2.142	0.238	0.2465	
15 minute summer	S30	11.002	S31	114.0	2.056	0.584	0.9737	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	10	114.834	0.175	123.2	0.3087	0.0000	OK
15 minute summer	S32L	10	114.862	0.079	34.9	0.0893	0.0000	OK
15 minute summer	S32	10	114.295	0.238	163.0	0.4198	0.0000	OK
15 minute summer	S33	11	114.102	0.266	169.5	0.4704	0.0000	OK
15 minute summer	S34	11	113.814	0.384	500.4	0.9784	0.0000	OK
15 minute summer	S35	11	113.462	0.271	510.2	0.4795	0.0000	OK
15 minute summer	S36L	10	113.768	0.078	34.9	0.0878	0.0000	OK
15 minute summer	S36	11	112.625	0.299	548.4	0.5281	0.0000	OK
15 minute summer	S37L	10	113.867	0.094	12.2	0.1661	0.0000	OK
15 minute summer	S38L	10	114.047	0.093	27.0	0.1056	0.0000	OK
15 minute summer	S38	10	113.761	0.127	43.4	0.2237	0.0000	OK
15 minute summer	S39La	10	113.978	0.062	18.4	0.0701	0.0000	OK
15 minute summer	S39Lb	10	113.811	0.043	11.8	0.0484	0.0000	OK
15 minute summer	S39	10	113.349	0.132	83.6	0.2336	0.0000	OK
15 minute summer	S40	11	112.099	0.456	649.1	1.1604	0.0000	OK
15 minute summer	S41La	10	112.760	0.092	39.5	0.1044	0.0000	OK
15 minute summer	S41Lb	10	112.580	0.060	18.8	0.0676	0.0000	OK
15 minute summer	S41	11	111.492	0.390	719.4	0.9917	0.0000	OK
15 minute summer	S42La	10	112.279	0.099	70.8	0.1119	0.0000	OK
15 minute summer	S42Lb	10	112.113	0.067	33.2	0.0753	0.0000	OK
15 minute summer	S42	11	111.003	0.379	828.4	0.9635	0.0000	OK
15 minute summer	S43	10	111.217	0.048	7.6	0.0548	0.0000	OK
15 minute summer	S44L	10	111.039	0.172	65.2	0.4373	0.0000	OK
15 minute summer	S44	11	110.614	0.459	904.5	1.1674	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	122.2	1.970	0.454	2.0700	
15 minute summer	S32L	14.000	S32	34.8	3.715	0.542	0.0366	
15 minute summer	S32	11.004	S33	161.7	2.063	0.721	1.3829	
15 minute summer	S33	11.005	S34	171.1	1.948	0.857	3.0317	
15 minute summer	S34	1.007	S35	500.5	3.529	0.923	2.6843	
15 minute summer	S35	1.008	S36	510.0	4.259	0.549	2.8369	
15 minute summer	S36L	15.000	S36	34.8	3.794	0.527	0.0667	
15 minute summer	S36	1.009	S40	548.1	3.707	0.643	2.9110	
15 minute summer	S37L	16.001	S38	12.0	0.788	0.374	0.2499	
15 minute summer	S38L	17.000	S38	26.8	1.728	0.363	0.1888	
15 minute summer	S38	16.002	S39	43.0	1.478	0.379	1.1629	
15 minute summer	S39La	18.000	S39	18.3	2.677	0.355	0.0452	
15 minute summer	S39Lb	19.000	S39	11.8	2.852	0.176	0.0119	
15 minute summer	S39	16.003	S40	82.9	2.715	0.408	1.2859	
15 minute summer	S40	1.010	S41	647.9	2.843	0.964	9.3788	
15 minute summer	S41La	20.000	S41	39.4	3.471	0.694	0.1093	
15 minute summer	S41Lb	21.000	S41	18.7	2.866	0.333	0.0542	
15 minute summer	S41	1.011	S42	719.2	3.183	0.561	10.0824	
15 minute summer	S42La	22.000	S42	70.6	4.213	0.402	0.1534	
15 minute summer	S42Lb	23.000	S42	33.1	3.382	0.191	0.0804	
15 minute summer	S42	1.012	S44	826.6	3.272	0.517	7.0804	
15 minute summer	S43	24.000	S44	7.5	1.195	0.102	0.1553	
15 minute summer	S44L	25.000	S44	64.6	1.990	0.940	0.3489	
15 minute summer	S44	1.013	S45	901.9	3.326	0.730	5.4044	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.385	0.429	908.8	1.0910	0.0000	OK
15 minute summer	S46L	10	110.617	0.098	43.4	0.1112	0.0000	OK
15 minute summer	S46	11	109.971	0.258	955.2	0.6555	0.0000	OK
15 minute summer	S47L	10	114.553	0.094	19.1	0.1058	0.0000	OK
15 minute summer	S47	10	114.414	0.136	43.3	0.3463	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.029	0.128	52.0	0.1451	0.0000	OK
15 minute summer	S49L	10	114.343	0.437	80.6	0.4942	0.0000	SURCHARGED
15 minute summer	S49	10	113.948	0.222	136.2	0.2509	0.0000	OK
15 minute summer	S50	10	113.964	0.077	21.1	0.1366	0.0000	OK
15 minute summer	S51	10	113.798	0.070	21.0	0.1236	0.0000	OK
15 minute summer	S52	10	113.709	0.237	175.3	0.4190	0.0000	OK
15 minute summer	S53	11	113.481	0.288	181.7	0.5092	0.0000	OK
15 minute summer	S54L	10	113.717	0.058	14.2	0.0654	0.0000	OK
15 minute summer	S54	11	113.181	0.160	202.7	0.2834	0.0000	OK
15 minute summer	S54AL	10	112.707	0.100	26.3	0.1129	0.0000	OK
15 minute summer	S54A	10	112.246	0.129	48.6	0.2280	0.0000	OK
15 minute summer	S54B	11	111.811	0.165	264.2	0.2909	0.0000	OK
15 minute summer	S55La	10	111.578	0.074	26.7	0.0841	0.0000	OK
15 minute summer	S55Lb	10	111.753	0.075	27.0	0.0843	0.0000	OK
15 minute summer	S55	11	110.491	0.287	332.1	0.5068	0.0000	OK
15 minute summer	S56L	10	111.119	0.065	30.9	0.0740	0.0000	OK
15 minute summer	S56	11	110.046	0.267	370.1	0.4710	0.0000	OK
15 minute summer	S57L	10	110.126	0.107	33.9	0.1206	0.0000	OK
15 minute summer	S57	11	109.802	0.309	420.4	0.5452	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	906.5	4.628	0.655	3.8283	
15 minute summer	S46L	26.000	S46	43.3	3.016	0.765	0.1091	
15 minute summer	S46	1.015	S60	954.2	6.521	0.267	2.1777	
15 minute summer	S47L	27.000	S47	18.9	1.216	0.365	0.1657	
15 minute summer	S47	27.001	S48	42.5	1.381	0.428	1.1662	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	51.8	1.036	0.259	0.8838	
15 minute summer	S49L	29.000	S49	80.1	2.015	2.896	0.4101	
15 minute summer	S49	27.003	S52	134.8	2.003	0.671	1.2013	
15 minute summer	S50	30.000	S51	21.0	1.244	0.065	0.2685	
15 minute summer	S51	30.001	S52	20.7	0.435	0.054	0.9020	
15 minute summer	S52	27.004	S53	175.4	1.833	0.542	2.6642	
15 minute summer	S53	27.005	S54	182.6	2.937	0.471	1.0712	
15 minute summer	S54L	31.000	S54	14.1	2.264	0.313	0.0332	
15 minute summer	S54	27.006	S54B	203.6	4.018	0.281	1.2417	
15 minute summer	S54AL	43.000	S54A	26.2	2.105	0.781	0.0670	
15 minute summer	S54A	43.001	S54B	47.7	1.279	0.185	1.8722	
15 minute summer	S54B	27.007	S55	264.5	2.731	0.171	2.8213	
15 minute summer	S55La	32.000	S55	26.6	3.060	0.490	0.0804	
15 minute summer	S55Lb	33.000	S55	26.9	3.084	0.492	0.0959	
15 minute summer	S55	27.008	S56	333.3	2.627	0.484	5.3887	
15 minute summer	S56L	34.000	S56	30.8	3.222	0.185	0.0851	
15 minute summer	S56	27.009	S57	371.6	2.786	0.414	2.2553	
15 minute summer	S57L	35.000	S57	33.7	1.825	0.460	0.1409	
15 minute summer	S57	27.010	S58	422.2	2.814	0.548	5.6946	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	10	109.889	0.105	26.0	0.1185	0.0000	OK
15 minute summer	S58	11	109.340	0.322	447.2	0.5692	0.0000	OK
15 minute summer	S59L	10	109.589	0.261	28.0	0.2956	0.0000	SURCHARGED
15 minute summer	S59	11	109.127	0.328	485.4	0.5791	0.0000	OK
15 minute summer	S60L	10	110.232	0.065	21.7	0.0738	0.0000	OK
15 minute summer	S60	11	108.805	0.451	1471.4	1.1484	0.0000	OK
15 minute summer	S61	11	108.240	0.551	1477.7	1.4031	0.0000	OK
15 minute summer	S62	11	108.032	0.616	1487.8	1.5684	0.0000	OK
15 minute summer	S63La	10	108.263	0.228	25.0	0.2578	0.0000	SURCHARGED
15 minute summer	S63Lb	10	108.338	0.338	42.8	0.3820	0.0000	SURCHARGED
15 minute summer	S63	12	107.943	0.732	1557.6	1.8620	0.0000	OK
15 minute summer	S64L	12	107.955	0.268	62.2	0.3027	0.0000	SURCHARGED
15 minute summer	S64	12	107.855	1.008	1542.9	2.5642	0.0000	SURCHARGED
15 minute summer	S65L	10	108.330	0.078	29.0	0.0879	0.0000	OK
15 minute summer	S65	11	107.733	0.899	1623.0	2.2875	0.0000	OK
600 minute summer	HW11	525	107.442	0.625	212.1	0.0000	0.0000	OK
720 minute summer	HW12	600	107.443	0.626	432.7	0.0000	0.0000	OK
480 minute summer	S66	464	107.521	0.713	193.8	4.0851	0.0000	OK
60 minute summer	hw13	176	106.801	0.076	23.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	25.8	1.968	0.833	0.1374	
15 minute summer	S58	27.011	S59	449.9	2.888	0.585	2.7345	
15 minute summer	S59L	37.000	S59	27.6	1.569	1.554	0.1373	
15 minute summer	S59	27.012	S60	485.7	3.088	0.604	1.6747	
15 minute summer	S60L	38.000	S60	21.6	2.946	0.390	0.0815	
15 minute summer	S60	1.016	S61	1470.8	4.073	0.522	12.0985	
15 minute summer	S61	1.017	S62	1482.5	3.419	0.665	9.5004	
15 minute summer	S62	1.018	S63	1486.7	3.051	0.666	8.2681	
15 minute summer	S63La	39.000	S63	24.6	1.398	1.457	0.1394	
15 minute summer	S63Lb	40.000	S63	42.4	2.407	2.376	0.0674	
15 minute summer	S63	1.019	S64	1501.0	2.435	0.753	21.6123	
15 minute summer	S64L	41.000	S64	58.2	1.994	0.825	0.3582	
15 minute summer	S64	1.020	S65	1589.4	2.508	2.346	7.0114	
15 minute summer	S65L	42.000	S65	28.9	3.088	0.530	0.0932	
15 minute summer	S65	1.021	HW11	1783.8	5.378	2.795	5.9854	
600 minute summer	HW11	Flow through Pond	HW12	269.0	0.033	0.016	1547.6796	
720 minute summer	HW12	1.022	S66	203.1	0.466	0.313	4.1888	
480 minute summer	S66	1.023	hw13	23.6	0.922	0.015	0.3603	749.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	10	116.229	0.121	57.4	0.1369	0.0000	OK
15 minute summer	S20	12	115.666	0.422	90.6	0.7462	0.0000	OK
15 minute summer	S20-1	12	115.674	0.585	114.3	1.0340	0.0000	SURCHARGED
15 minute summer	S21La	10	115.959	0.323	37.1	0.3648	0.0000	SURCHARGED
15 minute summer	S21Lb	10	115.701	0.085	9.6	0.0959	0.0000	OK
15 minute summer	S21	12	115.660	0.379	64.1	0.6690	0.0000	OK
15 minute summer	S22Lb	11	116.120	0.790	53.2	0.8932	0.0000	SURCHARGED
15 minute summer	S22La	12	115.766	0.461	26.3	0.5218	0.0000	SURCHARGED
15 minute summer	S22	12	115.657	0.724	247.8	1.2788	0.0000	SURCHARGED
15 minute summer	S23L	10	116.085	0.102	64.6	0.1157	0.0000	OK
15 minute summer	S23	10	115.663	0.206	86.6	0.2335	0.0000	OK
15 minute summer	S24L	12	115.731	0.248	23.3	0.2809	0.0000	SURCHARGED
15 minute summer	S24	12	115.586	0.476	120.9	0.5380	0.0000	SURCHARGED
15 minute summer	S25	12	115.546	0.814	342.8	1.4391	0.0000	SURCHARGED
15 minute summer	S26L	12	115.492	0.375	40.1	0.4245	0.0000	SURCHARGED
15 minute summer	S26	12	115.329	0.914	376.7	1.6157	0.0000	SURCHARGED
15 minute summer	S27L	11	115.362	0.090	35.3	0.1018	0.0000	OK
15 minute summer	S27	12	114.901	0.831	427.0	1.4679	0.0000	SURCHARGED
15 minute summer	S28L	11	114.773	0.083	28.7	0.0937	0.0000	OK
15 minute summer	S28	12	114.523	0.828	466.6	1.4623	0.0000	SURCHARGED
15 minute summer	S29L	12	115.775	0.599	21.5	0.6778	0.0000	SURCHARGED
15 minute summer	S29	12	115.617	0.574	29.3	0.6490	0.0000	SURCHARGED
15 minute summer	S30La	11	116.334	0.590	110.0	0.6678	0.0000	SURCHARGED
15 minute summer	S30Lb	10	115.919	0.103	44.9	0.1166	0.0000	OK
15 minute summer	S30	12	115.576	0.750	195.2	1.3255	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	57.1	2.629	0.569	0.4775	
15 minute summer	S20	1.001	S20-1	89.8	1.253	0.381	4.5310	
15 minute summer	S20-1	1.001-1	S22	112.6	1.066	0.476	4.5884	
15 minute summer	S21La	2.000	S21	36.7	2.083	2.017	0.0914	
15 minute summer	S21Lb	3.000	S21	9.5	0.928	0.614	0.0470	
15 minute summer	S21	2.001	S22	63.5	0.763	0.196	5.2294	
15 minute summer	S22Lb	4.000	S22	49.8	2.828	2.380	0.1235	
15 minute summer	S22La	5.000	S22	23.9	1.355	1.519	0.1614	
15 minute summer	S22	1.002	S25	256.9	1.782	0.885	3.9449	
15 minute summer	S23L	6.000	S23	64.5	3.329	0.428	0.1131	
15 minute summer	S23	6.001	S24	85.5	1.658	0.831	1.9164	
15 minute summer	S24L	7.000	S24	22.2	1.280	1.107	0.2041	
15 minute summer	S24	6.002	S25	115.8	1.643	0.534	2.8516	
15 minute summer	S25	1.003	S26	340.6	2.254	0.890	3.5922	
15 minute summer	S26L	8.000	S26	37.9	3.050	0.729	0.0840	
15 minute summer	S26	1.004	S27	369.3	2.565	1.143	5.4568	
15 minute summer	S27L	9.000	S27	35.1	3.057	0.645	0.1398	
15 minute summer	S27	1.005	S28	419.8	2.650	1.005	3.5678	
15 minute summer	S28L	10.000	S28	28.2	2.878	0.524	0.1062	
15 minute summer	S28	1.006	S34	465.5	2.939	1.285	2.4275	
15 minute summer	S29L	11.000	S29	20.9	1.191	1.877	0.2554	
15 minute summer	S29	11.001	S30	34.5	0.980	0.970	0.5647	
15 minute summer	S30La	12.000	S30	103.5	2.861	1.009	0.7897	
15 minute summer	S30Lb	13.000	S30	44.7	2.284	0.434	0.6192	
15 minute summer	S30	11.002	S31	189.2	2.233	0.970	1.9362	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.437	0.778	205.2	1.3751	0.0000	SURCHARGED
15 minute summer	S32L	11	115.506	0.723	63.4	0.8181	0.0000	SURCHARGED
15 minute summer	S32	12	115.122	1.065	261.9	1.8818	0.0000	SURCHARGED
15 minute summer	S33	12	114.830	0.994	272.2	1.7560	0.0000	SURCHARGED
15 minute summer	S34	12	114.215	0.785	744.4	1.9990	0.0000	SURCHARGED
15 minute summer	S35	12	113.769	0.578	757.3	1.0209	0.0000	SURCHARGED
15 minute summer	S36L	11	114.116	0.426	63.4	0.4821	0.0000	SURCHARGED
15 minute summer	S36	11	113.198	0.872	819.8	1.5411	0.0000	SURCHARGED
15 minute summer	S37L	10	113.905	0.132	22.1	0.2331	0.0000	OK
15 minute summer	S38L	10	114.087	0.133	49.0	0.1500	0.0000	OK
15 minute summer	S38	10	113.815	0.181	78.9	0.3196	0.0000	OK
15 minute summer	S39La	10	114.004	0.088	33.5	0.0996	0.0000	OK
15 minute summer	S39Lb	10	113.827	0.059	21.5	0.0664	0.0000	OK
15 minute summer	S39	11	113.425	0.208	152.3	0.3671	0.0000	OK
15 minute summer	S40	11	112.654	1.011	995.5	2.5735	0.0000	SURCHARGED
15 minute summer	S41La	11	113.354	0.686	71.8	0.7761	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.604	0.084	34.1	0.0955	0.0000	OK
15 minute summer	S41	11	111.637	0.535	1136.2	1.3614	0.0000	OK
15 minute summer	S42La	10	112.322	0.142	128.5	0.1608	0.0000	OK
15 minute summer	S42Lb	10	112.137	0.091	60.4	0.1034	0.0000	OK
15 minute summer	S42	11	111.184	0.560	1339.2	1.4261	0.0000	OK
15 minute summer	S43	10	111.235	0.066	13.8	0.0742	0.0000	OK
15 minute summer	S44L	10	111.440	0.573	118.4	1.4590	0.0000	SURCHARGED
15 minute summer	S44	11	110.864	0.709	1485.6	1.8034	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	193.4	2.022	0.719	3.6858	
15 minute summer	S32L	14.000	S32	59.1	3.987	0.920	0.0686	
15 minute summer	S32	11.004	S33	257.9	2.338	1.151	1.9453	
15 minute summer	S33	11.005	S34	268.3	2.433	1.344	3.6900	
15 minute summer	S34	1.007	S35	741.4	3.660	1.367	4.1122	
15 minute summer	S35	1.008	S36	764.1	4.358	0.823	5.1185	
15 minute summer	S36L	15.000	S36	60.7	4.233	0.919	0.1281	
15 minute summer	S36	1.009	S40	821.2	3.802	0.963	4.2673	
15 minute summer	S37L	16.001	S38	21.8	0.942	0.681	0.3798	
15 minute summer	S38L	17.000	S38	48.7	2.007	0.659	0.2954	
15 minute summer	S38	16.002	S39	78.3	1.662	0.690	1.9185	
15 minute summer	S39La	18.000	S39	33.4	3.111	0.647	0.0709	
15 minute summer	S39Lb	19.000	S39	21.5	3.371	0.322	0.0184	
15 minute summer	S39	16.003	S40	149.7	2.837	0.737	2.3509	
15 minute summer	S40	1.010	S41	1005.8	3.571	1.496	11.4041	
15 minute summer	S41La	20.000	S41	69.3	3.935	1.222	0.1693	
15 minute summer	S41Lb	21.000	S41	34.0	3.335	0.605	0.0845	
15 minute summer	S41	1.011	S42	1140.8	3.445	0.890	15.3043	
15 minute summer	S42La	22.000	S42	128.3	4.865	0.730	0.2414	
15 minute summer	S42Lb	23.000	S42	60.3	3.992	0.348	0.1240	
15 minute summer	S42	1.012	S44	1343.2	3.449	0.839	10.9891	
15 minute summer	S43	24.000	S44	13.7	1.380	0.187	0.5470	
15 minute summer	S44L	25.000	S44	116.0	2.918	1.688	0.4229	
15 minute summer	S44	1.013	S45	1460.9	3.526	1.183	8.2479	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.589	0.633	1473.5	1.6121	0.0000	OK
15 minute summer	S46L	11	111.503	0.984	78.9	1.1128	0.0000	SURCHARGED
15 minute summer	S46	11	110.074	0.361	1585.3	0.9198	0.0000	OK
15 minute summer	S47L	10	114.592	0.133	34.7	0.1505	0.0000	OK
15 minute summer	S47	10	114.475	0.197	78.7	0.5020	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.175	0.274	94.7	0.3100	0.0000	OK
15 minute summer	S49L	10	114.965	1.059	146.4	1.1978	0.0000	SURCHARGED
15 minute summer	S49	11	114.160	0.434	243.3	0.4912	0.0000	SURCHARGED
15 minute summer	S50	10	113.990	0.103	38.3	0.1826	0.0000	OK
15 minute summer	S51	10	113.822	0.094	38.1	0.1656	0.0000	OK
15 minute summer	S52	11	113.831	0.359	314.6	0.6337	0.0000	OK
15 minute summer	S53	11	113.576	0.383	326.7	0.6774	0.0000	OK
15 minute summer	S54L	10	113.740	0.081	25.7	0.0918	0.0000	OK
15 minute summer	S54	11	113.242	0.221	362.8	0.3908	0.0000	OK
15 minute summer	S54AL	10	112.956	0.349	47.8	0.3952	0.0000	SURCHARGED
15 minute summer	S54A	10	112.294	0.177	87.7	0.3123	0.0000	OK
15 minute summer	S54B	11	111.869	0.223	472.6	0.3936	0.0000	OK
15 minute summer	S55La	10	111.615	0.111	48.4	0.1250	0.0000	OK
15 minute summer	S55Lb	10	111.789	0.111	49.0	0.1255	0.0000	OK
15 minute summer	S55	11	110.624	0.420	595.6	0.7428	0.0000	OK
15 minute summer	S56L	10	111.143	0.090	56.2	0.1015	0.0000	OK
15 minute summer	S56	12	110.421	0.642	657.1	1.1337	0.0000	SURCHARGED
15 minute summer	S57L	12	110.359	0.340	61.6	0.3842	0.0000	SURCHARGED
15 minute summer	S57	12	110.276	0.783	740.3	1.3830	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	1496.5	4.969	1.081	5.9036	
15 minute summer	S46L	26.000	S46	75.8	4.304	1.338	0.1287	
15 minute summer	S46	1.015	S60	1569.8	7.014	0.439	4.7347	
15 minute summer	S47L	27.000	S47	34.5	1.413	0.664	0.2594	
15 minute summer	S47	27.001	S48	77.4	1.582	0.779	1.8445	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.1220	
15 minute summer	S48	27.002	S49	94.7	1.115	0.473	1.7186	
15 minute summer	S49L	29.000	S49	143.3	3.604	5.180	0.4143	
15 minute summer	S49	27.003	S52	243.4	2.207	1.212	1.9241	
15 minute summer	S50	30.000	S51	38.1	1.488	0.118	0.4085	
15 minute summer	S51	30.001	S52	37.8	0.485	0.098	1.4295	
15 minute summer	S52	27.004	S53	315.3	2.256	0.975	3.8938	
15 minute summer	S53	27.005	S54	326.2	3.364	0.841	1.6623	
15 minute summer	S54L	31.000	S54	25.6	2.639	0.568	0.0515	
15 minute summer	S54	27.006	S54B	362.3	4.678	0.500	1.8983	
15 minute summer	S54AL	43.000	S54A	47.1	2.673	1.403	0.0938	
15 minute summer	S54A	43.001	S54B	86.8	1.512	0.336	2.8812	
15 minute summer	S54B	27.007	S55	472.6	3.074	0.306	4.4142	
15 minute summer	S55La	32.000	S55	48.2	3.473	0.889	0.1285	
15 minute summer	S55Lb	33.000	S55	48.8	3.500	0.893	0.1534	
15 minute summer	S55	27.008	S56	587.2	2.900	0.853	10.4539	
15 minute summer	S56L	34.000	S56	56.1	3.805	0.337	0.2321	
15 minute summer	S56	27.009	S57	647.8	3.013	0.723	4.7612	
15 minute summer	S57L	35.000	S57	61.3	2.089	0.836	0.3029	
15 minute summer	S57	27.010	S58	733.0	3.009	0.951	10.6919	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	11	110.493	0.709	47.2	0.8023	0.0000	SURCHARGED
15 minute summer	S58	11	109.858	0.840	774.4	1.4846	0.0000	SURCHARGED
15 minute summer	S59L	11	110.232	0.904	50.8	1.0226	0.0000	SURCHARGED
15 minute summer	S59	11	109.668	0.869	840.8	1.5360	0.0000	SURCHARGED
15 minute summer	S60L	10	110.261	0.094	39.5	0.1058	0.0000	OK
15 minute summer	S60	11	109.532	1.178	2400.6	2.9982	0.0000	SURCHARGED
15 minute summer	S61	11	109.055	1.366	2412.3	3.4772	0.0000	SURCHARGED
15 minute summer	S62	11	108.744	1.328	2419.7	3.3803	0.0000	SURCHARGED
15 minute summer	S63La	11	109.011	0.976	45.5	1.1042	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.233	1.233	77.7	1.3945	0.0000	SURCHARGED
15 minute summer	S63	11	108.514	1.303	2548.4	3.3155	0.0000	SURCHARGED
15 minute summer	S64L	11	108.346	0.659	113.0	0.7457	0.0000	SURCHARGED
960 minute summer	S64	780	108.030	1.183	464.2	3.0106	0.0000	SURCHARGED
15 minute summer	S65L	10	108.370	0.118	52.6	0.1333	0.0000	OK
960 minute summer	S65	810	108.018	1.184	286.4	3.0126	0.0000	SURCHARGED
960 minute summer	HW11	960	107.997	1.180	832.9	0.0000	0.0000	OK
960 minute summer	HW12	960	107.998	1.181	490.8	0.0000	0.0000	FLOOD RISK
960 minute summer	S66	960	107.998	1.190	158.0	6.8150	0.0000	SURCHARGED
15 minute summer	hw13	237	106.801	0.076	23.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	45.5	2.587	1.469	0.1843	
15 minute summer	S58	27.011	S59	797.0	3.013	1.036	4.9451	
15 minute summer	S59L	37.000	S59	49.4	2.809	2.783	0.1388	
15 minute summer	S59	27.012	S60	849.1	3.270	1.056	2.9985	
15 minute summer	S60L	38.000	S60	39.4	3.358	0.711	0.1618	
15 minute summer	S60	1.016	S61	2399.7	4.084	0.852	21.1484	
15 minute summer	S61	1.017	S62	2411.7	3.806	1.082	13.8442	
15 minute summer	S62	1.018	S63	2429.0	3.833	1.089	10.3761	
15 minute summer	S63La	39.000	S63	42.8	2.432	2.535	0.1418	
15 minute summer	S63Lb	40.000	S63	75.1	4.269	4.214	0.0681	
15 minute summer	S63	1.019	S64	2547.0	4.019	1.277	23.1150	
15 minute summer	S64L	41.000	S64	111.8	2.812	1.586	0.3582	
960 minute summer	S64	1.020	S65	279.5	0.653	0.413	7.0184	
15 minute summer	S65L	42.000	S65	52.3	3.494	0.959	0.1164	
960 minute summer	S65	1.021	HW11	285.6	1.685	0.448	10.3311	
960 minute summer	HW11	Flow through Pond	HW12	-560.3	0.035	-0.034	3190.8975	
960 minute summer	HW12	1.022	S66	158.0	0.249	0.243	5.2781	
960 minute summer	S66	1.023	hw13	23.6	0.922	0.015	0.3601	1231.6

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	12	116.262	0.154	63.2	0.1741	0.0000	OK
15 minute summer	S20	12	116.129	0.885	99.6	1.5643	0.0000	SURCHARGED
15 minute summer	S20-1	12	116.106	1.017	126.4	1.7968	0.0000	SURCHARGED
15 minute summer	S21La	12	116.259	0.623	40.8	0.7050	0.0000	SURCHARGED
15 minute summer	S21Lb	12	116.109	0.493	19.5	0.5575	0.0000	SURCHARGED
15 minute summer	S21	12	116.101	0.820	70.4	1.4491	0.0000	SURCHARGED
15 minute summer	S22Lb	12	116.593	1.263	58.5	1.4281	0.0000	SURCHARGED
15 minute summer	S22La	12	116.224	0.919	28.9	1.0394	0.0000	SURCHARGED
15 minute summer	S22	12	116.086	1.153	258.7	2.0366	0.0000	SURCHARGED
15 minute summer	S23L	12	116.231	0.247	71.0	0.2799	0.0000	SURCHARGED
15 minute summer	S23	12	116.173	0.716	95.2	0.8103	0.0000	SURCHARGED
15 minute summer	S24L	12	116.174	0.691	25.7	0.7814	0.0000	SURCHARGED
15 minute summer	S24	12	116.036	0.926	130.1	1.0470	0.0000	SURCHARGED
15 minute summer	S25	12	115.971	1.239	375.5	2.1900	0.0000	SURCHARGED
15 minute summer	S26L	12	115.919	0.802	44.1	0.9068	0.0000	SURCHARGED
15 minute summer	S26	12	115.732	1.317	377.2	2.3268	0.0000	SURCHARGED
15 minute summer	S27L	12	115.561	0.289	38.8	0.3266	0.0000	SURCHARGED
15 minute summer	S27	12	115.258	1.188	441.7	2.0988	0.0000	SURCHARGED
15 minute summer	S28L	12	114.988	0.298	31.6	0.3372	0.0000	SURCHARGED
15 minute summer	S28	12	114.830	1.135	482.1	2.0055	0.0000	SURCHARGED
15 minute summer	S29L	12	116.191	1.015	23.7	1.1484	0.0000	SURCHARGED
15 minute summer	S29	12	116.026	0.983	29.4	1.1123	0.0000	SURCHARGED
15 minute summer	S30La	11	116.824	1.081	120.9	1.2228	0.0000	SURCHARGED
15 minute summer	S30Lb	12	116.118	0.302	49.3	0.3420	0.0000	SURCHARGED
15 minute summer	S30	12	115.987	1.161	211.8	2.0508	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S20L	1.000	S20	62.9	2.689	0.626	0.5937	
15 minute summer	S20	1.001	S20-1	99.4	1.250	0.421	4.5885	
15 minute summer	S20-1	1.001-1	S22	118.0	1.085	0.498	4.5884	
15 minute summer	S21La	2.000	S21	40.3	2.288	2.215	0.0923	
15 minute summer	S21Lb	3.000	S21	10.7	0.948	0.690	0.0807	
15 minute summer	S21	2.001	S22	75.8	0.782	0.234	5.5092	
15 minute summer	S22Lb	4.000	S22	56.5	3.211	2.703	0.1235	
15 minute summer	S22La	5.000	S22	29.2	1.657	1.857	0.1614	
15 minute summer	S22	1.002	S25	266.6	1.976	0.918	3.9449	
15 minute summer	S23L	6.000	S23	70.9	3.287	0.470	0.2162	
15 minute summer	S23	6.001	S24	93.4	1.644	0.907	2.2303	
15 minute summer	S24L	7.000	S24	22.2	1.280	1.107	0.2041	
15 minute summer	S24	6.002	S25	119.2	1.633	0.549	2.8516	
15 minute summer	S25	1.003	S26	356.9	2.271	0.933	3.5922	
15 minute summer	S26L	8.000	S26	40.7	3.117	0.784	0.0840	
15 minute summer	S26	1.004	S27	382.3	2.488	1.183	5.4568	
15 minute summer	S27L	9.000	S27	37.8	3.131	0.694	0.1719	
15 minute summer	S27	1.005	S28	442.1	2.790	1.058	3.5678	
15 minute summer	S28L	10.000	S28	30.6	2.948	0.570	0.1356	
15 minute summer	S28	1.006	S34	482.1	3.043	1.331	2.4275	
15 minute summer	S29L	11.000	S29	21.0	1.196	1.886	0.2554	
15 minute summer	S29	11.001	S30	36.9	1.109	1.039	0.5647	
15 minute summer	S30La	12.000	S30	111.2	2.904	1.084	0.7897	
15 minute summer	S30Lb	13.000	S30	47.2	2.256	0.458	0.8567	
15 minute summer	S30	11.002	S31	205.0	2.224	1.050	1.9362	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.830	1.171	222.5	2.0694	0.0000	SURCHARGED
15 minute summer	S32L	12	115.906	1.123	69.7	1.2706	0.0000	SURCHARGED
15 minute summer	S32	12	115.480	1.423	273.0	2.5152	0.0000	SURCHARGED
15 minute summer	S33	12	115.157	1.321	282.2	2.3333	0.0000	SURCHARGED
15 minute summer	S34	12	114.482	1.053	778.0	2.6805	0.0000	SURCHARGED
15 minute summer	S35	12	113.990	0.799	793.7	1.4121	0.0000	SURCHARGED
15 minute summer	S36L	11	114.389	0.699	69.7	0.7902	0.0000	SURCHARGED
15 minute summer	S36	12	113.352	1.026	862.5	1.8124	0.0000	SURCHARGED
15 minute summer	S37L	10	113.913	0.140	24.3	0.2470	0.0000	OK
15 minute summer	S38L	10	114.095	0.141	53.9	0.1597	0.0000	OK
15 minute summer	S38	10	113.827	0.193	86.8	0.3407	0.0000	OK
15 minute summer	S39La	10	114.010	0.094	36.8	0.1060	0.0000	OK
15 minute summer	S39Lb	10	113.830	0.062	23.7	0.0697	0.0000	OK
15 minute summer	S39	11	113.456	0.238	167.5	0.4214	0.0000	OK
15 minute summer	S40	11	112.727	1.084	1041.9	2.7589	0.0000	SURCHARGED
15 minute summer	S41La	11	113.659	0.991	78.9	1.1211	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.610	0.090	37.5	0.1014	0.0000	OK
15 minute summer	S41	11	111.656	0.554	1183.5	1.4095	0.0000	OK
15 minute summer	S42La	10	112.332	0.152	141.3	0.1719	0.0000	OK
15 minute summer	S42Lb	10	112.142	0.096	66.4	0.1090	0.0000	OK
15 minute summer	S42	11	111.210	0.586	1399.1	1.4903	0.0000	OK
15 minute summer	S43	10	111.238	0.069	15.1	0.0778	0.0000	OK
15 minute summer	S44L	10	111.551	0.684	130.2	1.7416	0.0000	SURCHARGED
15 minute summer	S44	11	110.888	0.733	1544.2	1.8659	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S31	11.003	S32	202.4	2.040	0.752	3.6858	
15 minute summer	S32L	14.000	S32	63.0	4.054	0.981	0.0686	
15 minute summer	S32	11.004	S33	268.2	2.432	1.197	1.9453	
15 minute summer	S33	11.005	S34	280.7	2.545	1.406	3.6900	
15 minute summer	S34	1.007	S35	778.4	3.631	1.435	4.1122	
15 minute summer	S35	1.008	S36	797.0	4.495	0.858	5.1185	
15 minute summer	S36L	15.000	S36	65.5	4.148	0.992	0.1281	
15 minute summer	S36	1.009	S40	863.6	3.998	1.013	4.2673	
15 minute summer	S37L	16.001	S38	24.0	0.970	0.748	0.4056	
15 minute summer	S38L	17.000	S38	53.6	2.048	0.725	0.3183	
15 minute summer	S38	16.002	S39	86.1	1.692	0.759	2.1466	
15 minute summer	S39La	18.000	S39	36.7	3.175	0.711	0.0763	
15 minute summer	S39Lb	19.000	S39	23.7	3.407	0.355	0.0249	
15 minute summer	S39	16.003	S40	163.3	2.817	0.804	2.5043	
15 minute summer	S40	1.010	S41	1044.5	3.708	1.554	11.4041	
15 minute summer	S41La	20.000	S41	75.9	4.314	1.339	0.1679	
15 minute summer	S41Lb	21.000	S41	37.4	3.408	0.665	0.0909	
15 minute summer	S41	1.011	S42	1180.8	3.484	0.921	15.9393	
15 minute summer	S42La	22.000	S42	141.1	4.957	0.803	0.2604	
15 minute summer	S42Lb	23.000	S42	66.3	4.094	0.383	0.1329	
15 minute summer	S42	1.012	S44	1387.5	3.474	0.867	11.3083	
15 minute summer	S43	24.000	S44	15.0	1.419	0.205	0.6012	
15 minute summer	S44L	25.000	S44	127.3	3.200	1.851	0.4229	
15 minute summer	S44	1.013	S45	1544.5	3.663	1.250	8.5318	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.00%

