

TECHNICAL NOTE



FW2285_TN_001

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: 18th October 2024

Author: JR

Checked By: JD

Approved By: JD

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.

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- 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 99,518m² (9.952ha) 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 43.30l/s for the entire site based on the current impermeable area of 9.952ha.
- 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 7.0l/s
- 2.1.12 An area of 5.272ha (Network 2) will be drained into the central detention basin prior to a controlled release into the existing watercourse at a rate of 23.00l/s.
- 2.1.13 An area of 1.959ha (Network 3) will be drained into the southern detention basin prior to a controlled release into the existing watercourse at a rate of 8.50l/s.

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2.1.14 An area of 1.094ha (Network 4) will be drained into the eastern detention basin prior to a controlled release into the existing watercourse at a rate of 4.80l/s.

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

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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

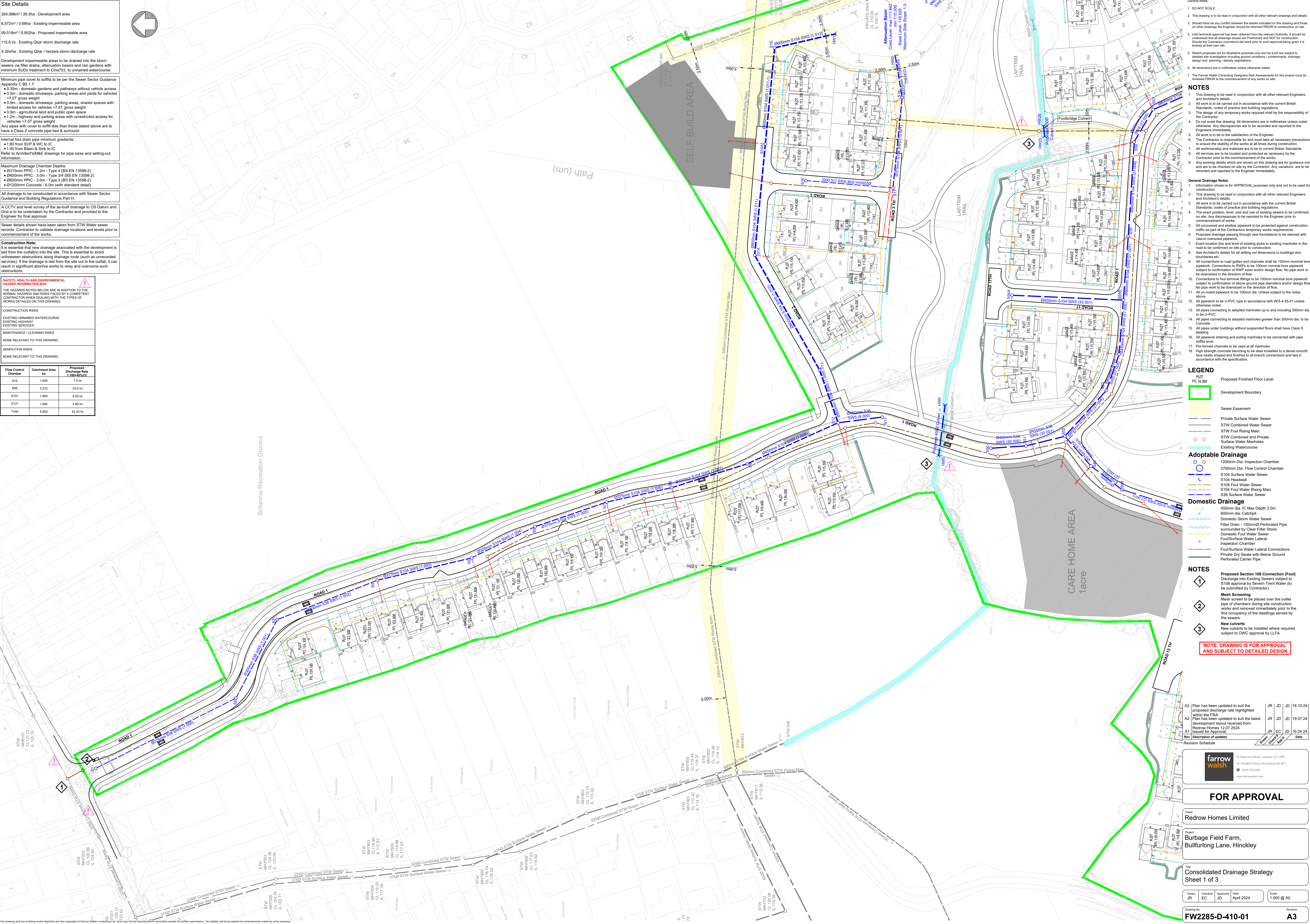


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Project Number:	FW2285	Author:	JR
Project Address:	Burbage Fields Farm, Burbage	Checked By:	JD
Date:	18 th October 2024	Approved By:	JD

APPENDIX B – CONSOLIDATED DRAINAGE STRATEGY



Site Details

204.996m² / 26.5ha : Development area

6.572m² / 0.66ha : Existing impermeable area

99.518m² / 9.952ha : Proposed impermeable area

115.6 l/s : Existing Qbar storm discharge rate

4.3 l/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 gardens with minimum SUDs treatment to Class F53, to unsewered 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
- 1:60 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/SEC @ 2°C
S19	1.626	7.0 l/s
S86	5.272	23.0 l/s
S101	1.959	8.50 l/s
S121	1.094	4.80 l/s
Total	9.952	43.30 l/s

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. Unit 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 Consulting 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 Architect's 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 to be read in conjunction with all other relevant Engineers and Architect's 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 the 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 RWP 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 soffit 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

PUOT 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 Swale with Below Ground Perforated Carrier Pipe

NOTES

1. Discharge into Existing Sewers subject to S106 approval by Severn Trent Water (to be submitted by Contractor).
2. Mesh Screening
3. 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.
4. New culverts
5. New culverts to be installed where required subject to OWC approval by LLFA.

NOTE: DRAWING IS FOR APPROVAL AND SUBJECT TO DETAILED DESIGN

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 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
01	Issue for Approval	JR	EC	JD	16.04.24

farrow walsh

302 Highcross Street, Leicester LE1 4NN

321 Broadford Street, Birmingham B5 4ET

0330 500 0363

www.farrowwalsh.com

FOR APPROVAL

Client: Redrow Homes Limited

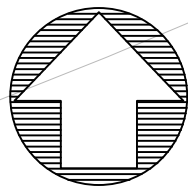
Project: Burbage Field Farm, Bullfurrow Lane, Hinckley

Title: Consolidated Drainage Strategy Sheet 1 of 3

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

Drawing No: FW2285-D-410-01

Revision: A3



Site Details

264.996m² / 26.5ha : Development area
6.572m² / 0.66ha : Existing impermeable area
99.518m² / 9.952ha : Proposed impermeable area
115.6 l/s : Existing Qbar storm discharge rate
4.3 l/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 Ciri4753, to unnamed watercourse.

Minimum pipe cover to soffits to be per the Sewer Sector Guidance Appendix C BS 157:
• 0.30m - domestic gardens and pathways without vehicle access
• 0.5m - domestic driveways, parking areas and yards for vehicles < 7.5T 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 soffit 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)

Internal foul drain pipe minimum gradients:
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Refer to Architect's/M&E drawings for pipe sizes and setting-out information.

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 @ 1.392-4.95% C/D
S19	1.626	7.2 l/s
S66	5.272	22.0 l/s
S101	1.969	8.50 l/s
S121	1.094	4.80 l/s
Total	9.952	43.30 l/s

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.

Note: All water levels taken with 04th Nov 2019

General Notes

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5. All uncovered and shallow pipework to be protected against construction traffic as part of the Contractors temporary works requirements.
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9. All connections 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.
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12. All pipework to be U-PVC type in accordance with WIS 4-35-01 unless otherwise noted.
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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 soffit 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

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
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Domestic Drainage

- 450mm dia. IC Max Depth 3.0m
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- 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 Swale 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

A3 Plan has been updated to suit the proposed discharge rate highlighted within the FRU

A2 Plan has been updated to suit the latest development layout received from Redrow Homes 12.07.2024

A1 Issued for Approval

Revision Schedule

Rev	Description of updates	Drawn	Checked	EC	JD	EC	JD	Date
1	Initial Issue	JR	JD	JD	JD	JD	JD	18.10.24
2	Revised	JR	JD	JD	JD	JD	JD	19.07.24
3	Revised	JR	JD	JD	JD	JD	JD	16.04.24

farrow walsh
42 Highcross Street, Leicester LE1 6NN
01533 560 0363
www.farrowwalsh.com

FOR APPROVAL

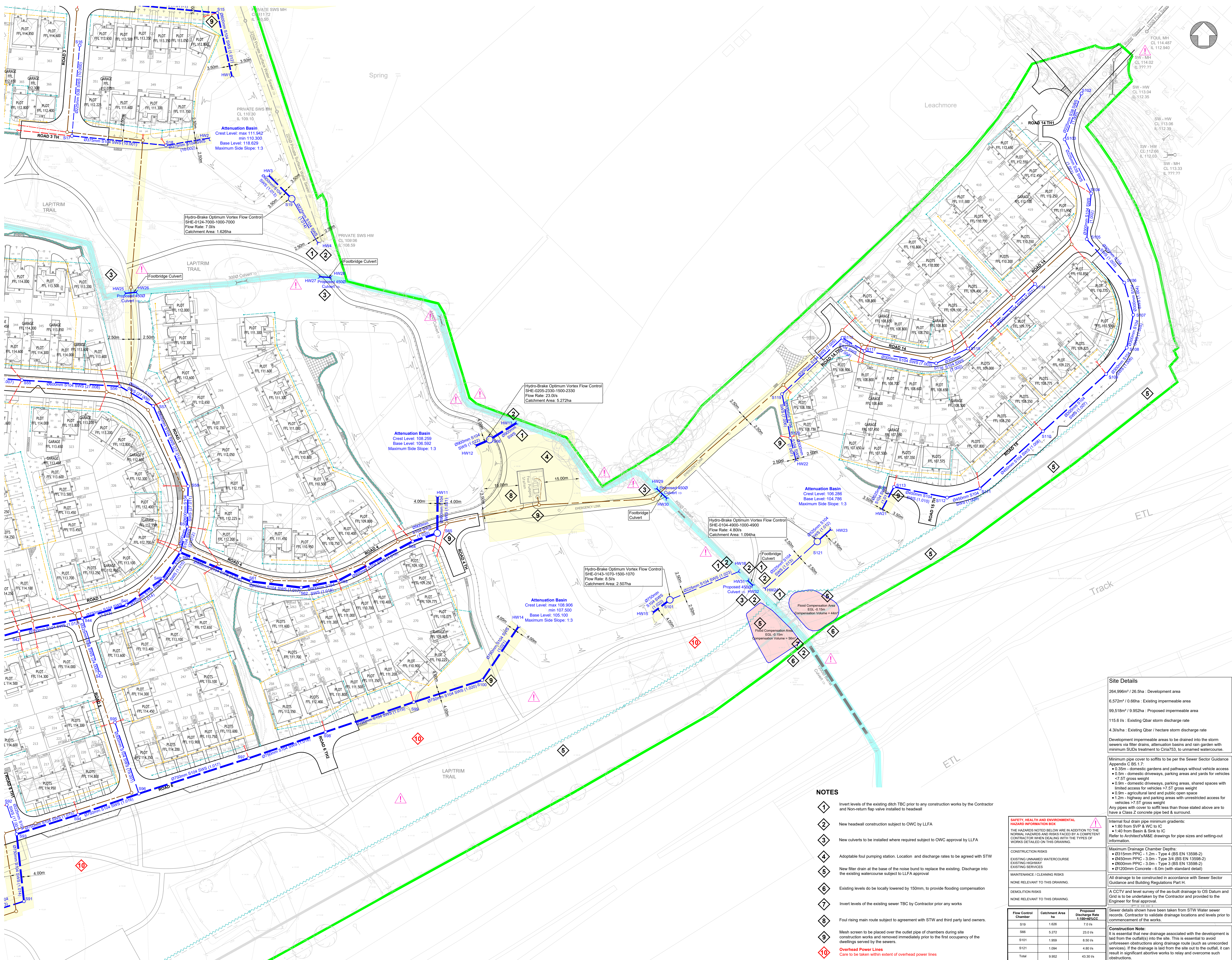
Client: Redrow Homes Limited

Project: Burbage Field Farm, Bullifurlong 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: **A3**



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 Consulting 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 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 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 Architects 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 RWP 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 soffit 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

PLOT

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 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 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

99,518m² / 9.952ha : Proposed impermeable area

115.6 ha : Existing Qbar storm discharge rate

4.3ha : 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 unrunned 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.

A3 Plan has been updated to suit the proposed discharge rate highlighted within the FRA

A2 Plan has been updated to suit the latest development layout received from Redrow Homes 12.07.2024

A1 Issued for Approval

Rev Description of updates

Revision Schedule

farrow walsh

42 Hagthorpe Street, Leicester LE1 4NN
21 Bradford Street, Birmingham B5 4ET
03330 500 0363
www.farrowwalsh.com

FOR APPROVAL

Clerk:
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:

A3

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 site construction works and removed immediately prior to the first occupancy of the dwellings served by the sewers.

10. Overhead Power Lines
Care to be taken within extent of overhead power lines

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 SERVICES

MAINTENANCE / CLEANING RISKS

NONE RELEVANT TO THIS DRAWING.

DEMOLITION RISKS

NONE RELEVANT TO THIS DRAWING.

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@0.5m/s

S19

1.626

7.91%

S86

5.272

23.91%

S101

1.959

8.95%

S121

1.094

4.86%

Total

9.952

43.30%

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TECHNICAL NOTE



FW2285_TN_001

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:	JD
Date:	18 th October 2024	Approved By:	JD

APPENDIX C – HYDRAULIC CALCULATIONS

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN		File: FW2285 Network 1.pfd Network: SW Network 1 Jon Davey July 2024		Page 1 FW2285 Burbage Field Farm Network 1				
	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)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1		0.100	5.00	126.691	Manhole	1200	443780.322	292095.366	1.425
S2		0.043	5.00	125.148	Manhole	1200	443811.915	292032.241	2.567
S3		0.061	5.00	124.103	Manhole	1200	443847.263	292013.615	2.235
S4L		0.095	5.00	122.880	Manhole	1200	443855.169	291966.354	1.313
S4		0.052	5.00	122.667	Manhole	1200	443864.955	291968.608	1.425
S5L		0.076	5.00	121.330	Manhole	1200	443866.640	291923.297	1.432
S5		0.038	5.00	121.160	Manhole	1200	443875.005	291926.155	1.575
S6		0.040	5.00	120.009	Manhole	1200	443889.076	291897.617	2.992
S7L		0.095	5.00	119.002	Manhole	1200	443890.159	291863.144	1.461
S7		0.038	5.00	118.789	Manhole	1200	443900.131	291865.333	2.454
S8L		0.045	5.00	117.863	Manhole	1200	443897.260	291833.375	1.388
S8		0.028	5.00	117.728	Manhole	1200	443906.657	291835.975	2.070
S9		0.060	5.00	116.862	Manhole	1200	443917.379	291802.029	2.901
S11		0.075	5.00	114.742	Manhole	1200	443938.369	291741.271	1.404
S12L		0.112	5.00	115.030	Manhole	1200	443926.223	291757.975	1.643
S12		0.011	5.00	114.797	Manhole	1200	443935.833	291761.118	2.125
S13		0.043	5.00	114.526	Manhole	1200	443961.060	291770.273	2.364
S14L		0.065	5.00	115.226	Manhole	1200	444009.992	291792.054	3.092
S14		0.024	5.00	115.228	Manhole	1200	444011.241	291798.692	4.219
S14AL		0.123	5.00	114.800	Manhole	1200	444062.710	291810.324	2.697
S14A		0.019	5.00	113.804	Manhole	1200	444061.337	291793.878	3.802
S15L		0.094	5.00	112.519	Manhole	1200	444098.935	291788.163	2.348
S15		0.000		112.406	Manhole	1200	444104.606	291789.708	3.273
HW1		0.000		111.000	Manhole		444110.468	291768.192	2.146
S16		0.036	5.00	113.645	Manhole	1200	444044.465	291775.704	1.425
S17L		0.120	5.00	112.450	Manhole	1200	444017.898	291738.814	1.868
S17		0.038	5.00	111.732	Manhole	1200	444041.536	291736.382	1.425
S18L		0.094	5.00	111.000	Manhole	1200	444080.688	291732.672	1.175
S18				111.000	Manhole	1200	444080.507	291730.206	1.425
HW2				110.200	Manhole		444101.211	291735.442	1.296
HW3			5.00	110.200	Manhole		444130.785	291715.646	1.346
S19				110.200	Manhole	2700	444136.861	291709.120	1.368
HW4				109.400	Manhole		444140.891	291690.812	0.700
Flow+ v11.0 Copyright © 1988-2024 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)
1.000	S1	S2	70.590	0.600	125.266	122.656	2.610	27.0	225	5.47	50.0
1.001	S2	S3	39.955	0.600	122.581	121.868	0.713	56.0	300	5.78	50.0
1.002	S3	S4	48.359	0.600	121.868	121.317	0.551	87.8	300	6.26	49.4
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	6.47	48.6
3.000	S5L	S5	8.841	0.600	119.898	119.810	0.088	100.5	150	5.15	50.0
1.004	S5	S6	31.818	0.600	119.585	117.017	2.568	12.4	300	6.59	48.2
1.005	S6	S7	34.125	0.600	117.017	116.335	0.682	50.0	375	6.81	47.4
4.000	S7L	S7	10.210	0.600	117.541	116.560	0.981	10.4	150	5.05	50.0
1.006	S7	S8	30.074	0.600	116.335	115.733	0.602	50.0	375	7.00	46.7
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	35.599	0.600	115.658	113.961	1.697	21.0	450	7.14	46.3
1.008	S9	S12	44.881	0.600	113.961	112.822	1.139	39.4	450	7.37	45.6
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	10.111	0.600	113.387	113.047	0.340	29.7	225	5.07	50.0
1.009	S12	S13	26.837	0.600	112.672	112.162	0.510	52.6	600	7.50	45.1
1.010	S13	S14	57.670	0.600	112.162	111.009	1.153	50.0	600	7.78	44.3
8.000	S14L	S14	6.755	0.600	112.134	111.459	0.675	10.0	150	5.04	50.0
1.011	S14	S14A	50.327	0.600	111.009	110.002	1.007	50.0	600	8.02	43.6
44.000	S14AL	S14A	16.503	0.600	112.103	110.452	1.651	10.0	150	5.09	50.0
1.012	S14A	S15	43.469	0.600	110.002	109.133	0.869	50.0	600	8.23	43.0
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	8.37	42.6
10.000	S16	S17	40.850	0.600	112.220	110.457	1.763	23.2	225	5.25	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S1	S2	2.525	100.4	13.6	1.200	2.267	1.200	2.267	0.100	0.0
1.001	S2	S3	2.104	148.7	19.4	2.267	1.935	1.935	2.267	0.143	0.0
1.002	S3	S4	1.679	118.7	27.3	1.935	1.050	1.050	1.935	0.204	0.0
2.000	S4L	S4	1.002	17.7	12.9	1.163	1.050	1.050	1.163	0.095	0.0
1.003	S4	S5	3.543	391.3	46.2	1.050	1.200	1.050	1.200	0.351	0.0
3.000	S5L	S5	1.002	17.7	10.3	1.282	1.200	1.200	1.282	0.076	0.0
1.004	S5	S6	4.490	317.4	60.7	1.275	2.692	1.275	2.692	0.465	0.0
1.005	S6	S7	2.566	283.4	64.9	2.617	2.079	2.079	2.617	0.505	0.0
4.000	S7L	S7	3.141	55.5	12.9	1.311	2.079	1.311	2.079	0.095	0.0
1.006	S7	S8	2.568	283.7	80.8	2.079	1.620	1.620	2.079	0.638	0.0
5.000	S8L	S8	2.330	41.2	6.1	1.238	1.620	1.238	1.620	0.045	0.0
1.007	S8	S9	4.454	708.3	89.2	1.620	2.451	1.620	2.451	0.711	0.0
1.008	S9	S12	3.246	516.2	95.2	2.451	1.525	1.525	2.451	0.771	0.0
6.000	S11	S12	3.249	516.7	10.2	0.954	1.525	0.954	1.525	0.075	0.0
7.000	S12L	S12	2.408	95.7	15.2	1.418	1.525	1.418	1.525	0.112	0.0
1.009	S12	S13	3.362	950.5	118.6	1.525	1.764	1.525	1.764	0.969	0.0
1.010	S13	S14	3.448	975.0	121.5	1.764	3.619	1.764	3.619	1.012	0.0
8.000	S14L	S14	3.203	56.6	8.8	2.942	3.619	2.942	3.619	0.065	0.0
1.011	S14	S14A	3.450	975.4	130.1	3.619	3.202	3.202	3.619	1.101	0.0
44.000	S14AL	S14A	3.205	56.6	16.7	2.547	3.202	2.547	3.202	0.123	0.0
1.012	S14A	S15	3.448	974.9	144.9	3.202	2.673	2.673	3.202	1.243	0.0
9.000	S15L	S15	3.205	56.6	12.7	2.198	2.673	2.198	2.673	0.094	0.0
1.013	S15	HW1	2.725	770.5	154.5	2.673	1.546	1.546	2.673	1.337	0.0
10.000	S16	S17	2.729	108.5	4.9	1.200	1.050	1.050	1.200	0.036	0.0

Pipeline Schedule

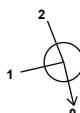
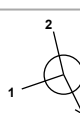
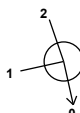
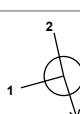
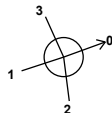
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	10.111	29.7	225	115.030	113.387	1.418	114.797	113.047	1.525
1.009	26.837	52.6	600	114.797	112.672	1.525	114.526	112.162	1.764
1.010	57.670	50.0	600	114.526	112.162	1.764	115.228	111.009	3.619
8.000	6.755	10.0	150	115.226	112.134	2.942	115.228	111.459	3.619
1.011	50.327	50.0	600	115.228	111.009	3.619	113.804	110.002	3.202
44.000	16.503	10.0	150	114.800	112.103	2.547	113.804	110.452	3.202
1.012	43.469	50.0	600	113.804	110.002	3.202	112.406	109.133	2.673
9.000	5.878	10.0	150	112.519	110.171	2.198	112.406	109.583	2.673
1.013	22.300	79.9	600	112.406	109.133	2.673	111.000	108.854	1.546
10.000	40.850	23.2	225	113.645	112.220	1.200	111.732	110.457	1.050
11.000	23.763	190.1	225	112.450	110.582	1.643	111.732	110.457	1.050
10.001	39.457	53.9	375	111.732	110.307	1.050	111.000	109.575	1.050
12.000	2.473	98.9	150	111.000	109.825	1.025	111.000	109.800	1.050
10.002	21.355	184.1	375	111.000	109.575	1.050	110.200	109.459	0.366
1.014	8.916	405.3	600	110.200	108.854	0.746	110.200	108.832	0.768
1.015	18.747	142.0	225	110.200	108.832	1.143	109.400	108.700	0.475

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
7.000	S12L	1200	Manhole	S12	1200	1
1.009	S12	1200	Manhole	S13	1200	1
1.010	S13	1200	Manhole	S14	1200	1
8.000	S14L	1200	Manhole	S14	1200	1
1.011	S14	1200	Manhole	S14A	1200	1
44.000	S14AL	1200	Manhole	S14A	1200	1
1.012	S14A	1200	Manhole	S15	1200	1
9.000	S15L	1200	Manhole	S15	1200	1
1.013	S15	1200	Manhole	HW1		1
10.000	S16	1200	Manhole	S17	1200	1
11.000	S17L	1200	Manhole	S17	1200	1
10.001	S17	1200	Manhole	S18	1200	1
12.000	S18L	1200	Manhole	S18	1200	1
10.002	S18	1200	Manhole	HW2		1
1.014	HW3		Manhole	S19	2700	1
1.015	S19	2700	Manhole	HW4		1

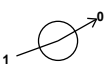
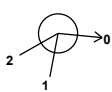
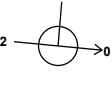
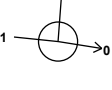
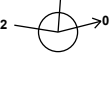
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S1	443780.322	292095.366	126.691	1.425	1200	Manhole		0	1.000	125.266	225
S2	443811.915	292032.241	125.148	2.567	1200	Manhole		1	1.000	122.656	225
S3	443847.263	292013.615	124.103	2.235	1200	Manhole		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)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S4L	443855.169	291966.354	122.880	1.313	1200	Manhole		0	2.000	121.567	150
S4	443864.955	291968.608	122.667	1.425	1200	Manhole		1 2 0	2.000 1.002 1.003	121.467 121.317 121.242	150 300 375
S5L	443866.640	291923.297	121.330	1.432	1200	Manhole		0	3.000	119.898	150
S5	443875.005	291926.155	121.160	1.575	1200	Manhole		1 2 0	3.000 1.003 1.004	119.810 119.585 119.585	150 375 300
S6	443889.076	291897.617	120.009	2.992	1200	Manhole		1 0	1.004 1.005	117.017 117.017	300 375
S7L	443890.159	291863.144	119.002	1.461	1200	Manhole		0	4.000	117.541	150
S7	443900.131	291865.333	118.789	2.454	1200	Manhole		1 2 0	4.000 1.005 1.006	116.560 116.335 116.335	150 375 375
S8L	443897.260	291833.375	117.863	1.388	1200	Manhole		0	5.000	116.475	150
S8	443906.657	291835.975	117.728	2.070	1200	Manhole		1 2 0	5.000 1.006 1.007	115.958 115.733 115.658	150 375 450
S9	443917.379	291802.029	116.862	2.901	1200	Manhole		1 0	1.007 1.008	113.961 113.961	450 450
S11	443938.369	291741.271	114.742	1.404	1200	Manhole		0	6.000	113.338	450
S12L	443926.223	291757.975	115.030	1.643	1200	Manhole		0	7.000	113.387	225
S12	443935.833	291761.118	114.797	2.125	1200	Manhole		1 2 3 0	7.000 6.000 1.008 1.009	113.047 112.822 112.822 112.672	225 450 450 600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S13	443961.060	291770.273	114.526	2.364	1200	Manhole		1 1.009	112.162	600
							0	1.010	112.162	600
S14L	444009.992	291792.054	115.226	3.092	1200	Manhole		0	8.000	112.134
									112.134	150
S14	444011.241	291798.692	115.228	4.219	1200	Manhole		1 8.000	111.459	150
							2	1.010	111.009	600
							0	1.011	111.009	600
S14AL	444062.710	291810.324	114.800	2.697	1200	Manhole		0	44.000	112.103
									112.103	150
S14A	444061.337	291793.878	113.804	3.802	1200	Manhole		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	Manhole		0	9.000	110.171
									110.171	150
S15	444104.606	291789.708	112.406	3.273	1200	Manhole		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		Manhole		1 1.013	108.854	600
S16	444044.465	291775.704	113.645	1.425	1200	Manhole		0	10.000	112.220
									112.220	225
S17L	444017.898	291738.814	112.450	1.868	1200	Manhole		0	11.000	110.582
									110.582	225
S17	444041.536	291736.382	111.732	1.425	1200	Manhole		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	Manhole		0	12.000	109.825
									109.825	150
S18	444080.507	291730.206	111.000	1.425	1200	Manhole		1 12.000	109.800	150
							2	10.001	109.575	375
							0	10.002	109.575	375

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Farrow Walsh Ltd

62 Highcross Street

Leicester

LE1 4NN

File: FW2285 Network 1.pfd

Network: SW Network 1

Jon Davey

July 2024

Page 7

FW2285

Burbage Field Farm

Network 1

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
HW2	444101.211	291735.442	110.200	1.296		Manhole	1	1	10.002	109.459	375
HW3	444130.785	291715.646	110.200	1.346		Manhole	0	0	1.014	108.854	600
S19	444136.861	291709.120	110.200	1.368	2700	Manhole	1 0	1	1.014	108.832	600
HW4	444140.891	291690.812	109.400	0.700		Manhole	1	1	1.015	108.832	225
							0	0	1.015	108.700	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
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
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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 S19 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	108.832	Product Number	CTL-SHE-0123-7000-1062-7000
Design Depth (m)	1.062	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.0	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
-----	-----

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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

Other (defaults)

Entry Loss (manhole)	0.000	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.000	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058
2 year 30 minute summer	91.753	25.963
2 year 60 minute summer	61.301	16.200
2 year 120 minute summer	37.449	9.897
2 year 180 minute summer	28.672	7.378
2 year 240 minute summer	22.636	5.982
2 year 360 minute summer	17.235	4.435
2 year 480 minute summer	13.550	3.581
2 year 600 minute summer	11.088	3.033
2 year 720 minute summer	9.878	2.647
2 year 960 minute summer	8.113	2.136
2 year 1440 minute summer	5.891	1.579
30 year 15 minute summer	268.706	76.035
30 year 30 minute summer	174.929	49.499
30 year 60 minute summer	116.589	30.811
30 year 120 minute summer	70.438	18.615
30 year 180 minute summer	53.298	13.715
30 year 240 minute summer	41.604	10.995
30 year 360 minute summer	31.221	8.034
30 year 480 minute summer	24.324	6.428
30 year 600 minute summer	19.756	5.404
30 year 720 minute summer	17.490	4.687
30 year 960 minute summer	14.215	3.743
30 year 1440 minute summer	10.161	2.723
100 year +40% CC 15 minute summer	488.233	138.153
100 year +40% CC 30 minute summer	320.551	90.705
100 year +40% CC 60 minute summer	214.603	56.713
100 year +40% CC 120 minute summer	129.587	34.246
100 year +40% CC 180 minute summer	97.729	25.149
100 year +40% CC 240 minute summer	75.977	20.078
100 year +40% CC 360 minute summer	56.677	14.585
100 year +40% CC 480 minute summer	43.979	11.622
100 year +40% CC 600 minute summer	35.604	9.738
100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 1440 minute summer	18.055	4.839
100 year +40% CC +10% A 15 minute summer	488.233	138.153
100 year +40% CC +10% A 30 minute summer	320.551	90.705
100 year +40% CC +10% A 60 minute summer	214.603	56.713
100 year +40% CC +10% A 120 minute summer	129.587	34.246
100 year +40% CC +10% A 180 minute summer	97.729	25.149
100 year +40% CC +10% A 240 minute summer	75.977	20.078
100 year +40% CC +10% A 360 minute summer	56.677	14.585

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC +10% A 480 minute summer	43.979	11.622
100 year +40% CC +10% A 600 minute summer	35.604	9.738
100 year +40% CC +10% A 720 minute summer	31.433	8.424
100 year +40% CC +10% A 960 minute summer	25.432	6.697
100 year +40% CC +10% A 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.328	0.062	17.3	0.0703	0.0000	OK
15 minute summer	S2	11	122.662	0.081	24.3	0.0915	0.0000	OK
15 minute summer	S3	11	121.977	0.109	34.6	0.1238	0.0000	OK
15 minute summer	S4L	10	121.680	0.113	16.5	0.1280	0.0000	OK
15 minute summer	S4	11	121.339	0.097	58.8	0.1100	0.0000	OK
15 minute summer	S5L	10	119.994	0.096	13.2	0.1083	0.0000	OK
15 minute summer	S5	11	119.686	0.101	78.0	0.1138	0.0000	OK
15 minute summer	S6	11	117.156	0.139	84.7	0.1569	0.0000	OK
15 minute summer	S7L	10	117.597	0.056	16.5	0.0635	0.0000	OK
15 minute summer	S7	11	116.493	0.157	106.9	0.1781	0.0000	OK
15 minute summer	S8L	10	116.519	0.044	7.8	0.0500	0.0000	OK
15 minute summer	S8	11	115.781	0.123	119.1	0.1392	0.0000	OK
15 minute summer	S9	11	114.112	0.151	129.0	0.1707	0.0000	OK
15 minute summer	S11	10	113.387	0.049	13.0	0.0550	0.0000	OK
15 minute summer	S12L	10	113.455	0.068	19.4	0.0773	0.0000	OK
15 minute summer	S12	11	112.836	0.164	161.5	0.1854	0.0000	OK
15 minute summer	S13	11	112.327	0.165	168.6	0.1865	0.0000	OK
15 minute summer	S14L	10	112.180	0.046	11.3	0.0515	0.0000	OK
15 minute summer	S14	11	111.180	0.171	182.6	0.1938	0.0000	OK
15 minute summer	S14AL	10	112.167	0.064	21.3	0.0721	0.0000	OK
15 minute summer	S14A	11	110.184	0.182	204.3	0.2053	0.0000	OK
15 minute summer	S15L	10	110.226	0.055	16.3	0.0624	0.0000	OK
15 minute summer	S15	11	109.348	0.215	217.7	0.2435	0.0000	OK
360 minute summer	HW1	296	109.127	0.273	46.1	0.0000	0.0000	OK
15 minute summer	S16	10	112.256	0.036	6.2	0.0409	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	16.8	1.893	0.167	0.6277	
15 minute summer	S2	1.001	S3	24.1	1.275	0.162	0.7697	
15 minute summer	S3	1.002	S4	34.4	1.479	0.290	1.1233	
15 minute summer	S4L	2.000	S4	16.3	1.146	0.921	0.1430	
15 minute summer	S4	1.003	S5	58.9	2.543	0.151	1.0117	
15 minute summer	S5L	3.000	S5	13.1	1.104	0.739	0.1048	
15 minute summer	S5	1.004	S6	78.1	2.982	0.246	0.8361	
15 minute summer	S6	1.005	S7	84.8	2.098	0.299	1.3803	
15 minute summer	S7L	4.000	S7	16.4	2.741	0.296	0.0612	
15 minute summer	S7	1.006	S8	107.1	2.441	0.377	1.3193	
15 minute summer	S8L	5.000	S8	7.8	1.792	0.188	0.0422	
15 minute summer	S8	1.007	S9	119.1	2.923	0.168	1.4540	
15 minute summer	S9	1.008	S12	128.6	2.763	0.249	2.0892	
15 minute summer	S11	6.000	S12	12.9	1.405	0.025	0.1860	
15 minute summer	S12L	7.000	S12	19.3	1.901	0.202	0.1027	
15 minute summer	S12	1.009	S13	161.5	2.582	0.170	1.6793	
15 minute summer	S13	1.010	S14	167.8	2.599	0.172	3.7227	
15 minute summer	S14L	8.000	S14	11.3	2.502	0.199	0.0304	
15 minute summer	S14	1.011	S14A	180.8	2.619	0.185	3.4749	
15 minute summer	S14AL	44.000	S14A	21.2	2.979	0.374	0.1175	
15 minute summer	S14A	1.012	S15	202.2	2.489	0.207	3.5365	
15 minute summer	S15L	9.000	S15	16.3	2.773	0.287	0.0345	
15 minute summer	S15	1.013	HW1	216.3	3.210	0.281	1.5256	
360 minute summer	HW1	Flow through pond	HW3	31.7	0.055	0.001	217.7458	
15 minute summer	S16	10.000	S17	6.1	1.485	0.056	0.1679	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.700	0.118	20.8	0.1330	0.0000	OK
15 minute summer	S17	10	110.394	0.087	33.2	0.0982	0.0000	OK
15 minute summer	S18L	10	109.937	0.112	16.3	0.1262	0.0000	OK
15 minute summer	S18	11	109.722	0.147	49.1	0.1657	0.0000	OK
360 minute summer	HW2	312	109.129	0.225	10.2	0.0000	0.0000	OK
360 minute summer	HW3	296	109.127	0.273	31.7	0.0000	0.0000	OK
480 minute summer	S19	432	109.141	0.309	30.6	1.7686	0.0000	SURCHARGED
15 minute summer	HW4	1	108.700	0.000	6.7	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	S17L	11.000	S17	20.5	0.980	0.545	0.4972	
15 minute summer	S17	10.001	S18	32.9	1.133	0.120	1.1660	
15 minute summer	S18L	12.000	S18	16.2	1.153	0.907	0.0347	
15 minute summer	S18	10.002	HW2	49.1	1.231	0.334	0.8523	
360 minute summer	HW2	Flow through pond	HW3	31.7	0.055	0.001	217.7458	
360 minute summer	HW3	1.014	S19	29.3	0.306	0.086	1.1894	
480 minute summer	S19	Hydro-Brake®	HW4	7.0				236.8

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.353	0.087	32.9	0.0988	0.0000	OK
15 minute summer	S2	10	122.694	0.113	46.4	0.1283	0.0000	OK
15 minute summer	S3	11	122.025	0.157	66.1	0.1781	0.0000	OK
15 minute summer	S4L	10	121.920	0.353	31.3	0.3988	0.0000	SURCHARGED
15 minute summer	S4	11	121.378	0.136	112.4	0.1538	0.0000	OK
15 minute summer	S5L	10	120.126	0.227	25.0	0.2573	0.0000	SURCHARGED
15 minute summer	S5	11	119.728	0.143	148.8	0.1621	0.0000	OK
15 minute summer	S6	11	117.217	0.200	161.8	0.2262	0.0000	OK
15 minute summer	S7L	10	117.622	0.081	31.3	0.0913	0.0000	OK
15 minute summer	S7	11	116.567	0.232	203.9	0.2620	0.0000	OK
15 minute summer	S8L	10	116.537	0.062	14.8	0.0703	0.0000	OK
15 minute summer	S8	11	115.831	0.173	227.7	0.1953	0.0000	OK
15 minute summer	S9	11	114.176	0.215	246.6	0.2437	0.0000	OK
15 minute summer	S11	10	113.404	0.066	24.7	0.0746	0.0000	OK
15 minute summer	S12L	10	113.483	0.096	36.9	0.1090	0.0000	OK
15 minute summer	S12	11	112.902	0.230	309.3	0.2603	0.0000	OK
15 minute summer	S13	11	112.394	0.232	322.9	0.2625	0.0000	OK
15 minute summer	S14L	10	112.198	0.064	21.4	0.0724	0.0000	OK
15 minute summer	S14	11	111.251	0.242	350.4	0.2740	0.0000	OK
15 minute summer	S14AL	10	112.197	0.094	40.5	0.1062	0.0000	OK
15 minute summer	S14A	11	110.260	0.258	393.7	0.2922	0.0000	OK
15 minute summer	S15L	10	110.250	0.079	30.9	0.0895	0.0000	OK
15 minute summer	S15	11	109.440	0.307	421.3	0.3475	0.0000	OK
480 minute summer	HW1	480	109.370	0.516	90.6	0.0000	0.0000	OK
15 minute summer	S16	10	112.270	0.050	11.8	0.0562	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	32.2	2.267	0.321	1.0029	
15 minute summer	S2	1.001	S3	46.0	1.505	0.309	1.2330	
15 minute summer	S3	1.002	S4	65.8	1.755	0.554	1.8119	
15 minute summer	S4L	2.000	S4	30.7	1.744	1.733	0.1750	
15 minute summer	S4	1.003	S5	112.6	3.016	0.288	1.6296	
15 minute summer	S5L	3.000	S5	24.6	1.396	1.388	0.1529	
15 minute summer	S5	1.004	S6	149.2	3.580	0.470	1.3222	
15 minute summer	S6	1.005	S7	162.1	2.470	0.572	2.2387	
15 minute summer	S7L	4.000	S7	31.2	3.237	0.562	0.0984	
15 minute summer	S7	1.006	S8	204.7	2.864	0.722	2.1496	
15 minute summer	S8L	5.000	S8	14.7	2.140	0.358	0.0671	
15 minute summer	S8	1.007	S9	227.8	3.484	0.322	2.3298	
15 minute summer	S9	1.008	S12	246.8	3.296	0.478	3.3618	
15 minute summer	S11	6.000	S12	24.6	1.665	0.048	0.3350	
15 minute summer	S12L	7.000	S12	36.8	2.269	0.384	0.1639	
15 minute summer	S12	1.009	S13	309.4	3.094	0.326	2.6842	
15 minute summer	S13	1.010	S14	322.5	3.114	0.331	5.9725	
15 minute summer	S14L	8.000	S14	21.3	2.983	0.377	0.0483	
15 minute summer	S14	1.011	S14A	348.9	3.136	0.358	5.6002	
15 minute summer	S14AL	44.000	S14A	40.3	3.485	0.712	0.1910	
15 minute summer	S14A	1.012	S15	391.8	3.001	0.402	5.6777	
15 minute summer	S15L	9.000	S15	30.8	3.278	0.544	0.0553	
15 minute summer	S15	1.013	HW1	419.1	3.938	0.544	2.5418	
480 minute summer	HW1	Flow through pond	HW3	89.3	0.055	0.004	455.5104	
15 minute summer	S16	10.000	S17	11.6	1.797	0.107	0.2645	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.765	0.183	39.5	0.2070	0.0000	OK
15 minute summer	S17	10	110.428	0.121	63.0	0.1363	0.0000	OK
15 minute summer	S18L	10	110.024	0.198	30.9	0.2245	0.0000	SURCHARGED
15 minute summer	S18	11	109.787	0.212	93.3	0.2395	0.0000	OK
480 minute summer	HW2	480	109.376	0.472	14.6	0.0000	0.0000	OK
480 minute summer	HW3	480	109.370	0.516	89.3	0.0000	0.0000	OK
600 minute summer	S19	600	109.383	0.551	35.3	3.1551	0.0000	SURCHARGED
15 minute summer	HW4	1	108.700	0.000	7.0	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	38.8	1.181	1.034	0.7824	
15 minute summer	S17	10.001	S18	62.6	1.331	0.229	1.8648	
15 minute summer	S18L	12.000	S18	30.8	1.748	1.723	0.0431	
15 minute summer	S18	10.002	HW2	93.1	1.450	0.633	1.3722	
480 minute summer	HW2	Flow through pond	HW3	89.3	0.055	0.004	455.5104	
480 minute summer	HW3	1.014	S19	34.6	0.270	0.102	2.3545	
600 minute summer	S19	Hydro-Brake®	HW4	7.0				286.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.389	0.123	59.8	0.1393	0.0000	OK
15 minute summer	S2	10	122.740	0.159	84.4	0.1803	0.0000	OK
15 minute summer	S3	11	122.110	0.242	120.3	0.2735	0.0000	OK
15 minute summer	S4L	11	122.602	1.035	56.8	1.1711	0.0000	FLOOD RISK
15 minute summer	S4	11	121.432	0.190	204.1	0.2144	0.0000	OK
15 minute summer	S5L	10	120.523	0.625	45.5	0.7064	0.0000	SURCHARGED
15 minute summer	S5	11	119.797	0.212	270.2	0.2397	0.0000	OK
15 minute summer	S6	11	117.805	0.788	292.5	0.8912	0.0000	SURCHARGED
15 minute summer	S7L	11	118.015	0.474	56.8	0.5365	0.0000	SURCHARGED
15 minute summer	S7	11	117.068	0.733	364.0	0.8286	0.0000	SURCHARGED
15 minute summer	S8L	10	116.563	0.088	26.9	0.0999	0.0000	OK
15 minute summer	S8	11	115.897	0.239	405.1	0.2706	0.0000	OK
15 minute summer	S9	11	114.272	0.311	438.8	0.3519	0.0000	OK
15 minute summer	S11	10	113.426	0.088	44.9	0.0999	0.0000	OK
15 minute summer	S12L	10	113.525	0.138	67.0	0.1557	0.0000	OK
15 minute summer	S12	11	112.992	0.320	548.7	0.3620	0.0000	OK
15 minute summer	S13	11	112.482	0.320	572.6	0.3624	0.0000	OK
15 minute summer	S14L	10	112.226	0.092	38.9	0.1035	0.0000	OK
15 minute summer	S14	11	111.345	0.335	617.6	0.3794	0.0000	OK
15 minute summer	S14AL	11	113.154	1.051	73.6	1.1890	0.0000	SURCHARGED
15 minute summer	S14A	11	110.363	0.361	692.1	0.4087	0.0000	OK
15 minute summer	S15L	10	110.290	0.119	56.2	0.1343	0.0000	OK
720 minute summer	S15	735	109.810	0.677	87.4	0.7655	0.0000	SURCHARGED
720 minute summer	HW1	735	109.812	0.958	71.0	0.0000	0.0000	OK
15 minute summer	S16	10	112.287	0.067	21.5	0.0761	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	58.7	2.646	0.585	1.5668	
15 minute summer	S2	1.001	S3	83.8	1.709	0.564	1.9691	
15 minute summer	S3	1.002	S4	119.3	1.968	1.006	3.0596	
15 minute summer	S4L	2.000	S4	55.1	3.128	3.109	0.1750	
15 minute summer	S4	1.003	S5	204.4	3.410	0.522	2.6181	
15 minute summer	S5L	3.000	S5	44.3	2.517	2.501	0.1541	
15 minute summer	S5	1.004	S6	269.7	4.028	0.850	1.9668	
15 minute summer	S6	1.005	S7	290.2	2.631	1.024	3.7639	
15 minute summer	S7L	4.000	S7	54.3	3.459	0.979	0.1797	
15 minute summer	S7	1.006	S8	363.3	3.294	1.281	3.2971	
15 minute summer	S8L	5.000	S8	26.8	2.486	0.651	0.1051	
15 minute summer	S8	1.007	S9	404.6	3.984	0.571	3.6059	
15 minute summer	S9	1.008	S12	435.3	3.753	0.843	5.2308	
15 minute summer	S11	6.000	S12	44.7	1.720	0.087	0.7724	
15 minute summer	S12L	7.000	S12	66.8	2.627	0.697	0.2570	
15 minute summer	S12	1.009	S13	548.1	3.583	0.577	4.1052	
15 minute summer	S13	1.010	S14	566.7	3.597	0.581	9.0862	
15 minute summer	S14L	8.000	S14	38.8	3.455	0.685	0.0759	
15 minute summer	S14	1.011	S14A	612.1	3.607	0.628	8.5395	
15 minute summer	S14AL	44.000	S14A	69.2	3.930	1.221	0.2903	
15 minute summer	S14A	1.012	S15	687.7	3.386	0.705	8.7958	
15 minute summer	S15L	9.000	S15	56.0	3.650	0.989	0.0957	
720 minute summer	S15	1.013	HW1	71.0	0.732	0.092	6.2814	
720 minute summer	HW1	Flow through pond	HW3	46.7	0.057	0.002	945.8898	
15 minute summer	S16	10.000	S17	21.2	2.135	0.196	0.4063	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	111.114	0.532	71.8	0.6012	0.0000	SURCHARGED
15 minute summer	S17	10	110.474	0.167	114.9	0.1886	0.0000	OK
15 minute summer	S18L	10	110.209	0.384	56.2	0.4344	0.0000	SURCHARGED
15 minute summer	S18	10	109.899	0.324	170.0	0.3669	0.0000	OK
720 minute summer	HW2	720	109.810	0.905	19.0	0.0000	0.0000	OK
720 minute summer	HW3	720	109.809	0.955	46.7	0.0000	0.0000	SURCHARGED
720 minute summer	S19	720	109.809	0.977	10.7	5.5920	0.0000	SURCHARGED
15 minute summer	HW4	1	108.700	0.000	7.0	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	71.0	1.786	1.890	0.9308	
15 minute summer	S17	10.001	S18	114.3	1.495	0.419	2.9333	
15 minute summer	S18L	12.000	S18	55.7	3.166	3.122	0.0431	
15 minute summer	S18	10.002	HW2	169.3	1.722	1.151	2.0973	
720 minute summer	HW2	Flow through pond	HW3	46.7	0.057	0.002	945.8898	
720 minute summer	HW3	1.014	S19	10.7	0.226	0.031	2.5114	
720 minute summer	S19	Hydro-Brake®	HW4	7.0				341.7

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.397	0.131	65.8	0.1480	0.0000	OK
15 minute summer	S2	10	122.750	0.169	92.9	0.1914	0.0000	OK
15 minute summer	S3	11	122.144	0.276	132.4	0.3119	0.0000	OK
15 minute summer	S4L	11	122.807	1.240	62.5	1.4026	0.0000	FLOOD RISK
15 minute summer	S4	11	121.442	0.200	223.0	0.2260	0.0000	OK
15 minute summer	S5L	10	120.636	0.738	50.0	0.8344	0.0000	SURCHARGED
15 minute summer	S5	12	119.903	0.318	295.5	0.3593	0.0000	SURCHARGED
15 minute summer	S6	11	118.102	1.085	315.7	1.2272	0.0000	SURCHARGED
15 minute summer	S7L	11	118.388	0.847	62.5	0.9581	0.0000	SURCHARGED
15 minute summer	S7	11	117.240	0.905	394.9	1.0230	0.0000	SURCHARGED
15 minute summer	S8L	10	116.569	0.094	29.6	0.1065	0.0000	OK
15 minute summer	S8	11	115.910	0.252	439.9	0.2847	0.0000	OK
15 minute summer	S9	11	114.293	0.332	477.0	0.3756	0.0000	OK
15 minute summer	S11	10	113.431	0.092	49.3	0.1046	0.0000	OK
15 minute summer	S12L	10	113.534	0.147	73.7	0.1662	0.0000	OK
15 minute summer	S12	11	113.009	0.337	599.1	0.3809	0.0000	OK
15 minute summer	S13	11	112.502	0.340	625.6	0.3842	0.0000	OK
15 minute summer	S14L	10	112.232	0.098	42.8	0.1104	0.0000	OK
15 minute summer	S14	11	111.368	0.359	680.4	0.4057	0.0000	OK
15 minute summer	S14AL	11	113.632	1.529	80.9	1.7298	0.0000	SURCHARGED
15 minute summer	S14A	11	110.391	0.389	767.6	0.4404	0.0000	OK
15 minute summer	S15L	11	110.409	0.238	61.8	0.2693	0.0000	SURCHARGED
720 minute summer	S15	735	109.902	0.769	99.3	0.8702	0.0000	SURCHARGED
720 minute summer	HW1	735	109.903	1.049	110.3	0.0000	0.0000	OK
15 minute summer	S16	10	112.291	0.071	23.7	0.0801	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	64.7	2.706	0.644	1.6869	
15 minute summer	S2	1.001	S3	92.3	1.738	0.621	2.1648	
15 minute summer	S3	1.002	S4	130.0	1.954	1.095	3.2581	
15 minute summer	S4L	2.000	S4	60.5	3.435	3.413	0.1750	
15 minute summer	S4	1.003	S5	223.2	3.388	0.570	3.4065	
15 minute summer	S5L	3.000	S5	48.6	2.759	2.742	0.1541	
15 minute summer	S5	1.004	S6	290.6	4.132	0.916	2.2406	
15 minute summer	S6	1.005	S7	313.7	2.845	1.107	3.7639	
15 minute summer	S7L	4.000	S7	58.0	3.513	1.044	0.1797	
15 minute summer	S7	1.006	S8	393.9	3.572	1.389	3.2983	
15 minute summer	S8L	5.000	S8	29.5	2.537	0.716	0.1133	
15 minute summer	S8	1.007	S9	439.3	4.038	0.620	3.8554	
15 minute summer	S9	1.008	S12	474.4	3.800	0.919	5.6176	
15 minute summer	S11	6.000	S12	49.1	1.646	0.095	0.8619	
15 minute summer	S12L	7.000	S12	73.4	2.679	0.767	0.2772	
15 minute summer	S12	1.009	S13	598.6	3.658	0.630	4.3921	
15 minute summer	S13	1.010	S14	624.4	3.670	0.640	9.8110	
15 minute summer	S14L	8.000	S14	42.7	3.524	0.754	0.0818	
15 minute summer	S14	1.011	S14A	680.4	3.684	0.698	9.2924	
15 minute summer	S14AL	44.000	S14A	75.3	4.280	1.330	0.2881	
15 minute summer	S14A	1.012	S15	758.9	3.421	0.778	9.5822	
15 minute summer	S15L	9.000	S15	60.5	3.601	1.069	0.1033	
720 minute summer	S15	1.013	HW1	110.3	0.764	0.143	6.2814	
720 minute summer	HW1	Flow through pond	HW3	89.3	0.063	0.004	1058.9108	
15 minute summer	S16	10.000	S17	23.4	2.195	0.216	0.4359	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	111.208	0.626	78.9	0.7080	0.0000	SURCHARGED
15 minute summer	S17	10	110.483	0.176	126.4	0.1992	0.0000	OK
15 minute summer	S18L	10	110.265	0.440	61.8	0.4971	0.0000	SURCHARGED
15 minute summer	S18	11	109.946	0.371	187.0	0.4197	0.0000	OK
720 minute summer	HW2	735	109.904	1.000	20.7	0.0000	0.0000	OK
720 minute summer	HW3	720	109.901	1.047	89.3	0.0000	0.0000	FLOOD RISK
720 minute summer	S19	720	109.901	1.069	12.6	6.1188	0.0000	FLOOD RISK
15 minute summer	HW4	1	108.700	0.000	7.0	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	78.0	1.960	2.076	0.9355	
15 minute summer	S17	10.001	S18	125.7	1.514	0.461	3.1604	
15 minute summer	S18L	12.000	S18	61.2	3.479	3.431	0.0434	
15 minute summer	S18	10.002	HW2	185.3	1.753	1.260	2.2298	
720 minute summer	HW2	Flow through pond	HW3	89.3	0.063	0.004	1058.9108	
720 minute summer	HW3	1.014	S19	12.6	0.223	0.037	2.5114	
720 minute summer	S19	Hydro-Brake®	HW4	7.0				353.8

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	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.100	5.00	126.691	Manhole	1200	443780.322	292095.366	1.425
S2	0.043	5.00	125.148	Manhole	1200	443811.915	292032.241	2.567
S3	0.061	5.00	124.103	Manhole	1200	443847.263	292013.615	2.235
S4L	0.095	5.00	122.880	Manhole	1200	443855.169	291966.354	1.313
S4	0.052	5.00	122.667	Manhole	1200	443864.955	291968.608	1.425
S5L	0.076	5.00	121.330	Manhole	1200	443866.640	291923.297	1.432
S5	0.038	5.00	121.160	Manhole	1200	443875.005	291926.155	1.575
S6	0.040	5.00	120.009	Manhole	1200	443889.076	291897.617	2.992
S7L	0.095	5.00	119.002	Manhole	1200	443890.159	291863.144	1.461
S7	0.038	5.00	118.789	Manhole	1200	443900.131	291865.333	2.454
S8L	0.045	5.00	117.863	Manhole	1200	443897.260	291833.375	1.388
S8	0.028	5.00	117.728	Manhole	1200	443906.657	291835.975	2.070
S9	0.060	5.00	116.862	Manhole	1200	443917.379	291802.029	2.901
S11	0.075	5.00	114.742	Manhole	1200	443938.369	291741.271	1.404
S12L	0.112	5.00	115.030	Manhole	1200	443926.223	291757.975	1.643
S12	0.011	5.00	114.797	Manhole	1200	443935.833	291761.118	2.125
S13	0.043	5.00	114.526	Manhole	1200	443961.060	291770.273	2.364
S14L	0.065	5.00	115.226	Manhole	1200	444009.992	291792.054	3.092
S14	0.024	5.00	115.228	Manhole	1200	444011.241	291798.692	4.219
S14AL	0.123	5.00	114.800	Manhole	1200	444062.710	291810.324	2.697
S14A	0.019	5.00	113.804	Manhole	1200	444061.337	291793.878	3.802
S15L	0.094	5.00	112.519	Manhole	1200	444098.935	291788.163	2.348
S15	0.000		112.406	Manhole	1200	444104.606	291789.708	3.273
HW1	0.000		111.000	Manhole		444110.468	291768.192	2.146
S16	0.036	5.00	113.645	Manhole	1200	444044.465	291775.704	1.425
S17L	0.120	5.00	112.450	Manhole	1200	444017.898	291738.814	1.868
S17	0.038	5.00	111.732	Manhole	1200	444041.536	291736.382	1.425
S18L	0.094	5.00	111.000	Manhole	1200	444080.688	291732.672	1.175
S18			111.000	Manhole	1200	444080.507	291730.206	1.425
HW2			110.200	Manhole		444101.211	291735.442	1.296
HW3		5.00	110.200	Manhole		444130.785	291715.646	1.346
S19			110.200	Manhole	2700	444136.861	291709.120	1.368
HW4			109.400	Manhole		444140.891	291690.812	0.700

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	70.590	0.600	125.266	122.656	2.610	27.0	225	5.47	50.0
1.001	S2	S3	39.955	0.600	122.581	121.868	0.713	56.0	300	5.78	50.0
1.002	S3	S4	48.359	0.600	121.868	121.317	0.551	87.8	300	6.26	49.4
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	6.47	48.6
3.000	S5L	S5	8.841	0.600	119.898	119.810	0.088	100.5	150	5.15	50.0
1.004	S5	S6	31.818	0.600	119.585	117.017	2.568	12.4	300	6.59	48.2
1.005	S6	S7	34.125	0.600	117.017	116.335	0.682	50.0	375	6.81	47.4
4.000	S7L	S7	10.210	0.600	117.541	116.560	0.981	10.4	150	5.05	50.0
1.006	S7	S8	30.074	0.600	116.335	115.733	0.602	50.0	375	7.00	46.7
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	35.599	0.600	115.658	113.961	1.697	21.0	450	7.14	46.3
1.008	S9	S12	44.881	0.600	113.961	112.822	1.139	39.4	450	7.37	45.6
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	10.111	0.600	113.387	113.047	0.340	29.7	225	5.07	50.0
1.009	S12	S13	26.837	0.600	112.672	112.162	0.510	52.6	600	7.50	45.1
1.010	S13	S14	57.670	0.600	112.162	111.009	1.153	50.0	600	7.78	44.3
8.000	S14L	S14	6.755	0.600	112.134	111.459	0.675	10.0	150	5.04	50.0
1.011	S14	S14A	50.327	0.600	111.009	110.002	1.007	50.0	600	8.02	43.6
44.000	S14AL	S14A	16.503	0.600	112.103	110.452	1.651	10.0	150	5.09	50.0
1.012	S14A	S15	43.469	0.600	110.002	109.133	0.869	50.0	600	8.23	43.0
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	8.37	42.6
10.000	S16	S17	40.850	0.600	112.220	110.457	1.763	23.2	225	5.25	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S1	S2	2.525	100.4	13.6	1.200	2.267	1.200	2.267	0.100	0.0
1.001	S2	S3	2.104	148.7	19.4	2.267	1.935	1.935	2.267	0.143	0.0
1.002	S3	S4	1.679	118.7	27.3	1.935	1.050	1.050	1.935	0.204	0.0
2.000	S4L	S4	1.002	17.7	12.9	1.163	1.050	1.050	1.163	0.095	0.0
1.003	S4	S5	3.543	391.3	46.2	1.050	1.200	1.050	1.200	0.351	0.0
3.000	S5L	S5	1.002	17.7	10.3	1.282	1.200	1.200	1.282	0.076	0.0
1.004	S5	S6	4.490	317.4	60.7	1.275	2.692	1.275	2.692	0.465	0.0
1.005	S6	S7	2.566	283.4	64.9	2.617	2.079	2.079	2.617	0.505	0.0
4.000	S7L	S7	3.141	55.5	12.9	1.311	2.079	1.311	2.079	0.095	0.0
1.006	S7	S8	2.568	283.7	80.8	2.079	1.620	1.620	2.079	0.638	0.0
5.000	S8L	S8	2.330	41.2	6.1	1.238	1.620	1.238	1.620	0.045	0.0
1.007	S8	S9	4.454	708.3	89.2	1.620	2.451	1.620	2.451	0.711	0.0
1.008	S9	S12	3.246	516.2	95.2	2.451	1.525	1.525	2.451	0.771	0.0
6.000	S11	S12	3.249	516.7	10.2	0.954	1.525	0.954	1.525	0.075	0.0
7.000	S12L	S12	2.408	95.7	15.2	1.418	1.525	1.418	1.525	0.112	0.0
1.009	S12	S13	3.362	950.5	118.6	1.525	1.764	1.525	1.764	0.969	0.0
1.010	S13	S14	3.448	975.0	121.5	1.764	3.619	1.764	3.619	1.012	0.0
8.000	S14L	S14	3.203	56.6	8.8	2.942	3.619	2.942	3.619	0.065	0.0
1.011	S14	S14A	3.450	975.4	130.1	3.619	3.202	3.202	3.619	1.101	0.0
44.000	S14AL	S14A	3.205	56.6	16.7	2.547	3.202	2.547	3.202	0.123	0.0
1.012	S14A	S15	3.448	974.9	144.9	3.202	2.673	2.673	3.202	1.243	0.0
9.000	S15L	S15	3.205	56.6	12.7	2.198	2.673	2.198	2.673	0.094	0.0
1.013	S15	HW1	2.725	770.5	154.5	2.673	1.546	1.546	2.673	1.337	0.0
10.000	S16	S17	2.729	108.5	4.9	1.200	1.050	1.050	1.200	0.036	0.0

Pipeline Schedule

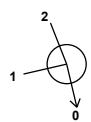
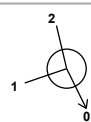
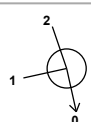
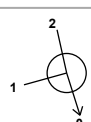
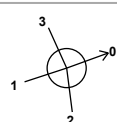
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	10.111	29.7	225	115.030	113.387	1.418	114.797	113.047	1.525
1.009	26.837	52.6	600	114.797	112.672	1.525	114.526	112.162	1.764
1.010	57.670	50.0	600	114.526	112.162	1.764	115.228	111.009	3.619
8.000	6.755	10.0	150	115.226	112.134	2.942	115.228	111.459	3.619
1.011	50.327	50.0	600	115.228	111.009	3.619	113.804	110.002	3.202
44.000	16.503	10.0	150	114.800	112.103	2.547	113.804	110.452	3.202
1.012	43.469	50.0	600	113.804	110.002	3.202	112.406	109.133	2.673
9.000	5.878	10.0	150	112.519	110.171	2.198	112.406	109.583	2.673
1.013	22.300	79.9	600	112.406	109.133	2.673	111.000	108.854	1.546
10.000	40.850	23.2	225	113.645	112.220	1.200	111.732	110.457	1.050
11.000	23.763	190.1	225	112.450	110.582	1.643	111.732	110.457	1.050
10.001	39.457	53.9	375	111.732	110.307	1.050	111.000	109.575	1.050
12.000	2.473	98.9	150	111.000	109.825	1.025	111.000	109.800	1.050
10.002	21.355	184.1	375	111.000	109.575	1.050	110.200	109.459	0.366
1.014	8.916	405.3	600	110.200	108.854	0.746	110.200	108.832	0.768
1.015	18.747	142.0	225	110.200	108.832	1.143	109.400	108.700	0.475

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
7.000	S12L	1200	Manhole	S12	1200	1
1.009	S12	1200	Manhole	S13	1200	1
1.010	S13	1200	Manhole	S14	1200	1
8.000	S14L	1200	Manhole	S14	1200	1
1.011	S14	1200	Manhole	S14A	1200	1
44.000	S14AL	1200	Manhole	S14A	1200	1
1.012	S14A	1200	Manhole	S15	1200	1
9.000	S15L	1200	Manhole	S15	1200	1
1.013	S15	1200	Manhole	HW1		1
10.000	S16	1200	Manhole	S17	1200	1
11.000	S17L	1200	Manhole	S17	1200	1
10.001	S17	1200	Manhole	S18	1200	1
12.000	S18L	1200	Manhole	S18	1200	1
10.002	S18	1200	Manhole	HW2		1
1.014	HW3		Manhole	S19	2700	1
1.015	S19	2700	Manhole	HW4		1

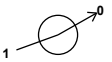
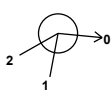
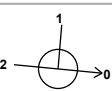
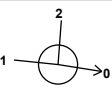
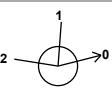
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S1	443780.322	292095.366	126.691	1.425	1200	Manhole		0	1.000	125.266	225
S2	443811.915	292032.241	125.148	2.567	1200	Manhole		1	1.000	122.656	225
S3	443847.263	292013.615	124.103	2.235	1200	Manhole		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)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S4L	443855.169	291966.354	122.880	1.313	1200	Manhole		0	2.000	121.567	150
S4	443864.955	291968.608	122.667	1.425	1200	Manhole		1 2 0	2.000 1.002 1.003	121.467 121.317 121.242	150 300 375
S5L	443866.640	291923.297	121.330	1.432	1200	Manhole		0	3.000	119.898	150
S5	443875.005	291926.155	121.160	1.575	1200	Manhole		1 2 0	3.000 1.003 1.004	119.810 119.585 119.585	150 375 300
S6	443889.076	291897.617	120.009	2.992	1200	Manhole		1 0	1.004 1.005	117.017 117.017	300 375
S7L	443890.159	291863.144	119.002	1.461	1200	Manhole		0	4.000	117.541	150
S7	443900.131	291865.333	118.789	2.454	1200	Manhole		1 2 0	4.000 1.005 1.006	116.560 116.335 116.335	150 375 375
S8L	443897.260	291833.375	117.863	1.388	1200	Manhole		0	5.000	116.475	150
S8	443906.657	291835.975	117.728	2.070	1200	Manhole		1 2 0	5.000 1.006 1.007	115.958 115.733 115.658	150 375 450
S9	443917.379	291802.029	116.862	2.901	1200	Manhole		1 0	1.007 1.008	113.961 113.961	450 450
S11	443938.369	291741.271	114.742	1.404	1200	Manhole		0	6.000	113.338	450
S12L	443926.223	291757.975	115.030	1.643	1200	Manhole		0	7.000	113.387	225
S12	443935.833	291761.118	114.797	2.125	1200	Manhole		1 2 3 0	7.000 6.000 1.008 1.009	113.047 112.822 112.822 112.672	225 450 450 600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S13	443961.060	291770.273	114.526	2.364	1200	Manhole	 1	1.009	112.162	600
							0	1.010	112.162	600
S14L	444009.992	291792.054	115.226	3.092	1200	Manhole	 0	8.000	112.134	150
S14	444011.241	291798.692	115.228	4.219	1200	Manhole	 1	8.000	111.459	150
							2	1.010	111.009	600
							0	1.011	111.009	600
S14AL	444062.710	291810.324	114.800	2.697	1200	Manhole	 0	44.000	112.103	150
S14A	444061.337	291793.878	113.804	3.802	1200	Manhole	 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	Manhole	 0	9.000	110.171	150
S15	444104.606	291789.708	112.406	3.273	1200	Manhole	 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		Manhole	 1	1.013	108.854	600
S16	444044.465	291775.704	113.645	1.425	1200	Manhole	 0	10.000	112.220	225
S17L	444017.898	291738.814	112.450	1.868	1200	Manhole	 0	11.000	110.582	225
S17	444041.536	291736.382	111.732	1.425	1200	Manhole	 2	11.000	110.457	225
							1	10.000	110.457	225
							0	10.001	110.307	375
S18L	444080.688	291732.672	111.000	1.175	1200	Manhole	 0	12.000	109.825	150
S18	444080.507	291730.206	111.000	1.425	1200	Manhole	 1	12.000	109.800	150
							2	10.001	109.575	375
							0	10.002	109.575	375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
HW2	444101.211	291735.442	110.200	1.296		Manhole		1	10.002	109.459	375
HW3	444130.785	291715.646	110.200	1.346		Manhole		0	1.014	108.854	600
S19	444136.861	291709.120	110.200	1.368	2700	Manhole		1	1.014	108.832	600
								0	1.015	108.832	225
HW4	444140.891	291690.812	109.400	0.700		Manhole		1	1.015	108.700	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
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
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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 HW4 Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		

Applies to All storms

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	0.700	135	0.700	270	0.700	405	0.700	540	0.700	675	0.700
15	0.700	150	0.700	285	0.700	420	0.700	555	0.700	690	0.700
30	0.700	165	0.700	300	0.700	435	0.700	570	0.700	705	0.700
45	0.700	180	0.700	315	0.700	450	0.700	585	0.700	720	0.700
60	0.700	195	0.700	330	0.700	465	0.700	600	0.700	735	0.700
75	0.700	210	0.700	345	0.700	480	0.700	615	0.700	750	0.700
90	0.700	225	0.700	360	0.700	495	0.700	630	0.700	765	0.700
105	0.700	240	0.700	375	0.700	510	0.700	645	0.700	780	0.700
120	0.700	255	0.700	390	0.700	525	0.700	660	0.700	795	0.700