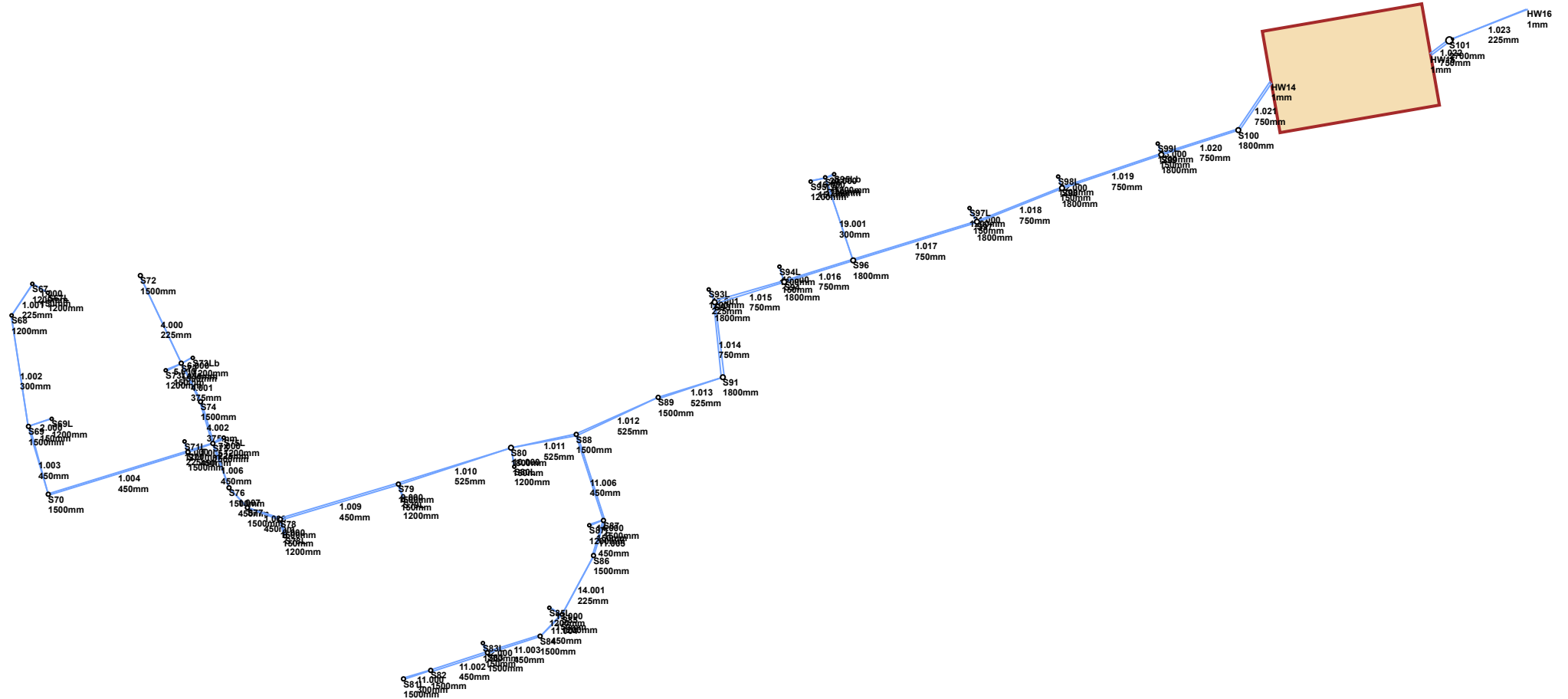
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.633	0.677	1558.3	1.7235	0.0000	OK
15 minute summer	S46L	11	111.852	1.333	86.8	1.5080	0.0000	SURCHARGED
15 minute summer	S46	12	110.165	0.452	1655.6	1.1510	0.0000	OK
15 minute summer	S47L	10	114.601	0.142	38.2	0.1604	0.0000	OK
15 minute summer	S47	10	114.493	0.215	86.6	0.5459	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.268	0.367	104.6	0.4147	0.0000	OK
15 minute summer	S49L	10	115.216	1.310	161.1	1.4816	0.0000	SURCHARGED
15 minute summer	S49	11	114.222	0.496	269.2	0.5605	0.0000	SURCHARGED
15 minute summer	S50	10	113.995	0.108	42.1	0.1913	0.0000	OK
15 minute summer	S51	11	113.855	0.127	41.9	0.2249	0.0000	OK
15 minute summer	S52	11	113.874	0.402	349.3	0.7103	0.0000	OK
15 minute summer	S53	11	113.600	0.407	361.3	0.7194	0.0000	OK
15 minute summer	S54L	10	113.745	0.086	28.3	0.0974	0.0000	OK
15 minute summer	S54	11	113.255	0.234	398.7	0.4129	0.0000	OK
15 minute summer	S54AL	10	113.038	0.431	52.6	0.4879	0.0000	SURCHARGED
15 minute summer	S54A	10	112.303	0.186	96.4	0.3289	0.0000	OK
15 minute summer	S54B	11	111.880	0.234	517.0	0.4128	0.0000	OK
15 minute summer	S55La	12	111.813	0.309	53.3	0.3496	0.0000	SURCHARGED
15 minute summer	S55Lb	12	111.943	0.265	53.9	0.2997	0.0000	SURCHARGED
15 minute summer	S55	12	111.203	0.999	645.7	1.7648	0.0000	SURCHARGED
15 minute summer	S56L	10	111.148	0.095	61.8	0.1070	0.0000	OK
15 minute summer	S56	12	110.867	1.088	710.3	1.9225	0.0000	SURCHARGED
15 minute summer	S57L	12	110.793	0.774	67.8	0.8752	0.0000	SURCHARGED
15 minute summer	S57	12	110.703	1.210	767.4	2.1375	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S45	1.014	S46	1558.4	4.930	1.126	6.7494	
15 minute summer	S46L	26.000	S46	82.8	4.702	1.462	0.1287	
15 minute summer	S46	1.015	S60	1650.5	7.017	0.462	5.2264	
15 minute summer	S47L	27.000	S47	37.9	1.442	0.731	0.2797	
15 minute summer	S47	27.001	S48	85.5	1.561	0.860	2.2990	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.2134	
15 minute summer	S48	27.002	S49	106.3	1.105	0.531	1.9223	
15 minute summer	S49L	29.000	S49	158.0	3.974	5.711	0.4143	
15 minute summer	S49	27.003	S52	269.7	2.445	1.342	1.9352	
15 minute summer	S50	30.000	S51	41.9	1.526	0.130	0.5193	
15 minute summer	S51	30.001	S52	41.9	0.487	0.108	1.6747	
15 minute summer	S52	27.004	S53	348.7	2.322	1.078	4.1857	
15 minute summer	S53	27.005	S54	358.4	3.416	0.924	1.7936	
15 minute summer	S54L	31.000	S54	28.2	2.700	0.625	0.0555	
15 minute summer	S54	27.006	S54B	395.7	4.773	0.546	2.0319	
15 minute summer	S54AL	43.000	S54A	51.7	2.936	1.541	0.0944	
15 minute summer	S54A	43.001	S54B	95.5	1.551	0.370	3.0894	
15 minute summer	S54B	27.007	S55	516.3	3.093	0.334	5.5259	
15 minute summer	S55La	32.000	S55	53.0	3.480	0.977	0.1629	
15 minute summer	S55Lb	33.000	S55	53.6	3.505	0.982	0.1936	
15 minute summer	S55	27.008	S56	633.6	2.844	0.920	11.9595	
15 minute summer	S56L	34.000	S56	61.6	3.903	0.371	0.2463	
15 minute summer	S56	27.009	S57	685.6	2.919	0.765	4.7612	
15 minute summer	S57L	35.000	S57	63.5	2.092	0.865	0.3029	
15 minute summer	S57	27.010	S58	771.0	2.998	1.001	10.6919	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	12	110.904	1.120	52.0	1.2666	0.0000	SURCHARGED
15 minute summer	S58	12	110.231	1.213	814.4	2.1434	0.0000	SURCHARGED
15 minute summer	S59L	11	110.592	1.264	55.9	1.4293	0.0000	SURCHARGED
15 minute summer	S59	12	109.987	1.188	878.5	2.0994	0.0000	SURCHARGED
15 minute summer	S60L	11	110.288	0.121	43.4	0.1373	0.0000	OK
15 minute summer	S60	12	109.815	1.461	2581.7	3.7192	0.0000	SURCHARGED
15 minute summer	S61	12	109.273	1.584	2596.7	4.0315	0.0000	SURCHARGED
15 minute summer	S62	12	108.918	1.502	2611.9	3.8227	0.0000	SURCHARGED
15 minute summer	S63La	11	109.234	1.199	50.0	1.3564	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.505	1.505	85.5	1.7018	0.0000	SURCHARGED
15 minute summer	S63	12	108.652	1.441	2738.9	3.6673	0.0000	SURCHARGED
15 minute summer	S64L	11	108.476	0.789	124.2	0.8924	0.0000	SURCHARGED
960 minute summer	S64	705	108.140	1.293	291.4	3.2911	0.0000	SURCHARGED
15 minute summer	S65L	11	108.512	0.260	57.9	0.2940	0.0000	SURCHARGED
480 minute summer	S65	448	108.121	1.287	521.0	3.2743	0.0000	SURCHARGED
960 minute summer	HW11	960	108.112	1.295	788.9	0.0000	0.0000	OK
960 minute summer	HW12	960	108.113	1.296	410.9	0.0000	0.0000	FLOOD RISK
960 minute summer	S66	960	108.113	1.305	78.0	7.4707	0.0000	FLOOD RISK
15 minute summer	hw13	119	106.801	0.076	23.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S58L	36.000	S58	46.6	2.650	1.504	0.1843	
15 minute summer	S58	27.011	S59	817.7	3.065	1.063	4.9451	
15 minute summer	S59L	37.000	S59	51.0	2.898	2.870	0.1388	
15 minute summer	S59	27.012	S60	878.7	3.516	1.093	2.9985	
15 minute summer	S60L	38.000	S60	41.7	3.425	0.753	0.1825	
15 minute summer	S60	1.016	S61	2585.4	4.153	0.918	21.1484	
15 minute summer	S61	1.017	S62	2603.1	4.108	1.168	13.8442	
15 minute summer	S62	1.018	S63	2609.9	4.118	1.170	10.3761	
15 minute summer	S63La	39.000	S63	47.2	2.680	2.793	0.1418	
15 minute summer	S63Lb	40.000	S63	82.0	4.658	4.599	0.0681	
15 minute summer	S63	1.019	S64	2742.1	4.327	1.375	23.1150	
15 minute summer	S64L	41.000	S64	123.4	3.104	1.750	0.3582	
960 minute summer	S64	1.020	S65	435.3	0.707	0.642	7.0184	
15 minute summer	S65L	42.000	S65	57.6	3.425	1.056	0.1263	
480 minute summer	S65	1.021	HW11	518.9	1.955	0.813	10.3311	
960 minute summer	HW11	Flow through Pond	HW12	-520.5	0.035	-0.031	3561.9529	
960 minute summer	HW12	1.022	S66	-106.3	-0.170	-0.164	5.2781	
960 minute summer	S66	1.023	hw13	23.6	0.922	0.015	0.3602	1288.4



Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S67L	0.035	5.00	116.640	1200	443760.402	291437.274	1.642
S67	0.029	5.00	116.626	1200	443754.446	291440.714	1.760
S68	0.046	5.00	116.483	1200	443746.454	291428.477	1.779
S69L	0.053	5.00	116.100	1200	443761.907	291388.316	1.247
S69			116.000	1500	443752.954	291385.392	1.676
S70			116.000	1500	443760.577	291359.063	1.743
S71L	0.109	5.00	116.500	1200	443813.132	291379.558	2.000
S71			116.000	1500	443814.426	291375.457	1.880
S72	0.050	5.00	116.498	1500	443796.103	291443.938	1.671
S73La	0.033	5.00	116.320	1200	443805.881	291407.158	1.573
S73Lb	0.092	5.00	116.346	1200	443816.318	291411.988	1.616
S73	0.016	5.00	116.446	1500	443811.848	291409.919	1.990
S74	0.015	5.00	116.569	1500	443819.303	291394.976	2.256
S75L	0.120	5.00	116.650	1200	443828.243	291381.036	1.881
S75	0.018	5.00	116.499	1500	443824.059	291378.789	2.430
S76	0.012	5.00	116.313	1500	443830.286	291361.590	2.336
S77	0.019	5.00	116.252	1500	443837.366	291353.859	2.334
S78L	0.086	5.00	116.481	1200	443851.912	291342.796	2.329
S78	0.031	5.00	116.345	1500	443850.095	291349.382	2.562
S79L	0.102	5.00	116.530	1200	443897.490	291356.796	2.254
S79	0.035	5.00	116.401	1500	443895.594	291362.985	2.828
S80L	0.060	5.00	116.600	1200	443940.291	291369.768	1.898
S80	0.021	5.00	116.458	1800	443939.020	291377.123	3.060
S81L	0.060	5.00	115.641	1500	443897.567	291287.408	2.205
S82	0.023	5.00	116.063	1500	443908.062	291290.704	3.124
S83L	0.077	5.00	115.800	1200	443928.184	291301.307	2.310
S83	0.016	5.00	115.829	1500	443929.938	291297.575	2.946
S84	0.013	5.00	115.717	1500	443950.251	291303.979	2.886
S85L	0.048	5.00	115.800	1200	443953.802	291314.996	2.286
S85	0.028	5.00	115.683	1200	443958.630	291312.403	2.878
S86	0.010	5.00	115.683	1500	443970.842	291335.277	2.949
S87L	0.054	5.00	115.769	1200	443969.211	291347.025	2.209
S87	0.035	5.00	115.755	1500	443974.675	291348.901	3.064
S88	0.012	5.00	116.258	1500	443964.187	291382.292	3.744
S89			115.739	1500	443995.772	291396.670	3.340
S91			115.513	1800	444020.716	291404.474	3.397
S93L	0.006	5.00	115.286	1200	444015.269	291438.540	2.178
S93	0.040	5.00	115.287	1800	444017.554	291433.597	3.215
S94L	0.068	5.00	114.788	1200	444042.544	291447.402	1.591

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S94	0.015	5.00	114.794	1800	444044.388	291441.482	2.759
S95La	0.030	5.00	114.300	1200	444054.557	291480.418	1.386
S95Lb	0.028	5.00	114.250	1200	444063.621	291483.265	1.556
S95	0.031	5.00	114.279	1200	444060.181	291482.048	2.100
S96	0.052	5.00	114.304	1800	444070.969	291449.833	3.665
S97L	0.073	5.00	113.400	1200	444115.845	291470.111	2.579
S97	0.023	5.00	113.420	1800	444118.697	291464.827	3.769
S98L	0.057	5.00	112.010	1200	444150.009	291482.356	2.491
S98	0.023	5.00	112.082	1800	444151.509	291477.890	3.638
S99L	0.074	5.00	110.750	1200	444188.412	291495.138	1.416
S99			110.700	1800	444189.788	291490.853	2.799
S100			110.700	1800	444219.480	291500.384	3.797
HW14			107.500	1	444232.144	291519.066	1.230
HW15		5.00	107.500	1	444293.606	291529.740	1.230
S101			107.500	2700	444300.866	291535.204	1.247
HW16			106.000	1	444330.832	291547.472	0.900

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S67L	S67	6.878	0.600	114.998	114.940	0.058	118.6	150	5.12	50.0
1.001	S67	S68	14.616	0.600	114.866	114.780	0.086	169.9	225	5.37	50.0
1.002	S68	S69	43.773	0.600	114.704	114.522	0.182	240.5	300	6.09	50.0
2.000	S69L	S69	10.549	0.600	114.853	114.624	0.229	46.1	150	5.12	50.0
1.003	S69	S70	27.410	0.600	114.324	114.257	0.067	409.1	450	6.55	48.3
1.004	S70	S71	56.289	0.600	114.257	114.120	0.137	410.9	450	7.49	45.2
3.000	S71L	S71	4.300	0.600	114.500	114.345	0.155	27.7	225	5.03	50.0
1.005	S71	S75	10.193	0.600	114.120	114.069	0.051	199.9	450	7.61	44.8
4.000	S72	S73	37.486	0.600	114.827	114.606	0.221	169.6	225	5.62	50.0
5.000	S73La	S73	6.575	0.600	114.747	114.681	0.066	99.6	150	5.11	50.0
6.000	S73Lb	S73	4.926	0.600	114.730	114.681	0.049	100.5	150	5.08	50.0
4.001	S73	S74	16.700	0.600	114.456	114.313	0.143	116.8	375	5.79	50.0
4.002	S74	S75	16.871	0.600	114.313	114.144	0.169	99.8	375	5.95	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	0.922	16.3	4.7	1.492	1.536	0.035	0.0
1.001	1.000	39.8	8.7	1.535	1.478	0.064	0.0
1.002	1.009	71.3	14.9	1.479	1.178	0.110	0.0
2.000	1.486	26.3	7.2	1.097	1.226	0.053	0.0
1.003	0.999	158.8	21.3	1.226	1.293	0.163	0.0
1.004	0.996	158.5	20.0	1.293	1.430	0.163	0.0
3.000	2.493	99.1	14.8	1.775	1.430	0.109	0.0
1.005	1.434	228.1	33.0	1.430	1.980	0.272	0.0
4.000	1.001	39.8	6.8	1.446	1.615	0.050	0.0
5.000	1.007	17.8	4.5	1.423	1.615	0.033	0.0
6.000	1.002	17.7	12.5	1.466	1.615	0.092	0.0
4.001	1.675	185.0	25.9	1.615	1.881	0.191	0.0
4.002	1.813	200.3	27.9	1.881	1.980	0.206	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
7.000	S75L	S75	4.749	0.600	114.769	114.294	0.475	10.0	225	5.02	50.0
1.006	S75	S76	18.292	0.600	114.069	113.977	0.092	198.8	450	7.82	44.2
1.007	S76	S77	10.483	0.600	113.978	113.919	0.059	177.7	450	7.94	43.8
1.008	S77	S78	13.494	0.600	113.918	113.783	0.135	100.0	450	8.05	43.5
8.000	S78L	S78	6.832	0.600	114.152	114.083	0.069	99.0	150	5.11	50.0
1.009	S78	S79	47.489	0.600	113.784	113.648	0.136	349.2	450	8.78	41.6
9.000	S79L	S79	6.473	0.600	114.276	113.947	0.329	19.7	150	5.05	50.0
1.010	S79	S80	45.669	0.600	113.573	113.398	0.175	261.0	525	9.33	40.3
10.000	S80L	S80	7.464	0.600	114.702	113.773	0.929	8.0	150	5.03	50.0
1.011	S80	S88	25.692	0.600	113.398	112.514	0.884	29.1	525	9.43	40.0
11.000	S81L	S82	11.000	0.600	113.436	113.138	0.298	36.9	300	5.07	50.0
11.002	S82	S83	22.930	0.600	112.939	112.883	0.056	410.0	450	5.45	50.0
12.000	S83L	S83	4.124	0.600	113.490	113.183	0.307	13.4	150	5.02	50.0
11.003	S83	S84	21.299	0.600	112.883	112.831	0.052	410.0	450	5.81	50.0
11.004	S84	S85	11.882	0.600	112.834	112.805	0.029	410.0	450	6.01	50.0
13.000	S85L	S85	5.480	0.600	113.514	113.396	0.118	46.4	150	5.06	50.0
14.001	S85	S86	25.930	0.600	113.321	112.962	0.359	72.2	225	6.29	49.3
11.005	S86	S87	14.153	0.600	112.734	112.691	0.043	329.1	450	6.50	48.5
14.000	S87L	S87	5.777	0.600	113.560	112.994	0.566	10.2	150	5.03	50.0
11.006	S87	S88	34.999	0.600	112.694	112.589	0.105	333.3	450	7.03	46.6
1.012	S88	S89	34.704	0.600	112.514	112.399	0.115	301.8	525	9.88	39.1
1.013	S89	S91	17.467	0.600	112.399	112.341	0.058	301.2	525	10.11	38.6
1.014	S91	S93	31.226	0.600	112.116	112.072	0.044	709.7	750	10.61	37.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
7.000	4.162	165.5	16.3	1.656	1.980	0.120	0.0
1.006	1.438	228.7	73.8	1.980	1.886	0.616	0.0
1.007	1.522	242.0	74.6	1.885	1.883	0.628	0.0
1.008	2.033	323.4	76.3	1.884	2.112	0.647	0.0
8.000	1.010	17.8	11.7	2.179	2.112	0.086	0.0
1.009	1.082	172.1	86.1	2.111	2.303	0.764	0.0
9.000	2.281	40.3	13.8	2.104	2.304	0.102	0.0
1.010	1.382	299.1	98.4	2.303	2.535	0.901	0.0
10.000	3.576	63.2	8.1	1.748	2.535	0.060	0.0
1.011	4.165	901.7	106.6	2.535	3.219	0.982	0.0
11.000	2.596	183.5	8.1	1.905	2.625	0.060	0.0
11.002	0.998	158.7	11.2	2.674	2.496	0.083	0.0
12.000	2.763	48.8	10.4	2.160	2.496	0.077	0.0
11.003	0.998	158.7	23.9	2.496	2.436	0.176	0.0
11.004	0.998	158.7	25.6	2.433	2.428	0.189	0.0
13.000	1.480	26.2	6.5	2.136	2.137	0.048	0.0
14.001	1.540	61.2	35.4	2.137	2.496	0.265	0.0
11.005	1.115	177.3	36.1	2.499	2.614	0.275	0.0
14.000	3.172	56.0	7.3	2.059	2.611	0.054	0.0
11.006	1.108	176.2	46.0	2.611	3.219	0.364	0.0
1.012	1.284	277.9	143.9	3.219	2.815	1.358	0.0
1.013	1.285	278.2	142.2	2.815	2.647	1.358	0.0
1.014	1.043	460.6	138.5	2.647	2.465	1.358	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
17.001	S93L	S93	5.446	0.600	113.108	112.597	0.511	10.7	225	5.02	50.0
1.015	S93	S94	27.968	0.600	112.072	112.035	0.037	755.9	750	11.07	36.8
18.000	S94L	S94	6.201	0.600	113.197	112.635	0.562	11.0	150	5.03	50.0
1.016	S94	S96	27.862	0.600	112.035	110.640	1.395	20.0	750	11.14	36.7
19.000	S95La	S95	5.855	0.600	112.914	112.328	0.586	10.0	150	5.03	50.0
20.000	S95Lb	S95	3.649	0.600	112.694	112.329	0.365	10.0	150	5.02	50.0
19.001	S95	S96	33.973	0.600	112.179	111.089	1.090	31.2	300	5.23	50.0
1.017	S96	S97	50.028	0.600	110.639	109.651	0.988	50.6	750	11.35	36.3
21.000	S97L	S97	6.005	0.600	110.821	110.251	0.570	10.5	150	5.03	50.0
1.018	S97	S98	35.317	0.600	109.651	108.444	1.207	29.3	750	11.47	36.1
22.000	S98L	S98	4.067	0.600	109.519	109.044	0.475	8.6	150	5.02	50.0
1.019	S98	S99	40.414	0.600	108.444	107.901	0.543	74.4	750	11.68	35.7
23.000	S99L	S99	4.500	0.600	109.334	108.501	0.833	5.4	150	5.02	50.0
1.020	S99	S100	31.185	0.600	107.901	106.903	0.998	31.2	750	11.78	35.6
1.021	S100	HW14	22.569	0.600	106.903	106.270	0.633	35.7	750	11.86	35.4
1.022	HW15	S101	9.087	0.600	106.270	106.253	0.017	534.5	750	5.13	50.0
1.023	S101	HW16	32.380	0.600	106.253	105.100	1.153	28.1	225	5.34	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
17.001	4.031	160.3	0.8	1.953	2.465	0.006	0.0
1.015	1.010	446.1	140.0	2.465	2.009	1.404	0.0
18.000	3.050	53.9	9.2	1.441	2.009	0.068	0.0
1.016	6.277	2773.3	147.7	2.009	2.914	1.487	0.0
19.000	3.206	56.6	4.1	1.236	1.801	0.030	0.0
20.000	3.205	56.6	3.8	1.406	1.800	0.028	0.0
19.001	2.826	199.7	12.1	1.800	2.915	0.089	0.0
1.017	3.938	1739.6	160.1	2.915	3.019	1.628	0.0
21.000	3.122	55.2	9.9	2.429	3.019	0.073	0.0
1.018	5.184	2290.2	168.6	3.019	2.888	1.724	0.0
22.000	3.464	61.2	7.7	2.341	2.888	0.057	0.0
1.019	3.246	1433.8	174.7	2.888	2.049	1.804	0.0
23.000	4.364	77.1	10.0	1.266	2.049	0.074	0.0
1.020	5.016	2216.0	181.0	2.049	3.047	1.878	0.0
1.021	4.695	2074.2	180.3	3.047	0.480	1.878	0.0
1.022	1.203	531.5	0.0	0.480	0.497	0.000	0.0
1.023	2.478	98.5	0.0	1.022	0.675	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	6.878	118.6	150	1	116.640	114.998	1.492	116.626	114.940	1.536
1.001	14.616	169.9	225	1	116.626	114.866	1.535	116.483	114.780	1.478
1.002	43.773	240.5	300	1	116.483	114.704	1.479	116.000	114.522	1.178
2.000	10.549	46.1	150	1	116.100	114.853	1.097	116.000	114.624	1.226
1.003	27.410	409.1	450	1	116.000	114.324	1.226	116.000	114.257	1.293
1.004	56.289	410.9	450	1	116.000	114.257	1.293	116.000	114.120	1.430
3.000	4.300	27.7	225	1	116.500	114.500	1.775	116.000	114.345	1.430
1.005	10.193	199.9	450	1	116.000	114.120	1.430	116.499	114.069	1.980
4.000	37.486	169.6	225	1	116.498	114.827	1.446	116.446	114.606	1.615
5.000	6.575	99.6	150	1	116.320	114.747	1.423	116.446	114.681	1.615
6.000	4.926	100.5	150	1	116.346	114.730	1.466	116.446	114.681	1.615
4.001	16.700	116.8	375	1	116.446	114.456	1.615	116.569	114.313	1.881
4.002	16.871	99.8	375	1	116.569	114.313	1.881	116.499	114.144	1.980
7.000	4.749	10.0	225	1	116.650	114.769	1.656	116.499	114.294	1.980
1.006	18.292	198.8	450	1	116.499	114.069	1.980	116.313	113.977	1.886
1.007	10.483	177.7	450	1	116.313	113.978	1.885	116.252	113.919	1.883
1.008	13.494	100.0	450	1	116.252	113.918	1.884	116.345	113.783	2.112
8.000	6.832	99.0	150	1	116.481	114.152	2.179	116.345	114.083	2.112
1.009	47.489	349.2	450	1	116.345	113.784	2.111	116.401	113.648	2.303
9.000	6.473	19.7	150	1	116.530	114.276	2.104	116.401	113.947	2.304
1.010	45.669	261.0	525	1	116.401	113.573	2.303	116.458	113.398	2.535
10.000	7.464	8.0	150	1	116.600	114.702	1.748	116.458	113.773	2.535
1.011	25.692	29.1	525	1	116.458	113.398	2.535	116.258	112.514	3.219
11.000	11.000	36.9	300	1	115.641	113.436	1.905	116.063	113.138	2.625
11.002	22.930	410.0	450	1	116.063	112.939	2.674	115.829	112.883	2.496

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S67L	1200	Manhole	S67	1200	Manhole
1.001	S67	1200	Manhole	S68	1200	Manhole
1.002	S68	1200	Manhole	S69	1500	Manhole
2.000	S69L	1200	Manhole	S69	1500	Manhole
1.003	S69	1500	Manhole	S70	1500	Manhole
1.004	S70	1500	Manhole	S71	1500	Manhole
3.000	S71L	1200	Manhole	S71	1500	Manhole
1.005	S71	1500	Manhole	S75	1500	Manhole
4.000	S72	1500	Manhole	S73	1500	Manhole
5.000	S73La	1200	Manhole	S73	1500	Manhole
6.000	S73Lb	1200	Manhole	S73	1500	Manhole
4.001	S73	1500	Manhole	S74	1500	Manhole
4.002	S74	1500	Manhole	S75	1500	Manhole
7.000	S75L	1200	Manhole	S75	1500	Manhole
1.006	S75	1500	Manhole	S76	1500	Manhole
1.007	S76	1500	Manhole	S77	1500	Manhole
1.008	S77	1500	Manhole	S78	1500	Manhole
8.000	S78L	1200	Manhole	S78	1500	Manhole
1.009	S78	1500	Manhole	S79	1500	Manhole
9.000	S79L	1200	Manhole	S79	1500	Manhole
1.010	S79	1500	Manhole	S80	1800	Manhole
10.000	S80L	1200	Manhole	S80	1800	Manhole
1.011	S80	1800	Manhole	S88	1500	Manhole
11.000	S81L	1500	Manhole	S82	1500	Manhole
11.002	S82	1500	Manhole	S83	1500	Manhole