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 360 minute summer	56.677	14.585	100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 480 minute summer	43.979	11.622	100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 600 minute summer	35.604	9.738	100 year +40% CC 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.328	0.062	17.3	0.0703	0.0000	OK
15 minute summer	S2	11	122.662	0.081	24.3	0.0915	0.0000	OK
15 minute summer	S3	11	121.977	0.109	34.6	0.1238	0.0000	OK
15 minute summer	S4L	10	121.680	0.113	16.5	0.1280	0.0000	OK
15 minute summer	S4	11	121.339	0.097	58.8	0.1100	0.0000	OK
15 minute summer	S5L	10	119.994	0.096	13.2	0.1083	0.0000	OK
15 minute summer	S5	11	119.686	0.101	78.0	0.1138	0.0000	OK
15 minute summer	S6	11	117.156	0.139	84.7	0.1569	0.0000	OK
15 minute summer	S7L	10	117.597	0.056	16.5	0.0635	0.0000	OK
15 minute summer	S7	11	116.493	0.157	106.9	0.1781	0.0000	OK
15 minute summer	S8L	10	116.519	0.044	7.8	0.0500	0.0000	OK
15 minute summer	S8	11	115.781	0.123	119.1	0.1392	0.0000	OK
15 minute summer	S9	11	114.112	0.151	129.0	0.1707	0.0000	OK
15 minute summer	S11	10	113.387	0.049	13.0	0.0550	0.0000	OK
15 minute summer	S12L	10	113.455	0.068	19.4	0.0773	0.0000	OK
15 minute summer	S12	11	112.836	0.164	161.5	0.1854	0.0000	OK
15 minute summer	S13	11	112.327	0.165	168.6	0.1865	0.0000	OK
15 minute summer	S14L	10	112.180	0.046	11.3	0.0515	0.0000	OK
15 minute summer	S14	11	111.180	0.171	182.6	0.1938	0.0000	OK
15 minute summer	S14AL	10	112.167	0.064	21.3	0.0721	0.0000	OK
15 minute summer	S14A	11	110.184	0.182	204.3	0.2053	0.0000	OK
15 minute summer	S15L	10	110.226	0.055	16.3	0.0624	0.0000	OK
1440 minute summer	S15	1650	109.358	0.225	22.4	0.2542	0.0000	OK
1440 minute summer	HW1	1680	109.358	0.504	23.9	0.0000	0.0000	OK
15 minute summer	S16	10	112.256	0.036	6.2	0.0409	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	16.8	1.893	0.167	0.6277	
15 minute summer	S2	1.001	S3	24.1	1.275	0.162	0.7697	
15 minute summer	S3	1.002	S4	34.4	1.479	0.290	1.1233	
15 minute summer	S4L	2.000	S4	16.3	1.146	0.921	0.1430	
15 minute summer	S4	1.003	S5	58.9	2.543	0.151	1.0117	
15 minute summer	S5L	3.000	S5	13.1	1.104	0.739	0.1048	
15 minute summer	S5	1.004	S6	78.1	2.982	0.246	0.8361	
15 minute summer	S6	1.005	S7	84.8	2.098	0.299	1.3803	
15 minute summer	S7L	4.000	S7	16.4	2.741	0.296	0.0612	
15 minute summer	S7	1.006	S8	107.1	2.441	0.377	1.3193	
15 minute summer	S8L	5.000	S8	7.8	1.792	0.188	0.0422	
15 minute summer	S8	1.007	S9	119.1	2.923	0.168	1.4540	
15 minute summer	S9	1.008	S12	128.6	2.763	0.249	2.0892	
15 minute summer	S11	6.000	S12	12.9	1.405	0.025	0.1860	
15 minute summer	S12L	7.000	S12	19.3	1.901	0.202	0.1027	
15 minute summer	S12	1.009	S13	161.5	2.582	0.170	1.6793	
15 minute summer	S13	1.010	S14	167.8	2.599	0.172	3.7227	
15 minute summer	S14L	8.000	S14	11.3	2.502	0.199	0.0304	
15 minute summer	S14	1.011	S14A	180.8	2.619	0.185	3.4749	
15 minute summer	S14AL	44.000	S14A	21.2	2.979	0.374	0.1175	
15 minute summer	S14A	1.012	S15	202.2	2.489	0.207	3.5365	
15 minute summer	S15L	9.000	S15	16.3	2.773	0.287	0.0345	
1440 minute summer	S15	1.013	HW1	23.9	0.278	0.031	3.8901	
1440 minute summer	HW1	Flow through pond	HW3	-22.0	0.017	-0.001	443.2260	
15 minute summer	S16	10.000	S17	6.1	1.485	0.056	0.1679	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.700	0.118	20.8	0.1330	0.0000	OK
15 minute summer	S17	10	110.394	0.087	33.2	0.0982	0.0000	OK
15 minute summer	S18L	10	109.937	0.112	16.3	0.1262	0.0000	OK
15 minute summer	S18	11	109.722	0.147	49.1	0.1657	0.0000	OK
1440 minute summer	HW2	1680	109.360	0.456	3.6	0.0000	0.0000	OK
1440 minute summer	HW3	1620	109.358	0.504	20.8	0.0000	0.0000	OK
1440 minute summer	S19	1620	109.358	0.526	0.4	3.0104	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	20.5	0.980	0.545	0.4972	
15 minute summer	S17	10.001	S18	32.9	1.133	0.120	1.1660	
15 minute summer	S18L	12.000	S18	16.2	1.153	0.907	0.0347	
15 minute summer	S18	10.002	HW2	49.1	1.231	0.334	0.8523	
1440 minute summer	HW2	Flow through pond	HW3	-22.0	0.017	-0.001	443.2260	
1440 minute summer	HW3	1.014	S19	0.4	0.111	0.001	2.2930	
1440 minute summer	S19	Hydro-Brake®	HW4	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.353	0.087	32.9	0.0988	0.0000	OK
15 minute summer	S2	10	122.694	0.113	46.4	0.1283	0.0000	OK
15 minute summer	S3	11	122.025	0.157	66.1	0.1781	0.0000	OK
15 minute summer	S4L	10	121.920	0.353	31.3	0.3988	0.0000	SURCHARGED
15 minute summer	S4	11	121.378	0.136	112.4	0.1538	0.0000	OK
15 minute summer	S5L	10	120.126	0.227	25.0	0.2573	0.0000	SURCHARGED
15 minute summer	S5	11	119.728	0.143	148.8	0.1621	0.0000	OK
15 minute summer	S6	11	117.217	0.200	161.8	0.2262	0.0000	OK
15 minute summer	S7L	10	117.622	0.081	31.3	0.0913	0.0000	OK
15 minute summer	S7	11	116.567	0.232	203.9	0.2620	0.0000	OK
15 minute summer	S8L	10	116.537	0.062	14.8	0.0703	0.0000	OK
15 minute summer	S8	11	115.831	0.173	227.7	0.1953	0.0000	OK
15 minute summer	S9	11	114.176	0.215	246.6	0.2437	0.0000	OK
15 minute summer	S11	10	113.404	0.066	24.7	0.0746	0.0000	OK
15 minute summer	S12L	10	113.483	0.096	36.9	0.1090	0.0000	OK
15 minute summer	S12	11	112.902	0.230	309.3	0.2603	0.0000	OK
15 minute summer	S13	11	112.394	0.232	322.9	0.2625	0.0000	OK
15 minute summer	S14L	10	112.198	0.064	21.4	0.0724	0.0000	OK
15 minute summer	S14	11	111.251	0.242	350.4	0.2740	0.0000	OK
15 minute summer	S14AL	10	112.197	0.094	40.5	0.1062	0.0000	OK
15 minute summer	S14A	11	110.260	0.258	393.7	0.2922	0.0000	OK
15 minute summer	S15L	10	110.250	0.079	30.9	0.0895	0.0000	OK
1440 minute summer	S15	1050	109.524	0.391	28.3	0.4426	0.0000	OK
1440 minute summer	HW1	1050	109.524	0.670	42.9	0.0000	0.0000	OK
15 minute summer	S16	10	112.270	0.050	11.8	0.0562	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	32.2	2.267	0.321	1.0029	
15 minute summer	S2	1.001	S3	46.0	1.505	0.309	1.2330	
15 minute summer	S3	1.002	S4	65.8	1.755	0.554	1.8119	
15 minute summer	S4L	2.000	S4	30.7	1.744	1.733	0.1750	
15 minute summer	S4	1.003	S5	112.6	3.016	0.288	1.6296	
15 minute summer	S5L	3.000	S5	24.6	1.396	1.388	0.1529	
15 minute summer	S5	1.004	S6	149.2	3.580	0.470	1.3222	
15 minute summer	S6	1.005	S7	162.1	2.470	0.572	2.2387	
15 minute summer	S7L	4.000	S7	31.2	3.237	0.562	0.0984	
15 minute summer	S7	1.006	S8	204.7	2.864	0.722	2.1496	
15 minute summer	S8L	5.000	S8	14.7	2.140	0.358	0.0671	
15 minute summer	S8	1.007	S9	227.8	3.484	0.322	2.3298	
15 minute summer	S9	1.008	S12	246.8	3.296	0.478	3.3618	
15 minute summer	S11	6.000	S12	24.6	1.665	0.048	0.3350	
15 minute summer	S12L	7.000	S12	36.8	2.269	0.384	0.1639	
15 minute summer	S12	1.009	S13	309.4	3.094	0.326	2.6842	
15 minute summer	S13	1.010	S14	322.5	3.114	0.331	5.9725	
15 minute summer	S14L	8.000	S14	21.3	2.983	0.377	0.0483	
15 minute summer	S14	1.011	S14A	348.9	3.136	0.358	5.6002	
15 minute summer	S14AL	44.000	S14A	40.3	3.485	0.712	0.1910	
15 minute summer	S14A	1.012	S15	391.8	3.001	0.402	5.6777	
15 minute summer	S15L	9.000	S15	30.8	3.278	0.544	0.0553	
1440 minute summer	S15	1.013	HW1	42.9	0.344	0.056	5.3111	
1440 minute summer	HW1	Flow through pond	HW3	28.4	0.046	0.001	618.8278	
15 minute summer	S16	10.000	S17	11.6	1.797	0.107	0.2645	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	110.765	0.183	39.5	0.2070	0.0000	OK
15 minute summer	S17	10	110.428	0.121	63.0	0.1363	0.0000	OK
15 minute summer	S18L	10	110.024	0.198	30.9	0.2245	0.0000	SURCHARGED
15 minute summer	S18	11	109.787	0.212	93.3	0.2395	0.0000	OK
1440 minute summer	HW2	1050	109.524	0.620	8.0	0.0000	0.0000	OK
1440 minute summer	HW3	1050	109.524	0.670	28.4	0.0000	0.0000	SURCHARGED
1440 minute summer	S19	1050	109.524	0.692	5.6	3.9621	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	38.8	1.181	1.034	0.7824	
15 minute summer	S17	10.001	S18	62.6	1.331	0.229	1.8648	
15 minute summer	S18L	12.000	S18	30.8	1.748	1.723	0.0431	
15 minute summer	S18	10.002	HW2	93.1	1.450	0.633	1.3722	
1440 minute summer	HW2	Flow through pond	HW3	28.4	0.046	0.001	618.8278	
1440 minute summer	HW3	1.014	S19	5.6	0.020	0.016	2.5114	
1440 minute summer	S19	Hydro-Brake®	HW4	5.6				224.8

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	125.389	0.123	59.8	0.1393	0.0000	OK
15 minute summer	S2	10	122.740	0.159	84.4	0.1803	0.0000	OK
15 minute summer	S3	11	122.110	0.242	120.3	0.2735	0.0000	OK
15 minute summer	S4L	11	122.602	1.035	56.8	1.1711	0.0000	FLOOD RISK
15 minute summer	S4	11	121.432	0.190	204.1	0.2144	0.0000	OK
15 minute summer	S5L	10	120.523	0.625	45.5	0.7064	0.0000	SURCHARGED
15 minute summer	S5	11	119.797	0.212	270.2	0.2397	0.0000	OK
15 minute summer	S6	11	117.805	0.788	292.5	0.8912	0.0000	SURCHARGED
15 minute summer	S7L	11	118.015	0.474	56.8	0.5365	0.0000	SURCHARGED
15 minute summer	S7	11	117.068	0.733	364.0	0.8286	0.0000	SURCHARGED
15 minute summer	S8L	10	116.563	0.088	26.9	0.0999	0.0000	OK
15 minute summer	S8	11	115.897	0.239	405.1	0.2706	0.0000	OK
15 minute summer	S9	11	114.272	0.311	438.8	0.3519	0.0000	OK
15 minute summer	S11	10	113.426	0.088	44.9	0.0999	0.0000	OK
15 minute summer	S12L	10	113.525	0.138	67.0	0.1557	0.0000	OK
15 minute summer	S12	11	112.992	0.320	548.7	0.3620	0.0000	OK
15 minute summer	S13	11	112.482	0.320	572.6	0.3624	0.0000	OK
15 minute summer	S14L	10	112.226	0.092	38.9	0.1035	0.0000	OK
15 minute summer	S14	11	111.345	0.335	617.6	0.3794	0.0000	OK
15 minute summer	S14AL	11	113.154	1.051	73.6	1.1890	0.0000	SURCHARGED
15 minute summer	S14A	11	110.363	0.361	692.1	0.4087	0.0000	OK
15 minute summer	S15L	10	110.290	0.119	56.2	0.1343	0.0000	OK
1440 minute summer	S15	1320	109.922	0.789	53.4	0.8924	0.0000	SURCHARGED
1440 minute summer	HW1	1170	109.920	1.066	49.5	0.0000	0.0000	OK
15 minute summer	S16	10	112.287	0.067	21.5	0.0761	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	58.7	2.646	0.585	1.5668	
15 minute summer	S2	1.001	S3	83.8	1.709	0.564	1.9691	
15 minute summer	S3	1.002	S4	119.3	1.968	1.006	3.0596	
15 minute summer	S4L	2.000	S4	55.1	3.128	3.109	0.1750	
15 minute summer	S4	1.003	S5	204.4	3.410	0.522	2.6181	
15 minute summer	S5L	3.000	S5	44.3	2.517	2.501	0.1541	
15 minute summer	S5	1.004	S6	269.7	4.028	0.850	1.9668	
15 minute summer	S6	1.005	S7	290.2	2.631	1.024	3.7639	
15 minute summer	S7L	4.000	S7	54.3	3.459	0.979	0.1797	
15 minute summer	S7	1.006	S8	363.3	3.294	1.281	3.2971	
15 minute summer	S8L	5.000	S8	26.8	2.486	0.651	0.1051	
15 minute summer	S8	1.007	S9	404.6	3.984	0.571	3.6059	
15 minute summer	S9	1.008	S12	435.3	3.753	0.843	5.2308	
15 minute summer	S11	6.000	S12	44.7	1.720	0.087	0.7724	
15 minute summer	S12L	7.000	S12	66.8	2.627	0.697	0.2570	
15 minute summer	S12	1.009	S13	548.1	3.583	0.577	4.1052	
15 minute summer	S13	1.010	S14	566.7	3.597	0.581	9.0862	
15 minute summer	S14L	8.000	S14	38.8	3.455	0.685	0.0759	
15 minute summer	S14	1.011	S14A	612.1	3.607	0.628	8.5395	
15 minute summer	S14AL	44.000	S14A	69.2	3.930	1.221	0.2903	
15 minute summer	S14A	1.012	S15	687.7	3.386	0.705	8.7958	
15 minute summer	S15L	9.000	S15	56.0	3.650	0.989	0.0957	
1440 minute summer	S15	1.013	HW1	49.5	0.489	0.064	6.2814	
1440 minute summer	HW1	Flow through pond	HW3	-44.9	0.036	-0.002	1081.2928	
15 minute summer	S16	10.000	S17	21.2	2.135	0.196	0.4063	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S17L	10	111.114	0.532	71.8	0.6012	0.0000	SURCHARGED
15 minute summer	S17	10	110.474	0.167	114.9	0.1886	0.0000	OK
15 minute summer	S18L	10	110.209	0.384	56.2	0.4344	0.0000	SURCHARGED
1440 minute summer	S18	1260	109.921	0.346	10.8	0.3908	0.0000	OK
1440 minute summer	HW2	1260	109.924	1.020	10.8	0.0000	0.0000	OK
1440 minute summer	HW3	1230	109.919	1.065	36.8	0.0000	0.0000	FLOOD RISK
1440 minute summer	S19	1230	109.919	1.087	7.2	6.2222	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	71.0	1.786	1.890	0.9308	
15 minute summer	S17	10.001	S18	114.3	1.495	0.419	2.9333	
15 minute summer	S18L	12.000	S18	55.7	3.166	3.122	0.0431	
1440 minute summer	S18	10.002	HW2	10.8	0.795	0.073	2.3121	
1440 minute summer	HW2	Flow through pond	HW3	-44.9	0.036	-0.002	1081.2928	
1440 minute summer	HW3	1.014	S19	7.2	0.201	0.021	2.5114	
1440 minute summer	S19	Hydro-Brake®	HW4	7.0				395.2

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN		File: Adoptable Drainage Network 2.p Network: SW Network 2 Jon Davey July 2024			Page 1 FW2285 Burbage Field Farm Network 2																																																																																																																																																																																																																																																																																																																																																																																												
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<table><tr><th>Name</th><th>Area (ha)</th><th>T of E (mins)</th><th>Cover Level (m)</th><th>Node Type</th><th>Diameter (mm)</th><th>Easting (m)</th><th>Northing (m)</th><th>Depth (m)</th></tr><tr><td>S20L</td><td>0.096</td><td>5.00</td><td>118.050</td><td>Manhole</td><td>1200</td><td>443733.375</td><td>291579.662</td><td>1.942</td></tr><tr><td>S20</td><td>0.055</td><td>5.00</td><td>117.871</td><td>Manhole</td><td>1500</td><td>443732.941</td><td>291562.390</td><td>2.627</td></tr><tr><td>S20-1</td><td>0.041</td><td>5.00</td><td>117.331</td><td>Manhole</td><td>1500</td><td>443761.515</td><td>291557.676</td><td>2.242</td></tr><tr><td>S21La</td><td>0.063</td><td>5.00</td><td>117.280</td><td>Manhole</td><td>1200</td><td>443779.275</td><td>291519.489</td><td>1.644</td></tr><tr><td>S21Lb</td><td>0.016</td><td>5.00</td><td>117.262</td><td>Manhole</td><td>1200</td><td>443788.793</td><td>291517.177</td><td>1.646</td></tr><tr><td>S21</td><td>0.030</td><td>5.00</td><td>117.286</td><td>Manhole</td><td>1500</td><td>443784.452</td><td>291518.651</td><td>2.005</td></tr><tr><td>S22Lb</td><td>0.089</td><td>5.00</td><td>117.400</td><td>Manhole</td><td>1200</td><td>443790.843</td><td>291559.937</td><td>2.070</td></tr><tr><td>S22La</td><td>0.043</td><td>5.00</td><td>117.490</td><td>Manhole</td><td>1200</td><td>443781.363</td><td>291550.151</td><td>2.185</td></tr><tr><td>S22</td><td>0.012</td><td>5.00</td><td>117.331</td><td>Manhole</td><td>1500</td><td>443790.088</td><td>291552.962</td><td>2.398</td></tr><tr><td>S23L</td><td>0.108</td><td>5.00</td><td>117.642</td><td>Manhole</td><td>1200</td><td>443822.239</td><td>291606.954</td><td>1.659</td></tr><tr><td>S23</td><td>0.043</td><td>5.00</td><td>117.763</td><td>Manhole</td><td>1200</td><td>443827.290</td><td>291604.948</td><td>2.306</td></tr><tr><td>S24L</td><td>0.039</td><td>5.00</td><td>117.800</td><td>Manhole</td><td>1200</td><td>443828.381</td><td>291580.361</td><td>2.317</td></tr><tr><td>S24</td><td>0.022</td><td>5.00</td><td>117.836</td><td>Manhole</td><td>1200</td><td>443818.334</td><td>291574.570</td><td>2.726</td></tr><tr><td>S25</td><td>0.027</td><td>5.00</td><td>117.627</td><td>Manhole</td><td>1500</td><td>443814.665</td><td>291548.978</td><td>2.895</td></tr><tr><td>S26L</td><td>0.067</td><td>5.00</td><td>117.490</td><td>Manhole</td><td>1200</td><td>443835.771</td><td>291540.759</td><td>2.373</td></tr><tr><td>S26</td><td>0.031</td><td>5.00</td><td>117.358</td><td>Manhole</td><td>1500</td><td>443837.046</td><td>291545.359</td><td>2.943</td></tr><tr><td>S27L</td><td>0.059</td><td>5.00</td><td>117.100</td><td>Manhole</td><td>1200</td><td>443865.956</td><td>291545.642</td><td>1.828</td></tr><tr><td>S27</td><td>0.054</td><td>5.00</td><td>116.932</td><td>Manhole</td><td>1500</td><td>443870.449</td><td>291536.970</td><td>2.862</td></tr><tr><td>S28L</td><td>0.048</td><td>5.00</td><td>116.896</td><td>Manhole</td><td>1200</td><td>443866.251</td><td>291511.974</td><td>2.206</td></tr><tr><td>S28</td><td>0.017</td><td>5.00</td><td>116.646</td><td>Manhole</td><td>1500</td><td>443873.473</td><td>291514.657</td><td>2.951</td></tr><tr><td>S29L</td><td>0.036</td><td>5.00</td><td>116.950</td><td>Manhole</td><td>1200</td><td>443778.867</td><td>291486.594</td><td>1.774</td></tr><tr><td>S29</td><td>0.014</td><td>5.00</td><td>116.911</td><td>Manhole</td><td>1200</td><td>443792.126</td><td>291492.477</td><td>1.868</td></tr><tr><td>S30La</td><td>0.181</td><td>5.00</td><td>117.200</td><td>Manhole</td><td>1200</td><td>443779.089</td><td>291472.233</td><td>1.457</td></tr><tr><td>S30Lb</td><td>0.075</td><td>5.00</td><td>116.880</td><td>Manhole</td><td>1200</td><td>443817.168</td><td>291488.420</td><td>1.064</td></tr><tr><td>S30</td><td>0.046</td><td>5.00</td><td>117.074</td><td>Manhole</td><td>1500</td><td>443797.614</td><td>291479.383</td><td>2.248</td></tr><tr><td>S31</td><td>0.028</td><td>5.00</td><td>117.088</td><td>Manhole</td><td>1500</td><td>443804.732</td><td>291464.277</td><td>2.429</td></tr><tr><td>S32L</td><td>0.105</td><td>5.00</td><td>117.485</td><td>Manhole</td><td>1200</td><td>443836.785</td><td>291473.804</td><td>2.702</td></tr><tr><td>S32</td><td>0.018</td><td>5.00</td><td>117.368</td><td>Manhole</td><td>1500</td><td>443835.019</td><td>291478.489</td><td>3.311</td></tr><tr><td>S33</td><td>0.025</td><td>5.00</td><td>117.038</td><td>Manhole</td><td>1500</td><td>443851.486</td><td>291484.829</td><td>3.202</td></tr><tr><td>S34</td><td>0.031</td><td>5.00</td><td>116.415</td><td>Manhole</td><td>1800</td><td>443880.545</td><td>291501.065</td><td>2.986</td></tr><tr><td>S35</td><td>0.031</td><td>5.00</td><td>116.157</td><td>Manhole</td><td>1500</td><td>443896.046</td><td>291490.017</td><td>2.966</td></tr><tr><td>S36L</td><td>0.093</td><td>5.00</td><td>116.035</td><td>Manhole</td><td>1200</td><td>443920.666</td><td>291479.743</td><td>2.345</td></tr><tr><td>S36</td><td>0.016</td><td>5.00</td><td>115.816</td><td>Manhole</td><td>1500</td><td>443919.537</td><td>291486.928</td><td>3.490</td></tr><tr><td>S37L</td><td>0.144</td><td>5.00</td><td>116.270</td><td>Manhole</td><td>1200</td><td>443936.148</td><td>291410.677</td><td>2.281</td></tr><tr><td>S37</td><td>0.045</td><td>5.00</td><td>116.002</td><td>Manhole</td><td>1500</td><td>443956.457</td><td>291414.527</td><td>2.229</td></tr><tr><td>S38L</td><td>0.073</td><td>5.00</td><td>116.000</td><td>Manhole</td><td>1200</td><td>443980.089</td><td>291422.057</td><td>2.046</td></tr><tr><td>S38</td><td>0.014</td><td>5.00</td><td>115.939</td><td>Manhole</td><td>1500</td><td>443962.456</td><td>291416.547</td><td>2.305</td></tr><tr><td>S39La</td><td>0.051</td><td>5.00</td><td>116.060</td><td>Manhole</td><td>1200</td><td>443943.622</td><td>291454.130</td><td>2.144</td></tr><tr><td>S39Lb</td><td>0.036</td><td>5.00</td><td>116.085</td><td>Manhole</td><td>1200</td><td>443952.661</td><td>291457.010</td><td>2.317</td></tr><tr><td>S39</td><td>0.032</td><td>5.00</td><td>116.079</td><td>Manhole</td><td>1500</td><td>443948.799</td><td>291455.955</td><td>2.862</td></tr><tr><td>S40</td><td>0.060</td><td>5.00</td><td>115.528</td><td>Manhole</td><td>1800</td><td>443936.967</td><td>291492.313</td><td>3.885</td></tr></table>									Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	S20L	0.096	5.00	118.050	Manhole	1200	443733.375	291579.662	1.942	S20	0.055	5.00	117.871	Manhole	1500	443732.941	291562.390	2.627	S20-1	0.041	5.00	117.331	Manhole	1500	443761.515	291557.676	2.242	S21La	0.063	5.00	117.280	Manhole	1200	443779.275	291519.489	1.644	S21Lb	0.016	5.00	117.262	Manhole	1200	443788.793	291517.177	1.646	S21	0.030	5.00	117.286	Manhole	1500	443784.452	291518.651	2.005	S22Lb	0.089	5.00	117.400	Manhole	1200	443790.843	291559.937	2.070	S22La	0.043	5.00	117.490	Manhole	1200	443781.363	291550.151	2.185	S22	0.012	5.00	117.331	Manhole	1500	443790.088	291552.962	2.398	S23L	0.108	5.00	117.642	Manhole	1200	443822.239	291606.954	1.659	S23	0.043	5.00	117.763	Manhole	1200	443827.290	291604.948	2.306	S24L	0.039	5.00	117.800	Manhole	1200	443828.381	291580.361	2.317	S24	0.022	5.00	117.836	Manhole	1200	443818.334	291574.570	2.726	S25	0.027	5.00	117.627	Manhole	1500	443814.665	291548.978	2.895	S26L	0.067	5.00	117.490	Manhole	1200	443835.771	291540.759	2.373	S26	0.031	5.00	117.358	Manhole	1500	443837.046	291545.359	2.943	S27L	0.059	5.00	117.100	Manhole	1200	443865.956	291545.642	1.828	S27	0.054	5.00	116.932	Manhole	1500	443870.449	291536.970	2.862	S28L	0.048	5.00	116.896	Manhole	1200	443866.251	291511.974	2.206	S28	0.017	5.00	116.646	Manhole	1500	443873.473	291514.657	2.951	S29L	0.036	5.00	116.950	Manhole	1200	443778.867	291486.594	1.774	S29	0.014	5.00	116.911	Manhole	1200	443792.126	291492.477	1.868	S30La	0.181	5.00	117.200	Manhole	1200	443779.089	291472.233	1.457	S30Lb	0.075	5.00	116.880	Manhole	1200	443817.168	291488.420	1.064	S30	0.046	5.00	117.074	Manhole	1500	443797.614	291479.383	2.248	S31	0.028	5.00	117.088	Manhole	1500	443804.732	291464.277	2.429	S32L	0.105	5.00	117.485	Manhole	1200	443836.785	291473.804	2.702	S32	0.018	5.00	117.368	Manhole	1500	443835.019	291478.489	3.311	S33	0.025	5.00	117.038	Manhole	1500	443851.486	291484.829	3.202	S34	0.031	5.00	116.415	Manhole	1800	443880.545	291501.065	2.986	S35	0.031	5.00	116.157	Manhole	1500	443896.046	291490.017	2.966	S36L	0.093	5.00	116.035	Manhole	1200	443920.666	291479.743	2.345	S36	0.016	5.00	115.816	Manhole	1500	443919.537	291486.928	3.490	S37L	0.144	5.00	116.270	Manhole	1200	443936.148	291410.677	2.281	S37	0.045	5.00	116.002	Manhole	1500	443956.457	291414.527	2.229	S38L	0.073	5.00	116.000	Manhole	1200	443980.089	291422.057	2.046	S38	0.014	5.00	115.939	Manhole	1500	443962.456	291416.547	2.305	S39La	0.051	5.00	116.060	Manhole	1200	443943.622	291454.130	2.144	S39Lb	0.036	5.00	116.085	Manhole	1200	443952.661	291457.010	2.317	S39	0.032	5.00	116.079	Manhole	1500	443948.799	291455.955	2.862	S40	0.060	5.00	115.528	Manhole	1800	443936.967	291492.313	3.885
Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)																																																																																																																																																																																																																																																																																																																																																																																										
S20L	0.096	5.00	118.050	Manhole	1200	443733.375	291579.662	1.942																																																																																																																																																																																																																																																																																																																																																																																										
S20	0.055	5.00	117.871	Manhole	1500	443732.941	291562.390	2.627																																																																																																																																																																																																																																																																																																																																																																																										
S20-1	0.041	5.00	117.331	Manhole	1500	443761.515	291557.676	2.242																																																																																																																																																																																																																																																																																																																																																																																										
S21La	0.063	5.00	117.280	Manhole	1200	443779.275	291519.489	1.644																																																																																																																																																																																																																																																																																																																																																																																										
S21Lb	0.016	5.00	117.262	Manhole	1200	443788.793	291517.177	1.646																																																																																																																																																																																																																																																																																																																																																																																										
S21	0.030	5.00	117.286	Manhole	1500	443784.452	291518.651	2.005																																																																																																																																																																																																																																																																																																																																																																																										
S22Lb	0.089	5.00	117.400	Manhole	1200	443790.843	291559.937	2.070																																																																																																																																																																																																																																																																																																																																																																																										
S22La	0.043	5.00	117.490	Manhole	1200	443781.363	291550.151	2.185																																																																																																																																																																																																																																																																																																																																																																																										
S22	0.012	5.00	117.331	Manhole	1500	443790.088	291552.962	2.398																																																																																																																																																																																																																																																																																																																																																																																										
S23L	0.108	5.00	117.642	Manhole	1200	443822.239	291606.954	1.659																																																																																																																																																																																																																																																																																																																																																																																										
S23	0.043	5.00	117.763	Manhole	1200	443827.290	291604.948	2.306																																																																																																																																																																																																																																																																																																																																																																																										
S24L	0.039	5.00	117.800	Manhole	1200	443828.381	291580.361	2.317																																																																																																																																																																																																																																																																																																																																																																																										
S24	0.022	5.00	117.836	Manhole	1200	443818.334	291574.570	2.726																																																																																																																																																																																																																																																																																																																																																																																										
S25	0.027	5.00	117.627	Manhole	1500	443814.665	291548.978	2.895																																																																																																																																																																																																																																																																																																																																																																																										
S26L	0.067	5.00	117.490	Manhole	1200	443835.771	291540.759	2.373																																																																																																																																																																																																																																																																																																																																																																																										
S26	0.031	5.00	117.358	Manhole	1500	443837.046	291545.359	2.943																																																																																																																																																																																																																																																																																																																																																																																										
S27L	0.059	5.00	117.100	Manhole	1200	443865.956	291545.642	1.828																																																																																																																																																																																																																																																																																																																																																																																										
S27	0.054	5.00	116.932	Manhole	1500	443870.449	291536.970	2.862																																																																																																																																																																																																																																																																																																																																																																																										
S28L	0.048	5.00	116.896	Manhole	1200	443866.251	291511.974	2.206																																																																																																																																																																																																																																																																																																																																																																																										
S28	0.017	5.00	116.646	Manhole	1500	443873.473	291514.657	2.951																																																																																																																																																																																																																																																																																																																																																																																										
S29L	0.036	5.00	116.950	Manhole	1200	443778.867	291486.594	1.774																																																																																																																																																																																																																																																																																																																																																																																										
S29	0.014	5.00	116.911	Manhole	1200	443792.126	291492.477	1.868																																																																																																																																																																																																																																																																																																																																																																																										
S30La	0.181	5.00	117.200	Manhole	1200	443779.089	291472.233	1.457																																																																																																																																																																																																																																																																																																																																																																																										
S30Lb	0.075	5.00	116.880	Manhole	1200	443817.168	291488.420	1.064																																																																																																																																																																																																																																																																																																																																																																																										
S30	0.046	5.00	117.074	Manhole	1500	443797.614	291479.383	2.248																																																																																																																																																																																																																																																																																																																																																																																										
S31	0.028	5.00	117.088	Manhole	1500	443804.732	291464.277	2.429																																																																																																																																																																																																																																																																																																																																																																																										
S32L	0.105	5.00	117.485	Manhole	1200	443836.785	291473.804	2.702																																																																																																																																																																																																																																																																																																																																																																																										
S32	0.018	5.00	117.368	Manhole	1500	443835.019	291478.489	3.311																																																																																																																																																																																																																																																																																																																																																																																										
S33	0.025	5.00	117.038	Manhole	1500	443851.486	291484.829	3.202																																																																																																																																																																																																																																																																																																																																																																																										
S34	0.031	5.00	116.415	Manhole	1800	443880.545	291501.065	2.986																																																																																																																																																																																																																																																																																																																																																																																										
S35	0.031	5.00	116.157	Manhole	1500	443896.046	291490.017	2.966																																																																																																																																																																																																																																																																																																																																																																																										
S36L	0.093	5.00	116.035	Manhole	1200	443920.666	291479.743	2.345																																																																																																																																																																																																																																																																																																																																																																																										
S36	0.016	5.00	115.816	Manhole	1500	443919.537	291486.928	3.490																																																																																																																																																																																																																																																																																																																																																																																										
S37L	0.144	5.00	116.270	Manhole	1200	443936.148	291410.677	2.281																																																																																																																																																																																																																																																																																																																																																																																										
S37	0.045	5.00	116.002	Manhole	1500	443956.457	291414.527	2.229																																																																																																																																																																																																																																																																																																																																																																																										
S38L	0.073	5.00	116.000	Manhole	1200	443980.089	291422.057	2.046																																																																																																																																																																																																																																																																																																																																																																																										
S38	0.014	5.00	115.939	Manhole	1500	443962.456	291416.547	2.305																																																																																																																																																																																																																																																																																																																																																																																										
S39La	0.051	5.00	116.060	Manhole	1200	443943.622	291454.130	2.144																																																																																																																																																																																																																																																																																																																																																																																										
S39Lb	0.036	5.00	116.085	Manhole	1200	443952.661	291457.010	2.317																																																																																																																																																																																																																																																																																																																																																																																										
S39	0.032	5.00	116.079	Manhole	1500	443948.799	291455.955	2.862																																																																																																																																																																																																																																																																																																																																																																																										
S40	0.060	5.00	115.528	Manhole	1800	443936.967	291492.313	3.885																																																																																																																																																																																																																																																																																																																																																																																										
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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S41La	0.120	5.00	115.040	Manhole	1200	443968.311	291516.294	2.372
S41Lb	0.057	5.00	115.044	Manhole	1200	443975.273	291499.962	2.524
S41	0.050	5.00	114.833	Manhole	1800	443972.824	291507.759	3.731
S42La	0.215	5.00	114.136	Manhole	1200	444015.588	291530.233	1.956
S42Lb	0.101	5.00	114.155	Manhole	1200	444020.020	291513.499	2.109
S42	0.031	5.00	113.942	Manhole	1800	444018.565	291521.581	3.318
S43	0.021	5.00	114.031	Manhole	1200	444053.518	291503.522	2.862
S44L	0.198	5.00	113.620	Manhole	1800	444042.718	291537.421	2.753
S44	0.026	5.00	113.380	Manhole	1800	444046.213	291526.845	3.225
S45	0.022	5.00	113.033	Manhole	1800	444065.128	291532.942	3.077
S46L	0.132	5.00	112.900	Manhole	1200	444086.341	291539.566	2.381
S46	0.023	5.00	112.686	Manhole	1800	444080.870	291544.415	2.973
S47L	0.058	5.00	117.070	Manhole	1200	443884.230	291600.704	2.611
S47	0.073	5.00	116.846	Manhole	1800	443894.371	291597.505	2.568
S48L	0.000	5.00	116.240	Manhole	1200	443895.036	291634.825	1.720
S48	0.024	5.00	115.969	Manhole	1200	443905.812	291633.399	2.068
S49L	0.245	5.00	115.795	Manhole	1200	443908.595	291654.145	1.889
S49	0.013	5.00	115.553	Manhole	1200	443916.433	291647.285	1.827
S50	0.051	5.00	115.179	Manhole	1500	443924.387	291692.392	1.292
S51	0.040	5.00	115.200	Manhole	1500	443925.446	291676.490	1.472
S52	0.016	5.00	115.288	Manhole	1500	443929.752	291659.028	1.816
S53	0.020	5.00	115.655	Manhole	1500	443950.409	291640.307	2.462
S54L	0.043	5.00	115.742	Manhole	1200	443967.124	291639.883	2.083
S54	0.021	5.00	115.655	Manhole	1500	443966.632	291634.596	2.634
S54AL	0.080	5.00	113.962	Manhole	1200	443987.860	291683.145	1.355
S54A	0.068	5.00	113.831	Manhole	1500	443993.232	291682.789	1.714
S54B	0.041	5.00	114.791	Manhole	1500	443991.065	291632.693	3.145
S55La	0.081	5.00	114.400	Manhole	1200	444015.384	291638.573	2.896
S55Lb	0.082	5.00	114.400	Manhole	1200	444014.478	291620.844	2.722
S55	0.052	5.00	114.066	Manhole	1500	444019.822	291630.453	3.862
S56L	0.095	5.00	113.400	Manhole	1200	444060.124	291636.503	2.347
S56	0.023	5.00	112.973	Manhole	1500	444062.200	291627.854	3.194
S57L	0.103	5.00	112.800	Manhole	1200	444083.653	291622.557	2.781
S57	0.026	5.00	112.566	Manhole	1500	444076.774	291619.291	3.073
S58L	0.079	5.00	112.110	Manhole	1200	444081.447	291584.691	2.326
S58	0.053	5.00	111.935	Manhole	1500	444091.916	291584.485	2.917
S59L	0.085	5.00	112.400	Manhole	1200	444099.362	291565.725	3.072
S59	0.000		112.248	Manhole	1500	444091.570	291566.932	3.449
S60L	0.066	5.00	112.600	Manhole	1200	444078.664	291561.316	2.433
S60	0.032	5.00	112.440	Manhole	1800	444088.501	291555.769	4.086
S61	0.022	5.00	111.587	Manhole	1800	444119.267	291543.174	3.898
S62	0.017	5.00	111.074	Manhole	1800	444140.948	291540.513	3.658
S63La	0.077	5.00	110.756	Manhole	1200	444153.628	291549.997	2.721
S63Lb	0.127	5.00	110.670	Manhole	1200	444158.283	291539.860	2.670
S63	0.028	5.00	110.556	Manhole	1800	444157.041	291543.522	3.345
S64L	0.189	5.00	109.400	Manhole	1200	444183.206	291567.153	1.713
S64	0.014	5.00	109.193	Manhole	1800	444189.306	291560.527	2.346
S65L	0.078	5.00	108.900	Manhole	1200	444198.204	291556.517	0.648
S65	0.047	5.00	108.753	Manhole	1800	444199.987	291564.120	1.919
HW11			108.259	Manhole		444200.122	291579.769	1.442
HW12		5.00	108.259	Manhole		444214.527	291601.442	1.442
S66			108.300	Manhole	2700	444222.278	291604.489	1.492