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
12.000	4.124	13.4	150	1	115.800	113.490	2.160	115.829	113.183	2.496
11.003	21.299	410.0	450	1	115.829	112.883	2.496	115.717	112.831	2.436
11.004	11.882	410.0	450	1	115.717	112.834	2.433	115.683	112.805	2.428
13.000	5.480	46.4	150	1	115.800	113.514	2.136	115.683	113.396	2.137
14.001	25.930	72.2	225	1	115.683	113.321	2.137	115.683	112.962	2.496
11.005	14.153	329.1	450	1	115.683	112.734	2.499	115.755	112.691	2.614
14.000	5.777	10.2	150	1	115.769	113.560	2.059	115.755	112.994	2.611
11.006	34.999	333.3	450	1	115.755	112.694	2.611	116.258	112.589	3.219
1.012	34.704	301.8	525	1	116.258	112.514	3.219	115.739	112.399	2.815
1.013	17.467	301.2	525	1	115.739	112.399	2.815	115.513	112.341	2.647
1.014	31.226	709.7	750	1	115.513	112.116	2.647	115.287	112.072	2.465
17.001	5.446	10.7	225	1	115.286	113.108	1.953	115.287	112.597	2.465
1.015	27.968	755.9	750	1	115.287	112.072	2.465	114.794	112.035	2.009
18.000	6.201	11.0	150	1	114.788	113.197	1.441	114.794	112.635	2.009
1.016	27.862	20.0	750	1	114.794	112.035	2.009	114.304	110.640	2.914
19.000	5.855	10.0	150	1	114.300	112.914	1.236	114.279	112.328	1.801
20.000	3.649	10.0	150	1	114.250	112.694	1.406	114.279	112.329	1.800
19.001	33.973	31.2	300	1	114.279	112.179	1.800	114.304	111.089	2.915
1.017	50.028	50.6	750	1	114.304	110.639	2.915	113.420	109.651	3.019
21.000	6.005	10.5	150	1	113.400	110.821	2.429	113.420	110.251	3.019
1.018	35.317	29.3	750	1	113.420	109.651	3.019	112.082	108.444	2.888
22.000	4.067	8.6	150	1	112.010	109.519	2.341	112.082	109.044	2.888
1.019	40.414	74.4	750	1	112.082	108.444	2.888	110.700	107.901	2.049
23.000	4.500	5.4	150	1	110.750	109.334	1.266	110.700	108.501	2.049

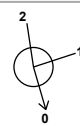
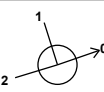
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
12.000	S83L	1200	Manhole	S83	1500	Manhole
11.003	S83	1500	Manhole	S84	1500	Manhole
11.004	S84	1500	Manhole	S85	1200	Manhole
13.000	S85L	1200	Manhole	S85	1200	Manhole
14.001	S85	1200	Manhole	S86	1500	Manhole
11.005	S86	1500	Manhole	S87	1500	Manhole
14.000	S87L	1200	Manhole	S87	1500	Manhole
11.006	S87	1500	Manhole	S88	1500	Manhole
1.012	S88	1500	Manhole	S89	1500	Manhole
1.013	S89	1500	Manhole	S91	1800	Manhole
1.014	S91	1800	Manhole	S93	1800	Manhole
17.001	S93L	1200	Manhole	S93	1800	Manhole
1.015	S93	1800	Manhole	S94	1800	Manhole
18.000	S94L	1200	Manhole	S94	1800	Manhole
1.016	S94	1800	Manhole	S96	1800	Manhole
19.000	S95La	1200	Manhole	S95	1200	Manhole
20.000	S95Lb	1200	Manhole	S95	1200	Manhole
19.001	S95	1200	Manhole	S96	1800	Manhole
1.017	S96	1800	Manhole	S97	1800	Manhole
21.000	S97L	1200	Manhole	S97	1800	Manhole
1.018	S97	1800	Manhole	S98	1800	Manhole
22.000	S98L	1200	Manhole	S98	1800	Manhole
1.019	S98	1800	Manhole	S99	1800	Manhole
23.000	S99L	1200	Manhole	S99	1800	Manhole

Pipeline Schedule

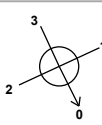
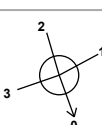
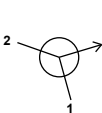
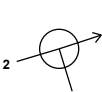
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.020	31.185	31.2	750	1	110.700	107.901	2.049	110.700	106.903	3.047
1.021	22.569	35.7	750	1	110.700	106.903	3.047	107.500	106.270	0.480
1.022	9.087	534.5	750	1	107.500	106.270	0.480	107.500	106.253	0.497
1.023	32.380	28.1	225	1	107.500	106.253	1.022	106.000	105.100	0.675

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.020	S99	1800	Manhole	S100	1800	Manhole
1.021	S100	1800	Manhole	HW14	1	Manhole
1.022	HW15	1	Manhole	S101	2700	Manhole
1.023	S101	2700	Manhole	HW16	1	Manhole

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S67L	443760.402	291437.274	116.640	1.642	1200	1					
							0	1.000	114.998	150	
S67	443754.446	291440.714	116.626	1.760	1200	1		1	1.000	114.940	150
							0	1.001	114.866	225	
S68	443746.454	291428.477	116.483	1.779	1200	1		1	1.001	114.780	225
							0	1.002	114.704	300	
S69L	443761.907	291388.316	116.100	1.247	1200	1					
							0	2.000	114.853	150	
S69	443752.954	291385.392	116.000	1.676	1500	1		1	2.000	114.624	150
							2	1.002	114.522	300	
							0	1.003	114.324	450	
S70	443760.577	291359.063	116.000	1.743	1500	1		1	1.003	114.257	450
							0	1.004	114.257	450	
S71L	443813.132	291379.558	116.500	2.000	1200	1					
							0	3.000	114.500	225	
S71	443814.426	291375.457	116.000	1.880	1500	1		1	3.000	114.345	225
							2	1.004	114.120	450	
							0	1.005	114.120	450	
S72	443796.103	291443.938	116.498	1.671	1500	1					
							0	4.000	114.827	225	

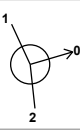
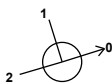
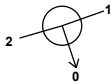
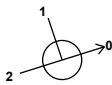
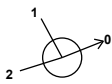
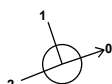
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S73La	443805.881	291407.158	116.320	1.573	1200	1		0	5.000	114.747	150
S73Lb	443816.318	291411.988	116.346	1.616	1200	1		0	6.000	114.730	150
S73	443811.848	291409.919	116.446	1.990	1500	1		1 2 3 0	6.000 5.000 4.000 4.001	114.681 114.681 114.606 114.456	150 150 225 375
S74	443819.303	291394.976	116.569	2.256	1500	1		1 0	4.001 4.002	114.313 114.313	375 375
S75L	443828.243	291381.036	116.650	1.881	1200	1		0	7.000	114.769	225
S75	443824.059	291378.789	116.499	2.430	1500	1		1 2 3 0	7.000 4.002 1.005 1.006	114.294 114.144 114.069 114.069	225 375 450 450
S76	443830.286	291361.590	116.313	2.336	1500	1		1 0	1.006 1.007	113.977 113.978	450 450
S77	443837.366	291353.859	116.252	2.334	1500	1		1 0	1.007 1.008	113.919 113.918	450 450
S78L	443851.912	291342.796	116.481	2.329	1200	1		0	8.000	114.152	150
S78	443850.095	291349.382	116.345	2.562	1500	1		1 2 0	8.000 1.008 1.009	114.083 113.783 113.784	150 450 450
S79L	443897.490	291356.796	116.530	2.254	1200	1		0	9.000	114.276	150
S79	443895.594	291362.985	116.401	2.828	1500	1		1 2 0	9.000 1.009 1.010	113.947 113.648 113.573	150 450 525
S80L	443940.291	291369.768	116.600	1.898	1200	1		0	10.000	114.702	150

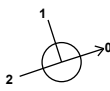
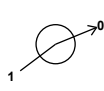
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S80	443939.020	291377.123	116.458	3.060	1800	1	0 2 1	1 2 0	10.000 1.010 1.011	113.773 113.398 113.398	150 525 525
S81L	443897.567	291287.408	115.641	2.205	1500	1	0	0	11.000	113.436	300
S82	443908.062	291290.704	116.063	3.124	1500	1	0 1	1 0	11.000 11.002	113.138 112.939	300 450
S83L	443928.184	291301.307	115.800	2.310	1200	1	0	0	12.000	113.490	150
S83	443929.938	291297.575	115.829	2.946	1500	1	0 1 2	1 2 0	12.000 11.002 11.003	113.183 112.883 112.883	150 450 450
S84	443950.251	291303.979	115.717	2.886	1500	1	0 1	1 0	11.003 11.004	112.831 112.834	450 450
S85L	443953.802	291314.996	115.800	2.286	1200	1	0	0	13.000	113.514	150
S85	443958.630	291312.403	115.683	2.878	1200	1	0 1 2	1 2 0	13.000 11.004 14.001	113.396 112.805 113.321	150 450 225
S86	443970.842	291335.277	115.683	2.949	1500	1	0 1	1 0	14.001 11.005	112.962 112.734	225 450
S87L	443969.211	291347.025	115.769	2.209	1200	1	0	0	14.000	113.560	150
S87	443974.675	291348.901	115.755	3.064	1500	1	0 1 2	1 2 0	14.000 11.005 11.006	112.994 112.691 112.694	150 450 450
S88	443964.187	291382.292	116.258	3.744	1500	1	0 2 1	1 2 0	11.006 1.011 1.012	112.589 112.514 112.514	450 525 525
S89	443995.772	291396.670	115.739	3.340	1500	1	0 1	1 0	1.012 1.013	112.399 112.399	525 525

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S91	444020.716	291404.474	115.513	3.397	1800	1		1 1.013	112.341	525
								0 1.014	112.116	750
S93L	444015.269	291438.540	115.286	2.178	1200	1		0 17.001	113.108	225
S93	444017.554	291433.597	115.287	3.215	1800	1		1 17.001	112.597	225
								2 1.014	112.072	750
								0 1.015	112.072	750
S94L	444042.544	291447.402	114.788	1.591	1200	1		0 18.000	113.197	150
S94	444044.388	291441.482	114.794	2.759	1800	1		1 18.000	112.635	150
								2 1.015	112.035	750
								0 1.016	112.035	750
S95La	444054.557	291480.418	114.300	1.386	1200	1		0 19.000	112.914	150
S95Lb	444063.621	291483.265	114.250	1.556	1200	1		0 20.000	112.694	150
S95	444060.181	291482.048	114.279	2.100	1200	1		1 20.000	112.329	150
								2 19.000	112.328	150
								0 19.001	112.179	300
S96	444070.969	291449.833	114.304	3.665	1800	1		1 19.001	111.089	300
								2 1.016	110.640	750
								0 1.017	110.639	750
S97L	444115.845	291470.111	113.400	2.579	1200	1		0 21.000	110.821	150
S97	444118.697	291464.827	113.420	3.769	1800	1		1 21.000	110.251	150
								2 1.017	109.651	750
								0 1.018	109.651	750
S98L	444150.009	291482.356	112.010	2.491	1200	1		0 22.000	109.519	150
S98	444151.509	291477.890	112.082	3.638	1800	1		1 22.000	109.044	150
								2 1.018	108.444	750
								0 1.019	108.444	750

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S99L	444188.412	291495.138	110.750	1.416	1200	1		0	23.000	109.334	150
S99	444189.788	291490.853	110.700	2.799	1800	1		1 2	23.000 1.019	108.501 107.901	150 750
S100	444219.480	291500.384	110.700	3.797	1800	1		1	1.020	106.903	750
HW14	444232.144	291519.066	107.500	1.230	1	1		0	1.021	106.903	750
HW15	444293.606	291529.740	107.500	1.230	1	1		1	1.021	106.270	750
HW16	444330.832	291547.472	106.000	0.900	1	1		1	1.022	106.270	750
S101	444300.866	291535.204	107.500	1.247	2700	1		1 0	1.022 1.023	106.253 106.253	750 225
HW16	444330.832	291547.472	106.000	0.900	1	1		1	1.023	105.100	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Detailed		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0

Node S101 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	106.253	Product Number	CTL-SHE-0138-8600-0842-8600
Design Depth (m)	0.842	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.6	Min Node Diameter (mm)	1200

Node HW15 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	100.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	106.270	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets
HW14

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1306.0	0.0	1.455	2488.0	0.0	1.456	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.35%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.061	0.063	6.1	0.0714	0.0000	OK
15 minute summer	S67	10	114.946	0.080	11.0	0.0905	0.0000	OK
15 minute summer	S68	11	114.808	0.103	18.9	0.1170	0.0000	OK
15 minute summer	S69L	10	114.914	0.061	9.2	0.0691	0.0000	OK
15 minute summer	S69	11	114.448	0.124	27.6	0.2192	0.0000	OK
15 minute summer	S70	12	114.379	0.122	27.6	0.2158	0.0000	OK
15 minute summer	S71L	10	114.566	0.066	18.9	0.0750	0.0000	OK
15 minute summer	S71	11	114.275	0.155	43.8	0.2745	0.0000	OK
15 minute summer	S72	11	114.897	0.070	8.7	0.1233	0.0000	OK
15 minute summer	S73La	10	114.805	0.058	5.7	0.0657	0.0000	OK
15 minute summer	S73Lb	10	114.841	0.110	16.0	0.1250	0.0000	OK
15 minute summer	S73	10	114.561	0.105	32.5	0.1856	0.0000	OK
15 minute summer	S74	11	114.418	0.104	34.9	0.1846	0.0000	OK
15 minute summer	S75L	10	114.823	0.054	20.8	0.0608	0.0000	OK
15 minute summer	S75	11	114.273	0.204	100.5	0.3607	0.0000	OK
15 minute summer	S76	11	114.178	0.201	102.1	0.3552	0.0000	OK
15 minute summer	S77	11	114.112	0.194	104.7	0.3434	0.0000	OK
15 minute summer	S78L	10	114.256	0.104	14.9	0.1175	0.0000	OK
15 minute summer	S78	12	114.052	0.269	123.9	0.4747	0.0000	OK
15 minute summer	S79L	10	114.346	0.070	17.7	0.0786	0.0000	OK
15 minute summer	S79	12	113.823	0.250	142.6	0.4415	0.0000	OK
15 minute summer	S80L	10	114.743	0.041	10.4	0.0466	0.0000	OK
15 minute summer	S80	12	113.543	0.145	154.8	0.3685	0.0000	OK
15 minute summer	S81L	10	113.484	0.048	10.4	0.0849	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	6.0	0.859	0.371	0.0483	
15 minute summer	S67	1.001	S68	10.9	0.865	0.274	0.1845	
15 minute summer	S68	1.002	S69	18.7	0.868	0.262	0.9425	
15 minute summer	S69L	2.000	S69	9.1	1.357	0.348	0.0710	
15 minute summer	S69	1.003	S70	27.6	0.813	0.174	0.9523	
15 minute summer	S70	1.004	S71	26.5	0.659	0.167	2.3213	
15 minute summer	S71L	3.000	S71	18.8	1.935	0.190	0.0419	
15 minute summer	S71	1.005	S75	43.9	0.790	0.192	0.6033	
15 minute summer	S72	4.000	S73	8.5	0.808	0.213	0.3929	
15 minute summer	S73La	5.000	S73	5.7	0.900	0.318	0.0413	
15 minute summer	S73Lb	6.000	S73	15.9	1.141	0.895	0.0684	
15 minute summer	S73	4.001	S74	32.3	1.287	0.175	0.4191	
15 minute summer	S74	4.002	S75	34.9	1.293	0.174	0.4945	
15 minute summer	S75L	7.000	S75	20.7	2.865	0.125	0.0344	
15 minute summer	S75	1.006	S76	100.1	1.447	0.438	1.2657	
15 minute summer	S76	1.007	S77	101.6	1.497	0.420	0.7120	
15 minute summer	S77	1.008	S78	104.4	1.273	0.323	1.1066	
15 minute summer	S78L	8.000	S78	14.8	1.136	0.827	0.0888	
15 minute summer	S78	1.009	S79	123.6	1.324	0.718	4.4351	
15 minute summer	S79L	9.000	S79	17.6	2.209	0.437	0.0516	
15 minute summer	S79	1.010	S80	143.5	1.936	0.480	3.4173	
15 minute summer	S80L	10.000	S80	10.4	2.644	0.164	0.0292	
15 minute summer	S80	1.011	S88	155.3	1.844	0.172	2.3200	
15 minute summer	S81L	11.000	S82	10.3	1.388	0.056	0.4219	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.35%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	113.467	0.528	31.6	0.9336	0.0000	SURCHARGED
15 minute summer	S83L	10	113.544	0.054	13.4	0.0608	0.0000	OK
30 minute summer	S83	20	113.443	0.560	33.6	0.9890	0.0000	SURCHARGED
30 minute summer	S84	19	113.451	0.620	30.1	1.0953	0.0000	SURCHARGED
15 minute summer	S85L	10	113.572	0.058	8.3	0.0655	0.0000	OK
30 minute summer	S85	19	113.457	0.652	40.4	0.7374	0.0000	OK
15 minute summer	S86	12	112.888	0.154	36.8	0.2721	0.0000	OK
15 minute summer	S87L	10	113.602	0.042	9.4	0.0471	0.0000	OK
30 minute summer	S87	19	112.861	0.170	50.0	0.3003	0.0000	OK
15 minute summer	S88	13	112.830	0.316	192.6	0.5577	0.0000	OK
30 minute summer	S89	20	112.706	0.307	195.1	0.5424	0.0000	OK
30 minute summer	S91	20	112.429	0.313	195.5	0.7956	0.0000	OK

15 minute summer	S93L	11	113.121	0.013	1.0	0.0145	0.0000	OK
15 minute summer	S93	14	112.369	0.297	184.8	0.7570	0.0000	OK
15 minute summer	S94L	10	113.245	0.048	11.8	0.0540	0.0000	OK
15 minute summer	S94	14	112.167	0.132	204.3	0.3348	0.0000	OK
15 minute summer	S95La	10	112.945	0.031	5.2	0.0348	0.0000	OK
15 minute summer	S95Lb	10	112.724	0.030	4.9	0.0338	0.0000	OK
15 minute summer	S95	10	112.235	0.056	15.4	0.0631	0.0000	OK
30 minute summer	S96	21	110.816	0.177	207.3	0.4502	0.0000	OK
15 minute summer	S97L	10	110.870	0.049	12.7	0.0554	0.0000	OK
30 minute summer	S97	21	109.806	0.155	223.8	0.3947	0.0000	OK
15 minute summer	S98L	10	109.560	0.041	9.9	0.0462	0.0000	OK
30 minute summer	S98	21	108.649	0.205	232.3	0.5220	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	-17.8	0.324	-0.112	3.6331	
15 minute summer	S83L	12.000	S83	13.3	2.358	0.273	0.0476	
30 minute summer	S83	11.003	S84	28.1	0.356	0.177	3.3747	
30 minute summer	S84	11.004	S85	29.7	0.188	0.187	1.8826	
15 minute summer	S85L	13.000	S85	8.2	1.317	0.315	0.0343	
30 minute summer	S85	14.001	S86	40.8	1.647	0.665	0.6417	
15 minute summer	S86	11.005	S87	39.7	0.827	0.224	0.6789	
15 minute summer	S87L	14.000	S87	9.4	2.357	0.167	0.0229	
30 minute summer	S87	11.006	S88	49.1	0.743	0.279	2.3453	
15 minute summer	S88	1.012	S89	198.5	1.492	0.714	4.6168	
30 minute summer	S89	1.013	S91	195.5	1.518	0.703	2.2491	
30 minute summer	S91	1.014	S93	193.1	1.173	0.419	5.1431	

15 minute summer	S93L	17.001	S93	1.0	1.121	0.006	0.0049	
15 minute summer	S93	1.015	S94	199.7	1.924	0.448	2.9965	
15 minute summer	S94L	18.000	S94	11.7	2.443	0.218	0.0298	
15 minute summer	S94	1.016	S96	194.2	3.018	0.070	1.8020	
15 minute summer	S95La	19.000	S95	5.2	2.001	0.091	0.0152	
15 minute summer	S95Lb	20.000	S95	4.9	1.965	0.086	0.0090	
15 minute summer	S95	19.001	S96	15.2	1.692	0.076	0.3058	
30 minute summer	S96	1.017	S97	215.6	2.986	0.124	3.6192	
15 minute summer	S97L	21.000	S97	12.7	2.537	0.229	0.0300	
30 minute summer	S97	1.018	S98	225.6	2.781	0.098	2.8797	
15 minute summer	S98L	22.000	S98	9.9	2.548	0.161	0.0157	
30 minute summer	S98	1.019	S99	239.8	2.847	0.167	3.4143	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.35%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.376	0.041	12.8	0.0469	0.0000	OK
30 minute summer	S99	21	108.066	0.165	246.1	0.4194	0.0000	OK
30 minute summer	S100	21	107.074	0.171	246.5	0.4352	0.0000	OK
600 minute summer	HW14	435	106.507	0.237	43.2	0.0000	0.0000	OK
600 minute summer	HW15	435	106.507	0.237	25.8	0.0000	0.0000	OK
480 minute summer	S101	464	106.519	0.266	28.0	1.5241	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	6.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	12.8	3.238	0.165	0.0177	
30 minute summer	S99	1.020	S100	246.5	3.357	0.111	2.2899	
30 minute summer	S100	1.021	HW14	243.2	3.263	0.117	1.6824	
600 minute summer	HW14	Flow through Pond	HW15	25.8	0.055	0.001	259.1508	
600 minute summer	HW15	1.022	S101	29.7	0.269	0.056	1.1367	
480 minute summer	S101	1.023	HW16	8.5	0.312	0.086	0.7339	255.8

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.090	0.092	11.5	0.1043	0.0000	OK
15 minute summer	S67	10	114.980	0.114	20.9	0.1293	0.0000	OK
15 minute summer	S68	11	114.851	0.147	35.8	0.1665	0.0000	OK
15 minute summer	S69L	10	114.942	0.089	17.4	0.1005	0.0000	OK
15 minute summer	S69	11	114.497	0.173	52.3	0.3060	0.0000	OK
15 minute summer	S70	11	114.428	0.171	52.5	0.3029	0.0000	OK
15 minute summer	S71L	10	114.593	0.093	35.9	0.1053	0.0000	OK
15 minute summer	S71	11	114.378	0.258	85.1	0.4555	0.0000	OK
15 minute summer	S72	10	114.926	0.099	16.5	0.1741	0.0000	OK
15 minute summer	S73La	10	114.831	0.084	10.9	0.0953	0.0000	OK
15 minute summer	S73Lb	10	114.972	0.242	30.3	0.2734	0.0000	SURCHARGED
15 minute summer	S73	10	114.604	0.148	62.0	0.2621	0.0000	OK
15 minute summer	S74	10	114.468	0.155	66.5	0.2745	0.0000	OK
15 minute summer	S75L	10	114.844	0.075	39.5	0.0844	0.0000	OK
15 minute summer	S75	11	114.378	0.309	193.5	0.5462	0.0000	OK
15 minute summer	S76	11	114.287	0.310	196.1	0.5478	0.0000	OK
15 minute summer	S77	12	114.240	0.322	200.5	0.5694	0.0000	OK
15 minute summer	S78L	10	114.402	0.250	28.3	0.2827	0.0000	SURCHARGED
15 minute summer	S78	12	114.231	0.448	234.8	0.7914	0.0000	OK
15 minute summer	S79L	10	114.381	0.105	33.6	0.1183	0.0000	OK
15 minute summer	S79	12	113.933	0.360	270.9	0.6367	0.0000	OK
15 minute summer	S80L	10	114.760	0.058	19.7	0.0651	0.0000	OK
15 minute summer	S80	11	113.600	0.202	302.8	0.5134	0.0000	OK
15 minute summer	S81L	12	113.681	0.245	19.7	0.4327	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	11.4	1.005	0.700	0.0780	
15 minute summer	S67	1.001	S68	20.7	1.025	0.521	0.2955	
15 minute summer	S68	1.002	S69	35.5	1.043	0.498	1.4914	
15 minute summer	S69L	2.000	S69	17.3	1.592	0.658	0.1144	
15 minute summer	S69	1.003	S70	52.5	0.961	0.330	1.5297	
15 minute summer	S70	1.004	S71	50.8	0.715	0.320	4.2021	
15 minute summer	S71L	3.000	S71	35.8	2.311	0.361	0.0666	
15 minute summer	S71	1.005	S75	84.5	0.893	0.370	1.0701	
15 minute summer	S72	4.000	S73	16.1	0.964	0.404	0.6257	
15 minute summer	S73La	5.000	S73	10.8	1.062	0.608	0.0669	
15 minute summer	S73Lb	6.000	S73	30.0	1.706	1.696	0.0858	
15 minute summer	S73	4.001	S74	61.6	1.488	0.333	0.6981	
15 minute summer	S74	4.002	S75	66.7	1.273	0.333	0.9676	
15 minute summer	S75L	7.000	S75	39.4	3.439	0.238	0.0585	
15 minute summer	S75	1.006	S76	192.3	1.663	0.841	2.1269	
15 minute summer	S76	1.007	S77	194.5	1.699	0.804	1.2425	
15 minute summer	S77	1.008	S78	197.8	1.420	0.612	1.8875	
15 minute summer	S78L	8.000	S78	28.0	1.589	1.567	0.1201	
15 minute summer	S78	1.009	S79	231.4	1.587	1.345	6.8029	
15 minute summer	S79L	9.000	S79	33.5	2.555	0.830	0.0848	
15 minute summer	S79	1.010	S80	277.3	2.361	0.927	5.3446	
15 minute summer	S80L	10.000	S80	19.6	3.162	0.311	0.0464	
15 minute summer	S80	1.011	S88	292.3	2.034	0.324	3.7481	
15 minute summer	S81L	11.000	S82	18.4	1.563	0.101	0.7259	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	113.683	0.744	30.5	1.3151	0.0000	SURCHARGED
15 minute summer	S83L	12	113.735	0.245	25.3	0.2773	0.0000	SURCHARGED
15 minute summer	S83	12	113.679	0.795	47.1	1.4056	0.0000	SURCHARGED
15 minute summer	S84	12	113.673	0.842	50.0	1.4873	0.0000	SURCHARGED
15 minute summer	S85L	12	113.702	0.188	15.8	0.2129	0.0000	SURCHARGED
15 minute summer	S85	12	113.664	0.859	73.3	0.9716	0.0000	SURCHARGED
15 minute summer	S86	12	113.094	0.360	74.7	0.6364	0.0000	OK
15 minute summer	S87L	10	113.618	0.058	17.8	0.0658	0.0000	OK
15 minute summer	S87	12	113.104	0.413	95.5	0.7304	0.0000	OK
15 minute summer	S88	12	113.068	0.554	386.6	0.9781	0.0000	SURCHARGED
15 minute summer	S89	12	112.867	0.468	388.5	0.8277	0.0000	OK
15 minute summer	S91	12	112.572	0.456	383.7	1.1600	0.0000	OK

15 minute summer	S93L	10	113.126	0.018	2.0	0.0200	0.0000	OK
15 minute summer	S93	13	112.510	0.438	386.9	1.1140	0.0000	OK
15 minute summer	S94L	10	113.265	0.067	22.4	0.0763	0.0000	OK
30 minute summer	S94	21	112.224	0.189	429.4	0.4805	0.0000	OK
15 minute summer	S95La	10	112.957	0.042	9.9	0.0481	0.0000	OK
15 minute summer	S95Lb	10	112.735	0.041	9.2	0.0463	0.0000	OK
15 minute summer	S95	10	112.256	0.077	29.2	0.0868	0.0000	OK
30 minute summer	S96	20	110.893	0.254	427.1	0.6460	0.0000	OK
15 minute summer	S97L	10	110.890	0.069	24.0	0.0783	0.0000	OK
15 minute summer	S97	12	109.875	0.224	466.6	0.5703	0.0000	OK
15 minute summer	S98L	10	109.576	0.057	18.8	0.0646	0.0000	OK
15 minute summer	S98	12	108.744	0.300	489.0	0.7646	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	23.8	0.355	0.150	3.6331	
15 minute summer	S83L	12.000	S83	24.4	2.597	0.500	0.0726	
15 minute summer	S83	11.003	S84	46.6	0.379	0.294	3.3747	
15 minute summer	S84	11.004	S85	50.4	0.318	0.318	1.8826	
15 minute summer	S85L	13.000	S85	15.7	1.526	0.600	0.0965	
15 minute summer	S85	14.001	S86	72.1	1.814	1.178	1.0166	
15 minute summer	S86	11.005	S87	76.9	0.630	0.434	2.0410	
15 minute summer	S87L	14.000	S87	17.7	2.818	0.317	0.0555	
15 minute summer	S87	11.006	S88	98.1	0.723	0.557	5.4266	
15 minute summer	S88	1.012	S89	388.5	1.812	1.398	7.2784	
15 minute summer	S89	1.013	S91	383.7	1.988	1.379	3.3893	
15 minute summer	S91	1.014	S93	379.3	1.423	0.824	8.5035	

15 minute summer	S93L	17.001	S93	2.0	1.386	0.012	0.0078	
15 minute summer	S93	1.015	S94	418.4	2.546	0.938	4.9298	
15 minute summer	S94L	18.000	S94	22.3	2.911	0.414	0.0476	
30 minute summer	S94	1.016	S96	403.3	3.829	0.145	2.9463	
15 minute summer	S95La	19.000	S95	9.9	2.411	0.174	0.0239	
15 minute summer	S95Lb	20.000	S95	9.2	2.361	0.162	0.0142	
15 minute summer	S95	19.001	S96	28.9	2.040	0.145	0.4815	
30 minute summer	S96	1.017	S97	430.7	3.633	0.248	5.9384	
15 minute summer	S97L	21.000	S97	23.9	3.016	0.434	0.0476	
15 minute summer	S97	1.018	S98	468.2	3.456	0.204	4.8560	
15 minute summer	S98L	22.000	S98	18.7	3.051	0.306	0.0250	
15 minute summer	S98	1.019	S99	495.6	3.476	0.346	5.7737	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.392	0.058	24.4	0.0657	0.0000	OK
15 minute summer	S99	12	108.141	0.240	514.9	0.6098	0.0000	OK
15 minute summer	S100	12	107.157	0.254	511.5	0.6475	0.0000	OK
480 minute summer	HW14	480	106.686	0.416	95.2	0.0000	0.0000	OK
480 minute summer	HW15	488	106.687	0.417	52.6	0.0000	0.0000	OK
480 minute summer	S101	480	106.715	0.462	58.1	2.6448	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	8.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	24.3	3.879	0.316	0.0282	
15 minute summer	S99	1.020	S100	511.5	4.060	0.231	3.9377	
15 minute summer	S100	1.021	HW14	502.6	4.589	0.242	2.5529	
480 minute summer	HW14	Flow through Pond	HW15	52.6	0.068	0.001	534.4698	
480 minute summer	HW15	1.022	S101	58.1	0.242	0.109	2.4317	
480 minute summer	S101	1.023	HW16	8.6	0.314	0.087	0.7344	283.9

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	12	115.272	0.274	20.9	0.3100	0.0000	SURCHARGED
15 minute summer	S67	12	115.211	0.345	37.9	0.3898	0.0000	SURCHARGED
15 minute summer	S68	12	115.164	0.460	65.0	0.5201	0.0000	SURCHARGED
15 minute summer	S69L	12	115.296	0.443	31.7	0.5005	0.0000	SURCHARGED
15 minute summer	S69	12	115.057	0.733	93.6	1.2952	0.0000	SURCHARGED
15 minute summer	S70	12	115.052	0.795	88.7	1.4048	0.0000	SURCHARGED
15 minute summer	S71L	12	115.053	0.553	65.2	0.6252	0.0000	SURCHARGED
15 minute summer	S71	12	115.014	0.894	132.4	1.5791	0.0000	SURCHARGED
15 minute summer	S72	12	115.172	0.345	29.9	0.6089	0.0000	SURCHARGED
15 minute summer	S73La	12	115.116	0.369	19.7	0.4175	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.395	0.665	55.0	0.7525	0.0000	SURCHARGED
15 minute summer	S73	12	115.075	0.619	112.2	1.0944	0.0000	SURCHARGED
15 minute summer	S74	12	115.039	0.726	109.0	1.2836	0.0000	SURCHARGED
15 minute summer	S75L	12	115.056	0.287	71.8	0.3242	0.0000	SURCHARGED
15 minute summer	S75	12	115.000	0.931	285.3	1.6446	0.0000	SURCHARGED
15 minute summer	S76	12	114.864	0.887	287.9	1.5680	0.0000	SURCHARGED
15 minute summer	S77	12	114.784	0.866	293.5	1.5307	0.0000	SURCHARGED
15 minute summer	S78L	12	115.078	0.926	51.4	1.0471	0.0000	SURCHARGED
15 minute summer	S78	12	114.674	0.891	350.8	1.5751	0.0000	SURCHARGED
15 minute summer	S79L	10	114.845	0.569	61.0	0.6430	0.0000	SURCHARGED
15 minute summer	S79	12	114.131	0.557	417.5	0.9850	0.0000	SURCHARGED
15 minute summer	S80L	10	114.783	0.081	35.9	0.0917	0.0000	OK
15 minute summer	S80	12	113.792	0.394	450.9	1.0027	0.0000	OK
15 minute summer	S81L	12	114.889	1.453	35.9	2.5669	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	20.6	1.174	1.265	0.1211	
15 minute summer	S67	1.001	S68	37.5	1.197	0.943	0.5813	
15 minute summer	S68	1.002	S69	62.8	1.224	0.880	3.0825	
15 minute summer	S69L	2.000	S69	31.4	1.782	1.194	0.1857	
15 minute summer	S69	1.003	S70	88.7	1.047	0.559	4.3429	
15 minute summer	S70	1.004	S71	100.3	0.783	0.633	8.9186	
15 minute summer	S71L	3.000	S71	61.6	2.583	0.621	0.1710	
15 minute summer	S71	1.005	S75	153.3	1.124	0.672	1.6150	
15 minute summer	S72	4.000	S73	29.0	1.106	0.729	1.4909	
15 minute summer	S73La	5.000	S73	19.5	1.197	1.096	0.1158	
15 minute summer	S73Lb	6.000	S73	54.1	3.073	3.055	0.0867	
15 minute summer	S73	4.001	S74	100.4	1.648	0.542	1.8420	
15 minute summer	S74	4.002	S75	117.7	1.282	0.588	1.8608	
15 minute summer	S75L	7.000	S75	68.8	3.758	0.416	0.1889	
15 minute summer	S75	1.006	S76	281.1	1.774	1.229	2.8982	
15 minute summer	S76	1.007	S77	282.7	1.784	1.168	1.6610	
15 minute summer	S77	1.008	S78	293.6	1.853	0.908	2.1380	
15 minute summer	S78L	8.000	S78	48.8	2.772	2.735	0.1203	
15 minute summer	S78	1.009	S79	344.8	2.176	2.004	7.5243	
15 minute summer	S79L	9.000	S79	59.4	3.372	1.473	0.1140	
15 minute summer	S79	1.010	S80	411.9	2.459	1.377	8.9030	
15 minute summer	S80L	10.000	S80	35.8	3.693	0.566	0.0723	
15 minute summer	S80	1.011	S88	446.6	2.153	0.495	5.0086	
15 minute summer	S81L	11.000	S82	33.3	1.415	0.181	0.7746	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	114.883	1.944	46.4	3.4354	0.0000	SURCHARGED
15 minute summer	S83L	12	115.049	1.559	46.0	1.7628	0.0000	SURCHARGED
15 minute summer	S83	12	114.881	1.998	80.6	3.5301	0.0000	SURCHARGED
15 minute summer	S84	12	114.869	2.038	76.9	3.6019	0.0000	SURCHARGED
15 minute summer	S85L	12	114.941	1.427	28.7	1.6141	0.0000	SURCHARGED
15 minute summer	S85	12	114.863	2.058	106.9	2.3276	0.0000	SURCHARGED
15 minute summer	S86	12	113.747	1.013	109.8	1.7891	0.0000	SURCHARGED
15 minute summer	S87L	12	113.860	0.300	32.3	0.3389	0.0000	SURCHARGED
15 minute summer	S87	12	113.727	1.036	152.1	1.8306	0.0000	SURCHARGED
15 minute summer	S88	12	113.648	1.134	604.6	2.0041	0.0000	SURCHARGED
15 minute summer	S89	12	113.108	0.709	603.7	1.2524	0.0000	SURCHARGED
15 minute summer	S91	12	112.726	0.610	603.6	1.5529	0.0000	OK

15 minute summer	S93L	10	113.131	0.023	3.6	0.0264	0.0000	OK
15 minute summer	S93	12	112.642	0.570	627.7	1.4518	0.0000	OK
15 minute summer	S94L	10	113.295	0.098	40.7	0.1103	0.0000	OK
30 minute summer	S94	19	112.284	0.249	683.8	0.6337	0.0000	OK
15 minute summer	S95La	10	112.972	0.058	17.9	0.0656	0.0000	OK
15 minute summer	S95Lb	10	112.750	0.056	16.7	0.0632	0.0000	OK
15 minute summer	S95	10	112.283	0.104	53.0	0.1180	0.0000	OK
15 minute summer	S96	11	110.979	0.340	741.0	0.8660	0.0000	OK
15 minute summer	S97L	10	110.922	0.101	43.7	0.1141	0.0000	OK
15 minute summer	S97	11	109.947	0.296	806.1	0.7521	0.0000	OK
15 minute summer	S98L	10	109.599	0.080	34.1	0.0906	0.0000	OK
15 minute summer	S98	11	108.840	0.396	835.7	1.0067	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	35.6	0.395	0.224	3.6331	
15 minute summer	S83L	12.000	S83	38.2	2.675	0.782	0.0726	
15 minute summer	S83	11.003	S84	70.8	0.447	0.446	3.3747	
15 minute summer	S84	11.004	S85	78.4	0.495	0.494	1.8826	
15 minute summer	S85L	13.000	S85	21.4	1.479	0.819	0.0965	
15 minute summer	S85	14.001	S86	106.8	2.686	1.744	1.0313	
15 minute summer	S86	11.005	S87	114.1	0.720	0.643	2.2425	
15 minute summer	S87L	14.000	S87	30.6	3.062	0.547	0.1017	
15 minute summer	S87	11.006	S88	152.4	0.962	0.865	5.5454	
15 minute summer	S88	1.012	S89	603.7	2.795	2.172	7.4972	
15 minute summer	S89	1.013	S91	603.6	2.794	2.169	3.7215	
15 minute summer	S91	1.014	S93	606.1	1.718	1.316	11.6011	

15 minute summer	S93L	17.001	S93	3.6	1.659	0.022	0.0206	
15 minute summer	S93	1.015	S94	684.0	2.847	1.533	6.6909	
15 minute summer	S94L	18.000	S94	40.6	3.354	0.753	0.0750	
30 minute summer	S94	1.016	S96	672.4	4.385	0.242	4.3940	
15 minute summer	S95La	19.000	S95	17.8	2.845	0.315	0.0367	
15 minute summer	S95Lb	20.000	S95	16.7	2.792	0.294	0.0218	
15 minute summer	S95	19.001	S96	52.6	2.417	0.263	0.7389	
15 minute summer	S96	1.017	S97	751.2	4.231	0.432	8.8868	
15 minute summer	S97L	21.000	S97	43.6	3.465	0.790	0.0755	
15 minute summer	S97	1.018	S98	790.0	3.989	0.345	7.0026	
15 minute summer	S98L	22.000	S98	34.0	3.561	0.556	0.0389	
15 minute summer	S98	1.019	S99	795.8	3.968	0.555	8.2104	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.416	0.082	44.3	0.0925	0.0000	OK
15 minute summer	S99	11	108.210	0.309	838.1	0.7859	0.0000	OK
15 minute summer	S100	13	107.229	0.326	827.2	0.8295	0.0000	OK
720 minute summer	HW14	720	107.021	0.751	122.8	0.0000	0.0000	OK
720 minute summer	HW15	735	107.021	0.751	66.4	0.0000	0.0000	SURCHARGED
720 minute summer	S101	735	107.021	0.768	15.8	4.3996	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	8.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	44.2	4.525	0.573	0.0440	
15 minute summer	S99	1.020	S100	827.2	4.710	0.373	5.5120	
15 minute summer	S100	1.021	HW14	834.5	5.583	0.402	3.5107	
720 minute summer	HW14	Flow through Pond	HW15	66.3	0.062	0.002	1116.1394	
720 minute summer	HW15	1.022	S101	15.8	0.201	0.030	3.9981	
720 minute summer	S101	1.023	HW16	8.6	0.314	0.087	0.7344	380.4

farrow walsh CIVIL	Farrow Walsh Limited 62 Highcross Street Leicester LE1 4NN		File: FW2285 Network 3 2025-08-13.p Network: SW Network 3 Civils August 2025		Page 1 FW2285 Burbage Field Farm Network 3																																																																																																																																																																																																																																																																																																																																	
	Design Settings																																																																																																																																																																																																																																																																																																																																					
	Rainfall Methodology FSR			Maximum Time of Concentration (mins) 30.00																																																																																																																																																																																																																																																																																																																																		
	Return Period (years) 1			Maximum Rainfall (mm/hr) 50.0																																																																																																																																																																																																																																																																																																																																		
	Additional Flow (%) 0			Minimum Velocity (m/s) 1.00																																																																																																																																																																																																																																																																																																																																		
FSR Region England and Wales			Connection Type Level Soffits																																																																																																																																																																																																																																																																																																																																			
M5-60 (mm) 20.000			Minimum Backdrop Height (m) 0.200																																																																																																																																																																																																																																																																																																																																			
Ratio-R 0.400			Preferred Cover Depth (m) 1.200																																																																																																																																																																																																																																																																																																																																			
CV 0.750			Include Intermediate Ground ✓																																																																																																																																																																																																																																																																																																																																			
Time of Entry (mins) 5.00			Enforce best practice design rules ✓																																																																																																																																																																																																																																																																																																																																			
Nodes																																																																																																																																																																																																																																																																																																																																						
<table><tr><th>Name</th><th>Area (ha)</th><th>T of E (mins)</th><th>Cover Level (m)</th><th>Diameter (mm)</th><th>Easting (m)</th><th>Northing (m)</th><th>Depth (m)</th></tr><tr><td>S67L</td><td>0.035</td><td>5.00</td><td>116.640</td><td>1200</td><td>443760.402</td><td>291437.274</td><td>1.642</td></tr><tr><td>S67</td><td>0.029</td><td>5.00</td><td>116.626</td><td>1200</td><td>443754.446</td><td>291440.714</td><td>1.760</td></tr><tr><td>S68</td><td>0.046</td><td>5.00</td><td>116.483</td><td>1200</td><td>443746.454</td><td>291428.477</td><td>1.779</td></tr><tr><td>S69L</td><td>0.053</td><td>5.00</td><td>116.100</td><td>1200</td><td>443761.907</td><td>291388.316</td><td>1.247</td></tr><tr><td>S69</td><td></td><td></td><td>116.000</td><td>1500</td><td>443752.954</td><td>291385.392</td><td>1.676</td></tr><tr><td>S70</td><td></td><td></td><td>116.000</td><td>1500</td><td>443760.577</td><td>291359.063</td><td>1.743</td></tr><tr><td>S71L</td><td>0.109</td><td>5.00</td><td>116.500</td><td>1200</td><td>443813.132</td><td>291379.558</td><td>2.000</td></tr><tr><td>S71</td><td></td><td></td><td>116.000</td><td>1500</td><td>443814.426</td><td>291375.457</td><td>1.880</td></tr><tr><td>S72</td><td>0.050</td><td>5.00</td><td>116.498</td><td>1500</td><td>443796.103</td><td>291443.938</td><td>1.671</td></tr><tr><td>S73La</td><td>0.033</td><td>5.00</td><td>116.320</td><td>1200</td><td>443805.881</td><td>291407.158</td><td>1.573</td></tr><tr><td>S73Lb</td><td>0.092</td><td>5.00</td><td>116.346</td><td>1200</td><td>443816.318</td><td>291411.988</td><td>1.616</td></tr><tr><td>S73</td><td>0.016</td><td>5.00</td><td>116.446</td><td>1500</td><td>443811.848</td><td>291409.919</td><td>1.990</td></tr><tr><td>S74</td><td>0.015</td><td>5.00</td><td>116.569</td><td>1500</td><td>443819.303</td><td>291394.976</td><td>2.256</td></tr><tr><td>S75L</td><td>0.120</td><td>5.00</td><td>116.650</td><td>1200</td><td>443828.243</td><td>291381.036</td><td>1.881</td></tr><tr><td>S75</td><td>0.018</td><td>5.00</td><td>116.499</td><td>1500</td><td>443824.059</td><td>291378.789</td><td>2.430</td></tr><tr><td>S76</td><td>0.012</td><td>5.00</td><td>116.313</td><td>1500</td><td>443830.286</td><td>291361.590</td><td>2.336</td></tr><tr><td>S77</td><td>0.019</td><td>5.00</td><td>116.252</td><td>1500</td><td>443837.366</td><td>291353.859</td><td>2.334</td></tr><tr><td>S78L</td><td>0.086</td><td>5.00</td><td>116.481</td><td>1200</td><td>443851.912</td><td>291342.796</td><td>2.329</td></tr><tr><td>S78</td><td>0.031</td><td>5.00</td><td>116.345</td><td>1500</td><td>443850.095</td><td>291349.382</td><td>2.562</td></tr><tr><td>S79L</td><td>0.102</td><td>5.00</td><td>116.530</td><td>1200</td><td>443897.490</td><td>291356.796</td><td>2.254</td></tr><tr><td>S79</td><td>0.035</td><td>5.00</td><td>116.401</td><td>1500</td><td>443895.594</td><td>291362.985</td><td>2.828</td></tr><tr><td>S80L</td><td>0.060</td><td>5.00</td><td>116.600</td><td>1200</td><td>443940.291</td><td>291369.768</td><td>1.898</td></tr><tr><td>S80</td><td>0.021</td><td>5.00</td><td>116.458</td><td>1800</td><td>443939.020</td><td>291377.123</td><td>3.060</td></tr><tr><td>S81L</td><td>0.060</td><td>5.00</td><td>115.641</td><td>1500</td><td>443897.567</td><td>291287.408</td><td>2.205</td></tr><tr><td>S82</td><td>0.023</td><td>5.00</td><td>116.063</td><td>1500</td><td>443908.062</td><td>291290.704</td><td>3.124</td></tr><tr><td>S83L</td><td>0.077</td><td>5.00</td><td>115.800</td><td>1200</td><td>443928.184</td><td>291301.307</td><td>2.310</td></tr><tr><td>S83</td><td>0.016</td><td>5.00</td><td>115.829</td><td>1500</td><td>443929.938</td><td>291297.575</td><td>2.946</td></tr><tr><td>S84</td><td>0.013</td><td>5.00</td><td>115.717</td><td>1500</td><td>443950.251</td><td>291303.979</td><td>2.886</td></tr><tr><td>S85L</td><td>0.048</td><td>5.00</td><td>115.800</td><td>1200</td><td>443953.802</td><td>291314.996</td><td>2.286</td></tr><tr><td>S85</td><td>0.028</td><td>5.00</td><td>115.754</td><td>1200</td><td>443958.630</td><td>291312.403</td><td>2.433</td></tr><tr><td>S86</td><td>0.010</td><td>5.00</td><td>115.683</td><td>1500</td><td>443970.842</td><td>291335.277</td><td>2.949</td></tr><tr><td>S87L</td><td>0.054</td><td>5.00</td><td>115.769</td><td>1200</td><td>443969.211</td><td>291347.025</td><td>2.209</td></tr><tr><td>S87</td><td>0.035</td><td>5.00</td><td>115.755</td><td>1500</td><td>443974.675</td><td>291348.901</td><td>3.064</td></tr><tr><td>S88</td><td>0.012</td><td>5.00</td><td>116.258</td><td>1500</td><td>443964.187</td><td>291382.292</td><td>3.744</td></tr><tr><td>S89</td><td></td><td></td><td>115.739</td><td>1500</td><td>443995.772</td><td>291396.670</td><td>3.340</td></tr><tr><td>S91</td><td></td><td></td><td>115.513</td><td>1800</td><td>444020.716</td><td>291404.474</td><td>3.397</td></tr><tr><td>S93L</td><td>0.006</td><td>5.00</td><td>115.286</td><td>1200</td><td>444015.269</td><td>291438.540</td><td>2.178</td></tr><tr><td>S93</td><td>0.040</td><td>5.00</td><td>115.287</td><td>1800</td><td>444017.554</td><td>291433.597</td><td>3.215</td></tr><tr><td>S94L</td><td>0.068</td><td>5.00</td><td>114.788</td><td>1200</td><td>444042.544</td><td>291447.402</td><td>1.591</td></tr></table>							Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	S67L	0.035	5.00	116.640	1200	443760.402	291437.274	1.642	S67	0.029	5.00	116.626	1200	443754.446	291440.714	1.760	S68	0.046	5.00	116.483	1200	443746.454	291428.477	1.779	S69L	0.053	5.00	116.100	1200	443761.907	291388.316	1.247	S69			116.000	1500	443752.954	291385.392	1.676	S70			116.000	1500	443760.577	291359.063	1.743	S71L	0.109	5.00	116.500	1200	443813.132	291379.558	2.000	S71			116.000	1500	443814.426	291375.457	1.880	S72	0.050	5.00	116.498	1500	443796.103	291443.938	1.671	S73La	0.033	5.00	116.320	1200	443805.881	291407.158	1.573	S73Lb	0.092	5.00	116.346	1200	443816.318	291411.988	1.616	S73	0.016	5.00	116.446	1500	443811.848	291409.919	1.990	S74	0.015	5.00	116.569	1500	443819.303	291394.976	2.256	S75L	0.120	5.00	116.650	1200	443828.243	291381.036	1.881	S75	0.018	5.00	116.499	1500	443824.059	291378.789	2.430	S76	0.012	5.00	116.313	1500	443830.286	291361.590	2.336	S77	0.019	5.00	116.252	1500	443837.366	291353.859	2.334	S78L	0.086	5.00	116.481	1200	443851.912	291342.796	2.329	S78	0.031	5.00	116.345	1500	443850.095	291349.382	2.562	S79L	0.102	5.00	116.530	1200	443897.490	291356.796	2.254	S79	0.035	5.00	116.401	1500	443895.594	291362.985	2.828	S80L	0.060	5.00	116.600	1200	443940.291	291369.768	1.898	S80	0.021	5.00	116.458	1800	443939.020	291377.123	3.060	S81L	0.060	5.00	115.641	1500	443897.567	291287.408	2.205	S82	0.023	5.00	116.063	1500	443908.062	291290.704	3.124	S83L	0.077	5.00	115.800	1200	443928.184	291301.307	2.310	S83	0.016	5.00	115.829	1500	443929.938	291297.575	2.946	S84	0.013	5.00	115.717	1500	443950.251	291303.979	2.886	S85L	0.048	5.00	115.800	1200	443953.802	291314.996	2.286	S85	0.028	5.00	115.754	1200	443958.630	291312.403	2.433	S86	0.010	5.00	115.683	1500	443970.842	291335.277	2.949	S87L	0.054	5.00	115.769	1200	443969.211	291347.025	2.209	S87	0.035	5.00	115.755	1500	443974.675	291348.901	3.064	S88	0.012	5.00	116.258	1500	443964.187	291382.292	3.744	S89			115.739	1500	443995.772	291396.670	3.340	S91			115.513	1800	444020.716	291404.474	3.397	S93L	0.006	5.00	115.286	1200	444015.269	291438.540	2.178	S93	0.040	5.00	115.287	1800	444017.554	291433.597	3.215	S94L	0.068	5.00	114.788	1200	444042.544	291447.402	1.591
Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)																																																																																																																																																																																																																																																																																																																															
S67L	0.035	5.00	116.640	1200	443760.402	291437.274	1.642																																																																																																																																																																																																																																																																																																																															
S67	0.029	5.00	116.626	1200	443754.446	291440.714	1.760																																																																																																																																																																																																																																																																																																																															
S68	0.046	5.00	116.483	1200	443746.454	291428.477	1.779																																																																																																																																																																																																																																																																																																																															
S69L	0.053	5.00	116.100	1200	443761.907	291388.316	1.247																																																																																																																																																																																																																																																																																																																															
S69			116.000	1500	443752.954	291385.392	1.676																																																																																																																																																																																																																																																																																																																															
S70			116.000	1500	443760.577	291359.063	1.743																																																																																																																																																																																																																																																																																																																															
S71L	0.109	5.00	116.500	1200	443813.132	291379.558	2.000																																																																																																																																																																																																																																																																																																																															
S71			116.000	1500	443814.426	291375.457	1.880																																																																																																																																																																																																																																																																																																																															
S72	0.050	5.00	116.498	1500	443796.103	291443.938	1.671																																																																																																																																																																																																																																																																																																																															
S73La	0.033	5.00	116.320	1200	443805.881	291407.158	1.573																																																																																																																																																																																																																																																																																																																															
S73Lb	0.092	5.00	116.346	1200	443816.318	291411.988	1.616																																																																																																																																																																																																																																																																																																																															
S73	0.016	5.00	116.446	1500	443811.848	291409.919	1.990																																																																																																																																																																																																																																																																																																																															
S74	0.015	5.00	116.569	1500	443819.303	291394.976	2.256																																																																																																																																																																																																																																																																																																																															
S75L	0.120	5.00	116.650	1200	443828.243	291381.036	1.881																																																																																																																																																																																																																																																																																																																															
S75	0.018	5.00	116.499	1500	443824.059	291378.789	2.430																																																																																																																																																																																																																																																																																																																															
S76	0.012	5.00	116.313	1500	443830.286	291361.590	2.336																																																																																																																																																																																																																																																																																																																															
S77	0.019	5.00	116.252	1500	443837.366	291353.859	2.334																																																																																																																																																																																																																																																																																																																															
S78L	0.086	5.00	116.481	1200	443851.912	291342.796	2.329																																																																																																																																																																																																																																																																																																																															
S78	0.031	5.00	116.345	1500	443850.095	291349.382	2.562																																																																																																																																																																																																																																																																																																																															
S79L	0.102	5.00	116.530	1200	443897.490	291356.796	2.254																																																																																																																																																																																																																																																																																																																															
S79	0.035	5.00	116.401	1500	443895.594	291362.985	2.828																																																																																																																																																																																																																																																																																																																															
S80L	0.060	5.00	116.600	1200	443940.291	291369.768	1.898																																																																																																																																																																																																																																																																																																																															
S80	0.021	5.00	116.458	1800	443939.020	291377.123	3.060																																																																																																																																																																																																																																																																																																																															
S81L	0.060	5.00	115.641	1500	443897.567	291287.408	2.205																																																																																																																																																																																																																																																																																																																															
S82	0.023	5.00	116.063	1500	443908.062	291290.704	3.124																																																																																																																																																																																																																																																																																																																															
S83L	0.077	5.00	115.800	1200	443928.184	291301.307	2.310																																																																																																																																																																																																																																																																																																																															
S83	0.016	5.00	115.829	1500	443929.938	291297.575	2.946																																																																																																																																																																																																																																																																																																																															
S84	0.013	5.00	115.717	1500	443950.251	291303.979	2.886																																																																																																																																																																																																																																																																																																																															
S85L	0.048	5.00	115.800	1200	443953.802	291314.996	2.286																																																																																																																																																																																																																																																																																																																															
S85	0.028	5.00	115.754	1200	443958.630	291312.403	2.433																																																																																																																																																																																																																																																																																																																															
S86	0.010	5.00	115.683	1500	443970.842	291335.277	2.949																																																																																																																																																																																																																																																																																																																															
S87L	0.054	5.00	115.769	1200	443969.211	291347.025	2.209																																																																																																																																																																																																																																																																																																																															
S87	0.035	5.00	115.755	1500	443974.675	291348.901	3.064																																																																																																																																																																																																																																																																																																																															
S88	0.012	5.00	116.258	1500	443964.187	291382.292	3.744																																																																																																																																																																																																																																																																																																																															
S89			115.739	1500	443995.772	291396.670	3.340																																																																																																																																																																																																																																																																																																																															
S91			115.513	1800	444020.716	291404.474	3.397																																																																																																																																																																																																																																																																																																																															
S93L	0.006	5.00	115.286	1200	444015.269	291438.540	2.178																																																																																																																																																																																																																																																																																																																															
S93	0.040	5.00	115.287	1800	444017.554	291433.597	3.215																																																																																																																																																																																																																																																																																																																															
S94L	0.068	5.00	114.788	1200	444042.544	291447.402	1.591																																																																																																																																																																																																																																																																																																																															
Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd																																																																																																																																																																																																																																																																																																																																						

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S94	0.015	5.00	114.794	1800	444044.388	291441.482	2.759
S95La	0.030	5.00	114.300	1200	444054.557	291480.418	1.386
S95Lb	0.028	5.00	114.250	1200	444063.621	291483.265	1.556
S95	0.031	5.00	114.279	1200	444060.181	291482.048	2.100
S96	0.052	5.00	114.304	1800	444070.969	291449.833	3.665
S97L	0.073	5.00	113.400	1200	444115.845	291470.111	2.579
S97	0.023	5.00	113.420	1800	444118.697	291464.827	3.769
S98L	0.057	5.00	112.010	1200	444150.009	291482.356	2.491
S98	0.023	5.00	112.082	1800	444151.509	291477.890	3.638
S99L	0.074	5.00	110.750	1200	444188.412	291495.138	1.416
S99			110.700	1800	444189.788	291490.853	2.799
S100			110.700	1800	444219.480	291500.384	3.797
HW14			107.500	1	444232.144	291519.066	1.230
HW15		5.00	107.500	1	444293.606	291529.740	1.230
S101			107.500	2700	444300.866	291535.204	1.247
HW16			106.000	1	444330.832	291547.472	0.900

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S67L	S67	6.878	0.600	114.998	114.940	0.058	118.6	150	5.12	50.0
1.001	S67	S68	14.616	0.600	114.866	114.780	0.086	170.0	225	5.37	50.0
1.002	S68	S69	43.773	0.600	114.704	114.522	0.182	240.5	300	6.09	50.0
2.000	S69L	S69	10.549	0.600	114.853	114.624	0.229	46.1	150	5.12	50.0
1.003	S69	S70	27.410	0.600	114.324	114.257	0.067	409.1	450	6.55	48.3
1.004	S70	S71	56.289	0.600	114.257	114.120	0.137	410.9	450	7.49	45.2
3.000	S71L	S71	4.300	0.600	114.500	114.345	0.155	27.7	225	5.03	50.0
1.005	S71	S75	10.193	0.600	114.120	114.069	0.051	199.9	450	7.61	44.8
4.000	S72	S73	37.486	0.600	114.827	114.606	0.221	169.6	225	5.62	50.0
5.000	S73La	S73	6.575	0.600	114.747	114.681	0.066	99.6	150	5.11	50.0
6.000	S73Lb	S73	4.926	0.600	114.730	114.681	0.049	100.5	150	5.08	50.0
4.001	S73	S74	16.700	0.600	114.456	114.313	0.143	116.8	375	5.79	50.0
4.002	S74	S75	16.871	0.600	114.313	114.144	0.169	99.8	375	5.95	50.0

Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
7.000	S75L	S75	4.749	0.600	114.769	114.294	0.475	10.0	225	5.02	50.0
1.006	S75	S76	18.292	0.600	114.069	113.977	0.092	198.8	450	7.82	44.2
1.007	S76	S77	10.483	0.600	113.978	113.919	0.059	177.7	450	7.94	43.8
1.008	S77	S78	13.494	0.600	113.918	113.783	0.135	100.0	450	8.05	43.5
8.000	S78L	S78	6.832	0.600	114.152	114.083	0.069	99.0	150	5.11	50.0
1.009	S78	S79	47.489	0.600	113.784	113.648	0.136	349.2	450	8.78	41.6
9.000	S79L	S79	6.473	0.600	114.276	113.947	0.329	19.7	150	5.05	50.0
1.010	S79	S80	45.669	0.600	113.573	113.398	0.175	261.0	525	9.33	40.3
10.000	S80L	S80	7.464	0.600	114.702	113.773	0.929	8.0	150	5.03	50.0
1.011	S80	S88	25.692	0.600	113.398	112.514	0.884	29.1	525	9.43	40.0
11.000	S81L	S82	11.000	0.600	113.436	113.138	0.298	36.9	300	5.07	50.0
11.002	S82	S83	22.930	0.600	112.939	112.883	0.056	410.0	450	5.45	50.0
12.000	S83L	S83	4.124	0.600	113.490	113.183	0.307	13.4	150	5.02	50.0
11.003	S83	S84	21.299	0.600	112.883	112.831	0.052	410.0	450	5.81	50.0
11.004	S84	S86	11.882	0.600	112.834	112.805	0.029	410.0	450	6.01	50.0
13.000	S85L	S85	5.480	0.600	113.514	113.396	0.118	46.4	150	5.06	50.0
14.001	S85	S86	25.930	0.600	113.321	112.962	0.359	72.2	225	5.34	50.0
11.005	S86	S87	14.153	0.600	112.734	112.691	0.043	329.1	450	6.22	49.5
14.000	S87L	S87	5.777	0.600	113.560	112.994	0.566	10.2	150	5.03	50.0
11.006	S87	S88	34.999	0.600	112.694	112.589	0.105	333.3	450	6.75	47.6
1.012	S88	S89	34.704	0.600	112.514	112.399	0.115	301.8	525	9.88	39.1
1.013	S89	S91	17.467	0.600	112.399	112.341	0.058	301.2	525	10.11	38.6
1.014	S91	S93	31.226	0.600	112.116	112.072	0.044	709.7	750	10.61	37.6
17.001	S93L	S93	5.446	0.600	113.108	112.597	0.511	10.7	225	5.02	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
7.000	4.162	165.5	16.3	1.656	1.980	0.120	0.0
1.006	1.438	228.7	73.8	1.980	1.886	0.616	0.0
1.007	1.522	242.0	74.6	1.885	1.883	0.628	0.0
1.008	2.033	323.4	76.3	1.884	2.112	0.647	0.0
8.000	1.010	17.8	11.7	2.179	2.112	0.086	0.0
1.009	1.082	172.1	86.1	2.111	2.303	0.764	0.0
9.000	2.281	40.3	13.8	2.104	2.304	0.102	0.0
1.010	1.382	299.1	98.4	2.303	2.535	0.901	0.0
10.000	3.576	63.2	8.1	1.748	2.535	0.060	0.0
1.011	4.165	901.7	106.6	2.535	3.219	0.982	0.0
11.000	2.596	183.5	8.1	1.905	2.625	0.060	0.0
11.002	0.998	158.7	11.2	2.674	2.496	0.083	0.0
12.000	2.763	48.8	10.4	2.160	2.496	0.077	0.0
11.003	0.998	158.7	23.9	2.496	2.436	0.176	0.0
11.004	0.998	158.7	25.6	2.433	2.428	0.189	0.0
13.000	1.480	26.2	6.5	2.136	2.208	0.048	0.0
14.001	1.540	61.2	10.3	2.208	2.496	0.076	0.0
11.005	1.115	177.3	36.9	2.499	2.614	0.275	0.0
14.000	3.172	56.0	7.3	2.059	2.611	0.054	0.0
11.006	1.108	176.2	47.0	2.611	3.219	0.364	0.0
1.012	1.284	277.9	143.9	3.219	2.815	1.358	0.0
1.013	1.285	278.2	142.2	2.815	2.647	1.358	0.0
1.014	1.043	460.6	138.5	2.647	2.465	1.358	0.0
17.001	4.031	160.3	0.8	1.953	2.465	0.006	0.0