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
hw13			107.769	Manhole		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

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S20L	S20	2.526	100.4	13.0	1.717	2.177	1.717	2.177	0.096	0.0
1.001	S20	S20-1	1.484	236.0	20.5	2.177	1.792	1.792	2.177	0.151	0.0
1.001-1	S20-1	S22	1.489	236.7	26.0	1.792	1.948	1.792	1.948	0.192	0.0
2.000	S21La	S21	1.029	18.2	8.5	1.494	1.555	1.494	1.555	0.063	0.0
3.000	S21Lb	S21	0.876	15.5	2.2	1.496	1.555	1.496	1.555	0.016	0.0
2.001	S21	S22	2.034	323.4	14.8	1.555	1.948	1.555	1.948	0.109	0.0
4.000	S22Lb	S22	1.183	20.9	12.1	1.920	1.948	1.920	1.948	0.089	0.0
5.000	S22La	S22	0.889	15.7	5.8	2.035	1.948	1.948	2.035	0.043	0.0
1.002	S22	S25	1.825	290.3	60.3	1.948	2.445	1.948	2.445	0.445	0.0
6.000	S23L	S23	3.790	150.7	14.6	1.434	2.006	1.434	2.006	0.108	0.0
6.001	S23	S24	1.456	102.9	20.5	2.006	2.351	2.006	2.351	0.151	0.0
7.000	S24L	S24	1.137	20.1	5.3	2.167	2.351	2.167	2.351	0.039	0.0
6.002	S24	S25	1.965	217.1	28.7	2.351	2.446	2.351	2.446	0.212	0.0
1.003	S25	S26	2.406	382.7	92.3	2.445	2.493	2.445	2.493	0.684	0.0
8.000	S26L	S26	2.939	51.9	9.1	2.223	2.493	2.223	2.493	0.067	0.0
1.004	S26	S27	2.032	323.1	103.3	2.493	2.411	2.411	2.493	0.782	0.0
9.000	S27L	S27	3.079	54.4	8.0	1.678	2.412	1.678	2.412	0.059	0.0
1.005	S27	S28	2.627	417.8	117.0	2.412	2.501	2.412	2.501	0.895	0.0
10.000	S28L	S28	3.043	53.8	6.5	2.056	2.501	2.056	2.501	0.048	0.0
1.006	S28	S34	2.277	362.2	124.4	2.501	2.462	2.462	2.501	0.960	0.0
11.000	S29L	S29	0.631	11.1	4.9	1.624	1.643	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	16.699	0.600	114.826	114.659	0.167	100.0	375	5.80	50.0
11.003	S31	S32	33.456	0.600	114.659	114.057	0.602	55.6	375	6.03	50.0
14.000	S32L	S32	5.007	0.600	114.783	114.282	0.501	10.0	150	5.03	50.0
11.004	S32	S33	17.646	0.600	114.057	113.836	0.221	79.8	375	6.18	49.7
11.005	S33	S34	33.286	0.600	113.836	113.503	0.333	100.0	375	6.48	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	18.243	0.600	112.326	111.718	0.608	30.0	525	6.98	46.8
16.000	S37L	S37	20.671	0.600	113.989	113.773	0.216	95.7	225	5.26	50.0
16.001	S37	S38	6.329	0.600	113.773	113.710	0.063	100.5	225	5.34	50.0
17.000	S38L	S38	18.474	0.600	113.954	113.784	0.170	108.7	150	5.32	50.0
16.002	S38	S39	41.708	0.600	113.634	113.217	0.417	100.0	300	5.78	50.0
18.000	S39La	S39	5.490	0.600	113.916	113.367	0.549	10.0	150	5.03	50.0
19.000	S39Lb	S39	4.003	0.600	113.768	113.368	0.400	10.0	150	5.02	50.0
16.003	S39	S40	38.235	0.600	113.217	111.942	1.275	30.0	300	6.00	50.0
1.010	S40	S41	42.418	0.600	111.643	111.253	0.390	108.8	600	7.28	45.8
20.000	S41La	S41	10.478	0.600	112.668	111.702	0.966	10.8	150	5.06	50.0
21.000	S41Lb	S41	9.155	0.600	112.520	111.703	0.817	11.2	150	5.05	50.0
1.011	S41	S42	44.432	0.600	111.102	110.624	0.478	93.0	750	7.54	45.0
22.000	S42La	S42	9.150	0.600	112.180	111.149	1.031	8.9	225	5.03	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.001	S29	S30	0.894	35.5	6.8	1.643	1.873	1.643	1.873	0.050	0.0
12.000	S30La	S30	2.580	102.6	24.5	1.232	1.872	1.232	1.872	0.181	0.0
13.000	S30Lb	S30	2.592	103.1	10.2	0.839	1.872	0.839	1.872	0.075	0.0
11.002	S30	S31	1.812	200.1	47.7	1.873	2.054	1.873	2.054	0.352	0.0
11.003	S31	S32	2.434	268.9	51.5	2.054	2.936	2.054	2.936	0.380	0.0
14.000	S32L	S32	3.205	56.6	14.2	2.552	2.936	2.552	2.936	0.105	0.0
11.004	S32	S33	2.029	224.1	67.7	2.936	2.827	2.827	2.936	0.503	0.0
11.005	S33	S34	1.812	200.1	69.5	2.827	2.537	2.537	2.827	0.528	0.0
1.007	S34	S35	2.506	542.4	195.0	2.461	2.441	2.441	2.461	1.519	0.0
1.008	S35	S36	4.291	928.9	197.7	2.441	2.965	2.441	2.965	1.550	0.0
15.000	S36L	S36	3.739	66.1	12.6	2.195	2.965	2.195	2.965	0.093	0.0
1.009	S36	S40	4.099	887.4	210.5	2.965	3.285	2.965	3.285	1.659	0.0
16.000	S37L	S37	1.337	53.1	19.5	2.056	2.004	2.004	2.056	0.144	0.0
16.001	S37	S38	1.304	51.9	25.6	2.004	2.004	2.004	2.004	0.189	0.0
17.000	S38L	S38	0.963	17.0	9.9	1.896	2.005	1.896	2.005	0.073	0.0
16.002	S38	S39	1.572	111.1	37.4	2.005	2.562	2.005	2.562	0.276	0.0
18.000	S39La	S39	3.204	56.6	6.9	1.994	2.562	1.994	2.562	0.051	0.0
19.000	S39Lb	S39	3.203	56.6	4.9	2.167	2.561	2.167	2.561	0.036	0.0
16.003	S39	S40	2.881	203.7	53.5	2.562	3.286	2.562	3.286	0.395	0.0
1.010	S40	S41	2.334	660.0	262.6	3.285	2.980	2.980	3.285	2.114	0.0
20.000	S41La	S41	3.076	54.4	16.3	2.222	2.981	2.222	2.981	0.120	0.0
21.000	S41Lb	S41	3.026	53.5	7.7	2.374	2.980	2.374	2.980	0.057	0.0
1.011	S41	S42	2.903	1282.4	285.7	2.981	2.568	2.568	2.981	2.341	0.0
22.000	S42La	S42	4.418	175.7	29.1	1.731	2.568	1.731	2.568	0.215	0.0

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	7.67	44.6
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	7.89	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	13.680	0.600	109.713	108.504	1.209	11.3	750	7.92	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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
23.000	S42Lb	S42	4.350	173.0	13.7	1.884	2.568	1.884	2.568	0.101	0.0
1.012	S42	S44	3.622	1600.3	325.2	2.568	2.475	2.475	2.568	2.688	0.0
24.000	S43	S44	1.839	73.1	2.8	2.637	2.475	2.475	2.637	0.021	0.0
25.000	S44L	S44	1.729	68.7	26.8	2.528	2.475	2.475	2.528	0.198	0.0
1.013	S44	S45	2.796	1235.2	352.0	2.475	2.327	2.327	2.475	2.933	0.0
1.014	S45	S46	3.133	1384.2	352.2	2.326	2.223	2.223	2.326	2.955	0.0
26.000	S46L	S46	3.204	56.6	17.9	2.231	2.748	2.231	2.748	0.132	0.0
1.015	S46	S60	8.344	3686.5	370.0	2.223	3.186	2.223	3.186	3.110	0.0
27.000	S47L	S47	1.305	51.9	7.9	2.386	2.268	2.268	2.386	0.058	0.0
27.001	S47	S48	1.406	99.4	17.8	2.268	1.693	1.693	2.268	0.131	0.0
28.000	S48L	S48	2.729	108.5	0.0	1.495	1.693	1.495	1.693	0.000	0.0
27.002	S48	S49	1.812	200.2	21.0	1.693	1.452	1.452	1.693	0.155	0.0
29.000	S49L	S49	0.696	27.7	33.2	1.664	1.452	1.452	1.664	0.245	0.0
27.003	S49	S52	1.819	200.9	56.0	1.452	1.366	1.366	1.452	0.413	0.0
30.000	S50	S51	2.030	322.9	6.9	0.842	1.022	0.842	1.022	0.051	0.0
30.001	S51	S52	2.428	386.1	12.3	1.022	1.366	1.022	1.366	0.091	0.0
27.004	S52	S53	2.034	323.4	70.2	1.366	2.012	1.366	2.012	0.520	0.0
27.005	S53	S54	2.439	387.8	72.3	1.937	2.184	1.937	2.184	0.540	0.0
31.000	S54L	S54	2.554	45.1	5.8	1.933	2.184	1.933	2.184	0.043	0.0
27.006	S54	S54B	4.561	725.4	80.3	2.184	2.545	2.184	2.545	0.604	0.0
43.000	S54AL	S54A	1.898	33.5	10.8	1.205	1.264	1.205	1.264	0.080	0.0
43.001	S54A	S54B	1.624	258.3	20.1	1.264	2.545	1.264	2.545	0.148	0.0
27.007	S54B	S55	5.460	1543.9	104.7	2.545	3.262	2.545	3.262	0.793	0.0
32.000	S55La	S55	3.071	54.3	11.0	2.746	3.262	2.746	3.262	0.081	0.0

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	11.577	0.600	108.799	108.654	0.145	79.8	600	7.22	46.0
38.000	S60L	S60	11.293	0.600	110.167	109.104	1.063	10.6	150	5.06	50.0
1.016	S60	S61	33.244	0.600	108.354	107.689	0.665	50.0	900	8.04	43.5
1.017	S61	S62	21.844	0.600	107.689	107.416	0.273	80.0	900	8.14	43.2
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	7.319	0.600	108.035	107.962	0.073	100.3	150	5.12	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	8.42	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	11.270	0.600	106.847	106.834	0.013	866.9	900	8.59	42.0
42.000	S65L	S65	7.809	0.600	108.252	107.585	0.667	11.7	150	5.04	50.0
1.021	S65	HW11	15.649	0.600	106.834	106.817	0.017	920.5	900	8.85	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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
33.000	S55Lb	S55	3.092	54.6	11.1	2.572	3.262	2.572	3.262	0.082	0.0
27.008	S55	S56	2.436	688.8	130.3	3.262	2.594	2.594	3.262	1.008	0.0
34.000	S56L	S56	4.184	166.3	12.9	2.122	2.594	2.122	2.594	0.095	0.0
27.009	S56	S57	3.171	896.6	144.6	2.594	2.473	2.473	2.594	1.126	0.0
35.000	S57L	S57	1.846	73.4	14.0	2.556	2.473	2.473	2.556	0.103	0.0
27.010	S57	S58	2.725	770.6	158.5	2.473	2.317	2.317	2.473	1.255	0.0
36.000	S58L	S58	1.754	31.0	10.7	2.176	2.317	2.176	2.317	0.079	0.0
27.011	S58	S59	2.721	769.4	173.9	2.317	2.849	2.317	2.849	1.387	0.0
37.000	S59L	S59	1.006	17.8	11.5	2.922	2.849	2.849	2.922	0.085	0.0
27.012	S59	S60	2.727	770.9	183.6	2.849	3.186	2.849	3.186	1.472	0.0
38.000	S60L	S60	3.108	54.9	8.9	2.283	3.186	2.283	3.186	0.066	0.0
1.016	S60	S61	4.437	2822.4	552.3	3.186	2.998	2.998	3.186	4.680	0.0
1.017	S61	S62	3.504	2229.2	551.2	2.998	2.758	2.758	2.998	4.702	0.0
1.018	S62	S63	3.507	2231.3	550.4	2.758	2.445	2.445	2.758	4.719	0.0
39.000	S63La	S63	1.003	17.7	10.4	2.571	2.444	2.444	2.571	0.077	0.0
40.000	S63Lb	S63	1.009	17.8	17.2	2.520	2.445	2.445	2.520	0.127	0.0
1.019	S63	S64	3.134	1993.9	570.4	2.444	1.446	1.446	2.444	4.951	0.0
41.000	S64L	S64	1.774	70.5	25.6	1.488	1.446	1.446	1.488	0.189	0.0
1.020	S64	S65	1.056	671.6	587.2	1.446	1.019	1.019	1.446	5.154	0.0
42.000	S65L	S65	2.960	52.3	10.6	0.498	1.018	0.498	1.018	0.078	0.0
1.021	S65	HW11	1.024	651.6	592.1	1.019	0.542	0.542	1.019	5.279	0.0
1.022	HW12	S66	1.022	649.9	0.0	0.542	0.592	0.542	0.592	0.000	0.0
1.023	S66	hw13	2.403	1528.9	0.0	0.592	0.144	0.144	0.592	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	118.050	116.108	1.717	117.871	115.469	2.177
1.001	28.960	186.8	450	117.871	115.244	2.177	117.331	115.089	1.792
1.001-1	28.959	185.6	450	117.331	115.089	1.792	117.331	114.933	1.948
2.000	5.244	95.4	150	117.280	115.636	1.494	117.286	115.581	1.555
3.000	4.584	131.0	150	117.262	115.616	1.496	117.286	115.581	1.555
2.001	34.771	99.9	450	117.286	115.281	1.555	117.331	114.933	1.948
4.000	7.016	72.3	150	117.400	115.330	1.920	117.331	115.233	1.948
5.000	9.167	127.3	150	117.490	115.305	2.035	117.331	115.233	1.948
1.002	24.898	123.9	450	117.331	114.933	1.948	117.627	114.732	2.445
6.000	5.435	12.1	225	117.642	115.983	1.434	117.763	115.532	2.006
6.001	31.671	116.4	300	117.763	115.457	2.006	117.836	115.185	2.351
7.000	11.596	78.4	150	117.800	115.483	2.167	117.836	115.335	2.351
6.002	25.854	85.0	375	117.836	115.110	2.351	117.627	114.806	2.446
1.003	22.672	71.5	450	117.627	114.732	2.445	117.358	114.415	2.493
8.000	4.774	11.9	150	117.490	115.117	2.223	117.358	114.715	2.493
1.004	34.440	100.1	450	117.358	114.415	2.493	116.932	114.071	2.411
9.000	9.766	10.8	150	117.100	115.272	1.678	116.932	114.370	2.412
1.005	22.518	60.0	450	116.932	114.070	2.412	116.646	113.695	2.501
10.000	7.704	11.1	150	116.896	114.690	2.056	116.646	113.995	2.501
1.006	15.321	79.8	450	116.646	113.695	2.501	116.415	113.503	2.462
11.000	14.506	250.1	150	116.950	115.176	1.624	116.911	115.118	1.643
11.001	14.198	211.9	225	116.911	115.043	1.643	117.074	114.976	1.873
12.000	19.857	25.9	225	117.200	115.743	1.232	117.074	114.977	1.872
13.000	21.541	25.7	225	116.880	115.816	0.839	117.074	114.977	1.872
11.002	16.699	100.0	375	117.074	114.826	1.873	117.088	114.659	2.054

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

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.003	33.456	55.6	375	117.088	114.659	2.054	117.368	114.057	2.936
14.000	5.007	10.0	150	117.485	114.783	2.552	117.368	114.282	2.936
11.004	17.646	79.8	375	117.368	114.057	2.936	117.038	113.836	2.827
11.005	33.286	100.0	375	117.038	113.836	2.827	116.415	113.503	2.537
1.007	19.035	80.0	525	116.415	113.429	2.461	116.157	113.191	2.441
1.008	23.693	27.4	525	116.157	113.191	2.441	115.816	112.326	2.965
15.000	7.274	7.4	150	116.035	113.690	2.195	115.816	112.701	2.965
1.009	18.243	30.0	525	115.816	112.326	2.965	115.528	111.718	3.285
16.000	20.671	95.7	225	116.270	113.989	2.056	116.002	113.773	2.004
16.001	6.329	100.5	225	116.002	113.773	2.004	115.939	113.710	2.004
17.000	18.474	108.7	150	116.000	113.954	1.896	115.939	113.784	2.005
16.002	41.708	100.0	300	115.939	113.634	2.005	116.079	113.217	2.562
18.000	5.490	10.0	150	116.060	113.916	1.994	116.079	113.367	2.562
19.000	4.003	10.0	150	116.085	113.768	2.167	116.079	113.368	2.561
16.003	38.235	30.0	300	116.079	113.217	2.562	115.528	111.942	3.286
1.010	42.418	108.8	600	115.528	111.643	3.285	114.833	111.253	2.980
20.000	10.478	10.8	150	115.040	112.668	2.222	114.833	111.702	2.981
21.000	9.155	11.2	150	115.044	112.520	2.374	114.833	111.703	2.980
1.011	44.432	93.0	750	114.833	111.102	2.981	113.942	110.624	2.568
22.000	9.150	8.9	225	114.136	112.180	1.731	113.942	111.149	2.568
23.000	8.212	9.2	225	114.155	112.046	1.884	113.942	111.149	2.568
1.012	28.044	59.8	750	113.942	110.624	2.568	113.380	110.155	2.475
24.000	24.836	50.8	225	114.031	111.169	2.637	113.380	110.680	2.475
25.000	10.741	57.4	225	113.620	110.867	2.528	113.380	110.680	2.475
1.013	19.933	100.2	750	113.380	110.155	2.475	113.033	109.956	2.327

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
11.003	S31	1500	Manhole	S32	1500	1
14.000	S32L	1200	Manhole	S32	1500	1
11.004	S32	1500	Manhole	S33	1500	1
11.005	S33	1500	Manhole	S34	1800	1
1.007	S34	1800	Manhole	S35	1500	1
1.008	S35	1500	Manhole	S36	1500	1
15.000	S36L	1200	Manhole	S36	1500	1
1.009	S36	1500	Manhole	S40	1800	1
16.000	S37L	1200	Manhole	S37	1500	1
16.001	S37	1500	Manhole	S38	1500	1
17.000	S38L	1200	Manhole	S38	1500	1
16.002	S38	1500	Manhole	S39	1500	1
18.000	S39La	1200	Manhole	S39	1500	1
19.000	S39Lb	1200	Manhole	S39	1500	1
16.003	S39	1500	Manhole	S40	1800	1
1.010	S40	1800	Manhole	S41	1800	1
20.000	S41La	1200	Manhole	S41	1800	1
21.000	S41Lb	1200	Manhole	S41	1800	1
1.011	S41	1800	Manhole	S42	1800	1
22.000	S42La	1200	Manhole	S42	1800	1
23.000	S42Lb	1200	Manhole	S42	1800	1
1.012	S42	1800	Manhole	S44	1800	1
24.000	S43	1200	Manhole	S44	1800	1
25.000	S44L	1800	Manhole	S44	1800	1
1.013	S44	1800	Manhole	S45	1800	1

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	113.033	109.957	2.326	112.686	109.713	2.223
26.000	7.311	10.0	150	112.900	110.519	2.231	112.686	109.788	2.748
1.015	13.680	11.3	750	112.686	109.713	2.223	112.440	108.504	3.186
27.000	10.634	100.3	225	117.070	114.459	2.386	116.846	114.353	2.268
27.001	37.674	124.7	300	116.846	114.278	2.268	115.969	113.976	1.693
28.000	10.870	23.2	225	116.240	114.520	1.495	115.969	114.051	1.693
27.002	17.482	99.9	375	115.969	113.901	1.693	115.553	113.726	1.452
29.000	10.416	347.2	225	115.795	113.906	1.664	115.553	113.876	1.452
27.003	17.756	99.2	375	115.553	113.726	1.452	115.288	113.547	1.366
30.000	15.937	100.2	450	115.179	113.887	0.842	115.200	113.728	1.022
30.001	17.986	70.3	450	115.200	113.728	1.022	115.288	113.472	1.366
27.004	27.878	99.9	450	115.288	113.472	1.366	115.655	113.193	2.012
27.005	17.199	69.6	450	115.655	113.268	1.937	115.655	113.021	2.184
31.000	5.310	15.7	150	115.742	113.659	1.933	115.655	113.321	2.184
27.006	24.507	20.0	450	115.655	113.021	2.184	114.791	111.796	2.545
43.000	5.384	28.3	150	113.962	112.607	1.205	113.831	112.417	1.264
43.001	50.143	156.2	450	113.831	112.117	1.264	114.791	111.796	2.545
27.007	28.844	20.0	600	114.791	111.646	2.545	114.066	110.204	3.262
32.000	9.253	10.9	150	114.400	111.504	2.746	114.066	110.654	3.262
33.000	10.996	10.7	150	114.400	111.678	2.572	114.066	110.654	3.262
27.008	42.458	99.9	600	114.066	110.204	3.262	112.973	109.779	2.594
34.000	8.895	9.9	225	113.400	111.053	2.122	112.973	110.154	2.594
27.009	16.903	59.1	600	112.973	109.779	2.594	112.566	109.493	2.473
35.000	7.615	50.4	225	112.800	110.019	2.556	112.566	109.868	2.473
27.010	37.958	79.9	600	112.566	109.493	2.473	111.935	109.018	2.317

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.014	S45	1800	Manhole	S46	1800	1
26.000	S46L	1200	Manhole	S46	1800	1
1.015	S46	1800	Manhole	S60	1800	1
27.000	S47L	1200	Manhole	S47	1800	1
27.001	S47	1800	Manhole	S48	1200	1
28.000	S48L	1200	Manhole	S48	1200	1
27.002	S48	1200	Manhole	S49	1200	1
29.000	S49L	1200	Manhole	S49	1200	1
27.003	S49	1200	Manhole	S52	1500	1
30.000	S50	1500	Manhole	S51	1500	1
30.001	S51	1500	Manhole	S52	1500	1
27.004	S52	1500	Manhole	S53	1500	1
27.005	S53	1500	Manhole	S54	1500	1
31.000	S54L	1200	Manhole	S54	1500	1
27.006	S54	1500	Manhole	S54B	1500	1
43.000	S54AL	1200	Manhole	S54A	1500	1
43.001	S54A	1500	Manhole	S54B	1500	1
27.007	S54B	1500	Manhole	S55	1500	1
32.000	S55La	1200	Manhole	S55	1500	1
33.000	S55Lb	1200	Manhole	S55	1500	1
27.008	S55	1500	Manhole	S56	1500	1
34.000	S56L	1200	Manhole	S56	1500	1
27.009	S56	1500	Manhole	S57	1500	1
35.000	S57L	1200	Manhole	S57	1500	1
27.010	S57	1500	Manhole	S58	1500	1

Pipeline Schedule

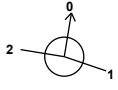
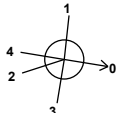
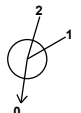
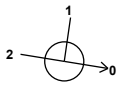
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
36.000	10.471	33.1	150	112.110	109.784	2.176	111.935	109.468	2.317
27.011	17.556	80.2	600	111.935	109.018	2.317	112.248	108.799	2.849
37.000	7.885	99.8	150	112.400	109.328	2.922	112.248	109.249	2.849
27.012	11.577	79.8	600	112.248	108.799	2.849	112.440	108.654	3.186
38.000	11.293	10.6	150	112.600	110.167	2.283	112.440	109.104	3.186
1.016	33.244	50.0	900	112.440	108.354	3.186	111.587	107.689	2.998
1.017	21.844	80.0	900	111.587	107.689	2.998	111.074	107.416	2.758
1.018	16.372	79.9	900	111.074	107.416	2.758	110.556	107.211	2.445
39.000	7.319	100.3	150	110.756	108.035	2.571	110.556	107.962	2.444
40.000	3.867	99.2	150	110.670	108.000	2.520	110.556	107.961	2.445
1.019	36.472	99.9	900	110.556	107.212	2.444	109.193	106.847	1.446
41.000	9.006	54.6	225	109.400	107.687	1.488	109.193	107.522	1.446
1.020	11.270	866.9	900	109.193	106.847	1.446	108.753	106.834	1.019
42.000	7.809	11.7	150	108.900	108.252	0.498	108.753	107.585	1.018
1.021	15.649	920.5	900	108.753	106.834	1.019	108.259	106.817	0.542
1.022	8.328	925.3	900	108.259	106.817	0.542	108.300	106.808	0.592
1.023	14.071	169.5	900	108.300	106.808	0.592	107.769	106.725	0.144

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
36.000	S58L	1200	Manhole	S58	1500	1
27.011	S58	1500	Manhole	S59	1500	1
37.000	S59L	1200	Manhole	S59	1500	1
27.012	S59	1500	Manhole	S60	1800	1
38.000	S60L	1200	Manhole	S60	1800	1
1.016	S60	1800	Manhole	S61	1800	1
1.017	S61	1800	Manhole	S62	1800	1
1.018	S62	1800	Manhole	S63	1800	1
39.000	S63La	1200	Manhole	S63	1800	1
40.000	S63Lb	1200	Manhole	S63	1800	1
1.019	S63	1800	Manhole	S64	1800	1
41.000	S64L	1200	Manhole	S64	1800	1
1.020	S64	1800	Manhole	S65	1800	1
42.000	S65L	1200	Manhole	S65	1800	1
1.021	S65	1800	Manhole	HW11		1
1.022	HW12		Manhole	S66	2700	1
1.023	S66	2700	Manhole	hw13		1

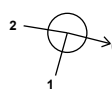
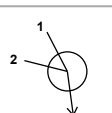
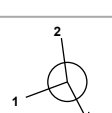
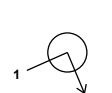
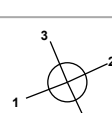
Manhole Schedule

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

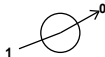
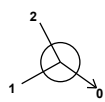
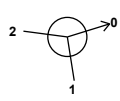
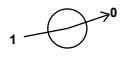
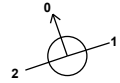
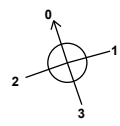
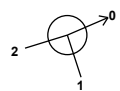
Manhole Schedule

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

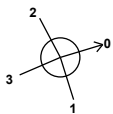
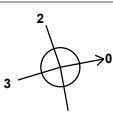
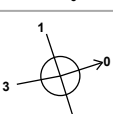
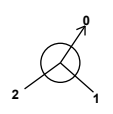
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S26	443837.046	291545.359	117.358	2.943	1500	Manhole		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	Manhole		0	9.000	115.272	150
S27	443870.449	291536.970	116.932	2.862	1500	Manhole		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	Manhole		0	10.000	114.690	150
S28	443873.473	291514.657	116.646	2.951	1500	Manhole		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	Manhole		0	11.000	115.176	150
S29	443792.126	291492.477	116.911	1.868	1200	Manhole		1	11.000	115.118	150
							0	11.001	115.043	225	
S30La	443779.089	291472.233	117.200	1.457	1200	Manhole		0	12.000	115.743	225
S30Lb	443817.168	291488.420	116.880	1.064	1200	Manhole		0	13.000	115.816	225
S30	443797.614	291479.383	117.074	2.248	1500	Manhole		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	443804.732	291464.277	117.088	2.429	1500	Manhole		1	11.002	114.659	375
							0	11.003	114.659	375	
S32L	443836.785	291473.804	117.485	2.702	1200	Manhole		0	14.000	114.783	150
S32	443835.019	291478.489	117.368	3.311	1500	Manhole		1	14.000	114.282	150
							2	11.003	114.057	375	
							0	11.004	114.057	375	

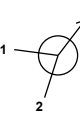
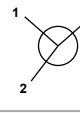
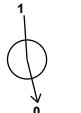
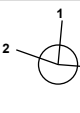
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S33	443851.486	291484.829	117.038	3.202	1500	Manhole		1	11.004	113.836	375
								0	11.005	113.836	375
S34	443880.545	291501.065	116.415	2.986	1800	Manhole		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	Manhole		1	1.007	113.191	525
								0	1.008	113.191	525
S36L	443920.666	291479.743	116.035	2.345	1200	Manhole					
								0	15.000	113.690	150
S36	443919.537	291486.928	115.816	3.490	1500	Manhole		1	15.000	112.701	150
								2	1.008	112.326	525
								0	1.009	112.326	525
S37L	443936.148	291410.677	116.270	2.281	1200	Manhole					
								0	16.000	113.989	225
S37	443956.457	291414.527	116.002	2.229	1500	Manhole		1	16.000	113.773	225
								0	16.001	113.773	225
S38L	443980.089	291422.057	116.000	2.046	1200	Manhole					
								0	17.000	113.954	150
S38	443962.456	291416.547	115.939	2.305	1500	Manhole		1	17.000	113.784	150
								2	16.001	113.710	225
								0	16.002	113.634	300
S39La	443943.622	291454.130	116.060	2.144	1200	Manhole					
								0	18.000	113.916	150
S39Lb	443952.661	291457.010	116.085	2.317	1200	Manhole					
								0	19.000	113.768	150
S39	443948.799	291455.955	116.079	2.862	1500	Manhole		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	443936.967	291492.313	115.528	3.885	1800	Manhole		1	16.003	111.942	300
								2	1.009	111.718	525
								0	1.010	111.643	600

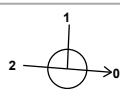
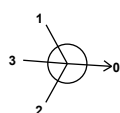
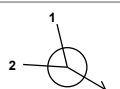
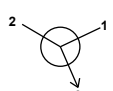
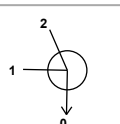
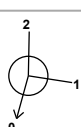
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S41La	443968.311	291516.294	115.040	2.372	1200	Manhole	 0	20.000	112.668	150
S41Lb	443975.273	291499.962	115.044	2.524	1200	Manhole	 0	21.000	112.520	150
S41	443972.824	291507.759	114.833	3.731	1800	Manhole	 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	Manhole	 0	22.000	112.180	225
S42Lb	444020.020	291513.499	114.155	2.109	1200	Manhole	 0	23.000	112.046	225
S42	444018.565	291521.581	113.942	3.318	1800	Manhole	 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	Manhole	 0	24.000	111.169	225
S44L	444042.718	291537.421	113.620	2.753	1800	Manhole	 0	25.000	110.867	225
S44	444046.213	291526.845	113.380	3.225	1800	Manhole	 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	Manhole	 1 0	1.013 1.014	109.956 109.957	750 750
S46L	444086.341	291539.566	112.900	2.381	1200	Manhole	 0	26.000	110.519	150
S46	444080.870	291544.415	112.686	2.973	1800	Manhole	 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	Manhole	 0	27.000	114.459	225

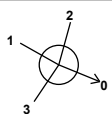
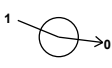
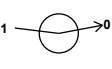
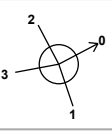
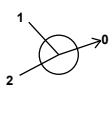
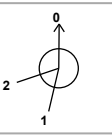
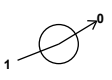
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S47	443894.371	291597.505	116.846	2.568	1800	Manhole	 1	27.000	114.353	225
							0	27.001	114.278	300
S48L	443895.036	291634.825	116.240	1.720	1200	Manhole	 0			
							0	28.000	114.520	225
S48	443905.812	291633.399	115.969	2.068	1200	Manhole	 1 2	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	Manhole	 0			
							0	29.000	113.906	225
S49	443916.433	291647.285	115.553	1.827	1200	Manhole	 1 2	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	Manhole	 0			
							0	30.000	113.887	450
S51	443925.446	291676.490	115.200	1.472	1500	Manhole	 1	1 30.000 113.728 450		
							0	30.001	113.728	450
S52	443929.752	291659.028	115.288	1.816	1500	Manhole	 1 2	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	Manhole	 1	1 27.004 113.193 450		
							0	27.005	113.268	450
S54L	443967.124	291639.883	115.742	2.083	1200	Manhole	 0			
							0	31.000	113.659	150
S54	443966.632	291634.596	115.655	2.634	1500	Manhole	 1 2	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	Manhole	 0			
							0	43.000	112.607	150
S54A	443993.232	291682.789	113.831	1.714	1500	Manhole	 1	1 43.000 112.417 150		
							0	43.001	112.117	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S54B	443991.065	291632.693	114.791	3.145	1500	Manhole		1 43.001 111.796 450 2 27.006 111.796 450 0 27.007 111.646 600		
S55La	444015.384	291638.573	114.400	2.896	1200	Manhole		0 32.000 111.504 150		
S55Lb	444014.478	291620.844	114.400	2.722	1200	Manhole		0 33.000 111.678 150		
S55	444019.822	291630.453	114.066	3.862	1500	Manhole		1 32.000 110.654 150 2 33.000 110.654 150 3 27.007 110.204 600 0 27.008 110.204 600		
S56L	444060.124	291636.503	113.400	2.347	1200	Manhole		0 34.000 111.053 225		
S56	444062.200	291627.854	112.973	3.194	1500	Manhole		1 34.000 110.154 225 2 27.008 109.779 600 0 27.009 109.779 600		
S57L	444083.653	291622.557	112.800	2.781	1200	Manhole		0 35.000 110.019 225		
S57	444076.774	291619.291	112.566	3.073	1500	Manhole		1 35.000 109.868 225 2 27.009 109.493 600 0 27.010 109.493 600		
S58L	444081.447	291584.691	112.110	2.326	1200	Manhole		0 36.000 109.784 150		
S58	444091.916	291584.485	111.935	2.917	1500	Manhole		1 36.000 109.468 150 2 27.010 109.018 600 0 27.011 109.018 600		
S59L	444099.362	291565.725	112.400	3.072	1200	Manhole		0 37.000 109.328 150		
S59	444091.570	291566.932	112.248	3.449	1500	Manhole		1 37.000 109.249 150 2 27.011 108.799 600 0 27.012 108.799 600		
S60L	444078.664	291561.316	112.600	2.433	1200	Manhole		0 38.000 110.167 150		