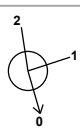
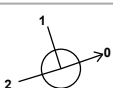
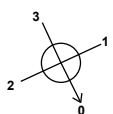
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.003	27.410	409.1	450	1	116.000	114.324	1.226	116.000	114.257	1.293
1.004	56.289	410.9	450	1	116.000	114.257	1.293	116.000	114.120	1.430
3.000	4.300	27.7	225	1	116.500	114.500	1.775	116.000	114.345	1.430
1.005	10.193	199.9	450	1	116.000	114.120	1.430	116.499	114.069	1.980
4.000	37.486	169.6	225	1	116.498	114.827	1.446	116.446	114.606	1.615
5.000	6.575	99.6	150	1	116.320	114.747	1.423	116.446	114.681	1.615
6.000	4.926	100.5	150	1	116.346	114.730	1.466	116.446	114.681	1.615
4.001	16.700	116.8	375	1	116.446	114.456	1.615	116.569	114.313	1.881
4.002	16.871	99.8	375	1	116.569	114.313	1.881	116.499	114.144	1.980
7.000	4.749	10.0	225	1	116.650	114.769	1.656	116.499	114.294	1.980
1.006	18.292	198.8	450	1	116.499	114.069	1.980	116.313	113.977	1.886
1.007	10.483	177.7	450	1	116.313	113.978	1.885	116.252	113.919	1.883
1.008	13.494	100.0	450	1	116.252	113.918	1.884	116.345	113.783	2.112
8.000	6.832	99.0	150	1	116.481	114.152	2.179	116.345	114.083	2.112
1.009	47.489	349.2	450	1	116.345	113.784	2.111	116.401	113.648	2.303
9.000	6.473	19.7	150	1	116.530	114.276	2.104	116.401	113.947	2.304
1.010	45.669	261.0	525	1	116.401	113.573	2.303	116.458	113.398	2.535
10.000	7.464	8.0	150	1	116.600	114.702	1.748	116.458	113.773	2.535
1.011	25.692	29.1	525	1	116.458	113.398	2.535	116.258	112.514	3.219
11.000	11.000	36.9	300	1	115.641	113.436	1.905	116.063	113.138	2.625
11.002	22.930	410.0	450	1	116.063	112.939	2.674	115.829	112.883	2.496
12.000	4.124	13.4	150	1	115.800	113.490	2.160	115.829	113.183	2.496
11.003	21.299	410.0	450	1	115.829	112.883	2.496	115.717	112.831	2.436
11.004	11.882	410.0	450	1	115.717	112.834	2.433	115.683	112.805	2.428
13.000	5.480	46.4	150	1	115.800	113.514	2.136	115.754	113.396	2.208

Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd

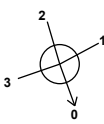
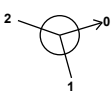
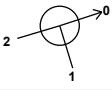
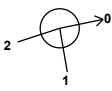
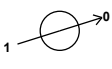
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
14.001	25.930	72.2	225	1	115.754	113.321	2.208	115.683	112.962	2.496
11.005	14.153	329.1	450	1	115.683	112.734	2.499	115.755	112.691	2.614
14.000	5.777	10.2	150	1	115.769	113.560	2.059	115.755	112.994	2.611
11.006	34.999	333.3	450	1	115.755	112.694	2.611	116.258	112.589	3.219
1.012	34.704	301.8	525	1	116.258	112.514	3.219	115.739	112.399	2.815
1.013	17.467	301.2	525	1	115.739	112.399	2.815	115.513	112.341	2.647
1.014	31.226	709.7	750	1	115.513	112.116	2.647	115.287	112.072	2.465
17.001	5.446	10.7	225	1	115.286	113.108	1.953	115.287	112.597	2.465
1.015	27.968	755.9	750	1	115.287	112.072	2.465	114.794	112.035	2.009
18.000	6.201	11.0	150	1	114.788	113.197	1.441	114.794	112.635	2.009
1.016	27.862	20.0	750	1	114.794	112.035	2.009	114.304	110.640	2.914
19.000	5.855	10.0	150	1	114.300	112.914	1.236	114.279	112.328	1.801
20.000	3.649	10.0	150	1	114.250	112.694	1.406	114.279	112.329	1.800
19.001	33.973	31.2	300	1	114.279	112.179	1.800	114.304	111.089	2.915
1.017	50.028	50.6	750	1	114.304	110.639	2.915	113.420	109.651	3.019
21.000	6.005	10.5	150	1	113.400	110.821	2.429	113.420	110.251	3.019
1.018	35.317	29.3	750	1	113.420	109.651	3.019	112.082	108.444	2.888
22.000	4.067	8.6	150	1	112.010	109.519	2.341	112.082	109.044	2.888
1.019	40.414	74.4	750	1	112.082	108.444	2.888	110.700	107.901	2.049
23.000	4.500	5.4	150	1	110.750	109.334	1.266	110.700	108.501	2.049
1.020	31.185	31.2	750	1	110.700	107.901	2.049	110.700	106.903	3.047
1.021	22.569	35.7	750	1	110.700	106.903	3.047	107.500	106.270	0.480
1.022	9.087	534.5	750	1	107.500	106.270	0.480	107.500	106.253	0.497
1.023	32.380	28.1	225	1	107.500	106.253	1.022	106.000	105.100	0.675

Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S67L	443760.402	291437.274	116.640	1.642	1200	1					
							0	1.000	114.998	150	
S67	443754.446	291440.714	116.626	1.760	1200	1		1	1.000	114.940	150
							0	1.001	114.866	225	
S68	443746.454	291428.477	116.483	1.779	1200	1		1	1.001	114.780	225
							0	1.002	114.704	300	
S69L	443761.907	291388.316	116.100	1.247	1200	1					
							0	2.000	114.853	150	
S69	443752.954	291385.392	116.000	1.676	1500	1		1	2.000	114.624	150
							2	1.002	114.522	300	
							0	1.003	114.324	450	
S70	443760.577	291359.063	116.000	1.743	1500	1		1	1.003	114.257	450
							0	1.004	114.257	450	
S71L	443813.132	291379.558	116.500	2.000	1200	1					
							0	3.000	114.500	225	
S71	443814.426	291375.457	116.000	1.880	1500	1		1	3.000	114.345	225
							2	1.004	114.120	450	
							0	1.005	114.120	450	
S72	443796.103	291443.938	116.498	1.671	1500	1					
							0	4.000	114.827	225	
S73La	443805.881	291407.158	116.320	1.573	1200	1					
							0	5.000	114.747	150	
S73Lb	443816.318	291411.988	116.346	1.616	1200	1					
							0	6.000	114.730	150	
S73	443811.848	291409.919	116.446	1.990	1500	1		1	6.000	114.681	150
							2	5.000	114.681	150	
							3	4.000	114.606	225	
							0	4.001	114.456	375	
S74	443819.303	291394.976	116.569	2.256	1500	1		1	4.001	114.313	375
							0	4.002	114.313	375	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S75L	443828.243	291381.036	116.650	1.881	1200	1		0	7.000	114.769 225
S75	443824.059	291378.789	116.499	2.430	1500	1		1 2 3 0	7.000 4.002 1.005 1.006	114.294 225 114.144 375 114.069 450 114.069 450
S76	443830.286	291361.590	116.313	2.336	1500	1		1 0	1.006 1.007	113.977 450 113.978 450
S77	443837.366	291353.859	116.252	2.334	1500	1		1 0	1.007 1.008	113.919 450 113.918 450
S78L	443851.912	291342.796	116.481	2.329	1200	1		0	8.000	114.152 150
S78	443850.095	291349.382	116.345	2.562	1500	1		1 2 0	8.000 1.008 1.009	114.083 150 113.783 450 113.784 450
S79L	443897.490	291356.796	116.530	2.254	1200	1		0	9.000	114.276 150
S79	443895.594	291362.985	116.401	2.828	1500	1		1 2 0	9.000 1.009 1.010	113.947 150 113.648 450 113.573 525
S80L	443940.291	291369.768	116.600	1.898	1200	1		0	10.000	114.702 150
S80	443939.020	291377.123	116.458	3.060	1800	1		1 2 0	10.000 1.010 1.011	113.773 150 113.398 525 113.398 525
S81L	443897.567	291287.408	115.641	2.205	1500	1		0	11.000	113.436 300
S82	443908.062	291290.704	116.063	3.124	1500	1		1 0	11.000 11.002	113.138 300 112.939 450
S83L	443928.184	291301.307	115.800	2.310	1200	1		0	12.000	113.490 150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S83	443929.938	291297.575	115.829	2.946	1500	1	1 2 0	12.000113.183150 11.002112.883450 11.003112.883450		
S84	443950.251	291303.979	115.717	2.886	1500	1	0 1 0	11.003112.831450 11.004112.834450		
S85L	443953.802	291314.996	115.800	2.286	1200	1	0 0	13.000113.514150		
S85	443958.630	291312.403	115.754	2.433	1200	1	0 1 0	13.000113.396150 14.001113.321225		
S86	443970.842	291335.277	115.683	2.949	1500	1	0 1 2 2 0	14.001112.962225 11.004112.805450 11.005112.734450		
S87L	443969.211	291347.025	115.769	2.209	1200	1	0 0	14.000113.560150		
S87	443974.675	291348.901	115.755	3.064	1500	1	0 1 2 2 0	14.000112.994150 11.005112.691450 11.006112.694450		
S88	443964.187	291382.292	116.258	3.744	1500	1	0 2 1 2 0	11.006112.589450 1.011112.514525 1.012112.514525		
S89	443995.772	291396.670	115.739	3.340	1500	1	0 1 0	1.012112.399525 1.013112.399525		
S91	444020.716	291404.474	115.513	3.397	1800	1	0 1 0	1.013112.341525 1.014112.116750		
S93L	444015.269	291438.540	115.286	2.178	1200	1	0 0	17.001113.108225		
S93	444017.554	291433.597	115.287	3.215	1800	1	0 1 2 2 0	17.001112.597225 1.014112.072750 1.015112.072750		
S94L	444042.544	291447.402	114.788	1.591	1200	1	0 0	18.000113.197150		

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S94	444044.388	291441.482	114.794	2.759	1800	1	1 2	1 2 0	18.000 1.015 1.016	112.635 112.035 112.035	150 750 750
S95La	444054.557	291480.418	114.300	1.386	1200	1		0	19.000	112.914	150
S95Lb	444063.621	291483.265	114.250	1.556	1200	1		0	20.000	112.694	150
S95	444060.181	291482.048	114.279	2.100	1200	1	1 2	1 2 0	20.000 19.000 19.001	112.329 112.328 112.179	150 150 300
S96	444070.969	291449.833	114.304	3.665	1800	1	1 2	1 2 0	19.001 1.016 1.017	111.089 110.640 110.639	300 750 750
S97L	444115.845	291470.111	113.400	2.579	1200	1		0	21.000	110.821	150
S97	444118.697	291464.827	113.420	3.769	1800	1	1 2	1 2 0	21.000 1.017 1.018	110.251 109.651 109.651	150 750 750
S98L	444150.009	291482.356	112.010	2.491	1200	1		0	22.000	109.519	150
S98	444151.509	291477.890	112.082	3.638	1800	1	1 2	1 2 0	22.000 1.018 1.019	109.044 108.444 108.444	150 750 750
S99L	444188.412	291495.138	110.750	1.416	1200	1		0	23.000	109.334	150
S99	444189.788	291490.853	110.700	2.799	1800	1	1 2	1 2 0	23.000 1.019 1.020	108.501 107.901 107.901	150 750 750
S100	444219.480	291500.384	110.700	3.797	1800	1		1 0	1.020 1.021	106.903 106.903	750 750
HW14	444232.144	291519.066	107.500	1.230	1	1		1	1.021	106.270	750

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
HW15	444293.606	291529.740	107.500	1.230	1	1		0	1.022	106.270	750
S101	444300.866	291535.204	107.500	1.247	2700	1		1	1.022	106.253	750
								0	1.023	106.253	225
HW16	444330.832	291547.472	106.000	0.900	1	1		1	1.023	105.100	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Detailed		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0
100	40	10	0

Node S101 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	106.253	Product Number	CTL-SHE-0138-8600-0842-8600
Design Depth (m)	0.842	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.6	Min Node Diameter (mm)	1200

Node HW15 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	100.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	106.270	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets
HW14

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	1306.0	0.0	1.455	2488.0	0.0	1.456	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.23%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.061	0.063	6.1	0.0714	0.0000	OK
15 minute summer	S67	10	114.946	0.080	11.0	0.0905	0.0000	OK
15 minute summer	S68	11	114.808	0.103	18.9	0.1170	0.0000	OK
15 minute summer	S69L	10	114.914	0.061	9.2	0.0691	0.0000	OK
15 minute summer	S69	11	114.448	0.124	27.6	0.2192	0.0000	OK
15 minute summer	S70	12	114.379	0.122	27.6	0.2158	0.0000	OK
15 minute summer	S71L	10	114.566	0.066	18.9	0.0750	0.0000	OK
15 minute summer	S71	11	114.275	0.155	43.8	0.2745	0.0000	OK
15 minute summer	S72	11	114.897	0.070	8.7	0.1233	0.0000	OK
15 minute summer	S73La	10	114.805	0.058	5.7	0.0657	0.0000	OK
15 minute summer	S73Lb	10	114.841	0.110	16.0	0.1250	0.0000	OK
15 minute summer	S73	10	114.561	0.105	32.5	0.1856	0.0000	OK
15 minute summer	S74	11	114.418	0.104	34.9	0.1846	0.0000	OK
15 minute summer	S75L	10	114.823	0.054	20.8	0.0608	0.0000	OK
15 minute summer	S75	11	114.273	0.204	100.5	0.3607	0.0000	OK
15 minute summer	S76	11	114.178	0.201	102.1	0.3552	0.0000	OK
15 minute summer	S77	11	114.112	0.194	104.7	0.3434	0.0000	OK
15 minute summer	S78L	10	114.256	0.104	14.9	0.1175	0.0000	OK
15 minute summer	S78	12	114.052	0.269	123.9	0.4747	0.0000	OK
15 minute summer	S79L	10	114.346	0.070	17.7	0.0786	0.0000	OK
15 minute summer	S79	12	113.823	0.250	142.6	0.4415	0.0000	OK
15 minute summer	S80L	10	114.743	0.041	10.4	0.0466	0.0000	OK
15 minute summer	S80	12	113.543	0.145	154.8	0.3685	0.0000	OK
15 minute summer	S81L	10	113.484	0.048	10.4	0.0849	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	6.0	0.859	0.371	0.0483	
15 minute summer	S67	1.001	S68	10.9	0.865	0.274	0.1845	
15 minute summer	S68	1.002	S69	18.7	0.868	0.262	0.9425	
15 minute summer	S69L	2.000	S69	9.1	1.357	0.348	0.0710	
15 minute summer	S69	1.003	S70	27.6	0.813	0.174	0.9523	
15 minute summer	S70	1.004	S71	26.5	0.659	0.167	2.3213	
15 minute summer	S71L	3.000	S71	18.8	1.935	0.190	0.0419	
15 minute summer	S71	1.005	S75	43.9	0.790	0.192	0.6033	
15 minute summer	S72	4.000	S73	8.5	0.808	0.213	0.3929	
15 minute summer	S73La	5.000	S73	5.7	0.900	0.318	0.0413	
15 minute summer	S73Lb	6.000	S73	15.9	1.141	0.895	0.0684	
15 minute summer	S73	4.001	S74	32.3	1.287	0.175	0.4191	
15 minute summer	S74	4.002	S75	34.9	1.293	0.174	0.4945	
15 minute summer	S75L	7.000	S75	20.7	2.865	0.125	0.0344	
15 minute summer	S75	1.006	S76	100.1	1.447	0.438	1.2657	
15 minute summer	S76	1.007	S77	101.6	1.497	0.420	0.7120	
15 minute summer	S77	1.008	S78	104.4	1.273	0.323	1.1066	
15 minute summer	S78L	8.000	S78	14.8	1.136	0.827	0.0888	
15 minute summer	S78	1.009	S79	123.6	1.324	0.718	4.4351	
15 minute summer	S79L	9.000	S79	17.6	2.209	0.437	0.0516	
15 minute summer	S79	1.010	S80	143.5	1.936	0.480	3.4173	
15 minute summer	S80L	10.000	S80	10.4	2.644	0.164	0.0292	
15 minute summer	S80	1.011	S88	155.3	1.625	0.172	2.4776	
15 minute summer	S81L	11.000	S82	10.3	1.421	0.056	0.0798	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.23%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	10	113.028	0.089	14.3	0.1571	0.0000	OK
15 minute summer	S83L	10	113.544	0.054	13.4	0.0608	0.0000	OK
15 minute summer	S83	10	113.013	0.130	30.2	0.2293	0.0000	OK
15 minute summer	S84	11	112.964	0.133	32.1	0.2345	0.0000	OK
15 minute summer	S85L	10	113.572	0.058	8.3	0.0655	0.0000	OK
15 minute summer	S85	10	113.391	0.070	13.1	0.0791	0.0000	OK
15 minute summer	S86	11	112.899	0.165	46.8	0.2908	0.0000	OK
15 minute summer	S87L	10	113.602	0.042	9.4	0.0471	0.0000	OK
15 minute summer	S87	11	112.875	0.184	61.7	0.3254	0.0000	OK
15 minute summer	S88	12	112.847	0.333	215.1	0.5888	0.0000	OK
15 minute summer	S89	12	112.723	0.324	217.0	0.5732	0.0000	OK
15 minute summer	S91	12	112.446	0.329	216.1	0.8385	0.0000	OK
15 minute summer	S93L	11	113.121	0.013	1.0	0.0145	0.0000	OK
15 minute summer	S93	12	112.381	0.309	220.1	0.7862	0.0000	OK
15 minute summer	S94L	10	113.245	0.048	11.8	0.0540	0.0000	OK
15 minute summer	S94	13	112.181	0.146	251.5	0.3705	0.0000	OK
15 minute summer	S95La	10	112.945	0.031	5.2	0.0348	0.0000	OK
15 minute summer	S95Lb	10	112.724	0.030	4.9	0.0338	0.0000	OK
15 minute summer	S95	10	112.235	0.056	15.4	0.0631	0.0000	OK
15 minute summer	S96	13	110.830	0.191	255.5	0.4868	0.0000	OK
15 minute summer	S97L	10	110.870	0.049	12.7	0.0554	0.0000	OK
15 minute summer	S97	13	109.816	0.165	254.1	0.4189	0.0000	OK
15 minute summer	S98L	10	109.560	0.041	9.9	0.0462	0.0000	OK
15 minute summer	S98	13	108.660	0.216	261.1	0.5505	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	14.1	0.473	0.089	0.6868	
15 minute summer	S83L	12.000	S83	13.3	2.358	0.273	0.0233	
15 minute summer	S83	11.003	S84	29.9	0.779	0.188	0.8177	
15 minute summer	S84	11.004	S86	32.4	0.891	0.204	0.4315	
15 minute summer	S85L	13.000	S85	8.2	1.317	0.315	0.0343	
15 minute summer	S85	14.001	S86	12.9	1.233	0.211	0.2718	
15 minute summer	S86	11.005	S87	46.9	0.828	0.265	0.8028	
15 minute summer	S87L	14.000	S87	9.4	2.357	0.167	0.0229	
15 minute summer	S87	11.006	S88	61.4	0.885	0.348	2.6606	
15 minute summer	S88	1.012	S89	217.0	1.525	0.781	4.9375	
15 minute summer	S89	1.013	S91	216.1	1.574	0.777	2.3986	
15 minute summer	S91	1.014	S93	213.8	1.211	0.464	5.5743	
15 minute summer	S93L	17.001	S93	1.0	1.121	0.006	0.0049	
15 minute summer	S93	1.015	S94	240.1	2.160	0.538	3.2010	
15 minute summer	S94L	18.000	S94	11.7	2.443	0.218	0.0298	
15 minute summer	S94	1.016	S96	241.8	3.292	0.087	2.0565	
15 minute summer	S95La	19.000	S95	5.2	2.001	0.091	0.0152	
15 minute summer	S95Lb	20.000	S95	4.9	1.965	0.086	0.0090	
15 minute summer	S95	19.001	S96	15.2	1.692	0.076	0.3058	
15 minute summer	S96	1.017	S97	245.7	3.081	0.141	3.9957	
15 minute summer	S97L	21.000	S97	12.7	2.537	0.229	0.0300	
15 minute summer	S97	1.018	S98	254.2	2.894	0.111	3.1141	
15 minute summer	S98L	22.000	S98	9.9	2.548	0.161	0.0157	
15 minute summer	S98	1.019	S99	267.5	2.942	0.187	3.6840	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.23%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.376	0.041	12.8	0.0469	0.0000	OK
15 minute summer	S99	13	108.075	0.174	274.0	0.4430	0.0000	OK
15 minute summer	S100	13	107.085	0.182	275.2	0.4639	0.0000	OK
480 minute summer	HW14	360	106.512	0.242	52.9	0.0000	0.0000	OK
480 minute summer	HW15	360	106.512	0.242	31.0	0.0000	0.0000	OK
480 minute summer	S101	448	106.524	0.271	29.0	1.5540	0.0000	SURCHARGED
480 minute summer	HW16	480	105.145	0.045	8.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	12.8	3.238	0.165	0.0177	
15 minute summer	S99	1.020	S100	275.2	3.444	0.124	2.4920	
15 minute summer	S100	1.021	HW14	276.1	3.571	0.133	1.7573	
480 minute summer	HW14	Flow through Pond	HW15	31.0	0.056	0.001	266.5721	
480 minute summer	HW15	1.022	S101	29.0	0.281	0.055	1.1840	
480 minute summer	S101	1.023	HW16	8.5	1.534	0.087	0.1803	260.4

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.090	0.092	11.5	0.1043	0.0000	OK
15 minute summer	S67	10	114.980	0.114	20.9	0.1293	0.0000	OK
15 minute summer	S68	11	114.851	0.147	35.8	0.1665	0.0000	OK
15 minute summer	S69L	10	114.942	0.089	17.4	0.1005	0.0000	OK
15 minute summer	S69	11	114.497	0.173	52.3	0.3060	0.0000	OK
15 minute summer	S70	11	114.428	0.171	52.5	0.3029	0.0000	OK
15 minute summer	S71L	10	114.593	0.093	35.9	0.1053	0.0000	OK
15 minute summer	S71	11	114.378	0.258	85.1	0.4555	0.0000	OK
15 minute summer	S72	10	114.926	0.099	16.5	0.1741	0.0000	OK
15 minute summer	S73La	10	114.831	0.084	10.9	0.0953	0.0000	OK
15 minute summer	S73Lb	10	114.972	0.242	30.3	0.2734	0.0000	SURCHARGED
15 minute summer	S73	10	114.604	0.148	62.0	0.2621	0.0000	OK
15 minute summer	S74	10	114.468	0.155	66.5	0.2745	0.0000	OK
15 minute summer	S75L	10	114.844	0.075	39.5	0.0844	0.0000	OK
15 minute summer	S75	11	114.378	0.309	193.5	0.5462	0.0000	OK
15 minute summer	S76	11	114.287	0.310	196.1	0.5478	0.0000	OK
15 minute summer	S77	12	114.240	0.322	200.5	0.5694	0.0000	OK
15 minute summer	S78L	10	114.402	0.250	28.3	0.2827	0.0000	SURCHARGED
15 minute summer	S78	12	114.231	0.448	234.8	0.7914	0.0000	OK
15 minute summer	S79L	10	114.381	0.105	33.6	0.1183	0.0000	OK
15 minute summer	S79	11	113.933	0.360	270.9	0.6364	0.0000	OK
15 minute summer	S80L	10	114.760	0.058	19.7	0.0651	0.0000	OK
15 minute summer	S80	12	113.599	0.201	298.3	0.5118	0.0000	OK
15 minute summer	S81L	10	113.502	0.066	19.7	0.1163	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	11.4	1.005	0.700	0.0780	
15 minute summer	S67	1.001	S68	20.7	1.025	0.521	0.2955	
15 minute summer	S68	1.002	S69	35.5	1.043	0.498	1.4914	
15 minute summer	S69L	2.000	S69	17.3	1.592	0.658	0.1144	
15 minute summer	S69	1.003	S70	52.5	0.961	0.330	1.5297	
15 minute summer	S70	1.004	S71	50.8	0.715	0.320	4.2021	
15 minute summer	S71L	3.000	S71	35.8	2.311	0.361	0.0666	
15 minute summer	S71	1.005	S75	84.5	0.893	0.370	1.0701	
15 minute summer	S72	4.000	S73	16.1	0.964	0.404	0.6257	
15 minute summer	S73La	5.000	S73	10.8	1.062	0.608	0.0669	
15 minute summer	S73Lb	6.000	S73	30.0	1.706	1.696	0.0858	
15 minute summer	S73	4.001	S74	61.6	1.488	0.333	0.6981	
15 minute summer	S74	4.002	S75	66.7	1.273	0.333	0.9676	
15 minute summer	S75L	7.000	S75	39.4	3.439	0.238	0.0585	
15 minute summer	S75	1.006	S76	192.3	1.663	0.841	2.1269	
15 minute summer	S76	1.007	S77	194.5	1.699	0.804	1.2425	
15 minute summer	S77	1.008	S78	197.8	1.420	0.612	1.8876	
15 minute summer	S78L	8.000	S78	28.0	1.589	1.567	0.1201	
15 minute summer	S78	1.009	S79	231.4	1.587	1.345	6.8029	
15 minute summer	S79L	9.000	S79	33.5	2.555	0.830	0.0848	
15 minute summer	S79	1.010	S80	277.1	2.365	0.927	5.3316	
15 minute summer	S80L	10.000	S80	19.6	3.162	0.311	0.0464	
15 minute summer	S80	1.011	S88	290.8	1.804	0.323	3.7519	
15 minute summer	S81L	11.000	S82	19.6	1.717	0.107	0.1254	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	13	113.094	0.155	27.2	0.2732	0.0000	OK
15 minute summer	S83L	10	113.567	0.077	25.3	0.0867	0.0000	OK
15 minute summer	S83	12	113.086	0.203	57.2	0.3582	0.0000	OK
15 minute summer	S84	12	113.089	0.258	60.2	0.4558	0.0000	OK
15 minute summer	S85L	10	113.598	0.084	15.8	0.0949	0.0000	OK
15 minute summer	S85	10	113.420	0.099	24.9	0.1118	0.0000	OK
15 minute summer	S86	12	113.090	0.356	85.6	0.6284	0.0000	OK
15 minute summer	S87L	10	113.618	0.058	17.8	0.0658	0.0000	OK
15 minute summer	S87	12	113.085	0.393	111.2	0.6953	0.0000	OK
15 minute summer	S88	12	113.063	0.548	385.0	0.9691	0.0000	SURCHARGED
15 minute summer	S89	12	112.862	0.463	384.8	0.8185	0.0000	OK
15 minute summer	S91	12	112.570	0.454	384.2	1.1560	0.0000	OK
15 minute summer	S93L	10	113.126	0.018	2.0	0.0200	0.0000	OK
15 minute summer	S93	12	112.508	0.436	394.9	1.1102	0.0000	OK
15 minute summer	S94L	10	113.265	0.067	22.4	0.0763	0.0000	OK
15 minute summer	S94	13	112.223	0.188	418.7	0.4790	0.0000	OK
15 minute summer	S95La	10	112.957	0.042	9.9	0.0481	0.0000	OK
15 minute summer	S95Lb	10	112.735	0.041	9.2	0.0463	0.0000	OK
15 minute summer	S95	10	112.256	0.077	29.2	0.0868	0.0000	OK
15 minute summer	S96	13	110.898	0.259	436.9	0.6598	0.0000	OK
15 minute summer	S97L	10	110.890	0.069	24.0	0.0783	0.0000	OK
15 minute summer	S97	12	109.875	0.224	465.4	0.5694	0.0000	OK
15 minute summer	S98L	10	109.576	0.057	18.8	0.0646	0.0000	OK
15 minute summer	S98	12	108.741	0.296	487.6	0.7545	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	26.6	0.534	0.168	1.3206	
15 minute summer	S83L	12.000	S83	25.2	2.791	0.517	0.0373	
15 minute summer	S83	11.003	S84	55.9	0.926	0.353	1.7381	
15 minute summer	S84	11.004	S86	57.7	0.990	0.363	1.1781	
15 minute summer	S85L	13.000	S85	15.7	1.554	0.601	0.0554	
15 minute summer	S85	14.001	S86	24.6	1.472	0.402	0.4911	
15 minute summer	S86	11.005	S87	82.0	0.887	0.462	1.9911	
15 minute summer	S87L	14.000	S87	17.7	2.818	0.317	0.0474	
15 minute summer	S87	11.006	S88	96.8	0.911	0.549	5.3290	
15 minute summer	S88	1.012	S89	384.8	1.803	1.384	7.2491	
15 minute summer	S89	1.013	S91	384.2	1.984	1.381	3.3755	
15 minute summer	S91	1.014	S93	383.0	1.434	0.832	8.5023	
15 minute summer	S93L	17.001	S93	2.0	1.386	0.012	0.0078	
15 minute summer	S93	1.015	S94	397.0	2.438	0.890	4.9068	
15 minute summer	S94L	18.000	S94	22.3	2.911	0.414	0.0476	
15 minute summer	S94	1.016	S96	411.6	3.751	0.148	3.0731	
15 minute summer	S95La	19.000	S95	9.9	2.411	0.174	0.0239	
15 minute summer	S95Lb	20.000	S95	9.2	2.361	0.162	0.0142	
15 minute summer	S95	19.001	S96	28.9	2.040	0.145	0.4815	
15 minute summer	S96	1.017	S97	444.0	3.655	0.255	6.0938	
15 minute summer	S97L	21.000	S97	23.9	3.016	0.434	0.0476	
15 minute summer	S97	1.018	S98	466.8	3.450	0.204	4.8006	
15 minute summer	S98L	22.000	S98	18.7	3.051	0.306	0.0250	
15 minute summer	S98	1.019	S99	493.8	3.498	0.344	5.7139	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.392	0.058	24.4	0.0657	0.0000	OK
15 minute summer	S99	12	108.141	0.240	513.1	0.6096	0.0000	OK
15 minute summer	S100	12	107.156	0.253	515.1	0.6431	0.0000	OK
480 minute summer	HW14	480	106.691	0.421	95.2	0.0000	0.0000	OK
480 minute summer	HW15	472	106.692	0.422	52.6	0.0000	0.0000	OK
480 minute summer	S101	480	106.723	0.470	58.8	2.6920	0.0000	SURCHARGED
30 minute summer	HW16	93	105.145	0.045	8.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	24.3	3.879	0.316	0.0282	
15 minute summer	S99	1.020	S100	515.1	4.101	0.232	3.9178	
15 minute summer	S100	1.021	HW14	517.4	4.600	0.249	2.5892	
480 minute summer	HW14	Flow through Pond	HW15	52.6	0.075	0.001	542.4935	
480 minute summer	HW15	1.022	S101	58.8	0.249	0.111	2.4753	
480 minute summer	S101	1.023	HW16	8.6	1.537	0.087	0.1810	287.7

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	12	115.272	0.274	20.9	0.3103	0.0000	SURCHARGED
15 minute summer	S67	12	115.211	0.345	37.9	0.3905	0.0000	SURCHARGED
15 minute summer	S68	12	115.165	0.461	65.0	0.5214	0.0000	SURCHARGED
15 minute summer	S69L	12	115.296	0.443	31.7	0.5015	0.0000	SURCHARGED
15 minute summer	S69	12	115.060	0.736	93.6	1.2997	0.0000	SURCHARGED
15 minute summer	S70	12	115.056	0.799	87.6	1.4123	0.0000	SURCHARGED
15 minute summer	S71L	12	115.059	0.559	65.2	0.6327	0.0000	SURCHARGED
15 minute summer	S71	12	115.020	0.900	132.3	1.5906	0.0000	SURCHARGED
15 minute summer	S72	12	115.173	0.346	29.9	0.6115	0.0000	SURCHARGED
15 minute summer	S73La	12	115.119	0.372	19.7	0.4205	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.397	0.667	55.0	0.7546	0.0000	SURCHARGED
15 minute summer	S73	12	115.080	0.624	112.2	1.1023	0.0000	SURCHARGED
15 minute summer	S74	12	115.045	0.732	109.0	1.2937	0.0000	SURCHARGED
15 minute summer	S75L	12	115.063	0.294	71.8	0.3320	0.0000	SURCHARGED
15 minute summer	S75	12	115.006	0.937	285.4	1.6561	0.0000	SURCHARGED
15 minute summer	S76	12	114.872	0.895	288.1	1.5813	0.0000	SURCHARGED
15 minute summer	S77	12	114.792	0.874	294.2	1.5451	0.0000	SURCHARGED
15 minute summer	S78L	12	115.087	0.935	51.4	1.0572	0.0000	SURCHARGED
15 minute summer	S78	12	114.683	0.900	351.4	1.5906	0.0000	SURCHARGED
15 minute summer	S79L	10	114.845	0.569	61.0	0.6430	0.0000	SURCHARGED
15 minute summer	S79	12	114.137	0.564	417.5	0.9962	0.0000	SURCHARGED
15 minute summer	S80L	10	114.783	0.081	35.9	0.0917	0.0000	OK
15 minute summer	S80	12	113.826	0.428	449.5	1.0893	0.0000	OK
15 minute summer	S81L	12	113.856	0.420	35.9	0.7422	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	20.6	1.174	1.265	0.1211	
15 minute summer	S67	1.001	S68	37.5	1.197	0.943	0.5813	
15 minute summer	S68	1.002	S69	62.8	1.224	0.880	3.0825	
15 minute summer	S69L	2.000	S69	31.4	1.782	1.195	0.1857	
15 minute summer	S69	1.003	S70	87.6	1.047	0.552	4.3429	
15 minute summer	S70	1.004	S71	101.1	0.785	0.638	8.9186	
15 minute summer	S71L	3.000	S71	61.6	2.583	0.621	0.1710	
15 minute summer	S71	1.005	S75	154.8	1.120	0.679	1.6150	
15 minute summer	S72	4.000	S73	29.0	1.106	0.729	1.4909	
15 minute summer	S73La	5.000	S73	19.5	1.197	1.096	0.1158	
15 minute summer	S73Lb	6.000	S73	54.1	3.073	3.055	0.0867	
15 minute summer	S73	4.001	S74	100.4	1.648	0.542	1.8420	
15 minute summer	S74	4.002	S75	117.7	1.282	0.588	1.8608	
15 minute summer	S75L	7.000	S75	68.9	3.758	0.416	0.1889	
15 minute summer	S75	1.006	S76	281.3	1.776	1.230	2.8982	
15 minute summer	S76	1.007	S77	283.4	1.789	1.171	1.6610	
15 minute summer	S77	1.008	S78	291.6	1.841	0.902	2.1380	
15 minute summer	S78L	8.000	S78	48.8	2.772	2.735	0.1203	
15 minute summer	S78	1.009	S79	343.7	2.169	1.997	7.5243	
15 minute summer	S79L	9.000	S79	59.4	3.372	1.473	0.1140	
15 minute summer	S79	1.010	S80	411.2	2.453	1.375	9.2382	
15 minute summer	S80L	10.000	S80	35.8	3.693	0.566	0.0723	
15 minute summer	S80	1.011	S88	445.6	2.156	0.494	5.1971	
15 minute summer	S81L	11.000	S82	33.5	1.997	0.183	0.7746	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	113.845	0.906	46.6	1.6001	0.0000	SURCHARGED
15 minute summer	S83L	12	114.037	0.547	46.0	0.6190	0.0000	SURCHARGED
15 minute summer	S83	12	113.842	0.959	95.1	1.6949	0.0000	SURCHARGED
15 minute summer	S84	12	113.835	1.004	96.0	1.7733	0.0000	SURCHARGED
15 minute summer	S85L	12	114.054	0.540	28.7	0.6104	0.0000	SURCHARGED
15 minute summer	S85	12	113.954	0.633	44.9	0.7157	0.0000	SURCHARGED
15 minute summer	S86	12	113.817	1.083	131.9	1.9139	0.0000	SURCHARGED
15 minute summer	S87L	12	113.928	0.368	32.3	0.4157	0.0000	SURCHARGED
15 minute summer	S87	12	113.792	1.101	173.0	1.9459	0.0000	SURCHARGED
15 minute summer	S88	12	113.695	1.181	621.9	2.0876	0.0000	SURCHARGED
15 minute summer	S89	12	113.123	0.724	619.8	1.2789	0.0000	SURCHARGED
15 minute summer	S91	12	112.737	0.621	618.1	1.5806	0.0000	OK
15 minute summer	S93L	10	113.131	0.023	3.6	0.0264	0.0000	OK
15 minute summer	S93	12	112.638	0.566	642.4	1.4407	0.0000	OK
15 minute summer	S94L	10	113.295	0.098	40.7	0.1103	0.0000	OK
15 minute summer	S94	12	112.286	0.251	714.5	0.6382	0.0000	OK
15 minute summer	S95La	10	112.972	0.058	17.9	0.0656	0.0000	OK
15 minute summer	S95Lb	10	112.750	0.056	16.7	0.0632	0.0000	OK
15 minute summer	S95	10	112.283	0.104	53.0	0.1180	0.0000	OK
30 minute summer	S96	20	110.982	0.343	739.8	0.8725	0.0000	OK
15 minute summer	S97L	10	110.922	0.101	43.7	0.1141	0.0000	OK
15 minute summer	S97	12	109.943	0.292	774.3	0.7427	0.0000	OK
15 minute summer	S98L	10	109.599	0.080	34.1	0.0906	0.0000	OK
15 minute summer	S98	12	108.835	0.391	810.5	0.9941	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	53.5	0.555	0.337	3.6331	
15 minute summer	S83L	12.000	S83	43.4	3.119	0.888	0.0726	
15 minute summer	S83	11.003	S84	88.6	0.961	0.559	3.3747	
15 minute summer	S84	11.004	S86	90.4	0.981	0.570	1.8826	
15 minute summer	S85L	13.000	S85	28.2	1.644	1.079	0.0965	
15 minute summer	S85	14.001	S86	41.4	1.536	0.676	1.0313	
15 minute summer	S86	11.005	S87	130.7	0.879	0.737	2.2425	
15 minute summer	S87L	14.000	S87	35.4	3.062	0.632	0.1017	
15 minute summer	S87	11.006	S88	175.8	1.110	0.998	5.5454	
15 minute summer	S88	1.012	S89	619.8	2.869	2.230	7.4972	
15 minute summer	S89	1.013	S91	618.1	2.862	2.222	3.7264	
15 minute summer	S91	1.014	S93	628.9	1.719	1.366	11.6540	
15 minute summer	S93L	17.001	S93	3.6	1.659	0.022	0.0185	
15 minute summer	S93	1.015	S94	699.0	3.032	1.567	6.7876	
15 minute summer	S94L	18.000	S94	40.6	3.354	0.753	0.0750	
15 minute summer	S94	1.016	S96	711.5	4.465	0.257	4.4515	
15 minute summer	S95La	19.000	S95	17.8	2.845	0.315	0.0367	
15 minute summer	S95Lb	20.000	S95	16.7	2.792	0.294	0.0218	
15 minute summer	S95	19.001	S96	52.6	2.417	0.263	0.7389	
30 minute summer	S96	1.017	S97	716.0	4.101	0.412	8.7415	
15 minute summer	S97L	21.000	S97	43.6	3.465	0.790	0.0755	
15 minute summer	S97	1.018	S98	772.7	3.986	0.337	6.8900	
15 minute summer	S98L	22.000	S98	34.0	3.561	0.556	0.0389	
15 minute summer	S98	1.019	S99	809.4	3.999	0.565	8.1861	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.416	0.082	44.3	0.0925	0.0000	OK
15 minute summer	S99	12	108.213	0.312	844.4	0.7945	0.0000	OK
15 minute summer	S100	12	107.229	0.326	845.9	0.8301	0.0000	OK
720 minute summer	HW14	735	107.024	0.754	122.8	0.0000	0.0000	OK
720 minute summer	HW15	735	107.025	0.755	66.2	0.0000	0.0000	SURCHARGED
720 minute summer	S101	735	107.025	0.772	15.9	4.4195	0.0000	SURCHARGED
120 minute summer	HW16	62	105.145	0.045	8.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	44.2	4.525	0.573	0.0440	
15 minute summer	S99	1.020	S100	845.9	4.739	0.382	5.5667	
15 minute summer	S100	1.021	HW14	847.8	5.435	0.409	3.5285	
720 minute summer	HW14	Flow through Pond	HW15	66.2	0.069	0.002	1122.6558	
720 minute summer	HW15	1.022	S101	15.9	0.192	0.030	3.9987	
720 minute summer	S101	1.023	HW16	8.6	1.537	0.087	0.1810	385.9

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	12	115.562	0.564	23.0	0.6379	0.0000	SURCHARGED
15 minute summer	S67	12	115.499	0.633	41.8	0.7157	0.0000	SURCHARGED
15 minute summer	S68	12	115.460	0.756	71.7	0.8548	0.0000	SURCHARGED
15 minute summer	S69L	12	115.609	0.756	34.9	0.8551	0.0000	SURCHARGED
15 minute summer	S69	12	115.371	1.047	89.9	1.8500	0.0000	SURCHARGED
15 minute summer	S70	12	115.369	1.112	90.3	1.9656	0.0000	SURCHARGED
15 minute summer	S71L	12	115.386	0.886	71.7	1.0019	0.0000	SURCHARGED
15 minute summer	S71	12	115.337	1.217	133.5	2.1501	0.0000	SURCHARGED
15 minute summer	S72	12	115.459	0.632	32.9	1.1175	0.0000	SURCHARGED
15 minute summer	S73La	12	115.444	0.697	21.7	0.7881	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.766	1.036	60.5	1.1718	0.0000	SURCHARGED
15 minute summer	S73	12	115.396	0.940	121.7	1.6612	0.0000	SURCHARGED
15 minute summer	S74	12	115.362	1.049	119.0	1.8536	0.0000	SURCHARGED
15 minute summer	S75L	12	115.389	0.620	78.9	0.7015	0.0000	SURCHARGED
15 minute summer	S75	12	115.322	1.253	293.3	2.2139	0.0000	SURCHARGED
15 minute summer	S76	12	115.180	1.203	292.8	2.1261	0.0000	SURCHARGED
15 minute summer	S77	12	115.096	1.178	300.7	2.0817	0.0000	SURCHARGED
15 minute summer	S78L	12	115.448	1.296	56.6	1.4662	0.0000	SURCHARGED
15 minute summer	S78	12	114.981	1.198	356.8	2.1174	0.0000	SURCHARGED
15 minute summer	S79L	12	115.072	0.796	67.1	0.9004	0.0000	SURCHARGED
15 minute summer	S79	12	114.404	0.831	435.9	1.4680	0.0000	SURCHARGED
15 minute summer	S80L	10	114.788	0.086	39.5	0.0973	0.0000	OK
15 minute summer	S80	12	114.052	0.654	478.9	1.6633	0.0000	SURCHARGED
15 minute summer	S81L	12	114.013	0.577	39.5	1.0193	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S67L	1.000	S67	22.7	1.292	1.396	0.1211	
15 minute summer	S67	1.001	S68	41.4	1.240	1.042	0.5813	
15 minute summer	S68	1.002	S69	61.9	1.185	0.867	3.0825	
15 minute summer	S69L	2.000	S69	30.4	1.728	1.158	0.1857	
15 minute summer	S69	1.003	S70	90.3	1.046	0.568	4.3429	
15 minute summer	S70	1.004	S71	98.5	0.824	0.621	8.9186	
15 minute summer	S71L	3.000	S71	70.7	2.560	0.713	0.1710	
15 minute summer	S71	1.005	S75	146.1	1.110	0.641	1.6150	
15 minute summer	S72	4.000	S73	32.3	1.088	0.813	1.4909	
15 minute summer	S73La	5.000	S73	20.0	1.199	1.122	0.1158	
15 minute summer	S73Lb	6.000	S73	58.9	3.344	3.325	0.0867	
15 minute summer	S73	4.001	S74	109.6	1.612	0.592	1.8420	
15 minute summer	S74	4.002	S75	104.0	1.269	0.519	1.8608	
15 minute summer	S75L	7.000	S75	74.9	3.683	0.453	0.1889	
15 minute summer	S75	1.006	S76	285.3	1.801	1.248	2.8982	
15 minute summer	S76	1.007	S77	294.7	1.860	1.217	1.6610	
15 minute summer	S77	1.008	S78	307.4	1.940	0.951	2.1380	
15 minute summer	S78L	8.000	S78	53.1	3.018	2.977	0.1203	
15 minute summer	S78	1.009	S79	360.0	2.272	2.092	7.5243	
15 minute summer	S79L	9.000	S79	65.0	3.695	1.614	0.1140	
15 minute summer	S79	1.010	S80	427.8	2.446	1.431	9.8660	
15 minute summer	S80L	10.000	S80	39.4	3.778	0.623	0.0982	
15 minute summer	S80	1.011	S88	465.1	2.229	0.516	5.5503	
15 minute summer	S81L	11.000	S82	36.9	2.053	0.201	0.7746	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.91%

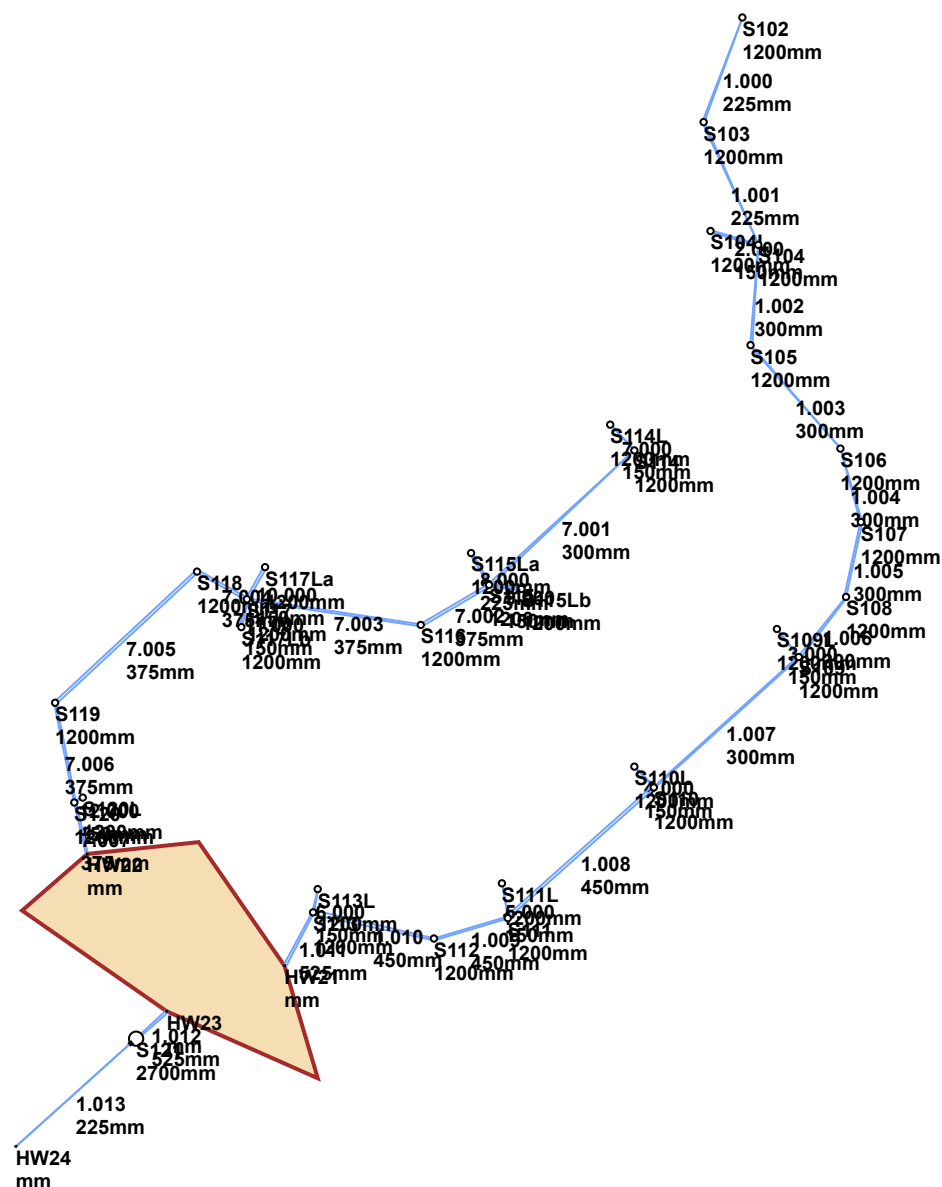
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	114.000	1.061	51.3	1.8740	0.0000	SURCHARGED
15 minute summer	S83L	12	114.226	0.736	50.7	0.8324	0.0000	SURCHARGED
15 minute summer	S83	12	113.991	1.108	108.2	1.9580	0.0000	SURCHARGED
15 minute summer	S84	12	113.972	1.141	107.3	2.0164	0.0000	SURCHARGED
15 minute summer	S85L	12	114.249	0.735	31.6	0.8317	0.0000	SURCHARGED
15 minute summer	S85	12	114.128	0.806	45.5	0.9121	0.0000	SURCHARGED
15 minute summer	S86	12	113.963	1.229	142.4	2.1713	0.0000	SURCHARGED
15 minute summer	S87L	12	114.097	0.537	35.5	0.6074	0.0000	SURCHARGED
15 minute summer	S87	12	113.933	1.242	189.8	2.1938	0.0000	SURCHARGED
15 minute summer	S88	12	113.812	1.298	662.3	2.2932	0.0000	SURCHARGED
15 minute summer	S89	12	113.164	0.765	662.6	1.3509	0.0000	SURCHARGED
15 minute summer	S91	12	112.770	0.654	660.6	1.6637	0.0000	OK
15 minute summer	S93L	10	113.132	0.024	3.9	0.0274	0.0000	OK
15 minute summer	S93	12	112.662	0.590	684.6	1.5015	0.0000	OK
15 minute summer	S94L	10	113.301	0.104	44.7	0.1180	0.0000	OK
15 minute summer	S94	13	112.302	0.267	743.3	0.6792	0.0000	OK
15 minute summer	S95La	10	112.975	0.061	19.7	0.0691	0.0000	OK
15 minute summer	S95Lb	10	112.753	0.059	18.4	0.0666	0.0000	OK
15 minute summer	S95	10	112.289	0.110	58.4	0.1243	0.0000	OK
30 minute summer	S96	19	110.997	0.358	809.3	0.9120	0.0000	OK
15 minute summer	S97L	10	110.929	0.108	48.0	0.1226	0.0000	OK
15 minute summer	S97	12	109.954	0.303	834.6	0.7722	0.0000	OK
15 minute summer	S98L	10	109.604	0.085	37.5	0.0961	0.0000	OK
15 minute summer	S98	12	108.852	0.408	871.4	1.0379	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S82	11.002	S83	52.6	0.552	0.331	3.6331	
15 minute summer	S83L	12.000	S83	47.6	3.052	0.974	0.0726	
15 minute summer	S83	11.003	S84	99.1	0.975	0.625	3.3747	
15 minute summer	S84	11.004	S86	96.5	0.946	0.608	1.8826	
15 minute summer	S85L	13.000	S85	27.9	1.667	1.067	0.0965	
15 minute summer	S85	14.001	S86	45.1	1.572	0.737	1.0313	
15 minute summer	S86	11.005	S87	141.9	0.896	0.800	2.2425	
15 minute summer	S87L	14.000	S87	33.3	3.137	0.595	0.1017	
15 minute summer	S87	11.006	S88	192.7	1.217	1.094	5.5454	
15 minute summer	S88	1.012	S89	662.6	3.067	2.384	7.4972	
15 minute summer	S89	1.013	S91	660.6	3.058	2.375	3.7353	
15 minute summer	S91	1.014	S93	660.8	1.704	1.435	12.1599	
15 minute summer	S93L	17.001	S93	3.9	1.702	0.024	0.0312	
15 minute summer	S93	1.015	S94	699.9	2.942	1.569	7.0421	
15 minute summer	S94L	18.000	S94	44.6	3.413	0.827	0.0810	
15 minute summer	S94	1.016	S96	756.0	4.495	0.273	4.7054	
15 minute summer	S95La	19.000	S95	19.6	2.919	0.347	0.0394	
15 minute summer	S95Lb	20.000	S95	18.4	2.866	0.324	0.0234	
15 minute summer	S95	19.001	S96	57.9	2.483	0.290	0.7925	
30 minute summer	S96	1.017	S97	760.6	4.260	0.437	9.2291	
15 minute summer	S97L	21.000	S97	47.9	3.519	0.867	0.0817	
15 minute summer	S97	1.018	S98	829.8	4.036	0.362	7.2666	
15 minute summer	S98L	22.000	S98	37.4	3.642	0.611	0.0418	
15 minute summer	S98	1.019	S99	869.8	4.068	0.607	8.6432	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.421	0.087	48.7	0.0981	0.0000	OK
15 minute summer	S99	12	108.226	0.325	908.2	0.8282	0.0000	OK
30 minute summer	S100	19	107.247	0.344	886.3	0.8745	0.0000	OK
960 minute summer	HW14	975	107.092	0.822	156.2	0.0000	0.0000	OK
720 minute summer	HW15	735	107.091	0.821	76.2	0.0000	0.0000	SURCHARGED
720 minute summer	S101	735	107.091	0.838	10.6	4.8000	0.0000	SURCHARGED
60 minute summer	HW16	34	105.145	0.045	8.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S99L	23.000	S99	48.6	4.627	0.630	0.0473	
15 minute summer	S99	1.020	S100	911.7	4.838	0.411	5.8771	
30 minute summer	S100	1.021	HW14	908.4	5.767	0.438	4.1945	
960 minute summer	HW14	Flow through Pond	HW15	59.4	0.063	0.001	1250.2703	
720 minute summer	HW15	1.022	S101	10.6	0.175	0.020	3.9994	
720 minute summer	S101	1.023	HW16	8.6	1.537	0.087	0.1809	400.5



Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S102	0.050	5.00	113.330	1200	444479.431	291754.803	1.438
S103	0.034	5.00	112.628	1200	444472.108	291734.898	1.502
S104L	0.064	5.00	112.267	1200	444473.413	291714.174	1.894
S104	0.022	5.00	111.735	1200	444482.435	291711.544	1.598
S105	0.024	5.00	111.072	1200	444480.975	291692.455	1.498
S106	0.017	5.00	110.748	1200	444497.965	291672.775	1.500
S107	0.010	5.00	110.593	1200	444501.843	291658.787	1.500
S108	0.011	5.00	110.213	1200	444499.035	291644.546	1.500
S109L	0.045	5.00	109.640	1200	444485.970	291638.442	1.297
S109	0.039	5.00	109.648	1200	444490.094	291633.112	1.500
S110L	0.064	5.00	108.250	1200	444459.015	291612.253	1.144
S110	0.027	5.00	108.270	1200	444462.690	291608.295	1.518
S111L	0.049	5.00	107.600	1200	444433.980	291590.051	1.343
S111	0.010	5.00	107.562	1200	444435.088	291583.424	1.650
S112	0.023	5.00	107.313	1200	444421.127	291579.546	1.650
S113L	0.088	5.00	107.370	1200	444399.148	291588.949	1.882
S113			107.389	1200	444398.276	291584.521	2.325
HW21			106.300		444392.865	291574.374	1.269
S114L	0.047	5.00	110.300	1200	444454.447	291677.323	1.452
S114	0.044	5.00	110.153	1200	444459.014	291672.421	1.499
S115La	0.129	5.00	108.990	1200	444428.145	291652.896	1.577
S115Lb	0.037	5.00	109.000	1200	444437.650	291646.063	1.535
S115	0.023	5.00	108.785	1200	444431.545	291646.827	2.235
S116	0.061	5.00	108.467	1200	444418.632	291639.215	1.964
S117La	0.062	5.00	108.900	1200	444389.206	291650.210	2.205
S117Lb	0.058	5.00	109.000	1200	444384.717	291638.803	1.542
S117			108.819	1200	444385.774	291644.110	2.713
S118	0.052	5.00	108.654	1200	444376.341	291649.365	2.582
S119			107.717	1200	444349.508	291624.408	1.754
S120L	0.034	5.00	108.000	1200	444354.737	291606.364	2.472
S120			107.000	1200	444353.141	291605.428	1.758
HW22			106.286		444355.600	291595.647	1.205
HW23		5.00	106.286		444370.615	291565.689	1.255
S121			106.300	2700	444364.822	291560.491	1.289
HW24			105.600		444342.087	291539.997	0.895

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S102	S103	21.209	0.600	111.892	111.126	0.766	27.7	225	5.14	50.0
1.001	S103	S104	25.535	0.600	111.126	110.212	0.914	27.9	225	5.31	50.0
2.000	S104L	S104	9.398	0.600	110.373	110.287	0.086	109.3	150	5.16	50.0
1.002	S104	S105	19.145	0.600	110.137	109.574	0.563	34.0	300	5.43	50.0
1.003	S105	S106	25.999	0.600	109.574	109.248	0.326	79.8	300	5.68	50.0
1.004	S106	S107	14.516	0.600	109.248	109.093	0.155	93.7	300	5.83	50.0
1.005	S107	S108	14.515	0.600	109.093	108.713	0.380	38.2	300	5.92	50.0
1.006	S108	S109	14.515	0.600	108.713	108.148	0.565	25.7	300	6.00	50.0
3.000	S109L	S109	6.739	0.600	108.343	108.298	0.045	149.8	150	5.14	50.0
1.007	S109	S110	36.971	0.600	108.148	106.902	1.246	29.7	300	6.21	49.5
4.000	S110L	S110	5.401	0.600	107.106	107.052	0.054	100.0	150	5.09	50.0
1.008	S110	S111	37.154	0.600	106.752	105.912	0.840	44.2	450	6.41	48.8
5.000	S111L	S111	6.719	0.600	106.257	106.212	0.045	149.3	150	5.14	50.0
1.009	S111	S112	14.490	0.600	105.912	105.663	0.249	58.2	450	6.50	48.5
1.010	S112	S113	23.386	0.600	105.663	105.139	0.524	44.6	450	6.63	48.0
6.000	S113L	S113	4.513	0.600	105.488	105.439	0.049	92.1	150	5.07	50.0
1.011	S113	HW21	11.500	0.600	105.064	105.031	0.033	348.5	525	6.79	47.4
7.000	S114L	S114	6.700	0.600	108.848	108.804	0.044	152.3	150	5.14	50.0
7.001	S114	S115	37.545	0.600	108.654	106.625	2.029	18.5	300	5.31	50.0
8.000	S115La	S115	6.956	0.600	107.413	106.700	0.713	9.8	225	5.03	50.0
9.000	S115Lb	S115	6.153	0.600	107.465	106.775	0.690	8.9	150	5.03	50.0
7.002	S115	S116	14.990	0.600	106.550	106.503	0.047	318.9	375	5.56	50.0
7.003	S116	S117	33.221	0.600	106.503	106.106	0.397	83.7	375	5.84	50.0
10.000	S117La	S117	6.999	0.600	106.695	106.331	0.364	19.2	150	5.05	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.496	99.2	6.8	1.213	1.277	0.050	0.0
1.001	2.484	98.8	11.4	1.277	1.298	0.084	0.0
2.000	0.960	17.0	8.7	1.744	1.298	0.064	0.0
1.002	2.705	191.2	23.0	1.298	1.198	0.170	0.0
1.003	1.762	124.5	26.3	1.198	1.200	0.194	0.0
1.004	1.625	114.8	28.6	1.200	1.200	0.211	0.0
1.005	2.551	180.3	30.0	1.200	1.200	0.221	0.0
1.006	3.114	220.1	31.4	1.200	1.200	0.232	0.0
3.000	0.819	14.5	6.1	1.147	1.200	0.045	0.0
1.007	2.897	204.7	42.4	1.200	1.068	0.316	0.0
4.000	1.005	17.8	8.7	0.994	1.068	0.064	0.0
1.008	3.063	487.1	53.8	1.068	1.200	0.407	0.0
5.000	0.820	14.5	6.6	1.193	1.200	0.049	0.0
1.009	2.669	424.4	61.2	1.200	1.200	0.466	0.0
1.010	3.049	485.0	63.6	1.200	1.800	0.489	0.0
6.000	1.047	18.5	11.9	1.732	1.800	0.088	0.0
1.011	1.194	258.4	74.2	1.800	0.744	0.577	0.0
7.000	0.812	14.3	6.4	1.302	1.199	0.047	0.0
7.001	3.671	259.5	12.3	1.199	1.860	0.091	0.0
8.000	4.213	167.5	17.5	1.352	1.860	0.129	0.0
9.000	3.394	60.0	5.0	1.385	1.860	0.037	0.0
7.002	1.009	111.4	37.9	1.860	1.589	0.280	0.0
7.003	1.982	218.9	46.2	1.589	2.338	0.341	0.0
10.000	2.307	40.8	8.4	2.055	2.338	0.062	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.000	S117Lb	S117	5.411	0.600	107.458	106.331	1.127	4.8	150	5.02	50.0
7.004	S117	S118	10.798	0.600	106.106	106.072	0.034	317.6	375	6.01	50.0
7.005	S118	S119	36.645	0.600	106.072	105.963	0.109	336.2	375	6.63	48.0
7.006	S119	S120	19.325	0.600	105.963	105.242	0.721	26.8	375	6.73	47.7
12.000	S120L	S120	1.850	0.600	105.528	105.467	0.061	30.3	150	5.02	50.0
7.007	S120	HW22	10.085	0.600	105.242	105.181	0.061	165.3	375	6.85	47.3
1.012	HW23	S121	7.783	0.600	105.031	105.011	0.020	389.2	525	5.11	50.0
1.013	S121	HW24	30.609	0.600	105.011	104.705	0.306	100.0	225	5.51	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	4.630	81.8	7.9	1.392	2.338	0.058	0.0
7.004	1.011	111.7	62.5	2.338	2.207	0.461	0.0
7.005	0.982	108.5	66.7	2.207	1.379	0.513	0.0
7.006	3.511	387.8	66.3	1.379	1.383	0.513	0.0
12.000	1.834	32.4	4.6	2.322	1.383	0.034	0.0
7.007	1.406	155.3	70.1	1.383	0.730	0.547	0.0
1.012	1.129	244.4	0.0	0.730	0.764	0.000	0.0
1.013	1.307	52.0	0.0	1.064	0.670	0.000	0.0

Pipeline Schedule

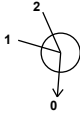
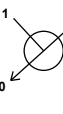
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	21.209	27.7	225	1	113.330	111.892	1.213	112.628	111.126	1.277
1.001	25.535	27.9	225	1	112.628	111.126	1.277	111.735	110.212	1.298
2.000	9.398	109.3	150	1	112.267	110.373	1.744	111.735	110.287	1.298
1.002	19.145	34.0	300	1	111.735	110.137	1.298	111.072	109.574	1.198
1.003	25.999	79.8	300	1	111.072	109.574	1.198	110.748	109.248	1.200
1.004	14.516	93.7	300	1	110.748	109.248	1.200	110.593	109.093	1.200
1.005	14.515	38.2	300	1	110.593	109.093	1.200	110.213	108.713	1.200
1.006	14.515	25.7	300	1	110.213	108.713	1.200	109.648	108.148	1.200
3.000	6.739	149.8	150	1	109.640	108.343	1.147	109.648	108.298	1.200
1.007	36.971	29.7	300	1	109.648	108.148	1.200	108.270	106.902	1.068
4.000	5.401	100.0	150	1	108.250	107.106	0.994	108.270	107.052	1.068
1.008	37.154	44.2	450	1	108.270	106.752	1.068	107.562	105.912	1.200

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S102	1200	Manhole	S103	1200	Manhole
1.001	S103	1200	Manhole	S104	1200	Manhole
2.000	S104L	1200	Manhole	S104	1200	Manhole
1.002	S104	1200	Manhole	S105	1200	Manhole
1.003	S105	1200	Manhole	S106	1200	Manhole
1.004	S106	1200	Manhole	S107	1200	Manhole
1.005	S107	1200	Manhole	S108	1200	Manhole
1.006	S108	1200	Manhole	S109	1200	Manhole
3.000	S109L	1200	Manhole	S109	1200	Manhole
1.007	S109	1200	Manhole	S110	1200	Manhole
4.000	S110L	1200	Manhole	S110	1200	Manhole
1.008	S110	1200	Manhole	S111	1200	Manhole

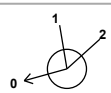
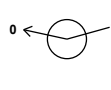
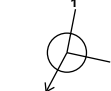
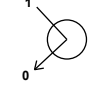
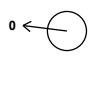
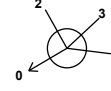
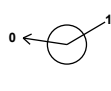
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.000	6.719	149.3	150	1	107.600	106.257	1.193	107.562	106.212	1.200
1.009	14.490	58.2	450	1	107.562	105.912	1.200	107.313	105.663	1.200
1.010	23.386	44.6	450	1	107.313	105.663	1.200	107.389	105.139	1.800
6.000	4.513	92.1	150	1	107.370	105.488	1.732	107.389	105.439	1.800
1.011	11.500	348.5	525	1	107.389	105.064	1.800	106.300	105.031	0.744
7.000	6.700	152.3	150	1	110.300	108.848	1.302	110.153	108.804	1.199
7.001	37.545	18.5	300	1	110.153	108.654	1.199	108.785	106.625	1.860
8.000	6.956	9.8	225	1	108.990	107.413	1.352	108.785	106.700	1.860
9.000	6.153	8.9	150	1	109.000	107.465	1.385	108.785	106.775	1.860
7.002	14.990	318.9	375	1	108.785	106.550	1.860	108.467	106.503	1.589
7.003	33.221	83.7	375	1	108.467	106.503	1.589	108.819	106.106	2.338
10.000	6.999	19.2	150	1	108.900	106.695	2.055	108.819	106.331	2.338
11.000	5.411	4.8	150	1	109.000	107.458	1.392	108.819	106.331	2.338
7.004	10.798	317.6	375	1	108.819	106.106	2.338	108.654	106.072	2.207
7.005	36.645	336.2	375	1	108.654	106.072	2.207	107.717	105.963	1.379
7.006	19.325	26.8	375	1	107.717	105.963	1.379	107.000	105.242	1.383
12.000	1.850	30.3	150	1	108.000	105.528	2.322	107.000	105.467	1.383
7.007	10.085	165.3	375	1	107.000	105.242	1.383	106.286	105.181	0.730
1.012	7.783	389.2	525	1	106.286	105.031	0.730	106.300	105.011	0.764
1.013	30.609	100.0	225	1	106.300	105.011	1.064	105.600	104.705	0.670