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S60	444088.501	291555.769	112.440	4.086	1800	Manhole		1 38.000 2 27.012 3 1.015 0 1.016	109.104 108.654 108.504 108.354	150 600 750 900
S61	444119.267	291543.174	111.587	3.898	1800	Manhole		1 1.016 0 1.017	107.689 107.689	900 900
S62	444140.948	291540.513	111.074	3.658	1800	Manhole		1 1.017 0 1.018	107.416 107.416	900 900
S63La	444153.628	291549.997	110.756	2.721	1200	Manhole		0 39.000	108.035	150
S63Lb	444158.283	291539.860	110.670	2.670	1200	Manhole		0 40.000	108.000	150
S63	444157.041	291543.522	110.556	3.345	1800	Manhole		1 40.000 2 39.000 3 1.018 0 1.019	107.961 107.962 107.211 107.212	150 150 900 900
S64L	444183.206	291567.153	109.400	1.713	1200	Manhole		0 41.000	107.687	225
S64	444189.306	291560.527	109.193	2.346	1800	Manhole		1 41.000 2 1.019 0 1.020	107.522 106.847 106.847	225 900 900
S65L	444198.204	291556.517	108.900	0.648	1200	Manhole		0 42.000	108.252	150
S65	444199.987	291564.120	108.753	1.919	1800	Manhole		1 42.000 2 1.020 0 1.021	107.585 106.834 106.834	150 900 900
HW11	444200.122	291579.769	108.259	1.442		Manhole		1 1.021	106.817	900
HW12	444214.527	291601.442	108.259	1.442		Manhole		0 1.022	106.817	900
S66	444222.278	291604.489	108.300	1.492	2700	Manhole		1 1.022 0 1.023	106.808 106.808	900 900

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058
2 year 30 minute summer	91.753	25.963
2 year 60 minute summer	61.301	16.200
2 year 120 minute summer	37.449	9.897
2 year 180 minute summer	28.672	7.378
2 year 240 minute summer	22.636	5.982
2 year 360 minute summer	17.235	4.435
2 year 480 minute summer	13.550	3.581
2 year 600 minute summer	11.088	3.033
2 year 720 minute summer	9.878	2.647
2 year 960 minute summer	8.113	2.136
2 year 1440 minute summer	5.891	1.579
30 year 15 minute summer	268.706	76.035
30 year 30 minute summer	174.929	49.499
30 year 60 minute summer	116.589	30.811
30 year 120 minute summer	70.438	18.615
30 year 180 minute summer	53.298	13.715
30 year 240 minute summer	41.604	10.995
30 year 360 minute summer	31.221	8.034
30 year 480 minute summer	24.324	6.428
30 year 600 minute summer	19.756	5.404
30 year 720 minute summer	17.490	4.687
30 year 960 minute summer	14.215	3.743
30 year 1440 minute summer	10.161	2.723
100 year +40% CC 15 minute summer	488.233	138.153
100 year +40% CC 30 minute summer	320.551	90.705
100 year +40% CC 60 minute summer	214.603	56.713
100 year +40% CC 120 minute summer	129.587	34.246
100 year +40% CC 180 minute summer	97.729	25.149
100 year +40% CC 240 minute summer	75.977	20.078
100 year +40% CC 360 minute summer	56.677	14.585
100 year +40% CC 480 minute summer	43.979	11.622
100 year +40% CC 600 minute summer	35.604	9.738
100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 1440 minute summer	18.055	4.839
100 year +40% CC +10% A 15 minute summer	488.233	138.153
100 year +40% CC +10% A 30 minute summer	320.551	90.705
100 year +40% CC +10% A 60 minute summer	214.603	56.713
100 year +40% CC +10% A 120 minute summer	129.587	34.246
100 year +40% CC +10% A 180 minute summer	97.729	25.149
100 year +40% CC +10% A 240 minute summer	75.977	20.078
100 year +40% CC +10% A 360 minute summer	56.677	14.585
100 year +40% CC +10% A 480 minute summer	43.979	11.622
100 year +40% CC +10% A 600 minute summer	35.604	9.738
100 year +40% CC +10% A 720 minute summer	31.433	8.424
100 year +40% CC +10% A 960 minute summer	25.432	6.697
100 year +40% CC +10% A 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	26.0	0.1749	0.0000	OK
15 minute summer	S20-1	11	115.200	0.111	32.9	0.1957	0.0000	OK
15 minute summer	S21La	10	115.719	0.083	10.9	0.0941	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	18.8	0.1274	0.0000	OK
15 minute summer	S22Lb	10	115.425	0.095	15.4	0.1077	0.0000	OK
15 minute summer	S22La	10	115.377	0.072	7.5	0.0819	0.0000	OK
15 minute summer	S22	11	115.087	0.154	75.4	0.2727	0.0000	OK
15 minute summer	S23L	10	116.036	0.053	18.7	0.0604	0.0000	OK
15 minute summer	S23	10	115.559	0.102	26.2	0.1149	0.0000	OK
15 minute summer	S24L	10	115.543	0.060	6.8	0.0676	0.0000	OK
15 minute summer	S24	10	115.212	0.102	36.3	0.1156	0.0000	OK
15 minute summer	S25	11	114.900	0.168	116.4	0.2962	0.0000	OK
15 minute summer	S26L	10	115.165	0.048	11.6	0.0546	0.0000	OK
15 minute summer	S26	11	114.613	0.198	133.0	0.3497	0.0000	OK
15 minute summer	S27L	10	115.316	0.044	10.2	0.0498	0.0000	OK
15 minute summer	S27	11	114.255	0.185	152.2	0.3263	0.0000	OK
15 minute summer	S28L	10	114.730	0.040	8.3	0.0451	0.0000	OK
15 minute summer	S28	11	113.903	0.208	163.0	0.3673	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	115.828	0.085	31.4	0.0960	0.0000	OK
15 minute summer	S30Lb	10	115.870	0.054	13.0	0.0607	0.0000	OK
15 minute summer	S30	10	114.965	0.139	60.5	0.2458	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	0.1516	
15 minute summer	S20	1.001	S20-1	25.8	0.925	0.109	0.8079	
15 minute summer	S20-1	1.001-1	S22	32.5	0.835	0.137	1.1338	
15 minute summer	S21La	2.000	S21	10.8	1.081	0.595	0.0525	
15 minute summer	S21Lb	3.000	S21	2.8	0.667	0.178	0.0189	
15 minute summer	S21	2.001	S22	18.5	0.597	0.057	1.1174	
15 minute summer	S22Lb	4.000	S22	15.3	1.299	0.731	0.0826	
15 minute summer	S22La	5.000	S22	7.4	0.882	0.472	0.0770	
15 minute summer	S22	1.002	S25	75.8	1.490	0.261	1.2675	
15 minute summer	S23L	6.000	S23	18.7	2.599	0.124	0.0390	
15 minute summer	S23	6.001	S24	25.8	1.232	0.250	0.6634	
15 minute summer	S24L	7.000	S24	6.7	1.030	0.335	0.0758	
15 minute summer	S24	6.002	S25	36.1	1.491	0.166	0.6261	
15 minute summer	S25	1.003	S26	116.7	1.933	0.305	1.3701	
15 minute summer	S26L	8.000	S26	11.6	2.369	0.223	0.0233	
15 minute summer	S26	1.004	S27	133.5	1.990	0.413	2.3107	
15 minute summer	S27L	9.000	S27	10.2	2.363	0.187	0.0420	
15 minute summer	S27	1.005	S28	152.2	2.294	0.364	1.4951	
15 minute summer	S28L	10.000	S28	8.3	2.208	0.154	0.0288	
15 minute summer	S28	1.006	S34	163.0	2.279	0.450	1.0958	
15 minute summer	S29L	11.000	S29	6.1	0.697	0.548	0.1275	
15 minute summer	S29	11.001	S30	8.5	0.745	0.238	0.1612	
15 minute summer	S30La	12.000	S30	31.2	2.283	0.304	0.2714	
15 minute summer	S30Lb	13.000	S30	12.9	1.784	0.125	0.1557	
15 minute summer	S30	11.002	S31	60.2	1.753	0.301	0.5737	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	65.1	0.2181	0.0000	OK
15 minute summer	S32L	10	114.842	0.059	18.2	0.0662	0.0000	OK
15 minute summer	S32	10	114.216	0.159	85.7	0.2803	0.0000	OK
15 minute summer	S33	11	114.010	0.173	89.3	0.3065	0.0000	OK
15 minute summer	S34	11	113.678	0.249	258.1	0.6343	0.0000	OK
15 minute summer	S35	11	113.378	0.187	263.1	0.3311	0.0000	OK
15 minute summer	S36L	10	113.741	0.051	16.1	0.0572	0.0000	OK
15 minute summer	S36	11	112.525	0.199	281.0	0.3514	0.0000	OK
15 minute summer	S37L	10	114.096	0.107	25.0	0.1213	0.0000	OK
15 minute summer	S37	10	113.901	0.128	32.6	0.2256	0.0000	OK
15 minute summer	S38L	10	114.050	0.095	12.7	0.1080	0.0000	OK
15 minute summer	S38	10	113.771	0.137	47.2	0.2418	0.0000	OK
15 minute summer	S39La	10	113.956	0.040	8.8	0.0453	0.0000	OK
15 minute summer	S39Lb	10	113.802	0.034	6.2	0.0380	0.0000	OK
15 minute summer	S39	11	113.335	0.118	67.3	0.2078	0.0000	OK
15 minute summer	S40	11	111.951	0.307	357.9	0.7825	0.0000	OK
15 minute summer	S41La	10	112.732	0.064	20.8	0.0729	0.0000	OK
15 minute summer	S41Lb	10	112.564	0.044	9.9	0.0495	0.0000	OK
15 minute summer	S41	11	111.381	0.279	395.1	0.7095	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	110.889	0.265	452.1	0.6747	0.0000	OK
15 minute summer	S43	10	111.203	0.034	3.6	0.0381	0.0000	OK
15 minute summer	S44L	10	110.978	0.111	34.3	0.2834	0.0000	OK
15 minute summer	S44	11	110.474	0.319	492.2	0.8112	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	64.4	1.702	0.240	1.2691	
15 minute summer	S32L	14.000	S32	18.2	2.858	0.321	0.0318	
15 minute summer	S32	11.004	S33	85.2	1.816	0.380	0.8282	
15 minute summer	S33	11.005	S34	90.0	1.795	0.450	1.6691	
15 minute summer	S34	1.007	S35	258.0	3.040	0.476	1.6186	
15 minute summer	S35	1.008	S36	262.9	3.652	0.283	1.7060	
15 minute summer	S36L	15.000	S36	16.1	3.089	0.243	0.0378	
15 minute summer	S36	1.009	S40	280.7	3.361	0.316	1.5243	
15 minute summer	S37L	16.000	S37	24.8	1.185	0.467	0.4330	
15 minute summer	S37	16.001	S38	32.3	1.391	0.622	0.1468	
15 minute summer	S38L	17.000	S38	12.5	1.060	0.735	0.2180	
15 minute summer	S38	16.002	S39	46.9	1.658	0.422	1.1813	
15 minute summer	S39La	18.000	S39	8.8	2.331	0.155	0.0207	
15 minute summer	S39Lb	19.000	S39	6.2	2.107	0.109	0.0118	
15 minute summer	S39	16.003	S40	67.3	2.629	0.331	0.9791	
15 minute summer	S40	1.010	S41	357.5	2.472	0.542	6.1502	
15 minute summer	S41La	20.000	S41	20.7	2.873	0.381	0.0756	
15 minute summer	S41Lb	21.000	S41	9.9	2.313	0.184	0.0390	
15 minute summer	S41	1.011	S42	394.6	2.740	0.308	6.3983	
15 minute summer	S42La	22.000	S42	37.2	3.534	0.212	0.0964	
15 minute summer	S42Lb	23.000	S42	17.5	2.812	0.101	0.0510	
15 minute summer	S42	1.012	S44	451.3	2.848	0.282	4.4487	
15 minute summer	S43	24.000	S44	3.5	0.959	0.049	0.0919	
15 minute summer	S44L	25.000	S44	34.1	1.742	0.496	0.2100	
15 minute summer	S44	1.013	S45	490.2	2.857	0.397	3.4212	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.257	0.301	493.8	0.7660	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	517.4	0.4719	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	22.7	0.2433	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	113.992	0.091	26.3	0.1027	0.0000	OK
15 minute summer	S49L	10	114.121	0.215	42.5	0.2429	0.0000	OK
15 minute summer	S49	10	113.877	0.151	70.4	0.1705	0.0000	OK
15 minute summer	S50	10	113.937	0.050	8.8	0.0891	0.0000	OK
15 minute summer	S51	10	113.789	0.061	15.6	0.1073	0.0000	OK
15 minute summer	S52	11	113.631	0.159	88.0	0.2802	0.0000	OK
15 minute summer	S53	11	113.417	0.224	92.2	0.3955	0.0000	OK
15 minute summer	S54L	10	113.700	0.041	7.5	0.0468	0.0000	OK
15 minute summer	S54	11	113.134	0.113	103.3	0.2001	0.0000	OK
15 minute summer	S54AL	10	112.674	0.067	13.9	0.0761	0.0000	OK
15 minute summer	S54A	11	112.210	0.093	25.6	0.1643	0.0000	OK
15 minute summer	S54B	11	111.764	0.118	135.3	0.2082	0.0000	OK
15 minute summer	S55La	10	111.556	0.052	14.0	0.0589	0.0000	OK
15 minute summer	S55Lb	10	111.730	0.052	14.2	0.0591	0.0000	OK
15 minute summer	S55	11	110.405	0.201	171.1	0.3543	0.0000	OK
15 minute summer	S56L	10	111.101	0.048	16.5	0.0540	0.0000	OK
15 minute summer	S56	11	109.963	0.184	191.3	0.3259	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	213.1	0.3723	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	491.8	3.992	0.355	2.4241	
15 minute summer	S46L	26.000	S46	22.9	2.816	0.404	0.0774	
15 minute summer	S46	1.015	S60	516.2	6.119	0.140	1.1542	
15 minute summer	S47L	27.000	S47	10.0	1.020	0.193	0.1044	
15 minute summer	S47	27.001	S48	22.3	1.157	0.224	0.7254	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	26.4	0.864	0.132	0.5398	
15 minute summer	S49L	29.000	S49	42.1	1.159	1.521	0.3730	
15 minute summer	S49	27.003	S52	70.2	1.700	0.349	0.7335	
15 minute summer	S50	30.000	S51	8.7	0.780	0.027	0.1785	
15 minute summer	S51	30.001	S52	15.5	0.519	0.040	0.5626	
15 minute summer	S52	27.004	S53	88.9	1.387	0.275	1.7920	
15 minute summer	S53	27.005	S54	92.6	2.418	0.239	0.6615	
15 minute summer	S54L	31.000	S54	7.5	1.893	0.165	0.0209	
15 minute summer	S54	27.006	S54B	103.4	3.315	0.143	0.7649	
15 minute summer	S54AL	43.000	S54A	13.8	1.812	0.413	0.0411	
15 minute summer	S54A	43.001	S54B	25.1	1.061	0.097	1.1849	
15 minute summer	S54B	27.007	S55	135.4	2.266	0.088	1.7507	
15 minute summer	S55La	32.000	S55	14.0	2.577	0.257	0.0501	
15 minute summer	S55Lb	33.000	S55	14.1	2.600	0.259	0.0598	
15 minute summer	S55	27.008	S56	171.7	2.205	0.249	3.3084	
15 minute summer	S56L	34.000	S56	16.4	2.688	0.099	0.0544	
15 minute summer	S56	27.009	S57	191.7	2.374	0.214	1.3661	
15 minute summer	S57L	35.000	S57	17.8	1.535	0.243	0.0883	
15 minute summer	S57	27.010	S58	212.9	2.321	0.276	3.4829	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	234.9	0.3940	0.0000	OK
15 minute summer	S59L	10	109.431	0.103	14.7	0.1167	0.0000	OK
15 minute summer	S59	11	109.028	0.229	249.0	0.4049	0.0000	OK
15 minute summer	S60L	10	110.213	0.046	11.4	0.0525	0.0000	OK
15 minute summer	S60	11	108.667	0.313	781.4	0.7970	0.0000	OK
15 minute summer	S61	11	108.052	0.363	783.3	0.9231	0.0000	OK
15 minute summer	S62	11	107.802	0.386	786.7	0.9811	0.0000	OK
15 minute summer	S63La	10	108.132	0.097	13.4	0.1093	0.0000	OK
15 minute summer	S63Lb	10	108.152	0.152	22.0	0.1724	0.0000	SURCHARGED
15 minute summer	S63	11	107.656	0.445	824.4	1.1315	0.0000	OK
15 minute summer	S64L	10	107.794	0.107	32.8	0.1211	0.0000	OK
15 minute summer	S64	12	107.526	0.679	853.3	1.7288	0.0000	OK
15 minute summer	S65L	10	108.304	0.052	13.5	0.0589	0.0000	OK
15 minute summer	S65	12	107.495	0.661	870.8	1.6829	0.0000	OK
600 minute summer	HW11	435	107.147	0.330	121.0	0.0000	0.0000	OK
600 minute summer	HW12	435	107.147	0.330	95.2	0.0000	0.0000	OK
720 minute summer	S66	510	107.205	0.397	103.6	2.2718	0.0000	OK
15 minute summer	hw13	1	106.725	0.000	16.6	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	13.6	1.703	0.439	0.0838	
15 minute summer	S58	27.011	S59	234.8	2.419	0.305	1.7041	
15 minute summer	S59L	37.000	S59	14.6	1.130	0.821	0.1017	
15 minute summer	S59	27.012	S60	248.9	2.519	0.323	1.1440	
15 minute summer	S60L	38.000	S60	11.4	2.454	0.207	0.0522	
15 minute summer	S60	1.016	S61	779.7	3.591	0.276	7.2325	
15 minute summer	S61	1.017	S62	783.9	3.204	0.352	5.4427	
15 minute summer	S62	1.018	S63	785.6	2.816	0.352	4.6771	
15 minute summer	S63La	39.000	S63	13.3	1.108	0.749	0.0877	
15 minute summer	S63Lb	40.000	S63	21.6	1.254	1.209	0.0659	
15 minute summer	S63	1.019	S64	823.3	2.004	0.413	14.9055	
15 minute summer	S64L	41.000	S64	32.7	1.757	0.463	0.1674	
15 minute summer	S64	1.020	S65	853.6	1.686	1.271	5.7067	
15 minute summer	S65L	42.000	S65	13.5	2.485	0.257	0.0423	
15 minute summer	S65	1.021	HW11	958.3	4.044	1.471	4.1690	
600 minute summer	HW11	Flow through pond	HW12	71.5	0.023	0.004	777.5769	
600 minute summer	HW12	1.022	S66	103.9	0.508	0.160	1.9720	
720 minute summer	S66	Hydro-Brake®	hw13	23.2				873.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	115.382	0.138	49.5	0.2446	0.0000	OK
15 minute summer	S20-1	11	115.243	0.154	62.6	0.2721	0.0000	OK
15 minute summer	S21La	10	115.774	0.138	20.7	0.1562	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	0.099	35.6	0.1748	0.0000	OK
15 minute summer	S22Lb	10	115.570	0.240	29.3	0.2710	0.0000	SURCHARGED
15 minute summer	S22La	10	115.415	0.110	14.2	0.1246	0.0000	OK
15 minute summer	S22	11	115.156	0.223	143.8	0.3935	0.0000	OK
15 minute summer	S23L	10	116.057	0.074	35.5	0.0838	0.0000	OK
15 minute summer	S23	10	115.602	0.145	49.6	0.1635	0.0000	OK
15 minute summer	S24L	10	115.569	0.086	12.8	0.0978	0.0000	OK
15 minute summer	S24	10	115.253	0.143	68.9	0.1614	0.0000	OK
15 minute summer	S25	11	114.977	0.245	220.7	0.4321	0.0000	OK
15 minute summer	S26L	10	115.185	0.068	22.1	0.0774	0.0000	OK
15 minute summer	S26	11	114.709	0.294	253.0	0.5190	0.0000	OK
15 minute summer	S27L	10	115.334	0.062	19.4	0.0701	0.0000	OK
15 minute summer	S27	11	114.343	0.273	290.0	0.4823	0.0000	OK
15 minute summer	S28L	10	114.746	0.056	15.8	0.0631	0.0000	OK
15 minute summer	S28	11	114.008	0.313	310.8	0.5537	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	115.865	0.122	59.6	0.1383	0.0000	OK
15 minute summer	S30Lb	10	115.891	0.075	24.7	0.0843	0.0000	OK
15 minute summer	S30	10	115.026	0.200	114.9	0.3530	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	49.1	1.101	0.208	1.2912	
15 minute summer	S20-1	1.001-1	S22	61.8	0.983	0.261	1.8259	
15 minute summer	S21La	2.000	S21	20.5	1.233	1.128	0.0871	
15 minute summer	S21Lb	3.000	S21	5.2	0.798	0.339	0.0301	
15 minute summer	S21	2.001	S22	35.3	0.695	0.109	1.8057	
15 minute summer	S22Lb	4.000	S22	28.9	1.644	1.384	0.1223	
15 minute summer	S22La	5.000	S22	14.0	1.013	0.893	0.1269	
15 minute summer	S22	1.002	S25	144.4	1.739	0.498	2.0686	
15 minute summer	S23L	6.000	S23	35.4	3.120	0.235	0.0617	
15 minute summer	S23	6.001	S24	49.0	1.464	0.476	1.0616	
15 minute summer	S24L	7.000	S24	12.7	1.209	0.631	0.1216	
15 minute summer	S24	6.002	S25	68.6	1.631	0.316	1.1229	
15 minute summer	S25	1.003	S26	222.2	2.247	0.581	2.2395	
15 minute summer	S26L	8.000	S26	22.0	2.824	0.424	0.0373	
15 minute summer	S26	1.004	S27	254.5	2.322	0.788	3.7753	
15 minute summer	S27L	9.000	S27	19.3	2.822	0.355	0.0669	
15 minute summer	S27	1.005	S28	290.4	2.656	0.695	2.4593	
15 minute summer	S28L	10.000	S28	15.8	2.648	0.293	0.0458	
15 minute summer	S28	1.006	S34	311.2	2.641	0.859	1.8055	
15 minute summer	S29L	11.000	S29	11.6	0.841	1.039	0.1995	
15 minute summer	S29	11.001	S30	16.1	0.890	0.452	0.2564	
15 minute summer	S30La	12.000	S30	59.3	2.695	0.578	0.4367	
15 minute summer	S30Lb	13.000	S30	24.5	2.142	0.238	0.2466	
15 minute summer	S30	11.002	S31	114.4	2.078	0.572	0.9192	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	123.6	0.3094	0.0000	OK
15 minute summer	S32L	10	114.868	0.085	34.6	0.0960	0.0000	OK
15 minute summer	S32	10	114.295	0.237	163.0	0.4197	0.0000	OK
15 minute summer	S33	11	114.101	0.265	169.6	0.4679	0.0000	OK
15 minute summer	S34	11	113.808	0.379	491.9	0.9651	0.0000	OK
15 minute summer	S35	11	113.460	0.269	501.7	0.4748	0.0000	OK
15 minute summer	S36L	10	113.762	0.072	30.6	0.0813	0.0000	OK
15 minute summer	S36	11	112.614	0.288	535.9	0.5082	0.0000	OK
15 minute summer	S37L	10	114.155	0.166	47.4	0.1878	0.0000	OK
15 minute summer	S37	10	113.989	0.216	61.9	0.3808	0.0000	OK
15 minute summer	S38L	11	114.233	0.279	24.0	0.3156	0.0000	SURCHARGED
15 minute summer	S38	11	113.835	0.201	88.5	0.3553	0.0000	OK
15 minute summer	S39La	10	113.972	0.056	16.8	0.0634	0.0000	OK
15 minute summer	S39Lb	10	113.815	0.047	11.8	0.0527	0.0000	OK
15 minute summer	S39	11	113.387	0.170	127.0	0.3000	0.0000	OK
15 minute summer	S40	11	112.139	0.496	681.6	1.2628	0.0000	OK
15 minute summer	S41La	10	112.763	0.095	39.5	0.1074	0.0000	OK
15 minute summer	S41Lb	10	112.582	0.061	18.8	0.0695	0.0000	OK
15 minute summer	S41	11	111.497	0.395	739.3	1.0044	0.0000	OK
15 minute summer	S42La	10	112.279	0.099	70.8	0.1120	0.0000	OK
15 minute summer	S42Lb	10	112.113	0.067	33.2	0.0753	0.0000	OK
15 minute summer	S42	11	111.007	0.383	846.0	0.9746	0.0000	OK
15 minute summer	S43	10	111.215	0.046	6.9	0.0523	0.0000	OK
15 minute summer	S44L	10	111.039	0.172	65.2	0.4375	0.0000	OK
15 minute summer	S44	11	110.623	0.468	928.4	1.1915	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	122.6	1.975	0.456	2.0742	
15 minute summer	S32L	14.000	S32	34.5	3.368	0.610	0.0513	
15 minute summer	S32	11.004	S33	161.6	2.070	0.721	1.3783	
15 minute summer	S33	11.005	S34	171.1	1.969	0.855	2.9837	
15 minute summer	S34	1.007	S35	492.0	3.519	0.907	2.6477	
15 minute summer	S35	1.008	S36	501.6	4.321	0.540	2.7508	
15 minute summer	S36L	15.000	S36	30.5	3.672	0.462	0.0605	
15 minute summer	S36	1.009	S40	535.9	3.526	0.604	2.7979	
15 minute summer	S37L	16.000	S37	47.1	1.312	0.886	0.7294	
15 minute summer	S37	16.001	S38	61.1	1.591	1.179	0.2425	
15 minute summer	S38L	17.000	S38	23.3	1.322	1.366	0.3177	
15 minute summer	S38	16.002	S39	89.0	1.948	0.801	1.9042	
15 minute summer	S39La	18.000	S39	16.8	2.796	0.296	0.0329	
15 minute summer	S39Lb	19.000	S39	11.8	2.533	0.208	0.0186	
15 minute summer	S39	16.003	S40	127.0	3.068	0.624	1.7246	
15 minute summer	S40	1.010	S41	667.8	2.798	1.012	10.8372	
15 minute summer	S41La	20.000	S41	39.4	3.357	0.724	0.1229	
15 minute summer	S41Lb	21.000	S41	18.7	2.763	0.350	0.0621	
15 minute summer	S41	1.011	S42	736.9	3.219	0.575	10.2379	
15 minute summer	S42La	22.000	S42	70.7	4.213	0.402	0.1535	
15 minute summer	S42Lb	23.000	S42	33.1	3.382	0.192	0.0804	
15 minute summer	S42	1.012	S44	850.8	3.310	0.532	7.2223	
15 minute summer	S43	24.000	S44	6.8	1.163	0.093	0.1453	
15 minute summer	S44L	25.000	S44	64.6	1.990	0.940	0.3490	
15 minute summer	S44	1.013	S45	930.0	3.347	0.753	5.5388	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.394	0.438	936.9	1.1138	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	985.3	0.6555	0.0000	OK
15 minute summer	S47L	10	114.553	0.094	19.1	0.1059	0.0000	OK
15 minute summer	S47	10	114.413	0.135	43.0	0.3447	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	10	114.027	0.126	50.1	0.1422	0.0000	OK
15 minute summer	S49L	10	114.343	0.437	80.6	0.4945	0.0000	SURCHARGED
15 minute summer	S49	10	113.946	0.220	134.3	0.2486	0.0000	OK
15 minute summer	S50	10	113.956	0.069	16.8	0.1212	0.0000	OK
15 minute summer	S51	10	113.811	0.083	29.9	0.1470	0.0000	OK
15 minute summer	S52	10	113.703	0.231	167.9	0.4081	0.0000	OK
15 minute summer	S53	11	113.476	0.283	174.3	0.5004	0.0000	OK
15 minute summer	S54L	10	113.717	0.058	14.2	0.0654	0.0000	OK
15 minute summer	S54	11	113.178	0.157	195.3	0.2779	0.0000	OK
15 minute summer	S54AL	10	112.707	0.100	26.3	0.1130	0.0000	OK
15 minute summer	S54A	10	112.246	0.129	48.6	0.2281	0.0000	OK
15 minute summer	S54B	11	111.808	0.162	256.7	0.2867	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	110.487	0.283	324.7	0.5002	0.0000	OK
15 minute summer	S56L	10	111.119	0.066	31.3	0.0746	0.0000	OK
15 minute summer	S56	11	110.042	0.263	363.0	0.4649	0.0000	OK
15 minute summer	S57L	10	110.126	0.107	33.9	0.1207	0.0000	OK
15 minute summer	S57	11	109.795	0.302	405.2	0.5335	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	936.7	4.702	0.677	3.8928	
15 minute summer	S46L	26.000	S46	43.3	3.036	0.765	0.1091	
15 minute summer	S46	1.015	S60	985.1	6.691	0.267	2.0694	
15 minute summer	S47L	27.000	S47	19.0	1.217	0.365	0.1657	
15 minute summer	S47	27.001	S48	42.2	1.378	0.424	1.1592	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	49.8	1.015	0.249	0.8696	
15 minute summer	S49L	29.000	S49	80.2	2.016	2.897	0.4101	
15 minute summer	S49	27.003	S52	133.0	1.996	0.662	1.1883	
15 minute summer	S50	30.000	S51	16.7	0.947	0.052	0.2813	
15 minute summer	S51	30.001	S52	29.6	0.602	0.077	0.9175	
15 minute summer	S52	27.004	S53	168.0	1.803	0.519	2.5968	
15 minute summer	S53	27.005	S54	175.2	2.902	0.452	1.0405	
15 minute summer	S54L	31.000	S54	14.2	2.264	0.314	0.0332	
15 minute summer	S54	27.006	S54B	196.2	3.977	0.270	1.2089	
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	1.8730	
15 minute summer	S54B	27.007	S55	257.1	2.703	0.167	2.7713	
15 minute summer	S55La	32.000	S55	26.6	3.061	0.490	0.0805	
15 minute summer	S55Lb	33.000	S55	26.9	3.085	0.492	0.0959	
15 minute summer	S55	27.008	S56	325.9	2.612	0.473	5.2984	
15 minute summer	S56L	34.000	S56	31.2	3.234	0.188	0.0859	
15 minute summer	S56	27.009	S57	364.5	2.796	0.407	2.2046	
15 minute summer	S57L	35.000	S57	33.8	1.825	0.460	0.1409	
15 minute summer	S57	27.010	S58	407.1	2.740	0.528	5.6393	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	0.1186	0.0000	OK
15 minute summer	S58	11	109.342	0.324	448.6	0.5723	0.0000	OK
15 minute summer	S59L	10	109.590	0.262	28.0	0.2958	0.0000	SURCHARGED
15 minute summer	S59	11	109.132	0.333	478.3	0.5890	0.0000	OK
15 minute summer	S60L	10	110.233	0.066	21.7	0.0742	0.0000	OK
15 minute summer	S60	11	108.810	0.456	1494.2	1.1606	0.0000	OK
15 minute summer	S61	11	108.253	0.564	1502.6	1.4341	0.0000	OK
15 minute summer	S62	11	108.059	0.643	1502.7	1.6365	0.0000	OK
15 minute summer	S63La	10	108.254	0.219	25.3	0.2475	0.0000	SURCHARGED
15 minute summer	S63Lb	10	108.327	0.327	41.8	0.3702	0.0000	SURCHARGED
15 minute summer	S63	11	107.945	0.734	1571.6	1.8669	0.0000	OK
15 minute summer	S64L	11	107.958	0.271	62.2	0.3066	0.0000	SURCHARGED
15 minute summer	S64	13	107.901	1.054	1614.9	2.6828	0.0000	SURCHARGED
15 minute summer	S65L	10	108.326	0.074	25.7	0.0840	0.0000	OK
15 minute summer	S65	12	107.707	0.873	1835.5	2.2216	0.0000	OK
480 minute summer	HW11	464	107.439	0.622	266.1	0.0000	0.0000	OK
480 minute summer	HW12	464	107.439	0.622	340.1	0.0000	0.0000	OK
360 minute summer	S66	368	107.515	0.707	195.6	4.0501	0.0000	OK
15 minute summer	hw13	1	106.725	0.000	23.1	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	1.969	0.833	0.1375	
15 minute summer	S58	27.011	S59	451.3	2.858	0.587	2.7726	
15 minute summer	S59L	37.000	S59	27.6	1.570	1.555	0.1373	
15 minute summer	S59	27.012	S60	478.4	2.979	0.621	1.8592	
15 minute summer	S60L	38.000	S60	21.6	2.928	0.394	0.0834	
15 minute summer	S60	1.016	S61	1495.7	4.077	0.530	12.3012	
15 minute summer	S61	1.017	S62	1497.4	3.492	0.672	9.8563	
15 minute summer	S62	1.018	S63	1498.0	3.079	0.671	8.4982	
15 minute summer	S63La	39.000	S63	25.0	1.421	1.410	0.1267	
15 minute summer	S63Lb	40.000	S63	41.4	2.353	2.323	0.0674	
15 minute summer	S63	1.019	S64	1541.9	2.587	0.773	21.5202	
15 minute summer	S64L	41.000	S64	68.6	1.995	0.973	0.3582	
15 minute summer	S64	1.020	S65	1796.2	2.898	2.674	7.1106	
15 minute summer	S65L	42.000	S65	25.7	2.903	0.491	0.0881	
15 minute summer	S65	1.021	HW11	1836.7	5.326	2.819	5.5314	
480 minute summer	HW11	Flow through pond	HW12	246.7	0.034	0.015	1539.8575	
480 minute summer	HW12	1.022	S66	193.5	0.470	0.298	4.1564	
360 minute summer	S66	Hydro-Brake®	hw13	23.3				655.1