Flow+ v15.0 Copyright © 1988-2025 Causeway Technologies Ltd

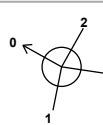
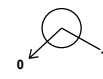
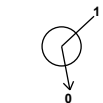
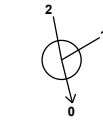
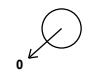
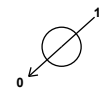
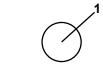
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S102	444479.431	291754.803	113.330	1.438	1200	1	 0	1.000	111.892	225	
S103	444472.108	291734.898	112.628	1.502	1200	1	 1 0	1.000	111.126	225	
S104L	444473.413	291714.174	112.267	1.894	1200	1	 0	1.001	111.126	225	
S104	444482.435	291711.544	111.735	1.598	1200	1	 1 2 0	2.000	110.373	150	
S105	444480.975	291692.455	111.072	1.498	1200	1	 1 0	2.000	110.287	150	
S106	444497.965	291672.775	110.748	1.500	1200	1	 1 0	1.001	110.212	225	
S107	444501.843	291658.787	110.593	1.500	1200	1	 1 0	1.002	110.137	300	
S108	444499.035	291644.546	110.213	1.500	1200	1	 1 0	1.002	109.574	300	
S109L	444485.970	291638.442	109.640	1.297	1200	1	 0	1.003	109.574	300	
S109	444490.094	291633.112	109.648	1.500	1200	1	 1 2 0	1.003	109.248	300	
S110L	444459.015	291612.253	108.250	1.144	1200	1	 0	1.004	109.248	300	
S110	444462.690	291608.295	108.270	1.518	1200	1	 1 2 0	1.005	109.093	300	
S111L	444433.980	291590.051	107.600	1.343	1200	1	 0	1.006	108.713	300	
								0	1.006	108.713	300
								0	3.000	108.343	150
								1	3.000	108.298	150
								2	1.006	108.148	300
								0	1.007	108.148	300
								0	4.000	107.106	150
								1	4.000	107.052	150
								2	1.007	106.902	300
								0	1.008	106.752	450
								0	5.000	106.257	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S111	444435.088	291583.424	107.562	1.650	1200	1		1	5.000	106.212	150
								2	1.008	105.912	450
								0	1.009	105.912	450
S112	444421.127	291579.546	107.313	1.650	1200	1		1	1.009	105.663	450
0	1.010	105.663	450								
S113L	444399.148	291588.949	107.370	1.882	1200	1		0	6.000	105.488	150
S113	444398.276	291584.521	107.389	2.325	1200	1		1	6.000	105.439	150
								2	1.010	105.139	450
								0	1.011	105.064	525
HW21	444392.865	291574.374	106.300	1.269		1		1	1.011	105.031	525
S114L	444454.447	291677.323	110.300	1.452	1200	1		0	7.000	108.848	150
S114	444459.014	291672.421	110.153	1.499	1200	1		1	7.000	108.804	150
								0	7.001	108.654	300
S115La	444428.145	291652.896	108.990	1.577	1200	1		0	8.000	107.413	225
S115Lb	444437.650	291646.063	109.000	1.535	1200	1		0	9.000	107.465	150
S115	444431.545	291646.827	108.785	2.235	1200	1			1	9.000	106.775
								2	8.000	106.700	225
								3	7.001	106.625	300
								0	7.002	106.550	375
S116	444418.632	291639.215	108.467	1.964	1200	1		1	7.002	106.503	375
								0	7.003	106.503	375
S117La	444389.206	291650.210	108.900	2.205	1200	1		0	10.000	106.695	150
S117Lb	444384.717	291638.803	109.000	1.542	1200	1		0	11.000	107.458	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S117	444385.774	291644.110	108.819	2.713	1200	1		1 11.000 106.331 150 2 10.000 106.331 150 3 7.003 106.106 375 0 7.004 106.106 375		
S118	444376.341	291649.365	108.654	2.582	1200	1		1 7.004 106.072 375 0 7.005 106.072 375		
S119	444349.508	291624.408	107.717	1.754	1200	1		1 7.005 105.963 375 0 7.006 105.963 375		
S120L	444354.737	291606.364	108.000	2.472	1200	1		0 12.000 105.528 150		
S120	444353.141	291605.428	107.000	1.758	1200	1		1 12.000 105.467 150 2 7.006 105.242 375 0 7.007 105.242 375		
HW22	444355.600	291595.647	106.286	1.205		1		1 7.007 105.181 375		
HW23	444370.615	291565.689	106.286	1.255		1		0 1.012 105.031 525		
S121	444364.822	291560.491	106.300	1.289	2700	1		1 1.012 105.011 525 0 1.013 105.011 225		
HW24	444342.087	291539.997	105.600	0.895		1		1 1.013 104.705 225		

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	20.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Normal		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0

Node S121 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	105.011	Product Number	CTL-SHE-0106-4500-0600-4500
Design Depth (m)	0.600	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	4.5	Min Node Diameter (mm)	1200

Node HW23 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	105.031	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets

HW22 | HW21

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1114.0	0.0	1.500	1842.0	0.0	1.501	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.937	0.045	8.7	0.0817	0.0000	OK
15 minute summer	S103	10	111.184	0.058	14.5	0.0915	0.0000	OK
15 minute summer	S104L	10	110.461	0.088	11.1	0.1583	0.0000	OK
15 minute summer	S104	10	110.215	0.078	29.1	0.1101	0.0000	OK
15 minute summer	S105	11	109.678	0.104	33.1	0.1513	0.0000	OK
15 minute summer	S106	11	109.362	0.114	35.7	0.1549	0.0000	OK
15 minute summer	S107	11	109.186	0.093	37.6	0.1180	0.0000	OK
15 minute summer	S108	11	108.799	0.086	39.6	0.1093	0.0000	OK
15 minute summer	S109L	10	108.421	0.078	7.8	0.1415	0.0000	OK
15 minute summer	S109	11	108.252	0.104	53.6	0.1718	0.0000	OK
15 minute summer	S110L	10	107.191	0.085	11.1	0.1917	0.0000	OK
15 minute summer	S110	11	106.865	0.113	69.0	0.1677	0.0000	OK
15 minute summer	S111L	10	106.339	0.082	8.5	0.1520	0.0000	OK
15 minute summer	S111	11	106.042	0.130	78.9	0.1625	0.0000	OK
15 minute summer	S112	11	105.787	0.124	82.8	0.1747	0.0000	OK
15 minute summer	S113L	10	105.591	0.103	15.3	0.2126	0.0000	OK
15 minute summer	S113	11	105.343	0.279	97.5	0.3159	0.0000	OK
15 minute summer	HW21	11	105.339	0.308	96.6	0.0000	0.0000	OK
15 minute summer	S114L	10	108.928	0.080	8.1	0.1420	0.0000	OK
15 minute summer	S114	10	108.704	0.049	15.6	0.0850	0.0000	OK
15 minute summer	S115La	10	107.468	0.055	22.4	0.1532	0.0000	OK
15 minute summer	S115Lb	10	107.498	0.033	6.4	0.0534	0.0000	OK
15 minute summer	S115	10	106.714	0.164	48.2	0.2189	0.0000	OK
15 minute summer	S116	10	106.632	0.129	58.6	0.2266	0.0000	OK
15 minute summer	S117La	10	106.748	0.053	10.8	0.0891	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	8.6	1.273	0.087	0.1443	
15 minute summer	S103	1.001	S104	14.3	1.783	0.145	0.2048	
15 minute summer	S104L	2.000	S104	11.0	1.028	0.646	0.1002	
15 minute summer	S104	1.002	S105	28.9	1.603	0.151	0.3470	
15 minute summer	S105	1.003	S106	32.9	1.422	0.264	0.6019	
15 minute summer	S106	1.004	S107	35.9	1.665	0.313	0.3137	
15 minute summer	S107	1.005	S108	37.8	2.147	0.209	0.2554	
15 minute summer	S108	1.006	S109	39.6	2.077	0.180	0.2773	
15 minute summer	S109L	3.000	S109	7.7	0.838	0.531	0.0618	
15 minute summer	S109	1.007	S110	53.7	2.478	0.262	0.8015	
15 minute summer	S110L	4.000	S110	11.0	1.064	0.618	0.0557	
15 minute summer	S110	1.008	S111	69.0	2.007	0.142	1.2787	
15 minute summer	S111L	5.000	S111	8.4	0.857	0.578	0.0657	
15 minute summer	S111	1.009	S112	79.0	2.158	0.186	0.5306	
15 minute summer	S112	1.010	S113	82.7	1.727	0.171	1.2325	
15 minute summer	S113L	6.000	S113	15.1	1.176	0.818	0.0581	
15 minute summer	S113	1.011	HW21	96.6	0.778	0.374	1.4280	
15 minute summer	HW21	Flow through Pond	HW23	195.3	0.205	0.003	83.0048	
15 minute summer	S114L	7.000	S114	8.0	0.842	0.559	0.0638	
15 minute summer	S114	7.001	S115	15.5	1.556	0.060	0.4691	
15 minute summer	S115La	8.000	S115	22.3	2.950	0.133	0.0526	
15 minute summer	S115Lb	9.000	S115	6.4	2.214	0.106	0.0177	
15 minute summer	S115	7.002	S116	48.0	1.205	0.431	0.5985	
15 minute summer	S116	7.003	S117	57.4	1.128	0.262	1.6953	
15 minute summer	S117La	10.000	S117	10.7	1.950	0.263	0.0385	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.494	0.036	10.1	0.0672	0.0000	OK
15 minute summer	S117	11	106.330	0.224	78.2	0.2529	0.0000	OK
15 minute summer	S118	11	106.294	0.222	87.2	0.3412	0.0000	OK
15 minute summer	S119	11	106.083	0.120	87.9	0.1357	0.0000	OK
15 minute summer	S120L	10	105.571	0.043	5.9	0.0609	0.0000	OK
15 minute summer	S120	11	105.448	0.206	93.6	0.2333	0.0000	OK
15 minute summer	HW22	11	105.350	0.269	93.7	0.0000	0.0000	OK
1440 minute summer	HW23	1680	105.321	0.290	23.5	0.0000	0.0000	OK
1440 minute summer	S121	1680	105.321	0.310	0.4	1.7757	0.0000	SURCHARGED
15 minute summer	HW24	1	105.600	0.895	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	10.1	3.155	0.123	0.0172	
15 minute summer	S117	7.004	S118	78.5	1.150	0.703	0.7375	
15 minute summer	S118	7.005	S119	87.9	1.795	0.810	1.8036	
15 minute summer	S119	7.006	S120	88.0	1.914	0.227	0.8933	
15 minute summer	S120L	12.000	S120	5.9	1.397	0.181	0.0078	
15 minute summer	S120	7.007	HW22	93.7	1.509	0.603	0.6260	
15 minute summer	HW22	Flow through Pond	HW23	195.3	0.205	0.003	83.0048	
1440 minute summer	HW23	1.012	S121	-0.4	0.105	-0.002	0.9926	
1440 minute summer	S121	Hydro-Brake®	HW24	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.29%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.954	0.062	16.5	0.1125	0.0000	OK
15 minute summer	S103	10	111.207	0.081	27.6	0.1276	0.0000	OK
15 minute summer	S104L	11	110.540	0.167	21.1	0.3024	0.0000	SURCHARGED
15 minute summer	S104	10	110.246	0.109	54.7	0.1528	0.0000	OK
15 minute summer	S105	11	109.722	0.148	62.4	0.2152	0.0000	OK
15 minute summer	S106	11	109.412	0.164	67.6	0.2226	0.0000	OK
15 minute summer	S107	11	109.224	0.131	71.0	0.1652	0.0000	OK
15 minute summer	S108	11	108.833	0.119	74.7	0.1527	0.0000	OK
15 minute summer	S109L	10	108.461	0.118	14.8	0.2159	0.0000	OK
15 minute summer	S109	11	108.296	0.148	101.3	0.2441	0.0000	OK
15 minute summer	S110L	10	107.249	0.143	21.1	0.3225	0.0000	OK
15 minute summer	S110	11	106.909	0.157	130.6	0.2330	0.0000	OK
15 minute summer	S111L	10	106.383	0.126	16.1	0.2352	0.0000	OK
15 minute summer	S111	11	106.093	0.181	149.5	0.2271	0.0000	OK
15 minute summer	S112	11	105.836	0.173	156.8	0.2441	0.0000	OK
15 minute summer	S113L	10	105.705	0.217	29.0	0.4479	0.0000	SURCHARGED
1440 minute summer	S113	1470	105.497	0.433	12.4	0.4893	0.0000	OK
1440 minute summer	HW21	1470	105.503	0.472	15.4	0.0000	0.0000	OK
15 minute summer	S114L	10	108.971	0.123	15.5	0.2190	0.0000	OK
15 minute summer	S114	10	108.722	0.068	29.8	0.1168	0.0000	OK
15 minute summer	S115La	10	107.490	0.077	42.5	0.2125	0.0000	OK
15 minute summer	S115Lb	10	107.511	0.046	12.2	0.0741	0.0000	OK
15 minute summer	S115	10	106.780	0.230	91.7	0.3069	0.0000	OK
15 minute summer	S116	11	106.689	0.186	117.0	0.3262	0.0000	OK
15 minute summer	S117La	10	106.770	0.075	20.4	0.1268	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	16.4	1.526	0.165	0.2286	
15 minute summer	S103	1.001	S104	27.3	2.140	0.276	0.3253	
15 minute summer	S104L	2.000	S104	20.5	1.166	1.206	0.1591	
15 minute summer	S104	1.002	S105	54.5	1.899	0.285	0.5521	
15 minute summer	S105	1.003	S106	62.3	1.684	0.500	0.9630	
15 minute summer	S106	1.004	S107	67.9	1.973	0.591	0.4995	
15 minute summer	S107	1.005	S108	71.2	2.561	0.395	0.4035	
15 minute summer	S108	1.006	S109	74.8	2.465	0.340	0.4406	
15 minute summer	S109L	3.000	S109	14.6	1.005	1.009	0.0979	
15 minute summer	S109	1.007	S110	101.6	2.938	0.496	1.2784	
15 minute summer	S110L	4.000	S110	20.6	1.224	1.161	0.0908	
15 minute summer	S110	1.008	S111	130.8	2.405	0.268	2.0216	
15 minute summer	S111L	5.000	S111	15.9	1.039	1.097	0.1026	
15 minute summer	S111	1.009	S112	149.6	2.582	0.353	0.8400	
15 minute summer	S112	1.010	S113	156.9	1.706	0.324	2.2048	
15 minute summer	S113L	6.000	S113	28.6	1.622	1.543	0.0786	
1440 minute summer	S113	1.011	HW21	12.2	0.150	0.047	2.2742	
1440 minute summer	HW21	Flow through Pond	HW23	18.2	0.017	0.000	531.8833	
15 minute summer	S114L	7.000	S114	15.3	1.022	1.067	0.1003	
15 minute summer	S114	7.001	S115	29.6	1.633	0.114	0.9112	
15 minute summer	S115La	8.000	S115	42.4	3.476	0.253	0.0852	
15 minute summer	S115Lb	9.000	S115	12.1	2.664	0.202	0.0281	
15 minute summer	S115	7.002	S116	96.9	1.547	0.869	0.9381	
15 minute summer	S116	7.003	S117	111.1	1.313	0.508	2.7050	
15 minute summer	S117La	10.000	S117	20.3	2.134	0.498	0.0872	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.29%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.507	0.049	19.1	0.0925	0.0000	OK
15 minute summer	S117	11	106.463	0.357	150.0	0.4034	0.0000	OK
15 minute summer	S118	11	106.407	0.335	165.1	0.5137	0.0000	OK
15 minute summer	S119	11	106.132	0.169	165.4	0.1909	0.0000	OK
15 minute summer	S120L	11	105.594	0.066	11.2	0.0931	0.0000	OK
15 minute summer	S120	11	105.562	0.320	176.3	0.3624	0.0000	OK
1440 minute summer	HW22	1530	105.506	0.425	48.3	0.0000	0.0000	OK
1440 minute summer	HW23	1470	105.492	0.460	18.2	0.0000	0.0000	OK
1440 minute summer	S121	1470	105.492	0.480	0.2	2.7512	0.0000	SURCHARGED
15 minute summer	HW24	1	105.600	0.895	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	19.0	3.502	0.233	0.0575	
15 minute summer	S117	7.004	S118	148.7	1.400	1.332	1.1456	
15 minute summer	S118	7.005	S119	165.4	2.105	1.525	2.7846	
15 minute summer	S119	7.006	S120	165.6	2.176	0.427	1.4337	
15 minute summer	S120L	12.000	S120	11.0	1.640	0.340	0.0179	
15 minute summer	S120	7.007	HW22	176.4	1.783	1.136	0.9976	
1440 minute summer	HW22	Flow through Pond	HW23	18.2	0.017	0.000	531.8833	
1440 minute summer	HW23	1.012	S121	0.2	0.124	0.001	1.5875	
1440 minute summer	S121	Hydro-Brake®	HW24	0.0				0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.976	0.084	29.9	0.1534	0.0000	OK
15 minute summer	S103	10	111.238	0.112	50.0	0.1778	0.0000	OK
15 minute summer	S104L	11	110.852	0.479	38.3	0.8658	0.0000	SURCHARGED
15 minute summer	S104	10	110.289	0.152	99.3	0.2132	0.0000	OK
15 minute summer	S105	11	109.798	0.224	113.3	0.3250	0.0000	OK
15 minute summer	S106	11	109.511	0.263	122.9	0.3575	0.0000	OK
15 minute summer	S107	11	109.280	0.186	129.1	0.2357	0.0000	OK
15 minute summer	S108	11	108.882	0.169	135.6	0.2154	0.0000	OK
15 minute summer	S109L	10	108.595	0.252	26.9	0.4595	0.0000	SURCHARGED
15 minute summer	S109	11	108.368	0.219	184.0	0.3623	0.0000	OK
15 minute summer	S110L	10	107.444	0.338	38.3	0.7594	0.0000	SURCHARGED
15 minute summer	S110	11	106.969	0.217	236.9	0.3233	0.0000	OK
15 minute summer	S111L	10	106.538	0.281	29.3	0.5221	0.0000	SURCHARGED
15 minute summer	S111	11	106.172	0.259	271.2	0.3249	0.0000	OK
15 minute summer	S112	11	105.944	0.281	284.4	0.3958	0.0000	OK
15 minute summer	S113L	11	106.137	0.649	52.6	1.3400	0.0000	SURCHARGED
15 minute summer	S113	11	105.760	0.696	333.0	0.7869	0.0000	SURCHARGED
1440 minute summer	HW21	1110	105.723	0.692	33.9	0.0000	0.0000	OK
15 minute summer	S114L	10	109.115	0.266	28.1	0.4738	0.0000	SURCHARGED
15 minute summer	S114	10	108.746	0.092	53.8	0.1577	0.0000	OK
15 minute summer	S115La	11	107.604	0.191	77.0	0.5285	0.0000	OK
15 minute summer	S115Lb	11	107.575	0.110	22.1	0.1770	0.0000	OK
15 minute summer	S115	11	107.513	0.962	161.9	1.2868	0.0000	SURCHARGED
15 minute summer	S116	11	107.425	0.922	185.5	1.6156	0.0000	SURCHARGED
15 minute summer	S117La	11	107.390	0.695	37.1	1.1773	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	29.7	1.789	0.300	0.3530	
15 minute summer	S103	1.001	S104	49.5	2.507	0.501	0.5044	
15 minute summer	S104L	2.000	S104	37.1	2.110	2.188	0.1638	
15 minute summer	S104	1.002	S105	99.0	2.139	0.518	0.8806	
15 minute summer	S105	1.003	S106	113.2	1.867	0.909	1.5853	
15 minute summer	S106	1.004	S107	123.4	2.188	1.075	0.8096	
15 minute summer	S107	1.005	S108	129.3	2.979	0.717	0.6298	
15 minute summer	S108	1.006	S109	135.6	2.815	0.616	0.6966	
15 minute summer	S109L	3.000	S109	26.4	1.498	1.823	0.1170	
15 minute summer	S109	1.007	S110	184.3	3.337	0.900	2.0418	
15 minute summer	S110L	4.000	S110	37.2	2.114	2.096	0.0941	
15 minute summer	S110	1.008	S111	237.0	2.780	0.487	3.1670	
15 minute summer	S111L	5.000	S111	28.7	1.630	1.981	0.1171	
15 minute summer	S111	1.009	S112	271.3	2.819	0.639	1.4390	
15 minute summer	S112	1.010	S113	283.5	1.952	0.585	3.0684	
15 minute summer	S113L	6.000	S113	49.5	2.811	2.674	0.0795	
15 minute summer	S113	1.011	HW21	332.3	1.538	1.286	2.4844	
1440 minute summer	HW21	Flow through Pond	HW23	35.8	0.044	0.001	837.4170	
15 minute summer	S114L	7.000	S114	27.5	1.565	1.920	0.1166	
15 minute summer	S114	7.001	S115	53.6	1.615	0.206	1.6645	
15 minute summer	S115La	8.000	S115	73.6	3.560	0.439	0.2633	
15 minute summer	S115Lb	9.000	S115	20.9	2.905	0.349	0.0966	
15 minute summer	S115	7.002	S116	151.6	1.593	1.360	1.6534	
15 minute summer	S116	7.003	S117	182.7	1.657	0.835	3.6642	
15 minute summer	S117La	10.000	S117	32.5	2.199	0.796	0.1232	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.535	0.077	34.7	0.1458	0.0000	OK
15 minute summer	S117	11	107.138	1.032	248.2	1.1670	0.0000	SURCHARGED
15 minute summer	S118	11	106.969	0.897	276.2	1.3753	0.0000	SURCHARGED
15 minute summer	S119	12	106.258	0.295	272.2	0.3334	0.0000	OK
15 minute summer	S120L	12	105.957	0.429	20.3	0.6034	0.0000	SURCHARGED
15 minute summer	S120	12	105.941	0.699	289.8	0.7902	0.0000	SURCHARGED
1440 minute summer	HW22	1290	105.728	0.647	33.7	0.0000	0.0000	OK
1440 minute summer	HW23	1290	105.713	0.682	35.8	0.0000	0.0000	SURCHARGED
1440 minute summer	S121	1290	105.713	0.702	4.2	4.0221	0.0000	SURCHARGED
15 minute summer	HW24	1	105.600	0.895	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	34.2	3.531	0.417	0.0724	
15 minute summer	S117	7.004	S118	246.4	2.235	2.207	1.1910	
15 minute summer	S118	7.005	S119	272.2	2.565	2.509	3.7238	
15 minute summer	S119	7.006	S120	273.6	2.537	0.705	1.9638	
15 minute summer	S120L	12.000	S120	17.7	1.587	0.546	0.0326	
15 minute summer	S120	7.007	HW22	290.2	2.632	1.869	1.1123	
1440 minute summer	HW22	Flow through Pond	HW23	35.8	0.044	0.001	837.4170	
1440 minute summer	HW23	1.012	S121	4.2	0.035	0.017	1.6814	
1440 minute summer	S121	Hydro-Brake®	HW24	4.1				170.8

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S102	0.050	5.00	113.330	1200	444479.431	291754.803	1.438
S103	0.034	5.00	112.628	1200	444472.108	291734.898	1.502
S104L	0.064	5.00	112.267	1200	444473.413	291714.174	1.894
S104	0.022	5.00	111.735	1200	444482.435	291711.544	1.598
S105	0.024	5.00	111.072	1200	444480.975	291692.455	1.498
S106	0.017	5.00	110.748	1200	444497.965	291672.775	1.500
S107	0.010	5.00	110.593	1200	444501.843	291658.787	1.500
S108	0.011	5.00	110.213	1200	444499.035	291644.546	1.500
S109L	0.045	5.00	109.640	1200	444485.970	291638.442	1.297
S109	0.039	5.00	109.648	1200	444490.094	291633.112	1.500
S110L	0.064	5.00	108.250	1200	444459.015	291612.253	1.144
S110	0.027	5.00	108.270	1200	444462.690	291608.295	1.518
S111L	0.049	5.00	107.600	1200	444433.980	291590.051	1.343
S111	0.010	5.00	107.562	1200	444435.088	291583.424	1.650
S112	0.023	5.00	107.313	1200	444421.127	291579.546	1.650
S113L	0.088	5.00	107.370	1200	444399.148	291588.949	1.882
S113			107.389	1200	444398.276	291584.521	2.325
HW21			106.300		444392.865	291574.374	1.269
S114L	0.047	5.00	110.300	1200	444454.447	291677.323	1.452
S114	0.044	5.00	110.153	1200	444459.014	291672.421	1.499
S115La	0.129	5.00	108.990	1200	444428.145	291652.896	1.577
S115Lb	0.037	5.00	109.000	1200	444437.650	291646.063	1.535
S115	0.023	5.00	108.785	1200	444431.545	291646.827	2.235
S116	0.061	5.00	108.467	1200	444418.632	291639.215	1.964
S117La	0.062	5.00	108.900	1200	444389.206	291650.210	2.205
S117Lb	0.058	5.00	109.000	1200	444384.717	291638.803	1.542
S117			108.819	1200	444385.774	291644.110	2.713
S118	0.052	5.00	108.654	1200	444376.341	291649.365	2.582
S119			107.717	1200	444349.508	291624.408	1.754
S120L	0.034	5.00	108.000	1200	444354.737	291606.364	2.472
S120			107.000	1200	444353.141	291605.428	1.758
HW22			106.286		444355.600	291595.647	1.205
HW23		5.00	106.286		444370.615	291565.689	1.255
S121			106.300	2700	444364.822	291560.491	1.289
HW24			105.600		444342.087	291539.997	0.895

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S102	S103	21.209	0.600	111.892	111.126	0.766	27.7	225	5.14	50.0
1.001	S103	S104	25.535	0.600	111.126	110.212	0.914	27.9	225	5.31	50.0
2.000	S104L	S104	9.398	0.600	110.373	110.287	0.086	109.3	150	5.16	50.0
1.002	S104	S105	19.145	0.600	110.137	109.574	0.563	34.0	300	5.43	50.0
1.003	S105	S106	25.999	0.600	109.574	109.248	0.326	79.8	300	5.68	50.0
1.004	S106	S107	14.516	0.600	109.248	109.093	0.155	93.6	300	5.83	50.0
1.005	S107	S108	14.515	0.600	109.093	108.713	0.380	38.2	300	5.92	50.0
1.006	S108	S109	14.515	0.600	108.713	108.148	0.565	25.7	300	6.00	50.0
3.000	S109L	S109	6.739	0.600	108.343	108.298	0.045	149.8	150	5.14	50.0
1.007	S109	S110	36.971	0.600	108.148	106.902	1.246	29.7	300	6.21	49.5
4.000	S110L	S110	5.401	0.600	107.106	107.052	0.054	100.0	150	5.09	50.0
1.008	S110	S111	37.154	0.600	106.752	105.912	0.840	44.2	450	6.41	48.8
5.000	S111L	S111	6.719	0.600	106.257	106.212	0.045	149.3	150	5.14	50.0
1.009	S111	S112	14.490	0.600	105.912	105.663	0.249	58.2	450	6.50	48.5
1.010	S112	S113	23.386	0.600	105.663	105.139	0.524	44.6	450	6.63	48.0
6.000	S113L	S113	4.513	0.600	105.488	105.439	0.049	92.1	150	5.07	50.0
1.011	S113	HW21	11.500	0.600	105.064	105.031	0.033	348.5	525	6.79	47.4
7.000	S114L	S114	6.700	0.600	108.848	108.804	0.044	152.3	150	5.14	50.0
7.001	S114	S115	37.545	0.600	108.654	106.625	2.029	18.5	300	5.31	50.0
8.000	S115La	S115	6.956	0.600	107.413	106.700	0.713	9.8	225	5.03	50.0
9.000	S115Lb	S115	6.153	0.600	107.465	106.775	0.690	8.9	150	5.03	50.0
7.002	S115	S116	14.990	0.600	106.550	106.503	0.047	318.9	375	5.56	50.0
7.003	S116	S117	33.221	0.600	106.503	106.106	0.397	83.7	375	5.84	50.0
10.000	S117La	S117	6.999	0.600	106.695	106.331	0.364	19.2	150	5.05	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.496	99.2	6.8	1.213	1.277	0.050	0.0
1.001	2.484	98.8	11.4	1.277	1.298	0.084	0.0
2.000	0.960	17.0	8.7	1.744	1.298	0.064	0.0
1.002	2.705	191.2	23.0	1.298	1.198	0.170	0.0
1.003	1.762	124.5	26.3	1.198	1.200	0.194	0.0
1.004	1.625	114.9	28.6	1.200	1.200	0.211	0.0
1.005	2.551	180.3	30.0	1.200	1.200	0.221	0.0
1.006	3.114	220.1	31.4	1.200	1.200	0.232	0.0
3.000	0.819	14.5	6.1	1.147	1.200	0.045	0.0
1.007	2.897	204.7	42.4	1.200	1.068	0.316	0.0
4.000	1.004	17.8	8.7	0.994	1.068	0.064	0.0
1.008	3.063	487.1	53.8	1.068	1.200	0.407	0.0
5.000	0.820	14.5	6.6	1.193	1.200	0.049	0.0
1.009	2.669	424.4	61.2	1.200	1.200	0.466	0.0
1.010	3.049	484.9	63.6	1.200	1.800	0.489	0.0
6.000	1.047	18.5	11.9	1.732	1.800	0.088	0.0
1.011	1.194	258.4	74.2	1.800	0.744	0.577	0.0
7.000	0.812	14.3	6.4	1.302	1.199	0.047	0.0
7.001	3.671	259.5	12.3	1.199	1.860	0.091	0.0
8.000	4.213	167.5	17.5	1.352	1.860	0.129	0.0
9.000	3.394	60.0	5.0	1.385	1.860	0.037	0.0
7.002	1.009	111.4	37.9	1.860	1.589	0.280	0.0
7.003	1.982	218.9	46.2	1.589	2.338	0.341	0.0
10.000	2.307	40.8	8.4	2.055	2.338	0.062	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
11.000	S117Lb	S117	5.411	0.600	107.458	106.331	1.127	4.8	150	5.02	50.0
7.004	S117	S118	10.798	0.600	106.106	106.072	0.034	317.6	375	6.01	50.0
7.005	S118	S119	36.645	0.600	106.072	105.963	0.109	336.2	375	6.63	48.0
7.006	S119	S120	19.325	0.600	105.963	105.242	0.721	26.8	375	6.73	47.7
12.000	S120L	S120	1.850	0.600	105.528	105.467	0.061	30.3	150	5.02	50.0
7.007	S120	HW22	10.085	0.600	105.242	105.181	0.061	165.3	375	6.85	47.3
1.012	HW23	S121	7.783	0.600	105.031	105.011	0.020	389.2	525	5.11	50.0
1.013	S121	HW24	30.609	0.600	105.011	104.705	0.306	100.0	225	5.51	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	4.630	81.8	7.9	1.392	2.338	0.058	0.0
7.004	1.011	111.7	62.5	2.338	2.207	0.461	0.0
7.005	0.982	108.5	66.7	2.207	1.379	0.513	0.0
7.006	3.511	387.8	66.3	1.379	1.383	0.513	0.0
12.000	1.834	32.4	4.6	2.322	1.383	0.034	0.0
7.007	1.406	155.3	70.1	1.383	0.730	0.547	0.0
1.012	1.129	244.4	0.0	0.730	0.764	0.000	0.0
1.013	1.307	52.0	0.0	1.064	0.670	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	21.209	27.7	225	1	113.330	111.892	1.213	112.628	111.126	1.277
1.001	25.535	27.9	225	1	112.628	111.126	1.277	111.735	110.212	1.298
2.000	9.398	109.3	150	1	112.267	110.373	1.744	111.735	110.287	1.298
1.002	19.145	34.0	300	1	111.735	110.137	1.298	111.072	109.574	1.198
1.003	25.999	79.8	300	1	111.072	109.574	1.198	110.748	109.248	1.200
1.004	14.516	93.6	300	1	110.748	109.248	1.200	110.593	109.093	1.200
1.005	14.515	38.2	300	1	110.593	109.093	1.200	110.213	108.713	1.200
1.006	14.515	25.7	300	1	110.213	108.713	1.200	109.648	108.148	1.200
3.000	6.739	149.8	150	1	109.640	108.343	1.147	109.648	108.298	1.200
1.007	36.971	29.7	300	1	109.648	108.148	1.200	108.270	106.902	1.068
4.000	5.401	100.0	150	1	108.250	107.106	0.994	108.270	107.052	1.068
1.008	37.154	44.2	450	1	108.270	106.752	1.068	107.562	105.912	1.200