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

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	115.633	0.389	90.0	0.6881	0.0000	OK
15 minute summer	S20-1	12	115.632	0.543	113.7	0.9588	0.0000	SURCHARGED
15 minute summer	S21La	10	115.966	0.330	37.7	0.3734	0.0000	SURCHARGED
15 minute summer	S21Lb	10	115.701	0.085	9.6	0.0959	0.0000	OK
15 minute summer	S21	12	115.640	0.359	64.7	0.6335	0.0000	OK
15 minute summer	S22Lb	11	116.108	0.778	53.2	0.8803	0.0000	SURCHARGED
15 minute summer	S22La	12	115.733	0.428	25.7	0.4837	0.0000	SURCHARGED
15 minute summer	S22	12	115.620	0.687	260.1	1.2140	0.0000	SURCHARGED
15 minute summer	S23L	10	116.085	0.102	64.6	0.1157	0.0000	OK
15 minute summer	S23	10	115.670	0.213	90.2	0.2409	0.0000	OK
15 minute summer	S24L	12	115.714	0.231	23.3	0.2614	0.0000	SURCHARGED
15 minute summer	S24	12	115.573	0.463	124.5	0.5238	0.0000	SURCHARGED
15 minute summer	S25	12	115.513	0.781	346.1	1.3800	0.0000	SURCHARGED
15 minute summer	S26L	12	115.465	0.348	40.1	0.3934	0.0000	SURCHARGED
15 minute summer	S26	12	115.294	0.879	379.5	1.5527	0.0000	SURCHARGED
15 minute summer	S27L	10	115.360	0.088	35.3	0.0994	0.0000	OK
15 minute summer	S27	12	114.866	0.796	422.9	1.4059	0.0000	SURCHARGED
15 minute summer	S28L	11	114.770	0.080	28.7	0.0901	0.0000	OK
15 minute summer	S28	12	114.496	0.801	457.4	1.4149	0.0000	SURCHARGED
15 minute summer	S29L	12	115.752	0.576	21.5	0.6520	0.0000	SURCHARGED
15 minute summer	S29	12	115.593	0.550	29.3	0.6223	0.0000	SURCHARGED
15 minute summer	S30La	11	116.288	0.545	108.2	0.6166	0.0000	SURCHARGED
15 minute summer	S30Lb	10	115.919	0.103	44.9	0.1166	0.0000	OK
15 minute summer	S30	12	115.552	0.726	195.8	1.2834	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	0.4267	
15 minute summer	S20	1.001	S20-1	89.2	1.253	0.378	4.4048	
15 minute summer	S20-1	1.001-1	S22	112.3	1.063	0.474	4.5884	
15 minute summer	S21La	2.000	S21	37.3	2.117	2.049	0.0914	
15 minute summer	S21Lb	3.000	S21	9.5	0.928	0.615	0.0470	
15 minute summer	S21	2.001	S22	64.2	0.770	0.198	5.1089	
15 minute summer	S22Lb	4.000	S22	51.5	2.927	2.463	0.1235	
15 minute summer	S22La	5.000	S22	24.9	1.415	1.586	0.1614	
15 minute summer	S22	1.002	S25	262.4	1.776	0.904	3.9449	
15 minute summer	S23L	6.000	S23	64.5	3.223	0.428	0.1171	
15 minute summer	S23	6.001	S24	89.0	1.669	0.865	1.9445	
15 minute summer	S24L	7.000	S24	22.2	1.281	1.107	0.2041	
15 minute summer	S24	6.002	S25	115.9	1.670	0.534	2.8516	
15 minute summer	S25	1.003	S26	345.9	2.272	0.904	3.5922	
15 minute summer	S26L	8.000	S26	37.9	3.053	0.730	0.0840	
15 minute summer	S26	1.004	S27	369.1	2.569	1.142	5.4568	
15 minute summer	S27L	9.000	S27	35.2	3.193	0.647	0.1383	
15 minute summer	S27	1.005	S28	418.7	2.643	1.002	3.5678	
15 minute summer	S28L	10.000	S28	28.4	2.880	0.529	0.1044	
15 minute summer	S28	1.006	S34	453.2	2.861	1.251	2.4275	
15 minute summer	S29L	11.000	S29	20.9	1.191	1.878	0.2554	
15 minute summer	S29	11.001	S30	34.2	1.006	0.962	0.5647	
15 minute summer	S30La	12.000	S30	104.6	2.854	1.020	0.7897	
15 minute summer	S30Lb	13.000	S30	44.7	2.304	0.434	0.6193	
15 minute summer	S30	11.002	S31	190.0	2.265	0.949	1.8419	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.420	0.761	206.0	1.3442	0.0000	SURCHARGED
15 minute summer	S32L	11	115.609	0.826	62.8	0.9346	0.0000	SURCHARGED
15 minute summer	S32	12	115.103	1.046	261.9	1.8484	0.0000	SURCHARGED
15 minute summer	S33	12	114.811	0.975	272.2	1.7223	0.0000	SURCHARGED
15 minute summer	S34	12	114.201	0.772	733.0	1.9654	0.0000	SURCHARGED
15 minute summer	S35	12	113.770	0.579	745.8	1.0229	0.0000	SURCHARGED
15 minute summer	S36L	11	113.813	0.123	55.6	0.1386	0.0000	OK
15 minute summer	S36	11	113.218	0.892	795.0	1.5767	0.0000	SURCHARGED
15 minute summer	S37L	11	115.334	1.345	86.1	1.5208	0.0000	SURCHARGED
15 minute summer	S37	12	114.910	1.137	104.9	2.0084	0.0000	SURCHARGED
15 minute summer	S38L	12	115.524	1.570	43.7	1.7752	0.0000	SURCHARGED
15 minute summer	S38	12	114.690	1.056	141.4	1.8652	0.0000	SURCHARGED
15 minute summer	S39La	12	114.117	0.201	30.5	0.2270	0.0000	SURCHARGED
15 minute summer	S39Lb	12	114.043	0.275	21.5	0.3113	0.0000	SURCHARGED
15 minute summer	S39	12	114.000	0.783	197.8	1.3838	0.0000	SURCHARGED
15 minute summer	S40	11	112.734	1.091	1026.3	2.7764	0.0000	SURCHARGED
15 minute summer	S41La	11	113.476	0.808	71.8	0.9142	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.607	0.087	34.1	0.0985	0.0000	OK
15 minute summer	S41	11	111.645	0.543	1162.6	1.3825	0.0000	OK
15 minute summer	S42La	10	112.322	0.142	128.6	0.1609	0.0000	OK
15 minute summer	S42Lb	10	112.138	0.091	60.4	0.1034	0.0000	OK
15 minute summer	S42	11	111.192	0.568	1363.7	1.4466	0.0000	OK
15 minute summer	S43	10	111.232	0.063	12.6	0.0709	0.0000	OK
15 minute summer	S44L	10	111.441	0.574	118.4	1.4605	0.0000	SURCHARGED
15 minute summer	S44	11	110.866	0.711	1508.0	1.8093	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	193.9	2.030	0.721	3.6901	
15 minute summer	S32L	14.000	S32	57.7	3.584	1.019	0.0881	
15 minute summer	S32	11.004	S33	257.9	2.338	1.151	1.9463	
15 minute summer	S33	11.005	S34	269.2	2.441	1.345	3.6713	
15 minute summer	S34	1.007	S35	728.6	3.587	1.343	4.1122	
15 minute summer	S35	1.008	S36	755.8	4.410	0.814	5.1185	
15 minute summer	S36L	15.000	S36	54.6	4.150	0.827	0.1200	
15 minute summer	S36	1.009	S40	799.2	3.700	0.901	3.9411	
15 minute summer	S37L	16.000	S37	78.0	1.961	1.468	0.8221	
15 minute summer	S37	16.001	S38	96.8	2.434	1.867	0.2517	
15 minute summer	S38L	17.000	S38	36.6	2.077	2.148	0.3252	
15 minute summer	S38	16.002	S39	139.9	2.011	1.259	2.9370	
15 minute summer	S39La	18.000	S39	29.4	3.198	0.519	0.0967	
15 minute summer	S39Lb	19.000	S39	20.4	2.776	0.360	0.0705	
15 minute summer	S39	16.003	S40	199.1	3.081	0.978	2.6925	
15 minute summer	S40	1.010	S41	1032.4	3.666	1.564	11.8273	
15 minute summer	S41La	20.000	S41	69.1	3.926	1.271	0.1826	
15 minute summer	S41Lb	21.000	S41	34.0	3.210	0.636	0.0969	
15 minute summer	S41	1.011	S42	1165.5	3.499	0.909	15.5437	
15 minute summer	S42La	22.000	S42	128.4	4.865	0.731	0.2415	
15 minute summer	S42Lb	23.000	S42	60.3	3.992	0.349	0.1240	
15 minute summer	S42	1.012	S44	1366.2	3.497	0.854	11.0728	
15 minute summer	S43	24.000	S44	12.5	1.345	0.171	0.5450	
15 minute summer	S44L	25.000	S44	116.1	2.919	1.689	0.4229	
15 minute summer	S44	1.013	S45	1535.5	3.658	1.243	8.3415	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.606	0.650	1548.1	1.6540	0.0000	OK
15 minute summer	S46L	11	111.503	0.984	78.9	1.1128	0.0000	SURCHARGED
15 minute summer	S46	11	110.075	0.362	1611.3	0.9218	0.0000	OK
15 minute summer	S47L	10	114.592	0.133	34.7	0.1506	0.0000	OK
15 minute summer	S47	10	114.474	0.196	78.2	0.4994	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.158	0.257	91.3	0.2903	0.0000	OK
15 minute summer	S49L	11	114.948	1.042	146.5	1.1789	0.0000	SURCHARGED
15 minute summer	S49	11	114.149	0.423	238.9	0.4784	0.0000	SURCHARGED
15 minute summer	S50	10	113.979	0.092	30.5	0.1622	0.0000	OK
15 minute summer	S51	10	113.840	0.112	54.2	0.1977	0.0000	OK
15 minute summer	S52	11	113.815	0.343	300.6	0.6068	0.0000	OK
15 minute summer	S53	11	113.566	0.373	311.3	0.6593	0.0000	OK
15 minute summer	S54L	10	113.740	0.081	25.7	0.0918	0.0000	OK
15 minute summer	S54	11	113.237	0.216	348.0	0.3815	0.0000	OK
15 minute summer	S54AL	10	112.957	0.350	47.8	0.3956	0.0000	SURCHARGED
15 minute summer	S54A	10	112.294	0.177	87.8	0.3124	0.0000	OK
15 minute summer	S54B	11	111.865	0.219	458.6	0.3874	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	0.1256	0.0000	OK
15 minute summer	S55	12	110.623	0.419	583.0	0.7397	0.0000	OK
15 minute summer	S56L	10	111.143	0.090	56.8	0.1021	0.0000	OK
15 minute summer	S56	12	110.422	0.643	645.2	1.1367	0.0000	SURCHARGED
15 minute summer	S57L	12	110.361	0.342	61.6	0.3865	0.0000	SURCHARGED
15 minute summer	S57	12	110.278	0.785	711.8	1.3873	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	1522.5	5.022	1.100	5.9932	
15 minute summer	S46L	26.000	S46	75.7	4.303	1.338	0.1287	
15 minute summer	S46	1.015	S60	1596.8	7.192	0.433	4.4502	
15 minute summer	S47L	27.000	S47	34.5	1.413	0.664	0.2595	
15 minute summer	S47	27.001	S48	76.9	1.588	0.773	1.8335	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.1008	
15 minute summer	S48	27.002	S49	90.6	1.094	0.453	1.6669	
15 minute summer	S49L	29.000	S49	142.9	3.595	5.166	0.4143	
15 minute summer	S49	27.003	S52	239.1	2.168	1.190	1.9203	
15 minute summer	S50	30.000	S51	30.3	1.130	0.094	0.4291	
15 minute summer	S51	30.001	S52	53.9	0.683	0.140	1.4380	
15 minute summer	S52	27.004	S53	299.9	2.216	0.927	3.7682	
15 minute summer	S53	27.005	S54	311.4	3.329	0.803	1.6047	
15 minute summer	S54L	31.000	S54	25.6	2.639	0.568	0.0516	
15 minute summer	S54	27.006	S54B	348.4	4.636	0.480	1.8418	
15 minute summer	S54AL	43.000	S54A	47.1	2.674	1.403	0.0939	
15 minute summer	S54A	43.001	S54B	86.8	1.512	0.336	2.8824	
15 minute summer	S54B	27.007	S55	459.0	3.049	0.297	4.3646	
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	0.894	0.1534	
15 minute summer	S55	27.008	S56	574.7	2.890	0.834	10.4367	
15 minute summer	S56L	34.000	S56	56.7	3.816	0.341	0.2324	
15 minute summer	S56	27.009	S57	634.9	3.006	0.708	4.7612	
15 minute summer	S57L	35.000	S57	61.4	2.089	0.836	0.3029	
15 minute summer	S57	27.010	S58	721.0	2.854	0.936	10.6919	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	11	110.533	0.749	47.2	0.8475	0.0000	SURCHARGED
15 minute summer	S58	12	109.885	0.867	770.0	1.5313	0.0000	SURCHARGED
15 minute summer	S59L	11	110.268	0.940	50.8	1.0632	0.0000	SURCHARGED
15 minute summer	S59	11	109.685	0.886	817.0	1.5650	0.0000	SURCHARGED
15 minute summer	S60L	10	110.261	0.094	39.5	0.1064	0.0000	OK
15 minute summer	S60	11	109.551	1.197	2413.4	3.0463	0.0000	SURCHARGED
15 minute summer	S61	12	109.151	1.462	2408.2	3.7200	0.0000	SURCHARGED
15 minute summer	S62	11	108.854	1.438	2373.3	3.6608	0.0000	SURCHARGED
15 minute summer	S63La	11	109.005	0.970	46.0	1.0970	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.229	1.229	75.9	1.3901	0.0000	SURCHARGED
15 minute summer	S63	11	108.557	1.346	2553.3	3.4264	0.0000	SURCHARGED
15 minute summer	S64L	11	108.411	0.724	113.0	0.8188	0.0000	SURCHARGED
15 minute summer	S64	9	108.216	1.369	2695.5	3.4841	0.0000	SURCHARGED
15 minute summer	S65L	10	108.362	0.110	46.6	0.1246	0.0000	OK
960 minute summer	S65	900	108.018	1.184	359.3	3.0141	0.0000	SURCHARGED
960 minute summer	HW11	960	108.000	1.183	454.1	0.0000	0.0000	OK
720 minute summer	HW12	735	108.002	1.185	921.7	0.0000	0.0000	FLOOD RISK
720 minute summer	S66	735	108.002	1.194	144.8	6.8376	0.0000	FLOOD RISK
15 minute summer	hw13	1	106.725	0.000	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	45.6	2.588	1.470	0.1843	
15 minute summer	S58	27.011	S59	781.6	2.987	1.016	4.9451	
15 minute summer	S59L	37.000	S59	47.6	2.703	2.678	0.1388	
15 minute summer	S59	27.012	S60	823.0	3.148	1.068	3.2610	
15 minute summer	S60L	38.000	S60	39.4	3.337	0.718	0.1651	
15 minute summer	S60	1.016	S61	2395.6	4.128	0.849	21.0692	
15 minute summer	S61	1.017	S62	2363.6	3.730	1.060	13.8442	
15 minute summer	S62	1.018	S63	2439.1	3.849	1.093	10.3761	
15 minute summer	S63La	39.000	S63	41.2	2.338	2.322	0.1288	
15 minute summer	S63Lb	40.000	S63	70.2	3.987	3.936	0.0681	
15 minute summer	S63	1.019	S64	2580.2	4.072	1.294	23.1150	
15 minute summer	S64L	41.000	S64	117.2	2.948	1.662	0.3582	
15 minute summer	S64	1.020	S65	2646.7	4.177	3.941	7.1424	
15 minute summer	S65L	42.000	S65	46.5	3.171	0.889	0.1200	
960 minute summer	S65	1.021	HW11	454.1	1.704	0.697	9.9179	
960 minute summer	HW11	Flow through pond	HW12	795.4	0.035	0.048	3200.0000	
720 minute summer	HW12	1.022	S66	144.8	0.228	0.223	5.2781	
720 minute summer	S66	Hydro-Brake®	hw13	23.3				1003.5

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S20L	12	116.252	0.144	63.2	0.1630	0.0000	OK
15 minute summer	S20	12	116.090	0.846	99.1	1.4954	0.0000	SURCHARGED
15 minute summer	S20-1	12	116.072	0.983	126.7	1.7369	0.0000	SURCHARGED
15 minute summer	S21La	12	116.223	0.587	41.4	0.6635	0.0000	SURCHARGED
15 minute summer	S21Lb	12	116.062	0.446	26.3	0.5041	0.0000	SURCHARGED
15 minute summer	S21	12	116.058	0.777	71.0	1.3723	0.0000	SURCHARGED
15 minute summer	S22Lb	12	116.553	1.223	58.5	1.3829	0.0000	SURCHARGED
15 minute summer	S22La	12	116.177	0.872	28.3	0.9867	0.0000	SURCHARGED
15 minute summer	S22	12	116.045	1.112	258.4	1.9649	0.0000	SURCHARGED
15 minute summer	S23L	12	116.199	0.216	71.0	0.2441	0.0000	OK
15 minute summer	S23	12	116.143	0.686	99.2	0.7756	0.0000	SURCHARGED
15 minute summer	S24L	12	116.140	0.657	25.7	0.7434	0.0000	SURCHARGED
15 minute summer	S24	12	116.001	0.891	135.8	1.0072	0.0000	SURCHARGED
15 minute summer	S25	12	115.933	1.201	378.3	2.1229	0.0000	SURCHARGED
15 minute summer	S26L	12	115.872	0.755	44.1	0.8536	0.0000	SURCHARGED
15 minute summer	S26	12	115.686	1.271	394.0	2.2462	0.0000	SURCHARGED
15 minute summer	S27L	12	115.497	0.225	38.8	0.2550	0.0000	SURCHARGED
15 minute summer	S27	12	115.204	1.134	436.6	2.0031	0.0000	SURCHARGED
15 minute summer	S28L	12	114.941	0.251	31.6	0.2836	0.0000	SURCHARGED
15 minute summer	S28	12	114.787	1.091	468.1	1.9286	0.0000	SURCHARGED
15 minute summer	S29L	12	116.163	0.987	23.7	1.1164	0.0000	SURCHARGED
15 minute summer	S29	12	115.988	0.945	29.4	1.0689	0.0000	SURCHARGED
15 minute summer	S30La	11	116.769	1.026	119.1	1.1602	0.0000	SURCHARGED
15 minute summer	S30Lb	12	116.089	0.273	49.3	0.3090	0.0000	SURCHARGED
15 minute summer	S30	12	115.951	1.125	213.3	1.9874	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	2.690	0.626	0.5755	
15 minute summer	S20	1.001	S20-1	99.7	1.248	0.422	4.5885	
15 minute summer	S20-1	1.001-1	S22	116.2	1.122	0.491	4.5884	
15 minute summer	S21La	2.000	S21	40.9	2.323	2.248	0.0923	
15 minute summer	S21Lb	3.000	S21	-16.3	0.948	-1.054	0.0807	
15 minute summer	S21	2.001	S22	73.5	0.788	0.227	5.5092	
15 minute summer	S22Lb	4.000	S22	56.2	3.193	2.687	0.1235	
15 minute summer	S22La	5.000	S22	27.9	1.587	1.778	0.1614	
15 minute summer	S22	1.002	S25	261.6	2.005	0.901	3.9449	
15 minute summer	S23L	6.000	S23	70.9	3.181	0.471	0.2146	
15 minute summer	S23	6.001	S24	98.2	1.655	0.954	2.2303	
15 minute summer	S24L	7.000	S24	23.2	1.316	1.153	0.2041	
15 minute summer	S24	6.002	S25	122.1	1.662	0.562	2.8516	
15 minute summer	S25	1.003	S26	356.1	2.280	0.931	3.5922	
15 minute summer	S26L	8.000	S26	39.5	3.119	0.761	0.0840	
15 minute summer	S26	1.004	S27	381.4	2.459	1.180	5.4568	
15 minute summer	S27L	9.000	S27	37.8	3.133	0.695	0.1719	
15 minute summer	S27	1.005	S28	435.0	2.746	1.041	3.5678	
15 minute summer	S28L	10.000	S28	31.0	2.951	0.577	0.1356	
15 minute summer	S28	1.006	S34	469.5	2.963	1.296	2.4275	
15 minute summer	S29L	11.000	S29	20.6	1.175	1.851	0.2554	
15 minute summer	S29	11.001	S30	35.9	1.130	1.010	0.5647	
15 minute summer	S30La	12.000	S30	109.7	2.899	1.069	0.7897	
15 minute summer	S30Lb	13.000	S30	47.6	2.295	0.461	0.8567	
15 minute summer	S30	11.002	S31	206.2	2.249	1.031	1.8419	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.801	1.142	223.8	2.0180	0.0000	SURCHARGED
15 minute summer	S32L	12	116.001	1.218	69.1	1.3772	0.0000	SURCHARGED
15 minute summer	S32	12	115.452	1.395	274.4	2.4652	0.0000	SURCHARGED
15 minute summer	S33	12	115.130	1.294	283.3	2.2861	0.0000	SURCHARGED
15 minute summer	S34	12	114.460	1.031	763.6	2.6240	0.0000	SURCHARGED
15 minute summer	S35	12	113.988	0.797	778.9	1.4080	0.0000	SURCHARGED
15 minute summer	S36L	11	114.137	0.447	61.2	0.5060	0.0000	SURCHARGED
15 minute summer	S36	12	113.374	1.048	838.6	1.8523	0.0000	SURCHARGED
15 minute summer	S37L	12	115.791	1.802	94.7	2.0378	0.0000	SURCHARGED
15 minute summer	S37	12	115.316	1.543	113.4	2.7262	0.0000	SURCHARGED
15 minute summer	S38L	12	115.997	2.043	48.0	2.3101	0.0000	FLOOD RISK
15 minute summer	S38	12	115.059	1.425	153.1	2.5184	0.0000	SURCHARGED
15 minute summer	S39La	12	114.410	0.494	33.5	0.5586	0.0000	SURCHARGED
15 minute summer	S39Lb	12	114.324	0.556	23.7	0.6292	0.0000	SURCHARGED
15 minute summer	S39	12	114.276	1.059	211.8	1.8709	0.0000	SURCHARGED
15 minute summer	S40	12	112.827	1.184	1081.0	3.0138	0.0000	SURCHARGED
15 minute summer	S41La	11	113.802	1.134	78.9	1.2825	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.613	0.093	37.5	0.1048	0.0000	OK
15 minute summer	S41	11	111.669	0.567	1206.8	1.4436	0.0000	OK
15 minute summer	S42La	10	112.332	0.152	141.4	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	111.232	0.608	1414.2	1.5472	0.0000	OK
15 minute summer	S43	10	111.235	0.066	13.8	0.0743	0.0000	OK
15 minute summer	S44L	11	111.562	0.695	130.3	1.7684	0.0000	SURCHARGED
15 minute summer	S44	12	110.939	0.784	1553.5	1.9961	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	S31	11.003	S32	202.0	2.049	0.751	3.6901	
15 minute summer	S32L	14.000	S32	62.1	3.625	1.097	0.0881	
15 minute summer	S32	11.004	S33	268.2	2.432	1.197	1.9463	
15 minute summer	S33	11.005	S34	280.9	2.547	1.404	3.6713	
15 minute summer	S34	1.007	S35	764.5	3.641	1.409	4.1122	
15 minute summer	S35	1.008	S36	779.9	4.245	0.840	5.1185	
15 minute summer	S36L	15.000	S36	57.9	4.048	0.876	0.1281	
15 minute summer	S36	1.009	S40	838.4	3.881	0.945	3.9411	
15 minute summer	S37L	16.000	S37	85.2	2.143	1.604	0.8221	
15 minute summer	S37	16.001	S38	105.0	2.640	2.025	0.2517	
15 minute summer	S38L	17.000	S38	39.3	2.232	2.308	0.3252	
15 minute summer	S38	16.002	S39	149.1	2.118	1.342	2.9370	
15 minute summer	S39La	18.000	S39	31.8	3.121	0.561	0.0967	
15 minute summer	S39Lb	19.000	S39	22.4	2.850	0.397	0.0705	
15 minute summer	S39	16.003	S40	211.7	3.133	1.040	2.6925	
15 minute summer	S40	1.010	S41	1080.8	3.837	1.638	11.8273	
15 minute summer	S41La	20.000	S41	75.7	4.299	1.392	0.1841	
15 minute summer	S41Lb	21.000	S41	37.4	3.278	0.699	0.1044	
15 minute summer	S41	1.011	S42	1210.9	3.532	0.944	16.4323	
15 minute summer	S42La	22.000	S42	141.1	4.957	0.803	0.2605	
15 minute summer	S42Lb	23.000	S42	66.3	4.095	0.383	0.1329	
15 minute summer	S42	1.012	S44	1399.5	3.505	0.875	11.5325	
15 minute summer	S43	24.000	S44	13.7	1.366	0.187	0.6107	
15 minute summer	S44L	25.000	S44	127.3	3.202	1.852	0.4272	
15 minute summer	S44	1.013	S45	1550.2	3.664	1.255	8.6055	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	12	110.645	0.689	1564.7	1.7530	0.0000	OK
15 minute summer	S46L	11	111.844	1.325	86.8	1.4983	0.0000	SURCHARGED
15 minute summer	S46	12	110.161	0.448	1654.7	1.1404	0.0000	OK
15 minute summer	S47L	10	114.601	0.142	38.2	0.1604	0.0000	OK
15 minute summer	S47	10	114.491	0.213	85.9	0.5409	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.253	0.352	100.1	0.3983	0.0000	OK
15 minute summer	S49L	10	115.208	1.302	161.2	1.4723	0.0000	SURCHARGED
15 minute summer	S49	11	114.212	0.486	265.0	0.5496	0.0000	SURCHARGED
15 minute summer	S50	10	113.983	0.096	33.5	0.1702	0.0000	OK
15 minute summer	S51	10	113.845	0.117	59.6	0.2074	0.0000	OK
15 minute summer	S52	11	113.851	0.379	333.0	0.6698	0.0000	OK
15 minute summer	S53	11	113.591	0.398	346.5	0.7032	0.0000	OK
15 minute summer	S54L	10	113.745	0.086	28.3	0.0974	0.0000	OK
15 minute summer	S54	11	113.251	0.230	386.6	0.4058	0.0000	OK
15 minute summer	S54AL	10	113.039	0.432	52.6	0.4884	0.0000	SURCHARGED
15 minute summer	S54A	10	112.303	0.186	96.4	0.3290	0.0000	OK
15 minute summer	S54B	11	111.878	0.232	507.8	0.4092	0.0000	OK
15 minute summer	S55La	12	111.786	0.281	53.3	0.3184	0.0000	SURCHARGED
15 minute summer	S55Lb	12	111.904	0.226	53.9	0.2561	0.0000	SURCHARGED
15 minute summer	S55	12	111.182	0.978	638.2	1.7284	0.0000	SURCHARGED
15 minute summer	S56L	10	111.148	0.095	62.5	0.1077	0.0000	OK
15 minute summer	S56	12	110.853	1.074	697.4	1.8982	0.0000	SURCHARGED
15 minute summer	S57L	12	110.792	0.773	67.8	0.8744	0.0000	SURCHARGED
15 minute summer	S57	12	110.700	1.207	736.8	2.1328	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	1566.7	4.992	1.132	6.7914	
15 minute summer	S46L	26.000	S46	82.7	4.697	1.460	0.1287	
15 minute summer	S46	1.015	S60	1658.0	7.251	0.450	4.8873	
15 minute summer	S47L	27.000	S47	37.9	1.442	0.731	0.2798	
15 minute summer	S47	27.001	S48	84.3	1.559	0.848	2.2576	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.2044	
15 minute summer	S48	27.002	S49	102.6	1.096	0.513	1.9037	
15 minute summer	S49L	29.000	S49	158.0	3.973	5.710	0.4143	
15 minute summer	S49	27.003	S52	265.4	2.406	1.321	1.9334	
15 minute summer	S50	30.000	S51	33.3	1.159	0.103	0.4592	
15 minute summer	S51	30.001	S52	59.2	0.686	0.153	1.5710	
15 minute summer	S52	27.004	S53	333.9	2.295	1.032	4.0535	
15 minute summer	S53	27.005	S54	346.3	3.394	0.893	1.7465	
15 minute summer	S54L	31.000	S54	28.2	2.700	0.625	0.0555	
15 minute summer	S54	27.006	S54B	386.6	4.756	0.533	1.9923	
15 minute summer	S54AL	43.000	S54A	51.7	2.937	1.541	0.0942	
15 minute summer	S54A	43.001	S54B	95.5	1.551	0.370	3.0895	
15 minute summer	S54B	27.007	S55	507.9	3.065	0.329	5.5083	
15 minute summer	S55La	32.000	S55	53.0	3.480	0.978	0.1629	
15 minute summer	S55Lb	33.000	S55	53.6	3.505	0.982	0.1936	
15 minute summer	S55	27.008	S56	619.9	2.804	0.900	11.9595	
15 minute summer	S56L	34.000	S56	62.4	3.915	0.375	0.2458	
15 minute summer	S56	27.009	S57	667.2	2.936	0.744	4.7612	
15 minute summer	S57L	35.000	S57	63.6	2.092	0.866	0.3029	
15 minute summer	S57	27.010	S58	741.4	2.896	0.962	10.6919	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	12	110.935	1.151	52.0	1.3022	0.0000	SURCHARGED
15 minute summer	S58	12	110.264	1.246	811.8	2.2017	0.0000	SURCHARGED
15 minute summer	S59L	12	110.605	1.277	55.9	1.4443	0.0000	SURCHARGED
15 minute summer	S59	12	110.024	1.225	874.0	2.1641	0.0000	SURCHARGED
15 minute summer	S60L	11	110.291	0.124	43.4	0.1398	0.0000	OK
15 minute summer	S60	12	109.860	1.506	2569.4	3.8322	0.0000	SURCHARGED
15 minute summer	S61	12	109.399	1.710	2525.3	4.3511	0.0000	SURCHARGED
15 minute summer	S62	12	108.961	1.545	2582.1	3.9320	0.0000	SURCHARGED
15 minute summer	S63La	11	109.210	1.175	50.7	1.3289	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.479	1.479	83.5	1.6730	0.0000	SURCHARGED
15 minute summer	S63	11	108.715	1.503	2799.0	3.8264	0.0000	SURCHARGED
15 minute summer	S64L	11	108.541	0.854	124.3	0.9663	0.0000	SURCHARGED
15 minute summer	S64	11	108.257	1.409	2906.8	3.5872	0.0000	SURCHARGED
15 minute summer	S65L	11	108.384	0.132	51.3	0.1492	0.0000	OK
360 minute summer	S65	352	108.153	1.319	662.4	3.3559	0.0000	SURCHARGED
960 minute summer	HW11	960	108.122	1.305	515.3	0.0000	0.0000	OK
960 minute summer	HW12	960	108.121	1.304	414.8	0.0000	0.0000	FLOOD RISK
960 minute summer	S66	960	108.121	1.313	164.1	7.5206	0.0000	FLOOD RISK
15 minute summer	hw13	1	106.725	0.000	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	46.3	2.630	1.493	0.1843	
15 minute summer	S58	27.011	S59	826.9	3.035	1.075	4.9451	
15 minute summer	S59L	37.000	S59	49.8	2.831	2.805	0.1388	
15 minute summer	S59	27.012	S60	860.0	3.195	1.116	3.2610	
15 minute summer	S60L	38.000	S60	43.0	3.403	0.783	0.1871	
15 minute summer	S60	1.016	S61	2514.0	4.165	0.891	21.0692	
15 minute summer	S61	1.017	S62	2573.3	4.061	1.154	13.8442	
15 minute summer	S62	1.018	S63	2669.7	4.213	1.196	10.3761	
15 minute summer	S63La	39.000	S63	46.2	2.625	2.606	0.1288	
15 minute summer	S63Lb	40.000	S63	77.5	4.405	4.349	0.0681	
15 minute summer	S63	1.019	S64	2787.7	4.399	1.398	23.1150	
15 minute summer	S64L	41.000	S64	120.9	3.041	1.715	0.3582	
15 minute summer	S64	1.020	S65	2797.4	4.414	4.165	7.1426	
15 minute summer	S65L	42.000	S65	51.1	3.235	0.976	0.1328	
360 minute summer	S65	1.021	HW11	659.4	2.121	1.012	9.9179	
960 minute summer	HW11	Flow through pond	HW12	389.3	0.035	0.024	3592.3926	
960 minute summer	HW12	1.022	S66	164.1	0.273	0.253	5.2781	
960 minute summer	S66	Hydro-Brake®	hw13	23.3				1305.5

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)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S20L	0.096	5.00	118.050	Manhole	1200	443733.375	291579.662	1.942
S20	0.055	5.00	117.871	Manhole	1500	443732.941	291562.390	2.627
S20-1	0.041	5.00	117.331	Manhole	1500	443761.515	291557.676	2.242
S21La	0.063	5.00	117.280	Manhole	1200	443779.275	291519.489	1.644
S21Lb	0.016	5.00	117.262	Manhole	1200	443788.793	291517.177	1.646
S21	0.030	5.00	117.286	Manhole	1500	443784.452	291518.651	2.005
S22Lb	0.089	5.00	117.400	Manhole	1200	443790.843	291559.937	2.070
S22La	0.043	5.00	117.490	Manhole	1200	443781.363	291550.151	2.185
S22	0.012	5.00	117.331	Manhole	1500	443790.088	291552.962	2.398
S23L	0.108	5.00	117.642	Manhole	1200	443822.239	291606.954	1.659
S23	0.043	5.00	117.763	Manhole	1200	443827.290	291604.948	2.306
S24L	0.039	5.00	117.800	Manhole	1200	443828.381	291580.361	2.317
S24	0.022	5.00	117.836	Manhole	1200	443818.334	291574.570	2.726
S25	0.027	5.00	117.627	Manhole	1500	443814.665	291548.978	2.895
S26L	0.067	5.00	117.490	Manhole	1200	443835.771	291540.759	2.373
S26	0.031	5.00	117.358	Manhole	1500	443837.046	291545.359	2.943
S27L	0.059	5.00	117.100	Manhole	1200	443865.956	291545.642	1.828
S27	0.054	5.00	116.932	Manhole	1500	443870.449	291536.970	2.862
S28L	0.048	5.00	116.896	Manhole	1200	443866.251	291511.974	2.206
S28	0.017	5.00	116.646	Manhole	1500	443873.473	291514.657	2.951
S29L	0.036	5.00	116.950	Manhole	1200	443778.867	291486.594	1.774
S29	0.014	5.00	116.911	Manhole	1200	443792.126	291492.477	1.868
S30La	0.181	5.00	117.200	Manhole	1200	443779.089	291472.233	1.457
S30Lb	0.075	5.00	116.880	Manhole	1200	443817.168	291488.420	1.064
S30	0.046	5.00	117.074	Manhole	1500	443797.614	291479.383	2.248
S31	0.028	5.00	117.088	Manhole	1500	443804.732	291464.277	2.429
S32L	0.105	5.00	117.485	Manhole	1200	443836.785	291473.804	2.702
S32	0.018	5.00	117.368	Manhole	1500	443835.019	291478.489	3.311
S33	0.025	5.00	117.038	Manhole	1500	443851.486	291484.829	3.202
S34	0.031	5.00	116.415	Manhole	1800	443880.545	291501.065	2.986
S35	0.031	5.00	116.157	Manhole	1500	443896.046	291490.017	2.966
S36L	0.093	5.00	116.035	Manhole	1200	443920.666	291479.743	2.345
S36	0.016	5.00	115.816	Manhole	1500	443919.537	291486.928	3.490
S37L	0.144	5.00	116.270	Manhole	1200	443936.148	291410.677	2.281
S37	0.045	5.00	116.002	Manhole	1500	443956.457	291414.527	2.229
S38L	0.073	5.00	116.000	Manhole	1200	443980.089	291422.057	2.046
S38	0.014	5.00	115.939	Manhole	1500	443962.456	291416.547	2.305
S39La	0.051	5.00	116.060	Manhole	1200	443943.622	291454.130	2.144
S39Lb	0.036	5.00	116.085	Manhole	1200	443952.661	291457.010	2.317
S39	0.032	5.00	116.079	Manhole	1500	443948.799	291455.955	2.862
S40	0.060	5.00	115.528	Manhole	1800	443936.967	291492.313	3.885

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Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
hw13			107.769	Manhole		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