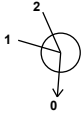
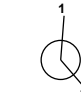
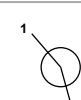
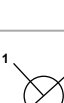
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S102	1200	Manhole	S103	1200	Manhole
1.001	S103	1200	Manhole	S104	1200	Manhole
2.000	S104L	1200	Manhole	S104	1200	Manhole
1.002	S104	1200	Manhole	S105	1200	Manhole
1.003	S105	1200	Manhole	S106	1200	Manhole
1.004	S106	1200	Manhole	S107	1200	Manhole
1.005	S107	1200	Manhole	S108	1200	Manhole
1.006	S108	1200	Manhole	S109	1200	Manhole
3.000	S109L	1200	Manhole	S109	1200	Manhole
1.007	S109	1200	Manhole	S110	1200	Manhole
4.000	S110L	1200	Manhole	S110	1200	Manhole
1.008	S110	1200	Manhole	S111	1200	Manhole

Pipeline Schedule

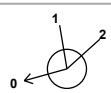
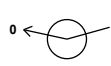
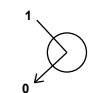
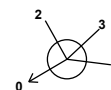
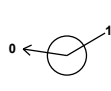
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.000	6.719	149.3	150	1	107.600	106.257	1.193	107.562	106.212	1.200
1.009	14.490	58.2	450	1	107.562	105.912	1.200	107.313	105.663	1.200
1.010	23.386	44.6	450	1	107.313	105.663	1.200	107.389	105.139	1.800
6.000	4.513	92.1	150	1	107.370	105.488	1.732	107.389	105.439	1.800
1.011	11.500	348.5	525	1	107.389	105.064	1.800	106.300	105.031	0.744
7.000	6.700	152.3	150	1	110.300	108.848	1.302	110.153	108.804	1.199
7.001	37.545	18.5	300	1	110.153	108.654	1.199	108.785	106.625	1.860
8.000	6.956	9.8	225	1	108.990	107.413	1.352	108.785	106.700	1.860
9.000	6.153	8.9	150	1	109.000	107.465	1.385	108.785	106.775	1.860
7.002	14.990	318.9	375	1	108.785	106.550	1.860	108.467	106.503	1.589
7.003	33.221	83.7	375	1	108.467	106.503	1.589	108.819	106.106	2.338
10.000	6.999	19.2	150	1	108.900	106.695	2.055	108.819	106.331	2.338
11.000	5.411	4.8	150	1	109.000	107.458	1.392	108.819	106.331	2.338
7.004	10.798	317.6	375	1	108.819	106.106	2.338	108.654	106.072	2.207
7.005	36.645	336.2	375	1	108.654	106.072	2.207	107.717	105.963	1.379
7.006	19.325	26.8	375	1	107.717	105.963	1.379	107.000	105.242	1.383
12.000	1.850	30.3	150	1	108.000	105.528	2.322	107.000	105.467	1.383
7.007	10.085	165.3	375	1	107.000	105.242	1.383	106.286	105.181	0.730
1.012	7.783	389.2	525	1	106.286	105.031	0.730	106.300	105.011	0.764
1.013	30.609	100.0	225	1	106.300	105.011	1.064	105.600	104.705	0.670

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
5.000	S111L	1200	Manhole	S111	1200	Manhole
1.009	S111	1200	Manhole	S112	1200	Manhole
1.010	S112	1200	Manhole	S113	1200	Manhole
6.000	S113L	1200	Manhole	S113	1200	Manhole
1.011	S113	1200	Manhole	HW21		Manhole
7.000	S114L	1200	Manhole	S114	1200	Manhole
7.001	S114	1200	Manhole	S115	1200	Manhole
8.000	S115La	1200	Manhole	S115	1200	Manhole
9.000	S115Lb	1200	Manhole	S115	1200	Manhole
7.002	S115	1200	Manhole	S116	1200	Manhole
7.003	S116	1200	Manhole	S117	1200	Manhole
10.000	S117La	1200	Manhole	S117	1200	Manhole
11.000	S117Lb	1200	Manhole	S117	1200	Manhole
7.004	S117	1200	Manhole	S118	1200	Manhole
7.005	S118	1200	Manhole	S119	1200	Manhole
7.006	S119	1200	Manhole	S120	1200	Manhole
12.000	S120L	1200	Manhole	S120	1200	Manhole
7.007	S120	1200	Manhole	HW22		Manhole
1.012	HW23		Manhole	S121	2700	Manhole
1.013	S121	2700	Manhole	HW24		Manhole

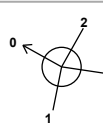
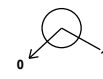
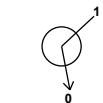
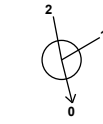
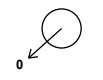
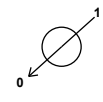
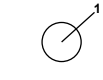
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S102	444479.431	291754.803	113.330	1.438	1200	1		0	1.000	111.892	225
S103	444472.108	291734.898	112.628	1.502	1200	1		1	1.000	111.126	225
S104L	444473.413	291714.174	112.267	1.894	1200	1		0	1.001	111.126	225
S104	444482.435	291711.544	111.735	1.598	1200	1		0	2.000	110.373	150
S105	444480.975	291692.455	111.072	1.498	1200	1		1	2.000	110.287	150
S106	444497.965	291672.775	110.748	1.500	1200	1		2	1.001	110.212	225
S107	444501.843	291658.787	110.593	1.500	1200	1		0	1.002	110.137	300
S108	444499.035	291644.546	110.213	1.500	1200	1		1	1.002	109.574	300
S109L	444485.970	291638.442	109.640	1.297	1200	1		0	1.003	109.574	300
S109	444490.094	291633.112	109.648	1.500	1200	1		1	1.003	109.248	300
S110L	444459.015	291612.253	108.250	1.144	1200	1		0	1.004	109.248	300
S110	444462.690	291608.295	108.270	1.518	1200	1		1	1.004	109.093	300
S111L	444433.980	291590.051	107.600	1.343	1200	1		0	1.005	109.093	300
								1	1.005	108.713	300
								0	1.006	108.713	300
								1	1.006	108.713	300
								2	1.006	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300
								1	1.007	108.713	300
								2	1.007	108.713	300
								0	1.007	108.713	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	
S111	444435.088	291583.424	107.562	1.650	1200	1		1	5.000	106.212	150
								2	1.008	105.912	450
								0	1.009	105.912	450
S112	444421.127	291579.546	107.313	1.650	1200	1		1	1.009	105.663	450
0	1.010	105.663	450								
S113L	444399.148	291588.949	107.370	1.882	1200	1		0	6.000	105.488	150
S113	444398.276	291584.521	107.389	2.325	1200	1		1	6.000	105.439	150
								2	1.010	105.139	450
								0	1.011	105.064	525
HW21	444392.865	291574.374	106.300	1.269		1		1	1.011	105.031	525
S114L	444454.447	291677.323	110.300	1.452	1200	1		0	7.000	108.848	150
S114	444459.014	291672.421	110.153	1.499	1200	1		1	7.000	108.804	150
0	7.001	108.654	300								
S115La	444428.145	291652.896	108.990	1.577	1200	1		0	8.000	107.413	225
S115Lb	444437.650	291646.063	109.000	1.535	1200	1		0	9.000	107.465	150
S115	444431.545	291646.827	108.785	2.235	1200	1			1	9.000	106.775
								2	8.000	106.700	225
								3	7.001	106.625	300
								0	7.002	106.550	375
								1	7.002	106.503	375
S116	444418.632	291639.215	108.467	1.964	1200	1		0	7.003	106.503	375
S117La	444389.206	291650.210	108.900	2.205	1200	1			0	10.000	106.695
S117Lb	444384.717	291638.803	109.000	1.542	1200	1		0	11.000	107.458	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S117	444385.774	291644.110	108.819	2.713	1200	1		1 11.000 106.331 150 2 10.000 106.331 150 3 7.003 106.106 375 0 7.004 106.106 375		
S118	444376.341	291649.365	108.654	2.582	1200	1		1 7.004 106.072 375 0 7.005 106.072 375		
S119	444349.508	291624.408	107.717	1.754	1200	1		1 7.005 105.963 375 0 7.006 105.963 375		
S120L	444354.737	291606.364	108.000	2.472	1200	1		0 12.000 105.528 150		
S120	444353.141	291605.428	107.000	1.758	1200	1		1 12.000 105.467 150 2 7.006 105.242 375 0 7.007 105.242 375		
HW22	444355.600	291595.647	106.286	1.205		1		1 7.007 105.181 375		
HW23	444370.615	291565.689	106.286	1.255		1		0 1.012 105.031 525		
S121	444364.822	291560.491	106.300	1.289	2700	1		1 1.012 105.011 525 0 1.013 105.011 225		
HW24	444342.087	291539.997	105.600	0.895		1		1 1.013 104.705 225		

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
Rainfall Events	Singular	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	20.0
M5-60 (mm)	20.000	Starting Level (m)	
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Normal		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0
100	40	10	0

Node S121 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	105.011	Product Number	CTL-SHE-0104-4600-0800-4600
Design Depth (m)	0.800	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	4.6	Min Node Diameter (mm)	1200

Node HW23 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	105.031	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.020

Inlets

HW22 | HW21

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1114.0	0.0	1.500	1842.0	0.0	1.501	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.937	0.045	8.7	0.0817	0.0000	OK
15 minute summer	S103	10	111.184	0.058	14.5	0.0915	0.0000	OK
15 minute summer	S104L	10	110.461	0.088	11.1	0.1583	0.0000	OK
15 minute summer	S104	10	110.215	0.078	29.1	0.1101	0.0000	OK
15 minute summer	S105	11	109.678	0.104	33.1	0.1513	0.0000	OK
15 minute summer	S106	11	109.362	0.114	35.7	0.1549	0.0000	OK
15 minute summer	S107	11	109.186	0.093	37.6	0.1180	0.0000	OK
15 minute summer	S108	11	108.799	0.086	39.6	0.1093	0.0000	OK
15 minute summer	S109L	10	108.421	0.078	7.8	0.1415	0.0000	OK
15 minute summer	S109	11	108.252	0.104	53.6	0.1718	0.0000	OK
15 minute summer	S110L	10	107.191	0.085	11.1	0.1917	0.0000	OK
15 minute summer	S110	11	106.865	0.113	69.0	0.1677	0.0000	OK
15 minute summer	S111L	10	106.339	0.082	8.5	0.1520	0.0000	OK
15 minute summer	S111	11	106.042	0.130	78.9	0.1625	0.0000	OK
15 minute summer	S112	11	105.787	0.124	82.8	0.1747	0.0000	OK
15 minute summer	S113L	10	105.591	0.103	15.3	0.2126	0.0000	OK
15 minute summer	S113	11	105.343	0.279	97.5	0.3159	0.0000	OK
15 minute summer	HW21	11	105.339	0.308	96.6	0.0000	0.0000	OK
15 minute summer	S114L	10	108.928	0.080	8.1	0.1420	0.0000	OK
15 minute summer	S114	10	108.704	0.049	15.6	0.0850	0.0000	OK
15 minute summer	S115La	10	107.468	0.055	22.4	0.1532	0.0000	OK
15 minute summer	S115Lb	10	107.498	0.033	6.4	0.0534	0.0000	OK
15 minute summer	S115	10	106.714	0.164	48.2	0.2189	0.0000	OK
15 minute summer	S116	10	106.632	0.129	58.6	0.2266	0.0000	OK
15 minute summer	S117La	10	106.748	0.053	10.8	0.0891	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	8.6	1.273	0.087	0.1443	
15 minute summer	S103	1.001	S104	14.3	1.783	0.145	0.2048	
15 minute summer	S104L	2.000	S104	11.0	1.028	0.646	0.1002	
15 minute summer	S104	1.002	S105	28.9	1.603	0.151	0.3470	
15 minute summer	S105	1.003	S106	32.9	1.422	0.264	0.6019	
15 minute summer	S106	1.004	S107	35.9	1.665	0.313	0.3137	
15 minute summer	S107	1.005	S108	37.8	2.147	0.209	0.2554	
15 minute summer	S108	1.006	S109	39.6	2.077	0.180	0.2773	
15 minute summer	S109L	3.000	S109	7.7	0.838	0.531	0.0618	
15 minute summer	S109	1.007	S110	53.7	2.478	0.262	0.8015	
15 minute summer	S110L	4.000	S110	11.0	1.064	0.618	0.0557	
15 minute summer	S110	1.008	S111	69.0	2.007	0.142	1.2787	
15 minute summer	S111L	5.000	S111	8.4	0.857	0.578	0.0657	
15 minute summer	S111	1.009	S112	79.0	2.158	0.186	0.5306	
15 minute summer	S112	1.010	S113	82.7	1.727	0.171	1.2325	
15 minute summer	S113L	6.000	S113	15.1	1.176	0.818	0.0581	
15 minute summer	S113	1.011	HW21	96.6	0.778	0.374	1.4280	
15 minute summer	HW21	Flow through Pond	HW23	195.3	0.205	0.003	79.6802	
15 minute summer	S114L	7.000	S114	8.0	0.842	0.559	0.0638	
15 minute summer	S114	7.001	S115	15.5	1.556	0.060	0.4691	
15 minute summer	S115La	8.000	S115	22.3	2.950	0.133	0.0526	
15 minute summer	S115Lb	9.000	S115	6.4	2.214	0.106	0.0177	
15 minute summer	S115	7.002	S116	48.0	1.205	0.431	0.5985	
15 minute summer	S116	7.003	S117	57.4	1.128	0.262	1.6953	
15 minute summer	S117La	10.000	S117	10.7	1.950	0.263	0.0385	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.494	0.036	10.1	0.0672	0.0000	OK
15 minute summer	S117	11	106.330	0.224	78.2	0.2529	0.0000	OK
15 minute summer	S118	11	106.294	0.222	87.2	0.3412	0.0000	OK
15 minute summer	S119	11	106.083	0.120	87.9	0.1357	0.0000	OK
15 minute summer	S120L	10	105.571	0.043	5.9	0.0609	0.0000	OK
15 minute summer	S120	11	105.448	0.206	93.6	0.2333	0.0000	OK
15 minute summer	HW22	11	105.350	0.269	93.7	0.0000	0.0000	OK
480 minute summer	HW23	360	105.196	0.165	18.2	0.0000	0.0000	OK
480 minute summer	S121	480	105.198	0.187	9.8	1.0710	0.0000	OK
15 minute summer	HW24	1	104.705	0.000	4.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	10.1	3.155	0.123	0.0172	
15 minute summer	S117	7.004	S118	78.5	1.150	0.703	0.7375	
15 minute summer	S118	7.005	S119	87.9	1.795	0.810	1.8036	
15 minute summer	S119	7.006	S120	88.0	1.914	0.227	0.8933	
15 minute summer	S120L	12.000	S120	5.9	1.397	0.181	0.0078	
15 minute summer	S120	7.007	HW22	93.7	1.509	0.603	0.6260	
15 minute summer	HW22	Flow through Pond	HW23	195.3	0.205	0.003	79.6802	
480 minute summer	HW23	1.012	S121	9.8	0.214	0.040	0.4896	
480 minute summer	S121	Hydro-Brake®	HW24	4.5				147.8

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.954	0.062	16.5	0.1125	0.0000	OK
15 minute summer	S103	10	111.207	0.081	27.6	0.1276	0.0000	OK
15 minute summer	S104L	11	110.540	0.167	21.1	0.3024	0.0000	SURCHARGED
15 minute summer	S104	10	110.246	0.109	54.7	0.1528	0.0000	OK
15 minute summer	S105	11	109.722	0.148	62.4	0.2152	0.0000	OK
15 minute summer	S106	11	109.412	0.164	67.6	0.2226	0.0000	OK
15 minute summer	S107	11	109.224	0.131	71.0	0.1652	0.0000	OK
15 minute summer	S108	11	108.833	0.119	74.7	0.1527	0.0000	OK
15 minute summer	S109L	10	108.461	0.118	14.8	0.2159	0.0000	OK
15 minute summer	S109	11	108.296	0.148	101.3	0.2441	0.0000	OK
15 minute summer	S110L	10	107.249	0.143	21.1	0.3225	0.0000	OK
15 minute summer	S110	11	106.909	0.157	130.6	0.2330	0.0000	OK
15 minute summer	S111L	10	106.383	0.126	16.1	0.2352	0.0000	OK
15 minute summer	S111	11	106.093	0.181	149.5	0.2271	0.0000	OK
15 minute summer	S112	11	105.836	0.173	156.8	0.2441	0.0000	OK
15 minute summer	S113L	10	105.705	0.217	29.0	0.4479	0.0000	SURCHARGED
15 minute summer	S113	11	105.489	0.425	184.9	0.4810	0.0000	OK
15 minute summer	HW21	11	105.479	0.448	184.7	0.0000	0.0000	OK
15 minute summer	S114L	10	108.971	0.123	15.5	0.2190	0.0000	OK
15 minute summer	S114	10	108.722	0.068	29.8	0.1168	0.0000	OK
15 minute summer	S115La	10	107.490	0.077	42.5	0.2125	0.0000	OK
15 minute summer	S115Lb	10	107.511	0.046	12.2	0.0741	0.0000	OK
15 minute summer	S115	10	106.780	0.230	91.7	0.3069	0.0000	OK
15 minute summer	S116	11	106.689	0.186	117.0	0.3262	0.0000	OK
15 minute summer	S117La	10	106.770	0.075	20.4	0.1268	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	16.4	1.526	0.165	0.2286	
15 minute summer	S103	1.001	S104	27.3	2.140	0.276	0.3253	
15 minute summer	S104L	2.000	S104	20.5	1.166	1.206	0.1591	
15 minute summer	S104	1.002	S105	54.5	1.899	0.285	0.5521	
15 minute summer	S105	1.003	S106	62.3	1.684	0.500	0.9630	
15 minute summer	S106	1.004	S107	67.9	1.973	0.591	0.4995	
15 minute summer	S107	1.005	S108	71.2	2.561	0.395	0.4035	
15 minute summer	S108	1.006	S109	74.8	2.465	0.340	0.4406	
15 minute summer	S109L	3.000	S109	14.6	1.005	1.009	0.0979	
15 minute summer	S109	1.007	S110	101.6	2.938	0.496	1.2784	
15 minute summer	S110L	4.000	S110	20.6	1.224	1.161	0.0908	
15 minute summer	S110	1.008	S111	130.8	2.405	0.268	2.0216	
15 minute summer	S111L	5.000	S111	15.9	1.039	1.097	0.1026	
15 minute summer	S111	1.009	S112	149.6	2.582	0.353	0.8400	
15 minute summer	S112	1.010	S113	156.9	1.706	0.324	2.2048	
15 minute summer	S113L	6.000	S113	28.6	1.622	1.543	0.0786	
15 minute summer	S113	1.011	HW21	184.7	0.963	0.715	2.2053	
15 minute summer	HW21	Flow through Pond	HW23	360.6	0.257	0.005	153.5440	
15 minute summer	S114L	7.000	S114	15.3	1.022	1.067	0.1003	
15 minute summer	S114	7.001	S115	29.6	1.633	0.114	0.9112	
15 minute summer	S115La	8.000	S115	42.4	3.476	0.253	0.0852	
15 minute summer	S115Lb	9.000	S115	12.1	2.664	0.202	0.0281	
15 minute summer	S115	7.002	S116	96.9	1.547	0.869	0.9381	
15 minute summer	S116	7.003	S117	111.1	1.313	0.508	2.7050	
15 minute summer	S117La	10.000	S117	20.3	2.134	0.498	0.0872	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.507	0.049	19.1	0.0925	0.0000	OK
15 minute summer	S117	11	106.463	0.357	150.0	0.4034	0.0000	OK
15 minute summer	S118	11	106.407	0.335	165.1	0.5137	0.0000	OK
15 minute summer	S119	11	106.132	0.169	165.4	0.1909	0.0000	OK
15 minute summer	S120L	11	105.594	0.066	11.2	0.0931	0.0000	OK
15 minute summer	S120	11	105.562	0.320	176.3	0.3624	0.0000	OK
15 minute summer	HW22	11	105.491	0.410	176.4	0.0000	0.0000	OK
480 minute summer	HW23	480	105.334	0.303	31.0	0.0000	0.0000	OK
480 minute summer	S121	488	105.339	0.328	10.0	1.8770	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	19.0	3.502	0.233	0.0575	
15 minute summer	S117	7.004	S118	148.7	1.400	1.332	1.1456	
15 minute summer	S118	7.005	S119	165.4	2.105	1.525	2.7846	
15 minute summer	S119	7.006	S120	165.6	2.176	0.427	1.4337	
15 minute summer	S120L	12.000	S120	11.0	1.640	0.340	0.0179	
15 minute summer	S120	7.007	HW22	176.4	1.783	1.136	0.9976	
15 minute summer	HW22	Flow through Pond	HW23	360.6	0.257	0.005	153.5440	
480 minute summer	HW23	1.012	S121	10.0	0.200	0.041	1.0522	
480 minute summer	S121	Hydro-Brake®	HW24	4.6				161.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.976	0.084	29.9	0.1534	0.0000	OK
15 minute summer	S103	10	111.238	0.112	50.0	0.1778	0.0000	OK
15 minute summer	S104L	11	110.852	0.479	38.3	0.8658	0.0000	SURCHARGED
15 minute summer	S104	10	110.289	0.152	99.3	0.2132	0.0000	OK
15 minute summer	S105	11	109.798	0.224	113.3	0.3250	0.0000	OK
15 minute summer	S106	11	109.511	0.263	122.9	0.3575	0.0000	OK
15 minute summer	S107	11	109.280	0.186	129.1	0.2357	0.0000	OK
15 minute summer	S108	11	108.882	0.169	135.6	0.2154	0.0000	OK
15 minute summer	S109L	10	108.595	0.252	26.9	0.4595	0.0000	SURCHARGED
15 minute summer	S109	11	108.368	0.219	184.0	0.3623	0.0000	OK
15 minute summer	S110L	10	107.444	0.338	38.3	0.7594	0.0000	SURCHARGED
15 minute summer	S110	11	106.969	0.217	236.9	0.3233	0.0000	OK
15 minute summer	S111L	10	106.538	0.281	29.3	0.5221	0.0000	SURCHARGED
15 minute summer	S111	11	106.172	0.259	271.2	0.3249	0.0000	OK
15 minute summer	S112	11	105.944	0.281	284.4	0.3958	0.0000	OK
15 minute summer	S113L	11	106.137	0.649	52.6	1.3400	0.0000	SURCHARGED
15 minute summer	S113	11	105.760	0.696	333.0	0.7869	0.0000	SURCHARGED
15 minute summer	HW21	11	105.705	0.674	332.3	0.0000	0.0000	OK
15 minute summer	S114L	10	109.115	0.266	28.1	0.4738	0.0000	SURCHARGED
15 minute summer	S114	10	108.746	0.092	53.8	0.1577	0.0000	OK
15 minute summer	S115La	11	107.604	0.191	77.0	0.5285	0.0000	OK
15 minute summer	S115Lb	11	107.575	0.110	22.1	0.1770	0.0000	OK
15 minute summer	S115	11	107.513	0.962	161.9	1.2868	0.0000	SURCHARGED
15 minute summer	S116	11	107.425	0.922	185.5	1.6156	0.0000	SURCHARGED
15 minute summer	S117La	11	107.390	0.695	37.1	1.1773	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	29.7	1.789	0.300	0.3530	
15 minute summer	S103	1.001	S104	49.5	2.507	0.501	0.5044	
15 minute summer	S104L	2.000	S104	37.1	2.110	2.188	0.1638	
15 minute summer	S104	1.002	S105	99.0	2.139	0.518	0.8806	
15 minute summer	S105	1.003	S106	113.2	1.867	0.909	1.5853	
15 minute summer	S106	1.004	S107	123.4	2.188	1.075	0.8096	
15 minute summer	S107	1.005	S108	129.3	2.979	0.717	0.6298	
15 minute summer	S108	1.006	S109	135.6	2.815	0.616	0.6966	
15 minute summer	S109L	3.000	S109	26.4	1.498	1.823	0.1170	
15 minute summer	S109	1.007	S110	184.3	3.337	0.900	2.0418	
15 minute summer	S110L	4.000	S110	37.2	2.114	2.096	0.0941	
15 minute summer	S110	1.008	S111	237.0	2.780	0.487	3.1670	
15 minute summer	S111L	5.000	S111	28.7	1.630	1.981	0.1171	
15 minute summer	S111	1.009	S112	271.3	2.819	0.639	1.4390	
15 minute summer	S112	1.010	S113	283.5	1.952	0.585	3.0684	
15 minute summer	S113L	6.000	S113	49.5	2.811	2.674	0.0795	
15 minute summer	S113	1.011	HW21	332.3	1.538	1.286	2.4844	
15 minute summer	HW21	Flow through Pond	HW23	507.5	0.276	0.007	281.1137	
15 minute summer	S114L	7.000	S114	27.5	1.565	1.920	0.1166	
15 minute summer	S114	7.001	S115	53.6	1.615	0.206	1.6645	
15 minute summer	S115La	8.000	S115	73.6	3.560	0.439	0.2633	
15 minute summer	S115Lb	9.000	S115	20.9	2.905	0.349	0.0966	
15 minute summer	S115	7.002	S116	151.6	1.593	1.360	1.6534	
15 minute summer	S116	7.003	S117	182.7	1.657	0.835	3.6642	
15 minute summer	S117La	10.000	S117	32.5	2.199	0.796	0.1232	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.535	0.077	34.7	0.1458	0.0000	OK
15 minute summer	S117	11	107.138	1.032	248.2	1.1670	0.0000	SURCHARGED
15 minute summer	S118	11	106.969	0.897	276.2	1.3753	0.0000	SURCHARGED
15 minute summer	S119	12	106.258	0.295	272.2	0.3334	0.0000	OK
15 minute summer	S120L	12	105.957	0.429	20.3	0.6034	0.0000	SURCHARGED
15 minute summer	S120	12	105.941	0.699	289.8	0.7902	0.0000	SURCHARGED
15 minute summer	HW22	12	105.724	0.643	290.2	0.0000	0.0000	OK
720 minute summer	HW23	720	105.604	0.573	56.2	0.0000	0.0000	SURCHARGED
720 minute summer	S121	720	105.604	0.593	5.1	3.3979	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	34.2	3.531	0.417	0.0724	
15 minute summer	S117	7.004	S118	246.4	2.235	2.207	1.1910	
15 minute summer	S118	7.005	S119	272.2	2.565	2.509	3.7238	
15 minute summer	S119	7.006	S120	273.6	2.537	0.705	1.9638	
15 minute summer	S120L	12.000	S120	17.7	1.587	0.546	0.0326	
15 minute summer	S120	7.007	HW22	290.2	2.632	1.869	1.1123	
15 minute summer	HW22	Flow through Pond	HW23	507.5	0.276	0.007	281.1137	
720 minute summer	HW23	1.012	S121	5.1	0.256	0.021	1.6814	
720 minute summer	S121	Hydro-Brake®	HW24	4.6				206.7

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.981	0.088	32.9	0.1678	0.0000	OK
15 minute summer	S103	10	111.245	0.119	55.1	0.1937	0.0000	OK
15 minute summer	S104L	11	110.939	0.566	42.1	1.0604	0.0000	SURCHARGED
15 minute summer	S104	10	110.297	0.160	108.9	0.2298	0.0000	OK
15 minute summer	S105	11	109.820	0.246	124.3	0.3649	0.0000	OK
15 minute summer	S106	10	109.526	0.278	135.3	0.3834	0.0000	OK
15 minute summer	S107	11	109.293	0.200	142.2	0.2556	0.0000	OK
15 minute summer	S108	11	108.894	0.181	150.8	0.2332	0.0000	OK
15 minute summer	S109L	10	108.627	0.284	29.6	0.5383	0.0000	SURCHARGED
15 minute summer	S109	11	108.380	0.232	204.2	0.3947	0.0000	OK
15 minute summer	S110L	11	107.494	0.388	42.1	0.9164	0.0000	SURCHARGED
15 minute summer	S110	11	106.983	0.230	261.1	0.3508	0.0000	OK
15 minute summer	S111L	10	106.574	0.317	32.2	0.6127	0.0000	SURCHARGED
15 minute summer	S111	11	106.198	0.286	299.4	0.3610	0.0000	OK
15 minute summer	S112	11	106.003	0.340	314.7	0.4886	0.0000	OK
15 minute summer	S113L	11	106.287	0.799	57.9	1.7260	0.0000	SURCHARGED
15 minute summer	S113	11	105.847	0.783	366.3	0.8854	0.0000	SURCHARGED
15 minute summer	HW21	11	105.781	0.749	364.9	0.0000	0.0000	OK
15 minute summer	S114L	10	109.149	0.301	30.9	0.5550	0.0000	SURCHARGED
15 minute summer	S114	10	108.750	0.096	59.1	0.1713	0.0000	OK
15 minute summer	S115La	12	107.862	0.449	84.9	1.3150	0.0000	SURCHARGED
15 minute summer	S115Lb	12	107.817	0.352	24.3	0.5850	0.0000	SURCHARGED
15 minute summer	S115	12	107.729	1.179	170.2	1.6005	0.0000	SURCHARGED
15 minute summer	S116	12	107.636	1.133	196.2	2.0556	0.0000	SURCHARGED
15 minute summer	S117La	12	107.607	0.912	40.8	1.5962	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S102	1.000	S103	32.7	1.833	0.330	0.3792	
15 minute summer	S103	1.001	S104	54.6	2.568	0.552	0.5425	
15 minute summer	S104L	2.000	S104	40.8	2.315	2.401	0.1638	
15 minute summer	S104	1.002	S105	108.6	2.144	0.568	0.9574	
15 minute summer	S105	1.003	S106	124.6	1.911	1.000	1.6878	
15 minute summer	S106	1.004	S107	135.9	2.263	1.183	0.8551	
15 minute summer	S107	1.005	S108	143.9	3.057	0.798	0.6831	
15 minute summer	S108	1.006	S109	151.0	2.925	0.686	0.7452	
15 minute summer	S109L	3.000	S109	28.9	1.644	2.000	0.1174	
15 minute summer	S109	1.007	S110	203.2	3.361	0.993	2.3813	
15 minute summer	S110L	4.000	S110	40.9	2.325	2.306	0.0941	
15 minute summer	S110	1.008	S111	261.8	2.804	0.537	3.4883	
15 minute summer	S111L	5.000	S111	31.4	1.784	2.168	0.1171	
15 minute summer	S111	1.009	S112	300.3	2.888	0.708	1.6990	
15 minute summer	S112	1.010	S113	312.8	2.040	0.645	3.3542	
15 minute summer	S113L	6.000	S113	53.5	3.038	2.890	0.0795	
15 minute summer	S113	1.011	HW21	364.9	1.689	1.412	2.4844	
15 minute summer	HW21	Flow through Pond	HW23	537.5	0.278	0.008	309.2240	
15 minute summer	S114L	7.000	S114	30.2	1.718	2.108	0.1168	
15 minute summer	S114	7.001	S115	58.8	1.637	0.227	1.6885	
15 minute summer	S115La	8.000	S115	79.2	3.464	0.473	0.2766	
15 minute summer	S115Lb	9.000	S115	22.9	2.984	0.382	0.1083	
15 minute summer	S115	7.002	S116	157.9	1.621	1.417	1.6534	
15 minute summer	S116	7.003	S117	193.0	1.750	0.882	3.6642	
15 minute summer	S117La	10.000	S117	35.9	2.253	0.879	0.1232	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.556	0.098	38.2	0.1914	0.0000	OK
15 minute summer	S117	12	107.330	1.224	265.0	1.3846	0.0000	SURCHARGED
15 minute summer	S118	12	107.150	1.078	296.5	1.6964	0.0000	SURCHARGED
15 minute summer	S119	12	106.396	0.433	295.7	0.4900	0.0000	SURCHARGED
15 minute summer	S120L	11	106.021	0.493	22.4	0.7066	0.0000	SURCHARGED
15 minute summer	S120	11	105.997	0.755	304.5	0.8542	0.0000	SURCHARGED
15 minute summer	HW22	12	105.761	0.680	303.0	0.0000	0.0000	OK
960 minute summer	HW23	960	105.663	0.632	43.4	0.0000	0.0000	SURCHARGED
960 minute summer	S121	960	105.663	0.652	5.2	3.7336	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S117Lb	11.000	S117	37.3	3.253	0.456	0.0805	
15 minute summer	S117	7.004	S118	263.9	2.393	2.363	1.1910	
15 minute summer	S118	7.005	S119	295.7	2.684	2.725	4.0418	
15 minute summer	S119	7.006	S120	285.6	2.593	0.736	2.1315	
15 minute summer	S120L	12.000	S120	18.9	1.630	0.584	0.0326	
15 minute summer	S120	7.007	HW22	303.0	2.748	1.951	1.1123	
15 minute summer	HW22	Flow through Pond	HW23	537.5	0.278	0.008	309.2240	
960 minute summer	HW23	1.012	S121	5.2	0.185	0.021	1.6814	
960 minute summer	S121	Hydro-Brake®	HW24	4.6				266.2