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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	16.699	0.600	114.826	114.659	0.167	100.0	375	5.80	50.0
11.003	S31	S32	33.456	0.600	114.659	114.057	0.602	55.6	375	6.03	50.0
14.000	S32L	S32	5.007	0.600	114.783	114.282	0.501	10.0	150	5.03	50.0
11.004	S32	S33	17.646	0.600	114.057	113.836	0.221	79.8	375	6.18	49.7
11.005	S33	S34	33.286	0.600	113.836	113.503	0.333	100.0	375	6.48	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	18.243	0.600	112.326	111.718	0.608	30.0	525	6.98	46.8
16.000	S37L	S37	20.671	0.600	113.989	113.773	0.216	95.7	225	5.26	50.0
16.001	S37	S38	6.329	0.600	113.773	113.710	0.063	100.5	225	5.34	50.0
17.000	S38L	S38	18.474	0.600	113.954	113.784	0.170	108.7	150	5.32	50.0
16.002	S38	S39	41.708	0.600	113.634	113.217	0.417	100.0	300	5.78	50.0
18.000	S39La	S39	5.490	0.600	113.916	113.367	0.549	10.0	150	5.03	50.0
19.000	S39Lb	S39	4.003	0.600	113.768	113.368	0.400	10.0	150	5.02	50.0
16.003	S39	S40	38.235	0.600	113.217	111.942	1.275	30.0	300	6.00	50.0
1.010	S40	S41	42.418	0.600	111.643	111.253	0.390	108.8	600	7.28	45.8
20.000	S41La	S41	10.478	0.600	112.668	111.702	0.966	10.8	150	5.06	50.0
21.000	S41Lb	S41	9.155	0.600	112.520	111.703	0.817	11.2	150	5.05	50.0
1.011	S41	S42	44.432	0.600	111.102	110.624	0.478	93.0	750	7.54	45.0
22.000	S42La	S42	9.150	0.600	112.180	111.149	1.031	8.9	225	5.03	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.001	S29	S30	0.894	35.5	6.8	1.643	1.873	1.643	1.873	0.050	0.0
12.000	S30La	S30	2.580	102.6	24.5	1.232	1.872	1.232	1.872	0.181	0.0
13.000	S30Lb	S30	2.592	103.1	10.2	0.839	1.872	0.839	1.872	0.075	0.0
11.002	S30	S31	1.812	200.1	47.7	1.873	2.054	1.873	2.054	0.352	0.0
11.003	S31	S32	2.434	268.9	51.5	2.054	2.936	2.054	2.936	0.380	0.0
14.000	S32L	S32	3.205	56.6	14.2	2.552	2.936	2.552	2.936	0.105	0.0
11.004	S32	S33	2.029	224.1	67.7	2.936	2.827	2.827	2.936	0.503	0.0
11.005	S33	S34	1.812	200.1	69.5	2.827	2.537	2.537	2.827	0.528	0.0
1.007	S34	S35	2.506	542.4	195.0	2.461	2.441	2.441	2.461	1.519	0.0
1.008	S35	S36	4.291	928.9	197.7	2.441	2.965	2.441	2.965	1.550	0.0
15.000	S36L	S36	3.739	66.1	12.6	2.195	2.965	2.195	2.965	0.093	0.0
1.009	S36	S40	4.099	887.4	210.5	2.965	3.285	2.965	3.285	1.659	0.0
16.000	S37L	S37	1.337	53.1	19.5	2.056	2.004	2.004	2.056	0.144	0.0
16.001	S37	S38	1.304	51.9	25.6	2.004	2.004	2.004	2.004	0.189	0.0
17.000	S38L	S38	0.963	17.0	9.9	1.896	2.005	1.896	2.005	0.073	0.0
16.002	S38	S39	1.572	111.1	37.4	2.005	2.562	2.005	2.562	0.276	0.0
18.000	S39La	S39	3.204	56.6	6.9	1.994	2.562	1.994	2.562	0.051	0.0
19.000	S39Lb	S39	3.203	56.6	4.9	2.167	2.561	2.167	2.561	0.036	0.0
16.003	S39	S40	2.881	203.7	53.5	2.562	3.286	2.562	3.286	0.395	0.0
1.010	S40	S41	2.334	660.0	262.6	3.285	2.980	2.980	3.285	2.114	0.0
20.000	S41La	S41	3.076	54.4	16.3	2.222	2.981	2.222	2.981	0.120	0.0
21.000	S41Lb	S41	3.026	53.5	7.7	2.374	2.980	2.374	2.980	0.057	0.0
1.011	S41	S42	2.903	1282.4	285.7	2.981	2.568	2.568	2.981	2.341	0.0
22.000	S42La	S42	4.418	175.7	29.1	1.731	2.568	1.731	2.568	0.215	0.0

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	7.67	44.6
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	7.89	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	13.680	0.600	109.713	108.504	1.209	11.3	750	7.92	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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
23.000	S42Lb	S42	4.350	173.0	13.7	1.884	2.568	1.884	2.568	0.101	0.0
1.012	S42	S44	3.622	1600.3	325.2	2.568	2.475	2.475	2.568	2.688	0.0
24.000	S43	S44	1.839	73.1	2.8	2.637	2.475	2.475	2.637	0.021	0.0
25.000	S44L	S44	1.729	68.7	26.8	2.528	2.475	2.475	2.528	0.198	0.0
1.013	S44	S45	2.796	1235.2	352.0	2.475	2.327	2.327	2.475	2.933	0.0
1.014	S45	S46	3.133	1384.2	352.2	2.326	2.223	2.223	2.326	2.955	0.0
26.000	S46L	S46	3.204	56.6	17.9	2.231	2.748	2.231	2.748	0.132	0.0
1.015	S46	S60	8.344	3686.5	370.0	2.223	3.186	2.223	3.186	3.110	0.0
27.000	S47L	S47	1.305	51.9	7.9	2.386	2.268	2.268	2.386	0.058	0.0
27.001	S47	S48	1.406	99.4	17.8	2.268	1.693	1.693	2.268	0.131	0.0
28.000	S48L	S48	2.729	108.5	0.0	1.495	1.693	1.495	1.693	0.000	0.0
27.002	S48	S49	1.812	200.2	21.0	1.693	1.452	1.452	1.693	0.155	0.0
29.000	S49L	S49	0.696	27.7	33.2	1.664	1.452	1.452	1.664	0.245	0.0
27.003	S49	S52	1.819	200.9	56.0	1.452	1.366	1.366	1.452	0.413	0.0
30.000	S50	S51	2.030	322.9	6.9	0.842	1.022	0.842	1.022	0.051	0.0
30.001	S51	S52	2.428	386.1	12.3	1.022	1.366	1.022	1.366	0.091	0.0
27.004	S52	S53	2.034	323.4	70.2	1.366	2.012	1.366	2.012	0.520	0.0
27.005	S53	S54	2.439	387.8	72.3	1.937	2.184	1.937	2.184	0.540	0.0
31.000	S54L	S54	2.554	45.1	5.8	1.933	2.184	1.933	2.184	0.043	0.0
27.006	S54	S54B	4.561	725.4	80.3	2.184	2.545	2.184	2.545	0.604	0.0
43.000	S54AL	S54A	1.898	33.5	10.8	1.205	1.264	1.205	1.264	0.080	0.0
43.001	S54A	S54B	1.624	258.3	20.1	1.264	2.545	1.264	2.545	0.148	0.0
27.007	S54B	S55	5.460	1543.9	104.7	2.545	3.262	2.545	3.262	0.793	0.0
32.000	S55La	S55	3.071	54.3	11.0	2.746	3.262	2.746	3.262	0.081	0.0

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	11.577	0.600	108.799	108.654	0.145	79.8	600	7.22	46.0
38.000	S60L	S60	11.293	0.600	110.167	109.104	1.063	10.6	150	5.06	50.0
1.016	S60	S61	33.244	0.600	108.354	107.689	0.665	50.0	900	8.04	43.5
1.017	S61	S62	21.844	0.600	107.689	107.416	0.273	80.0	900	8.14	43.2
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	7.319	0.600	108.035	107.962	0.073	100.3	150	5.12	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	8.42	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	11.270	0.600	106.847	106.834	0.013	866.9	900	8.59	42.0
42.000	S65L	S65	7.809	0.600	108.252	107.585	0.667	11.7	150	5.04	50.0
1.021	S65	HW11	15.649	0.600	106.834	106.817	0.017	920.5	900	8.85	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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
33.000	S55Lb	S55	3.092	54.6	11.1	2.572	3.262	2.572	3.262	0.082	0.0
27.008	S55	S56	2.436	688.8	130.3	3.262	2.594	2.594	3.262	1.008	0.0
34.000	S56L	S56	4.184	166.3	12.9	2.122	2.594	2.122	2.594	0.095	0.0
27.009	S56	S57	3.171	896.6	144.6	2.594	2.473	2.473	2.594	1.126	0.0
35.000	S57L	S57	1.846	73.4	14.0	2.556	2.473	2.473	2.556	0.103	0.0
27.010	S57	S58	2.725	770.6	158.5	2.473	2.317	2.317	2.473	1.255	0.0
36.000	S58L	S58	1.754	31.0	10.7	2.176	2.317	2.176	2.317	0.079	0.0
27.011	S58	S59	2.721	769.4	173.9	2.317	2.849	2.317	2.849	1.387	0.0
37.000	S59L	S59	1.006	17.8	11.5	2.922	2.849	2.849	2.922	0.085	0.0
27.012	S59	S60	2.727	770.9	183.6	2.849	3.186	2.849	3.186	1.472	0.0
38.000	S60L	S60	3.108	54.9	8.9	2.283	3.186	2.283	3.186	0.066	0.0
1.016	S60	S61	4.437	2822.4	552.3	3.186	2.998	2.998	3.186	4.680	0.0
1.017	S61	S62	3.504	2229.2	551.2	2.998	2.758	2.758	2.998	4.702	0.0
1.018	S62	S63	3.507	2231.3	550.4	2.758	2.445	2.445	2.758	4.719	0.0
39.000	S63La	S63	1.003	17.7	10.4	2.571	2.444	2.444	2.571	0.077	0.0
40.000	S63Lb	S63	1.009	17.8	17.2	2.520	2.445	2.445	2.520	0.127	0.0
1.019	S63	S64	3.134	1993.9	570.4	2.444	1.446	1.446	2.444	4.951	0.0
41.000	S64L	S64	1.774	70.5	25.6	1.488	1.446	1.446	1.488	0.189	0.0
1.020	S64	S65	1.056	671.6	587.2	1.446	1.019	1.019	1.446	5.154	0.0
42.000	S65L	S65	2.960	52.3	10.6	0.498	1.018	0.498	1.018	0.078	0.0
1.021	S65	HW11	1.024	651.6	592.1	1.019	0.542	0.542	1.019	5.279	0.0
1.022	HW12	S66	1.022	649.9	0.0	0.542	0.592	0.542	0.592	0.000	0.0
1.023	S66	hw13	2.403	1528.9	0.0	0.592	0.144	0.144	0.592	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	118.050	116.108	1.717	117.871	115.469	2.177
1.001	28.960	186.8	450	117.871	115.244	2.177	117.331	115.089	1.792
1.001-1	28.959	185.6	450	117.331	115.089	1.792	117.331	114.933	1.948
2.000	5.244	95.4	150	117.280	115.636	1.494	117.286	115.581	1.555
3.000	4.584	131.0	150	117.262	115.616	1.496	117.286	115.581	1.555
2.001	34.771	99.9	450	117.286	115.281	1.555	117.331	114.933	1.948
4.000	7.016	72.3	150	117.400	115.330	1.920	117.331	115.233	1.948
5.000	9.167	127.3	150	117.490	115.305	2.035	117.331	115.233	1.948
1.002	24.898	123.9	450	117.331	114.933	1.948	117.627	114.732	2.445
6.000	5.435	12.1	225	117.642	115.983	1.434	117.763	115.532	2.006
6.001	31.671	116.4	300	117.763	115.457	2.006	117.836	115.185	2.351
7.000	11.596	78.4	150	117.800	115.483	2.167	117.836	115.335	2.351
6.002	25.854	85.0	375	117.836	115.110	2.351	117.627	114.806	2.446
1.003	22.672	71.5	450	117.627	114.732	2.445	117.358	114.415	2.493
8.000	4.774	11.9	150	117.490	115.117	2.223	117.358	114.715	2.493
1.004	34.440	100.1	450	117.358	114.415	2.493	116.932	114.071	2.411
9.000	9.766	10.8	150	117.100	115.272	1.678	116.932	114.370	2.412
1.005	22.518	60.0	450	116.932	114.070	2.412	116.646	113.695	2.501
10.000	7.704	11.1	150	116.896	114.690	2.056	116.646	113.995	2.501
1.006	15.321	79.8	450	116.646	113.695	2.501	116.415	113.503	2.462
11.000	14.506	250.1	150	116.950	115.176	1.624	116.911	115.118	1.643
11.001	14.198	211.9	225	116.911	115.043	1.643	117.074	114.976	1.873
12.000	19.857	25.9	225	117.200	115.743	1.232	117.074	114.977	1.872
13.000	21.541	25.7	225	116.880	115.816	0.839	117.074	114.977	1.872
11.002	16.699	100.0	375	117.074	114.826	1.873	117.088	114.659	2.054

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

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.003	33.456	55.6	375	117.088	114.659	2.054	117.368	114.057	2.936
14.000	5.007	10.0	150	117.485	114.783	2.552	117.368	114.282	2.936
11.004	17.646	79.8	375	117.368	114.057	2.936	117.038	113.836	2.827
11.005	33.286	100.0	375	117.038	113.836	2.827	116.415	113.503	2.537
1.007	19.035	80.0	525	116.415	113.429	2.461	116.157	113.191	2.441
1.008	23.693	27.4	525	116.157	113.191	2.441	115.816	112.326	2.965
15.000	7.274	7.4	150	116.035	113.690	2.195	115.816	112.701	2.965
1.009	18.243	30.0	525	115.816	112.326	2.965	115.528	111.718	3.285
16.000	20.671	95.7	225	116.270	113.989	2.056	116.002	113.773	2.004
16.001	6.329	100.5	225	116.002	113.773	2.004	115.939	113.710	2.004
17.000	18.474	108.7	150	116.000	113.954	1.896	115.939	113.784	2.005
16.002	41.708	100.0	300	115.939	113.634	2.005	116.079	113.217	2.562
18.000	5.490	10.0	150	116.060	113.916	1.994	116.079	113.367	2.562
19.000	4.003	10.0	150	116.085	113.768	2.167	116.079	113.368	2.561
16.003	38.235	30.0	300	116.079	113.217	2.562	115.528	111.942	3.286
1.010	42.418	108.8	600	115.528	111.643	3.285	114.833	111.253	2.980
20.000	10.478	10.8	150	115.040	112.668	2.222	114.833	111.702	2.981
21.000	9.155	11.2	150	115.044	112.520	2.374	114.833	111.703	2.980
1.011	44.432	93.0	750	114.833	111.102	2.981	113.942	110.624	2.568
22.000	9.150	8.9	225	114.136	112.180	1.731	113.942	111.149	2.568
23.000	8.212	9.2	225	114.155	112.046	1.884	113.942	111.149	2.568
1.012	28.044	59.8	750	113.942	110.624	2.568	113.380	110.155	2.475
24.000	24.836	50.8	225	114.031	111.169	2.637	113.380	110.680	2.475
25.000	10.741	57.4	225	113.620	110.867	2.528	113.380	110.680	2.475
1.013	19.933	100.2	750	113.380	110.155	2.475	113.033	109.956	2.327

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
11.003	S31	1500	Manhole	S32	1500	1
14.000	S32L	1200	Manhole	S32	1500	1
11.004	S32	1500	Manhole	S33	1500	1
11.005	S33	1500	Manhole	S34	1800	1
1.007	S34	1800	Manhole	S35	1500	1
1.008	S35	1500	Manhole	S36	1500	1
15.000	S36L	1200	Manhole	S36	1500	1
1.009	S36	1500	Manhole	S40	1800	1
16.000	S37L	1200	Manhole	S37	1500	1
16.001	S37	1500	Manhole	S38	1500	1
17.000	S38L	1200	Manhole	S38	1500	1
16.002	S38	1500	Manhole	S39	1500	1
18.000	S39La	1200	Manhole	S39	1500	1
19.000	S39Lb	1200	Manhole	S39	1500	1
16.003	S39	1500	Manhole	S40	1800	1
1.010	S40	1800	Manhole	S41	1800	1
20.000	S41La	1200	Manhole	S41	1800	1
21.000	S41Lb	1200	Manhole	S41	1800	1
1.011	S41	1800	Manhole	S42	1800	1
22.000	S42La	1200	Manhole	S42	1800	1
23.000	S42Lb	1200	Manhole	S42	1800	1
1.012	S42	1800	Manhole	S44	1800	1
24.000	S43	1200	Manhole	S44	1800	1
25.000	S44L	1800	Manhole	S44	1800	1
1.013	S44	1800	Manhole	S45	1800	1

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	113.033	109.957	2.326	112.686	109.713	2.223
26.000	7.311	10.0	150	112.900	110.519	2.231	112.686	109.788	2.748
1.015	13.680	11.3	750	112.686	109.713	2.223	112.440	108.504	3.186
27.000	10.634	100.3	225	117.070	114.459	2.386	116.846	114.353	2.268
27.001	37.674	124.7	300	116.846	114.278	2.268	115.969	113.976	1.693
28.000	10.870	23.2	225	116.240	114.520	1.495	115.969	114.051	1.693
27.002	17.482	99.9	375	115.969	113.901	1.693	115.553	113.726	1.452
29.000	10.416	347.2	225	115.795	113.906	1.664	115.553	113.876	1.452
27.003	17.756	99.2	375	115.553	113.726	1.452	115.288	113.547	1.366
30.000	15.937	100.2	450	115.179	113.887	0.842	115.200	113.728	1.022
30.001	17.986	70.3	450	115.200	113.728	1.022	115.288	113.472	1.366
27.004	27.878	99.9	450	115.288	113.472	1.366	115.655	113.193	2.012
27.005	17.199	69.6	450	115.655	113.268	1.937	115.655	113.021	2.184
31.000	5.310	15.7	150	115.742	113.659	1.933	115.655	113.321	2.184
27.006	24.507	20.0	450	115.655	113.021	2.184	114.791	111.796	2.545
43.000	5.384	28.3	150	113.962	112.607	1.205	113.831	112.417	1.264
43.001	50.143	156.2	450	113.831	112.117	1.264	114.791	111.796	2.545
27.007	28.844	20.0	600	114.791	111.646	2.545	114.066	110.204	3.262
32.000	9.253	10.9	150	114.400	111.504	2.746	114.066	110.654	3.262
33.000	10.996	10.7	150	114.400	111.678	2.572	114.066	110.654	3.262
27.008	42.458	99.9	600	114.066	110.204	3.262	112.973	109.779	2.594
34.000	8.895	9.9	225	113.400	111.053	2.122	112.973	110.154	2.594
27.009	16.903	59.1	600	112.973	109.779	2.594	112.566	109.493	2.473
35.000	7.615	50.4	225	112.800	110.019	2.556	112.566	109.868	2.473
27.010	37.958	79.9	600	112.566	109.493	2.473	111.935	109.018	2.317

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.014	S45	1800	Manhole	S46	1800	1
26.000	S46L	1200	Manhole	S46	1800	1
1.015	S46	1800	Manhole	S60	1800	1
27.000	S47L	1200	Manhole	S47	1800	1
27.001	S47	1800	Manhole	S48	1200	1
28.000	S48L	1200	Manhole	S48	1200	1
27.002	S48	1200	Manhole	S49	1200	1
29.000	S49L	1200	Manhole	S49	1200	1
27.003	S49	1200	Manhole	S52	1500	1
30.000	S50	1500	Manhole	S51	1500	1
30.001	S51	1500	Manhole	S52	1500	1
27.004	S52	1500	Manhole	S53	1500	1
27.005	S53	1500	Manhole	S54	1500	1
31.000	S54L	1200	Manhole	S54	1500	1
27.006	S54	1500	Manhole	S54B	1500	1
43.000	S54AL	1200	Manhole	S54A	1500	1
43.001	S54A	1500	Manhole	S54B	1500	1
27.007	S54B	1500	Manhole	S55	1500	1
32.000	S55La	1200	Manhole	S55	1500	1
33.000	S55Lb	1200	Manhole	S55	1500	1
27.008	S55	1500	Manhole	S56	1500	1
34.000	S56L	1200	Manhole	S56	1500	1
27.009	S56	1500	Manhole	S57	1500	1
35.000	S57L	1200	Manhole	S57	1500	1
27.010	S57	1500	Manhole	S58	1500	1

Pipeline Schedule

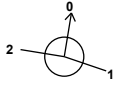
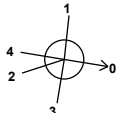
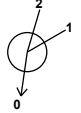
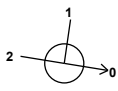
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
36.000	10.471	33.1	150	112.110	109.784	2.176	111.935	109.468	2.317
27.011	17.556	80.2	600	111.935	109.018	2.317	112.248	108.799	2.849
37.000	7.885	99.8	150	112.400	109.328	2.922	112.248	109.249	2.849
27.012	11.577	79.8	600	112.248	108.799	2.849	112.440	108.654	3.186
38.000	11.293	10.6	150	112.600	110.167	2.283	112.440	109.104	3.186
1.016	33.244	50.0	900	112.440	108.354	3.186	111.587	107.689	2.998
1.017	21.844	80.0	900	111.587	107.689	2.998	111.074	107.416	2.758
1.018	16.372	79.9	900	111.074	107.416	2.758	110.556	107.211	2.445
39.000	7.319	100.3	150	110.756	108.035	2.571	110.556	107.962	2.444
40.000	3.867	99.2	150	110.670	108.000	2.520	110.556	107.961	2.445
1.019	36.472	99.9	900	110.556	107.212	2.444	109.193	106.847	1.446
41.000	9.006	54.6	225	109.400	107.687	1.488	109.193	107.522	1.446
1.020	11.270	866.9	900	109.193	106.847	1.446	108.753	106.834	1.019
42.000	7.809	11.7	150	108.900	108.252	0.498	108.753	107.585	1.018
1.021	15.649	920.5	900	108.753	106.834	1.019	108.259	106.817	0.542
1.022	8.328	925.3	900	108.259	106.817	0.542	108.300	106.808	0.592
1.023	14.071	169.5	900	108.300	106.808	0.592	107.769	106.725	0.144

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
36.000	S58L	1200	Manhole	S58	1500	1
27.011	S58	1500	Manhole	S59	1500	1
37.000	S59L	1200	Manhole	S59	1500	1
27.012	S59	1500	Manhole	S60	1800	1
38.000	S60L	1200	Manhole	S60	1800	1
1.016	S60	1800	Manhole	S61	1800	1
1.017	S61	1800	Manhole	S62	1800	1
1.018	S62	1800	Manhole	S63	1800	1
39.000	S63La	1200	Manhole	S63	1800	1
40.000	S63Lb	1200	Manhole	S63	1800	1
1.019	S63	1800	Manhole	S64	1800	1
41.000	S64L	1200	Manhole	S64	1800	1
1.020	S64	1800	Manhole	S65	1800	1
42.000	S65L	1200	Manhole	S65	1800	1
1.021	S65	1800	Manhole	HW11		1
1.022	HW12		Manhole	S66	2700	1
1.023	S66	2700	Manhole	hw13		1

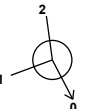
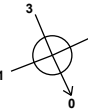
Manhole Schedule

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

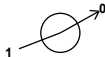
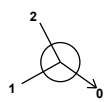
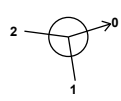
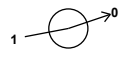
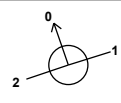
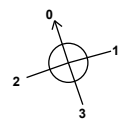
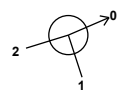
Manhole Schedule

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

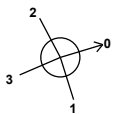
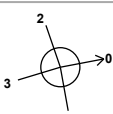
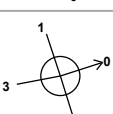
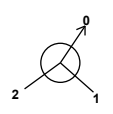
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S26	443837.046	291545.359	117.358	2.943	1500	Manhole		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	Manhole		0	9.000	115.272	150
S27	443870.449	291536.970	116.932	2.862	1500	Manhole		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	Manhole		0	10.000	114.690	150
S28	443873.473	291514.657	116.646	2.951	1500	Manhole		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	Manhole		0	11.000	115.176	150
S29	443792.126	291492.477	116.911	1.868	1200	Manhole		1 0	11.000 11.001	115.118 115.043	150 225
S30La	443779.089	291472.233	117.200	1.457	1200	Manhole		0	12.000	115.743	225
S30Lb	443817.168	291488.420	116.880	1.064	1200	Manhole		0	13.000	115.816	225
S30	443797.614	291479.383	117.074	2.248	1500	Manhole		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	443804.732	291464.277	117.088	2.429	1500	Manhole		1 0	11.002 11.003	114.659 114.659	375 375
S32L	443836.785	291473.804	117.485	2.702	1200	Manhole		0	14.000	114.783	150
S32	443835.019	291478.489	117.368	3.311	1500	Manhole		1 2 0	14.000 11.003 11.004	114.282 114.057 114.057	150 375 375

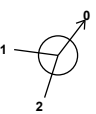
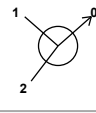
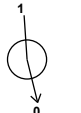
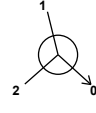
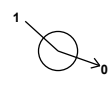
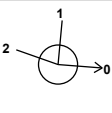
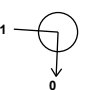
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S33	443851.486	291484.829	117.038	3.202	1500	Manhole		1 0	11.004 11.005	113.836 113.836	375 375
S34	443880.545	291501.065	116.415	2.986	1800	Manhole		1 2 0	11.005 1.006 1.007	113.503 113.503 113.429	375 450 525
S35	443896.046	291490.017	116.157	2.966	1500	Manhole		1 0	1.007 1.008	113.191 113.191	525 525
S36L	443920.666	291479.743	116.035	2.345	1200	Manhole		0	15.000	113.690	150
S36	443919.537	291486.928	115.816	3.490	1500	Manhole		1 2 0	15.000 1.008 1.009	112.701 112.326 112.326	150 525 525
S37L	443936.148	291410.677	116.270	2.281	1200	Manhole		0	16.000	113.989	225
S37	443956.457	291414.527	116.002	2.229	1500	Manhole		1 0	16.000 16.001	113.773 113.773	225 225
S38L	443980.089	291422.057	116.000	2.046	1200	Manhole		0	17.000	113.954	150
S38	443962.456	291416.547	115.939	2.305	1500	Manhole		1 2 0	17.000 16.001 16.002	113.784 113.710 113.634	150 225 300
S39La	443943.622	291454.130	116.060	2.144	1200	Manhole		0	18.000	113.916	150
S39Lb	443952.661	291457.010	116.085	2.317	1200	Manhole		0	19.000	113.768	150
S39	443948.799	291455.955	116.079	2.862	1500	Manhole		1 2 3 0	19.000 18.000 16.002 16.003	113.368 113.367 113.217 113.217	150 150 300 300
S40	443936.967	291492.313	115.528	3.885	1800	Manhole		1 2 0	16.003 1.009 1.010	111.942 111.718 111.643	300 525 600

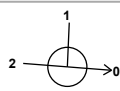
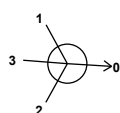
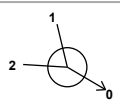
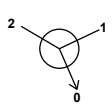
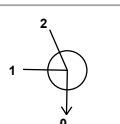
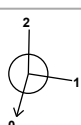
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S41La	443968.311	291516.294	115.040	2.372	1200	Manhole	 0	20.000	112.668	150
S41Lb	443975.273	291499.962	115.044	2.524	1200	Manhole	 0	21.000	112.520	150
S41	443972.824	291507.759	114.833	3.731	1800	Manhole	 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	Manhole	 0	22.000	112.180	225
S42Lb	444020.020	291513.499	114.155	2.109	1200	Manhole	 0	23.000	112.046	225
S42	444018.565	291521.581	113.942	3.318	1800	Manhole	 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	Manhole	 0	24.000	111.169	225
S44L	444042.718	291537.421	113.620	2.753	1800	Manhole	 0	25.000	110.867	225
S44	444046.213	291526.845	113.380	3.225	1800	Manhole	 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	Manhole	 1 0	1.013 1.014	109.956 109.957	750 750
S46L	444086.341	291539.566	112.900	2.381	1200	Manhole	 0	26.000	110.519	150
S46	444080.870	291544.415	112.686	2.973	1800	Manhole	 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	Manhole	 0	27.000	114.459	225

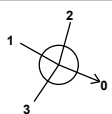
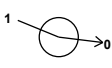
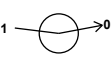
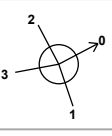
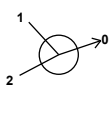
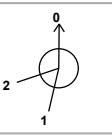
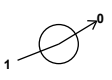
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S47	443894.371	291597.505	116.846	2.568	1800	Manhole	 1	27.000	114.353	225
							0	27.001	114.278	300
S48L	443895.036	291634.825	116.240	1.720	1200	Manhole	 0	28.000	114.520	225
S48	443905.812	291633.399	115.969	2.068	1200	Manhole	 1 2	28.000 27.001	114.051 113.976	225 300
							0	27.002	113.901	375
S49L	443908.595	291654.145	115.795	1.889	1200	Manhole	 0	29.000	113.906	225
S49	443916.433	291647.285	115.553	1.827	1200	Manhole	 1 2	29.000 27.002	113.876 113.726	225 375
							0	27.003	113.726	375
S50	443924.387	291692.392	115.179	1.292	1500	Manhole	 0	30.000	113.887	450
S51	443925.446	291676.490	115.200	1.472	1500	Manhole	 1	30.000	113.728	450
							0	30.001	113.728	450
S52	443929.752	291659.028	115.288	1.816	1500	Manhole	 1 2	30.001 27.003	113.472 113.547	450 375
							0	27.004	113.472	450
S53	443950.409	291640.307	115.655	2.462	1500	Manhole	 1	27.004	113.193	450
							0	27.005	113.268	450
S54L	443967.124	291639.883	115.742	2.083	1200	Manhole	 0	31.000	113.659	150
S54	443966.632	291634.596	115.655	2.634	1500	Manhole	 1 2	31.000 27.005	113.321 113.021	150 450
							0	27.006	113.021	450
S54AL	443987.860	291683.145	113.962	1.355	1200	Manhole	 0	43.000	112.607	150
S54A	443993.232	291682.789	113.831	1.714	1500	Manhole	 1	43.000	112.417	150
							0	43.001	112.117	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S54B	443991.065	291632.693	114.791	3.145	1500	Manhole		143.001111.796450 227.006111.796450 027.007111.646600		
S55La	444015.384	291638.573	114.400	2.896	1200	Manhole		032.000111.504150		
S55Lb	444014.478	291620.844	114.400	2.722	1200	Manhole		033.000111.678150		
S55	444019.822	291630.453	114.066	3.862	1500	Manhole		132.000110.654150 233.000110.654150 327.007110.204600 027.008110.204600		
S56L	444060.124	291636.503	113.400	2.347	1200	Manhole		034.000111.053225		
S56	444062.200	291627.854	112.973	3.194	1500	Manhole		134.000110.154225 227.008109.779600 027.009109.779600		
S57L	444083.653	291622.557	112.800	2.781	1200	Manhole		035.000110.019225		
S57	444076.774	291619.291	112.566	3.073	1500	Manhole		135.000109.868225 227.009109.493600 027.010109.493600		
S58L	444081.447	291584.691	112.110	2.326	1200	Manhole		036.000109.784150		
S58	444091.916	291584.485	111.935	2.917	1500	Manhole		136.000109.468150 227.010109.018600 027.011109.018600		
S59L	444099.362	291565.725	112.400	3.072	1200	Manhole		037.000109.328150		
S59	444091.570	291566.932	112.248	3.449	1500	Manhole		137.000108.799150 227.011108.799600 027.012108.799600		
S60L	444078.664	291561.316	112.600	2.433	1200	Manhole		038.000110.167150		

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S60	444088.501	291555.769	112.440	4.086	1800	Manhole		1 38.000 2 27.012 3 1.015 0 1.016	109.104 108.654 108.504 108.354	150 600 750 900
S61	444119.267	291543.174	111.587	3.898	1800	Manhole		1 1.016 0 1.017	107.689 107.689	900 900
S62	444140.948	291540.513	111.074	3.658	1800	Manhole		1 1.017 0 1.018	107.416 107.416	900 900
S63La	444153.628	291549.997	110.756	2.721	1200	Manhole		0 39.000	108.035	150
S63Lb	444158.283	291539.860	110.670	2.670	1200	Manhole		0 40.000	108.000	150
S63	444157.041	291543.522	110.556	3.345	1800	Manhole		1 40.000 2 39.000 3 1.018 0 1.019	107.961 107.962 107.211 107.212	150 150 900 900
S64L	444183.206	291567.153	109.400	1.713	1200	Manhole		0 41.000	107.687	225
S64	444189.306	291560.527	109.193	2.346	1800	Manhole		1 41.000 2 1.019 0 1.020	107.522 106.847 106.847	225 900 900
S65L	444198.204	291556.517	108.900	0.648	1200	Manhole		0 42.000	108.252	150
S65	444199.987	291564.120	108.753	1.919	1800	Manhole		1 42.000 2 1.020 0 1.021	107.585 106.834 106.834	150 900 900
HW11	444200.122	291579.769	108.259	1.442		Manhole		1 1.021	106.817	900
HW12	444214.527	291601.442	108.259	1.442		Manhole		0 1.022	106.817	900
S66	444222.278	291604.489	108.300	1.492	2700	Manhole		1 1.022 0 1.023	106.808 106.808	900 900

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
hw13	444234.306	291611.790	107.769	1.044		Manhole	1	1.023	106.725	900



Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
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
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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 hw13 Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		

Applies to All storms

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	1.040	255	1.040	510	1.040	765	1.040	1020	1.040	1275	1.040
15	1.040	270	1.040	525	1.040	780	1.040	1035	1.040	1290	1.040
30	1.040	285	1.040	540	1.040	795	1.040	1050	1.040	1305	1.040
45	1.040	300	1.040	555	1.040	810	1.040	1065	1.040	1320	1.040
60	1.040	315	1.040	570	1.040	825	1.040	1080	1.040	1335	1.040
75	1.040	330	1.040	585	1.040	840	1.040	1095	1.040	1350	1.040
90	1.040	345	1.040	600	1.040	855	1.040	1110	1.040	1365	1.040
105	1.040	360	1.040	615	1.040	870	1.040	1125	1.040	1380	1.040
120	1.040	375	1.040	630	1.040	885	1.040	1140	1.040	1395	1.040
135	1.040	390	1.040	645	1.040	900	1.040	1155	1.040	1410	1.040
150	1.040	405	1.040	660	1.040	915	1.040	1170	1.040	1425	1.040
165	1.040	420	1.040	675	1.040	930	1.040	1185	1.040	1440	1.040
180	1.040	435	1.040	690	1.040	945	1.040	1200	1.040		
195	1.040	450	1.040	705	1.040	960	1.040	1215	1.040		
210	1.040	465	1.040	720	1.040	975	1.040	1230	1.040		
225	1.040	480	1.040	735	1.040	990	1.040	1245	1.040		
240	1.040	495	1.040	750	1.040	1005	1.040	1260	1.040		

Node S66 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	106.808	Product Number	CTL-SHE-0205-2330-1500-2330
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	23.3	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

Other (defaults)

Entry Loss (manhole)	0.000	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.000	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058	30 year 360 minute summer	31.221	8.034
2 year 30 minute summer	91.753	25.963	30 year 480 minute summer	24.324	6.428
2 year 60 minute summer	61.301	16.200	30 year 600 minute summer	19.756	5.404
2 year 120 minute summer	37.449	9.897	30 year 720 minute summer	17.490	4.687
2 year 180 minute summer	28.672	7.378	30 year 960 minute summer	14.215	3.743
2 year 240 minute summer	22.636	5.982	30 year 1440 minute summer	10.161	2.723
2 year 360 minute summer	17.235	4.435	100 year +40% CC 15 minute summer	488.233	138.153
2 year 480 minute summer	13.550	3.581	100 year +40% CC 30 minute summer	320.551	90.705
2 year 600 minute summer	11.088	3.033	100 year +40% CC 60 minute summer	214.603	56.713
2 year 720 minute summer	9.878	2.647	100 year +40% CC 120 minute summer	129.587	34.246
2 year 960 minute summer	8.113	2.136	100 year +40% CC 180 minute summer	97.729	25.149
2 year 1440 minute summer	5.891	1.579	100 year +40% CC 240 minute summer	75.977	20.078
30 year 15 minute summer	268.706	76.035	100 year +40% CC 360 minute summer	56.677	14.585
30 year 30 minute summer	174.929	49.499	100 year +40% CC 480 minute summer	43.979	11.622
30 year 60 minute summer	116.589	30.811	100 year +40% CC 600 minute summer	35.604	9.738
30 year 120 minute summer	70.438	18.615	100 year +40% CC 720 minute summer	31.433	8.424
30 year 180 minute summer	53.298	13.715	100 year +40% CC 960 minute summer	25.432	6.697
30 year 240 minute summer	41.604	10.995	100 year +40% CC 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	26.0	0.1749	0.0000	OK
15 minute summer	S20-1	11	115.200	0.111	32.9	0.1957	0.0000	OK
15 minute summer	S21La	10	115.719	0.083	10.9	0.0941	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	18.8	0.1274	0.0000	OK
15 minute summer	S22Lb	10	115.425	0.095	15.4	0.1077	0.0000	OK
15 minute summer	S22La	10	115.377	0.072	7.5	0.0819	0.0000	OK
15 minute summer	S22	11	115.087	0.154	75.4	0.2727	0.0000	OK
15 minute summer	S23L	10	116.036	0.053	18.7	0.0604	0.0000	OK
15 minute summer	S23	10	115.559	0.102	26.2	0.1149	0.0000	OK
15 minute summer	S24L	10	115.543	0.060	6.8	0.0676	0.0000	OK
15 minute summer	S24	10	115.212	0.102	36.3	0.1156	0.0000	OK
15 minute summer	S25	11	114.900	0.168	116.4	0.2962	0.0000	OK
15 minute summer	S26L	10	115.165	0.048	11.6	0.0546	0.0000	OK
15 minute summer	S26	11	114.613	0.198	133.0	0.3497	0.0000	OK
15 minute summer	S27L	10	115.316	0.044	10.2	0.0498	0.0000	OK
15 minute summer	S27	11	114.255	0.185	152.2	0.3263	0.0000	OK
15 minute summer	S28L	10	114.730	0.040	8.3	0.0451	0.0000	OK
15 minute summer	S28	11	113.903	0.208	163.0	0.3673	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	115.828	0.085	31.4	0.0960	0.0000	OK
15 minute summer	S30Lb	10	115.870	0.054	13.0	0.0607	0.0000	OK
15 minute summer	S30	10	114.965	0.139	60.5	0.2458	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	0.1516	
15 minute summer	S20	1.001	S20-1	25.8	0.925	0.109	0.8079	
15 minute summer	S20-1	1.001-1	S22	32.5	0.835	0.137	1.1338	
15 minute summer	S21La	2.000	S21	10.8	1.081	0.595	0.0525	
15 minute summer	S21Lb	3.000	S21	2.8	0.667	0.178	0.0189	
15 minute summer	S21	2.001	S22	18.5	0.597	0.057	1.1174	
15 minute summer	S22Lb	4.000	S22	15.3	1.299	0.731	0.0826	
15 minute summer	S22La	5.000	S22	7.4	0.882	0.472	0.0770	
15 minute summer	S22	1.002	S25	75.8	1.490	0.261	1.2675	
15 minute summer	S23L	6.000	S23	18.7	2.599	0.124	0.0390	
15 minute summer	S23	6.001	S24	25.8	1.232	0.250	0.6634	
15 minute summer	S24L	7.000	S24	6.7	1.030	0.335	0.0758	
15 minute summer	S24	6.002	S25	36.1	1.491	0.166	0.6261	
15 minute summer	S25	1.003	S26	116.7	1.933	0.305	1.3701	
15 minute summer	S26L	8.000	S26	11.6	2.369	0.223	0.0233	
15 minute summer	S26	1.004	S27	133.5	1.990	0.413	2.3107	
15 minute summer	S27L	9.000	S27	10.2	2.363	0.187	0.0420	
15 minute summer	S27	1.005	S28	152.2	2.294	0.364	1.4951	
15 minute summer	S28L	10.000	S28	8.3	2.208	0.154	0.0288	
15 minute summer	S28	1.006	S34	163.0	2.279	0.450	1.0958	
15 minute summer	S29L	11.000	S29	6.1	0.697	0.548	0.1275	
15 minute summer	S29	11.001	S30	8.5	0.745	0.238	0.1612	
15 minute summer	S30La	12.000	S30	31.2	2.283	0.304	0.2714	
15 minute summer	S30Lb	13.000	S30	12.9	1.784	0.125	0.1557	
15 minute summer	S30	11.002	S31	60.2	1.753	0.301	0.5737	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	65.1	0.2181	0.0000	OK
15 minute summer	S32L	10	114.842	0.059	18.2	0.0662	0.0000	OK
15 minute summer	S32	10	114.216	0.159	85.7	0.2803	0.0000	OK
15 minute summer	S33	11	114.010	0.173	89.3	0.3065	0.0000	OK
15 minute summer	S34	11	113.678	0.249	258.1	0.6343	0.0000	OK
15 minute summer	S35	11	113.378	0.187	263.1	0.3311	0.0000	OK
15 minute summer	S36L	10	113.741	0.051	16.1	0.0572	0.0000	OK
15 minute summer	S36	11	112.525	0.199	281.0	0.3514	0.0000	OK
15 minute summer	S37L	10	114.096	0.107	25.0	0.1213	0.0000	OK
15 minute summer	S37	10	113.901	0.128	32.6	0.2256	0.0000	OK
15 minute summer	S38L	10	114.050	0.095	12.7	0.1080	0.0000	OK
15 minute summer	S38	10	113.771	0.137	47.2	0.2418	0.0000	OK
15 minute summer	S39La	10	113.956	0.040	8.8	0.0453	0.0000	OK
15 minute summer	S39Lb	10	113.802	0.034	6.2	0.0380	0.0000	OK
15 minute summer	S39	11	113.335	0.118	67.3	0.2078	0.0000	OK
15 minute summer	S40	11	111.951	0.307	357.9	0.7825	0.0000	OK
15 minute summer	S41La	10	112.732	0.064	20.8	0.0729	0.0000	OK
15 minute summer	S41Lb	10	112.564	0.044	9.9	0.0495	0.0000	OK
15 minute summer	S41	11	111.381	0.279	395.1	0.7095	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	110.889	0.265	452.1	0.6747	0.0000	OK
15 minute summer	S43	10	111.203	0.034	3.6	0.0381	0.0000	OK
15 minute summer	S44L	10	110.978	0.111	34.3	0.2834	0.0000	OK
15 minute summer	S44	11	110.474	0.319	492.2	0.8112	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	64.4	1.702	0.240	1.2691	
15 minute summer	S32L	14.000	S32	18.2	2.858	0.321	0.0318	
15 minute summer	S32	11.004	S33	85.2	1.816	0.380	0.8282	
15 minute summer	S33	11.005	S34	90.0	1.795	0.450	1.6691	
15 minute summer	S34	1.007	S35	258.0	3.040	0.476	1.6186	
15 minute summer	S35	1.008	S36	262.9	3.652	0.283	1.7060	
15 minute summer	S36L	15.000	S36	16.1	3.089	0.243	0.0378	
15 minute summer	S36	1.009	S40	280.7	3.361	0.316	1.5243	
15 minute summer	S37L	16.000	S37	24.8	1.185	0.467	0.4330	
15 minute summer	S37	16.001	S38	32.3	1.391	0.622	0.1468	
15 minute summer	S38L	17.000	S38	12.5	1.060	0.735	0.2180	
15 minute summer	S38	16.002	S39	46.9	1.658	0.422	1.1813	
15 minute summer	S39La	18.000	S39	8.8	2.331	0.155	0.0207	
15 minute summer	S39Lb	19.000	S39	6.2	2.107	0.109	0.0118	
15 minute summer	S39	16.003	S40	67.3	2.629	0.331	0.9791	
15 minute summer	S40	1.010	S41	357.5	2.472	0.542	6.1502	
15 minute summer	S41La	20.000	S41	20.7	2.873	0.381	0.0756	
15 minute summer	S41Lb	21.000	S41	9.9	2.313	0.184	0.0390	
15 minute summer	S41	1.011	S42	394.6	2.740	0.308	6.3983	
15 minute summer	S42La	22.000	S42	37.2	3.534	0.212	0.0964	
15 minute summer	S42Lb	23.000	S42	17.5	2.812	0.101	0.0510	
15 minute summer	S42	1.012	S44	451.3	2.848	0.282	4.4487	
15 minute summer	S43	24.000	S44	3.5	0.959	0.049	0.0919	
15 minute summer	S44L	25.000	S44	34.1	1.742	0.496	0.2100	
15 minute summer	S44	1.013	S45	490.2	2.857	0.397	3.4212	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.257	0.301	493.8	0.7660	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	517.4	0.4719	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	22.7	0.2433	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	113.992	0.091	26.3	0.1027	0.0000	OK
15 minute summer	S49L	10	114.121	0.215	42.5	0.2429	0.0000	OK
15 minute summer	S49	10	113.877	0.151	70.4	0.1705	0.0000	OK
15 minute summer	S50	10	113.937	0.050	8.8	0.0891	0.0000	OK
15 minute summer	S51	10	113.789	0.061	15.6	0.1073	0.0000	OK
15 minute summer	S52	11	113.631	0.159	88.0	0.2802	0.0000	OK
15 minute summer	S53	11	113.417	0.224	92.2	0.3955	0.0000	OK
15 minute summer	S54L	10	113.700	0.041	7.5	0.0468	0.0000	OK
15 minute summer	S54	11	113.134	0.113	103.3	0.2001	0.0000	OK
15 minute summer	S54AL	10	112.674	0.067	13.9	0.0761	0.0000	OK
15 minute summer	S54A	11	112.210	0.093	25.6	0.1643	0.0000	OK
15 minute summer	S54B	11	111.764	0.118	135.3	0.2082	0.0000	OK
15 minute summer	S55La	10	111.556	0.052	14.0	0.0589	0.0000	OK
15 minute summer	S55Lb	10	111.730	0.052	14.2	0.0591	0.0000	OK
15 minute summer	S55	11	110.405	0.201	171.1	0.3543	0.0000	OK
15 minute summer	S56L	10	111.101	0.048	16.5	0.0540	0.0000	OK
15 minute summer	S56	11	109.963	0.184	191.3	0.3259	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	213.1	0.3723	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	491.8	3.992	0.355	2.4241	
15 minute summer	S46L	26.000	S46	22.9	2.816	0.404	0.0774	
15 minute summer	S46	1.015	S60	516.2	6.119	0.140	1.1542	
15 minute summer	S47L	27.000	S47	10.0	1.020	0.193	0.1044	
15 minute summer	S47	27.001	S48	22.3	1.157	0.224	0.7254	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	26.4	0.864	0.132	0.5398	
15 minute summer	S49L	29.000	S49	42.1	1.159	1.521	0.3730	
15 minute summer	S49	27.003	S52	70.2	1.700	0.349	0.7335	
15 minute summer	S50	30.000	S51	8.7	0.780	0.027	0.1785	
15 minute summer	S51	30.001	S52	15.5	0.519	0.040	0.5626	
15 minute summer	S52	27.004	S53	88.9	1.387	0.275	1.7920	
15 minute summer	S53	27.005	S54	92.6	2.418	0.239	0.6615	
15 minute summer	S54L	31.000	S54	7.5	1.893	0.165	0.0209	
15 minute summer	S54	27.006	S54B	103.4	3.315	0.143	0.7649	
15 minute summer	S54AL	43.000	S54A	13.8	1.812	0.413	0.0411	
15 minute summer	S54A	43.001	S54B	25.1	1.061	0.097	1.1849	
15 minute summer	S54B	27.007	S55	135.4	2.266	0.088	1.7507	
15 minute summer	S55La	32.000	S55	14.0	2.577	0.257	0.0501	
15 minute summer	S55Lb	33.000	S55	14.1	2.600	0.259	0.0598	
15 minute summer	S55	27.008	S56	171.7	2.205	0.249	3.3084	
15 minute summer	S56L	34.000	S56	16.4	2.688	0.099	0.0544	
15 minute summer	S56	27.009	S57	191.7	2.374	0.214	1.3661	
15 minute summer	S57L	35.000	S57	17.8	1.535	0.243	0.0883	
15 minute summer	S57	27.010	S58	212.9	2.321	0.276	3.4829	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.95%

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	234.9	0.3940	0.0000	OK
15 minute summer	S59L	10	109.431	0.103	14.7	0.1167	0.0000	OK
15 minute summer	S59	11	109.028	0.229	249.0	0.4049	0.0000	OK
15 minute summer	S60L	10	110.213	0.046	11.4	0.0525	0.0000	OK
15 minute summer	S60	11	108.667	0.313	781.4	0.7970	0.0000	OK
15 minute summer	S61	11	108.052	0.363	783.3	0.9231	0.0000	OK
15 minute summer	S62	11	107.802	0.386	786.7	0.9811	0.0000	OK
15 minute summer	S63La	10	108.132	0.097	13.4	0.1093	0.0000	OK
15 minute summer	S63Lb	10	108.152	0.152	22.0	0.1724	0.0000	SURCHARGED
15 minute summer	S63	11	107.656	0.445	824.4	1.1315	0.0000	OK
15 minute summer	S64L	10	107.794	0.107	32.8	0.1211	0.0000	OK
15 minute summer	S64	12	107.526	0.679	853.3	1.7288	0.0000	OK
15 minute summer	S65L	10	108.304	0.052	13.5	0.0589	0.0000	OK
15 minute summer	S65	12	107.495	0.661	870.8	1.6829	0.0000	OK
1440 minute summer	HW11	1530	107.404	0.587	98.3	0.0000	0.0000	OK
1440 minute summer	HW12	1500	107.404	0.587	109.2	0.0000	0.0000	OK
1440 minute summer	S66	1500	107.404	0.596	0.9	3.4111	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	0.0838	
15 minute summer	S58	27.011	S59	234.8	2.419	0.305	1.7041	
15 minute summer	S59L	37.000	S59	14.6	1.130	0.821	0.1017	
15 minute summer	S59	27.012	S60	248.9	2.519	0.323	1.1440	
15 minute summer	S60L	38.000	S60	11.4	2.454	0.207	0.0522	
15 minute summer	S60	1.016	S61	779.7	3.591	0.276	7.2325	
15 minute summer	S61	1.017	S62	783.9	3.204	0.352	5.4427	
15 minute summer	S62	1.018	S63	785.6	2.816	0.352	4.6771	
15 minute summer	S63La	39.000	S63	13.3	1.108	0.749	0.0877	
15 minute summer	S63Lb	40.000	S63	21.6	1.254	1.209	0.0659	
15 minute summer	S63	1.019	S64	823.3	2.004	0.413	14.9055	
15 minute summer	S64L	41.000	S64	32.7	1.757	0.463	0.1674	
15 minute summer	S64	1.020	S65	853.6	1.686	1.271	5.7067	
15 minute summer	S65L	42.000	S65	13.5	2.485	0.257	0.0423	
15 minute summer	S65	1.021	HW11	958.3	4.044	1.471	4.1690	
1440 minute summer	HW11	Flow through pond	HW12	109.2	0.016	0.007	1442.4792	
1440 minute summer	HW12	1.022	S66	0.9	0.035	0.001	3.6770	
1440 minute summer	S66	Hydro-Brake®	hw13	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	115.382	0.138	49.5	0.2446	0.0000	OK
15 minute summer	S20-1	11	115.243	0.154	62.6	0.2721	0.0000	OK
15 minute summer	S21La	10	115.774	0.138	20.7	0.1562	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	0.099	35.6	0.1748	0.0000	OK
15 minute summer	S22Lb	10	115.570	0.240	29.3	0.2710	0.0000	SURCHARGED
15 minute summer	S22La	10	115.415	0.110	14.2	0.1246	0.0000	OK
15 minute summer	S22	11	115.156	0.223	143.8	0.3935	0.0000	OK
15 minute summer	S23L	10	116.057	0.074	35.5	0.0838	0.0000	OK
15 minute summer	S23	10	115.602	0.145	49.6	0.1635	0.0000	OK
15 minute summer	S24L	10	115.569	0.086	12.8	0.0978	0.0000	OK
15 minute summer	S24	10	115.253	0.143	68.9	0.1614	0.0000	OK
15 minute summer	S25	11	114.977	0.245	220.7	0.4321	0.0000	OK
15 minute summer	S26L	10	115.185	0.068	22.1	0.0774	0.0000	OK
15 minute summer	S26	11	114.709	0.294	253.0	0.5190	0.0000	OK
15 minute summer	S27L	10	115.334	0.062	19.4	0.0701	0.0000	OK
15 minute summer	S27	11	114.343	0.273	290.0	0.4823	0.0000	OK
15 minute summer	S28L	10	114.746	0.056	15.8	0.0631	0.0000	OK
15 minute summer	S28	11	114.008	0.313	310.8	0.5537	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	115.865	0.122	59.6	0.1383	0.0000	OK
15 minute summer	S30Lb	10	115.891	0.075	24.7	0.0843	0.0000	OK
15 minute summer	S30	10	115.026	0.200	114.9	0.3530	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	49.1	1.101	0.208	1.2912	
15 minute summer	S20-1	1.001-1	S22	61.8	0.983	0.261	1.8259	
15 minute summer	S21La	2.000	S21	20.5	1.233	1.128	0.0871	
15 minute summer	S21Lb	3.000	S21	5.2	0.798	0.339	0.0301	
15 minute summer	S21	2.001	S22	35.3	0.695	0.109	1.8057	
15 minute summer	S22Lb	4.000	S22	28.9	1.644	1.384	0.1223	
15 minute summer	S22La	5.000	S22	14.0	1.013	0.893	0.1269	
15 minute summer	S22	1.002	S25	144.4	1.739	0.498	2.0686	
15 minute summer	S23L	6.000	S23	35.4	3.120	0.235	0.0617	
15 minute summer	S23	6.001	S24	49.0	1.464	0.476	1.0616	
15 minute summer	S24L	7.000	S24	12.7	1.209	0.631	0.1216	
15 minute summer	S24	6.002	S25	68.6	1.631	0.316	1.1229	
15 minute summer	S25	1.003	S26	222.2	2.247	0.581	2.2395	
15 minute summer	S26L	8.000	S26	22.0	2.824	0.424	0.0373	
15 minute summer	S26	1.004	S27	254.5	2.322	0.788	3.7753	
15 minute summer	S27L	9.000	S27	19.3	2.822	0.355	0.0669	
15 minute summer	S27	1.005	S28	290.4	2.656	0.695	2.4593	
15 minute summer	S28L	10.000	S28	15.8	2.648	0.293	0.0458	
15 minute summer	S28	1.006	S34	311.2	2.641	0.859	1.8055	
15 minute summer	S29L	11.000	S29	11.6	0.841	1.039	0.1995	
15 minute summer	S29	11.001	S30	16.1	0.890	0.452	0.2564	
15 minute summer	S30La	12.000	S30	59.3	2.695	0.578	0.4367	
15 minute summer	S30Lb	13.000	S30	24.5	2.142	0.238	0.2466	
15 minute summer	S30	11.002	S31	114.4	2.078	0.572	0.9192	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	123.6	0.3094	0.0000	OK
15 minute summer	S32L	10	114.868	0.085	34.6	0.0960	0.0000	OK
15 minute summer	S32	10	114.295	0.237	163.0	0.4197	0.0000	OK
15 minute summer	S33	11	114.101	0.265	169.6	0.4679	0.0000	OK
15 minute summer	S34	11	113.808	0.379	491.9	0.9651	0.0000	OK
15 minute summer	S35	11	113.460	0.269	501.7	0.4748	0.0000	OK
15 minute summer	S36L	10	113.762	0.072	30.6	0.0813	0.0000	OK
15 minute summer	S36	11	112.614	0.288	535.9	0.5082	0.0000	OK
15 minute summer	S37L	10	114.155	0.166	47.4	0.1878	0.0000	OK
15 minute summer	S37	10	113.989	0.216	61.9	0.3808	0.0000	OK
15 minute summer	S38L	11	114.233	0.279	24.0	0.3156	0.0000	SURCHARGED
15 minute summer	S38	11	113.835	0.201	88.5	0.3553	0.0000	OK
15 minute summer	S39La	10	113.972	0.056	16.8	0.0634	0.0000	OK
15 minute summer	S39Lb	10	113.815	0.047	11.8	0.0527	0.0000	OK
15 minute summer	S39	11	113.387	0.170	127.0	0.3000	0.0000	OK
15 minute summer	S40	11	112.139	0.496	681.6	1.2628	0.0000	OK
15 minute summer	S41La	10	112.763	0.095	39.5	0.1074	0.0000	OK
15 minute summer	S41Lb	10	112.582	0.061	18.8	0.0695	0.0000	OK
15 minute summer	S41	11	111.497	0.395	739.3	1.0044	0.0000	OK
15 minute summer	S42La	10	112.279	0.099	70.8	0.1120	0.0000	OK
15 minute summer	S42Lb	10	112.113	0.067	33.2	0.0753	0.0000	OK
15 minute summer	S42	11	111.007	0.383	846.0	0.9746	0.0000	OK
15 minute summer	S43	10	111.215	0.046	6.9	0.0523	0.0000	OK
15 minute summer	S44L	10	111.039	0.172	65.2	0.4375	0.0000	OK
15 minute summer	S44	11	110.623	0.468	928.4	1.1915	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	122.6	1.975	0.456	2.0742	
15 minute summer	S32L	14.000	S32	34.5	3.368	0.610	0.0513	
15 minute summer	S32	11.004	S33	161.6	2.070	0.721	1.3783	
15 minute summer	S33	11.005	S34	171.1	1.969	0.855	2.9837	
15 minute summer	S34	1.007	S35	492.0	3.519	0.907	2.6477	
15 minute summer	S35	1.008	S36	501.6	4.321	0.540	2.7508	
15 minute summer	S36L	15.000	S36	30.5	3.672	0.462	0.0605	
15 minute summer	S36	1.009	S40	535.9	3.526	0.604	2.7979	
15 minute summer	S37L	16.000	S37	47.1	1.312	0.886	0.7294	
15 minute summer	S37	16.001	S38	61.1	1.591	1.179	0.2425	
15 minute summer	S38L	17.000	S38	23.3	1.322	1.366	0.3177	
15 minute summer	S38	16.002	S39	89.0	1.948	0.801	1.9042	
15 minute summer	S39La	18.000	S39	16.8	2.796	0.296	0.0329	
15 minute summer	S39Lb	19.000	S39	11.8	2.533	0.208	0.0186	
15 minute summer	S39	16.003	S40	127.0	3.068	0.624	1.7246	
15 minute summer	S40	1.010	S41	667.8	2.798	1.012	10.8372	
15 minute summer	S41La	20.000	S41	39.4	3.357	0.724	0.1229	
15 minute summer	S41Lb	21.000	S41	18.7	2.763	0.350	0.0621	
15 minute summer	S41	1.011	S42	736.9	3.219	0.575	10.2379	
15 minute summer	S42La	22.000	S42	70.7	4.213	0.402	0.1535	
15 minute summer	S42Lb	23.000	S42	33.1	3.382	0.192	0.0804	
15 minute summer	S42	1.012	S44	850.8	3.310	0.532	7.2223	
15 minute summer	S43	24.000	S44	6.8	1.163	0.093	0.1453	
15 minute summer	S44L	25.000	S44	64.6	1.990	0.940	0.3490	
15 minute summer	S44	1.013	S45	930.0	3.347	0.753	5.5388	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.394	0.438	936.9	1.1138	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	985.3	0.6555	0.0000	OK
15 minute summer	S47L	10	114.553	0.094	19.1	0.1059	0.0000	OK
15 minute summer	S47	10	114.413	0.135	43.0	0.3447	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	10	114.027	0.126	50.1	0.1422	0.0000	OK
15 minute summer	S49L	10	114.343	0.437	80.6	0.4945	0.0000	SURCHARGED
15 minute summer	S49	10	113.946	0.220	134.3	0.2486	0.0000	OK
15 minute summer	S50	10	113.956	0.069	16.8	0.1212	0.0000	OK
15 minute summer	S51	10	113.811	0.083	29.9	0.1470	0.0000	OK
15 minute summer	S52	10	113.703	0.231	167.9	0.4081	0.0000	OK
15 minute summer	S53	11	113.476	0.283	174.3	0.5004	0.0000	OK
15 minute summer	S54L	10	113.717	0.058	14.2	0.0654	0.0000	OK
15 minute summer	S54	11	113.178	0.157	195.3	0.2779	0.0000	OK
15 minute summer	S54AL	10	112.707	0.100	26.3	0.1130	0.0000	OK
15 minute summer	S54A	10	112.246	0.129	48.6	0.2281	0.0000	OK
15 minute summer	S54B	11	111.808	0.162	256.7	0.2867	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	110.487	0.283	324.7	0.5002	0.0000	OK
15 minute summer	S56L	10	111.119	0.066	31.3	0.0746	0.0000	OK
15 minute summer	S56	11	110.042	0.263	363.0	0.4649	0.0000	OK
15 minute summer	S57L	10	110.126	0.107	33.9	0.1207	0.0000	OK
15 minute summer	S57	11	109.795	0.302	405.2	0.5335	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	936.7	4.702	0.677	3.8928	
15 minute summer	S46L	26.000	S46	43.3	3.036	0.765	0.1091	
15 minute summer	S46	1.015	S60	985.1	6.691	0.267	2.0694	
15 minute summer	S47L	27.000	S47	19.0	1.217	0.365	0.1657	
15 minute summer	S47	27.001	S48	42.2	1.378	0.424	1.1592	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.0000	
15 minute summer	S48	27.002	S49	49.8	1.015	0.249	0.8696	
15 minute summer	S49L	29.000	S49	80.2	2.016	2.897	0.4101	
15 minute summer	S49	27.003	S52	133.0	1.996	0.662	1.1883	
15 minute summer	S50	30.000	S51	16.7	0.947	0.052	0.2813	
15 minute summer	S51	30.001	S52	29.6	0.602	0.077	0.9175	
15 minute summer	S52	27.004	S53	168.0	1.803	0.519	2.5968	
15 minute summer	S53	27.005	S54	175.2	2.902	0.452	1.0405	
15 minute summer	S54L	31.000	S54	14.2	2.264	0.314	0.0332	
15 minute summer	S54	27.006	S54B	196.2	3.977	0.270	1.2089	
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	1.8730	
15 minute summer	S54B	27.007	S55	257.1	2.703	0.167	2.7713	
15 minute summer	S55La	32.000	S55	26.6	3.061	0.490	0.0805	
15 minute summer	S55Lb	33.000	S55	26.9	3.085	0.492	0.0959	
15 minute summer	S55	27.008	S56	325.9	2.612	0.473	5.2984	
15 minute summer	S56L	34.000	S56	31.2	3.234	0.188	0.0859	
15 minute summer	S56	27.009	S57	364.5	2.796	0.407	2.2046	
15 minute summer	S57L	35.000	S57	33.8	1.825	0.460	0.1409	
15 minute summer	S57	27.010	S58	407.1	2.740	0.528	5.6393	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.95%

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	0.1186	0.0000	OK
15 minute summer	S58	11	109.342	0.324	448.6	0.5723	0.0000	OK
15 minute summer	S59L	10	109.590	0.262	28.0	0.2958	0.0000	SURCHARGED
15 minute summer	S59	11	109.132	0.333	478.3	0.5890	0.0000	OK
15 minute summer	S60L	10	110.233	0.066	21.7	0.0742	0.0000	OK
15 minute summer	S60	11	108.810	0.456	1494.2	1.1606	0.0000	OK
15 minute summer	S61	11	108.253	0.564	1502.6	1.4341	0.0000	OK
15 minute summer	S62	11	108.059	0.643	1502.7	1.6365	0.0000	OK
15 minute summer	S63La	10	108.254	0.219	25.3	0.2475	0.0000	SURCHARGED
15 minute summer	S63Lb	10	108.327	0.327	41.8	0.3702	0.0000	SURCHARGED
15 minute summer	S63	11	107.945	0.734	1571.6	1.8669	0.0000	OK
15 minute summer	S64L	11	107.958	0.271	62.2	0.3066	0.0000	SURCHARGED
30 minute summer	S64	18	107.839	0.992	1478.3	2.5248	0.0000	SURCHARGED
15 minute summer	S65L	10	108.326	0.074	25.7	0.0840	0.0000	OK
1440 minute summer	S65	1560	107.780	0.946	241.7	2.4083	0.0000	SURCHARGED
1440 minute summer	HW11	1470	107.780	0.963	721.4	0.0000	0.0000	OK
1440 minute summer	HW12	1530	107.780	0.963	1137.1	0.0000	0.0000	SURCHARGED
1440 minute summer	S66	1530	107.780	0.972	5.1	5.5637	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	1.969	0.833	0.1375	
15 minute summer	S58	27.011	S59	451.3	2.858	0.587	2.7726	
15 minute summer	S59L	37.000	S59	27.6	1.570	1.555	0.1373	
15 minute summer	S59	27.012	S60	478.4	2.979	0.621	1.8592	
15 minute summer	S60L	38.000	S60	21.6	2.928	0.394	0.0834	
15 minute summer	S60	1.016	S61	1495.7	4.077	0.530	12.3012	
15 minute summer	S61	1.017	S62	1497.4	3.459	0.672	9.8563	
15 minute summer	S62	1.018	S63	1498.0	3.095	0.671	8.4982	
15 minute summer	S63La	39.000	S63	25.0	1.421	1.410	0.1267	
15 minute summer	S63Lb	40.000	S63	41.4	2.353	2.323	0.0674	
15 minute summer	S63	1.019	S64	1541.9	2.587	0.773	21.5202	
15 minute summer	S64L	41.000	S64	68.6	1.995	0.973	0.3582	
30 minute summer	S64	1.020	S65	1746.9	2.760	2.601	6.9783	
15 minute summer	S65L	42.000	S65	25.7	2.903	0.491	0.0881	
1440 minute summer	S65	1.021	HW11	-240.9	1.143	-0.370	9.9179	
1440 minute summer	HW11	Flow through pond	HW12	1137.1	0.025	0.069	2515.0757	
1440 minute summer	HW12	1.022	S66	5.1	0.113	0.008	5.2781	
1440 minute summer	S66	Hydro-Brake®	hw13	0.2				2.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

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	115.633	0.389	90.0	0.6881	0.0000	OK
15 minute summer	S20-1	12	115.632	0.543	113.7	0.9588	0.0000	SURCHARGED
15 minute summer	S21La	10	115.966	0.330	37.7	0.3734	0.0000	SURCHARGED
15 minute summer	S21Lb	10	115.701	0.085	9.6	0.0959	0.0000	OK
15 minute summer	S21	12	115.640	0.359	64.7	0.6335	0.0000	OK
15 minute summer	S22Lb	11	116.108	0.778	53.2	0.8803	0.0000	SURCHARGED
15 minute summer	S22La	12	115.733	0.428	25.7	0.4837	0.0000	SURCHARGED
15 minute summer	S22	12	115.620	0.687	260.1	1.2141	0.0000	SURCHARGED
15 minute summer	S23L	10	116.085	0.102	64.6	0.1157	0.0000	OK
15 minute summer	S23	10	115.670	0.213	90.2	0.2409	0.0000	OK
15 minute summer	S24L	12	115.714	0.231	23.3	0.2614	0.0000	SURCHARGED
15 minute summer	S24	12	115.573	0.463	124.5	0.5238	0.0000	SURCHARGED
15 minute summer	S25	12	115.513	0.781	346.1	1.3801	0.0000	SURCHARGED
15 minute summer	S26L	12	115.465	0.348	40.1	0.3934	0.0000	SURCHARGED
15 minute summer	S26	12	115.294	0.879	379.5	1.5528	0.0000	SURCHARGED
15 minute summer	S27L	10	115.360	0.088	35.3	0.0994	0.0000	OK
15 minute summer	S27	12	114.866	0.796	422.9	1.4059	0.0000	SURCHARGED
15 minute summer	S28L	11	114.770	0.080	28.7	0.0901	0.0000	OK
15 minute summer	S28	12	114.496	0.801	457.4	1.4149	0.0000	SURCHARGED
15 minute summer	S29L	12	115.752	0.576	21.5	0.6519	0.0000	SURCHARGED
15 minute summer	S29	12	115.593	0.550	29.3	0.6223	0.0000	SURCHARGED
15 minute summer	S30La	11	116.288	0.545	108.2	0.6166	0.0000	SURCHARGED
15 minute summer	S30Lb	10	115.919	0.103	44.9	0.1166	0.0000	OK
15 minute summer	S30	12	115.552	0.726	195.8	1.2834	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	0.4267	
15 minute summer	S20	1.001	S20-1	89.2	1.253	0.378	4.4048	
15 minute summer	S20-1	1.001-1	S22	112.3	1.063	0.474	4.5884	
15 minute summer	S21La	2.000	S21	37.3	2.117	2.049	0.0914	
15 minute summer	S21Lb	3.000	S21	9.5	0.928	0.615	0.0470	
15 minute summer	S21	2.001	S22	64.2	0.770	0.198	5.1089	
15 minute summer	S22Lb	4.000	S22	51.5	2.927	2.463	0.1235	
15 minute summer	S22La	5.000	S22	24.9	1.415	1.586	0.1614	
15 minute summer	S22	1.002	S25	261.9	1.776	0.902	3.9449	
15 minute summer	S23L	6.000	S23	64.5	3.223	0.428	0.1171	
15 minute summer	S23	6.001	S24	89.0	1.669	0.865	1.9445	
15 minute summer	S24L	7.000	S24	22.2	1.281	1.107	0.2041	
15 minute summer	S24	6.002	S25	115.9	1.670	0.534	2.8516	
15 minute summer	S25	1.003	S26	345.5	2.272	0.903	3.5922	
15 minute summer	S26L	8.000	S26	37.9	3.053	0.730	0.0840	
15 minute summer	S26	1.004	S27	369.1	2.569	1.142	5.4568	
15 minute summer	S27L	9.000	S27	35.2	3.193	0.647	0.1383	
15 minute summer	S27	1.005	S28	418.7	2.643	1.002	3.5678	
15 minute summer	S28L	10.000	S28	28.4	2.880	0.529	0.1044	
15 minute summer	S28	1.006	S34	453.2	2.861	1.251	2.4275	
15 minute summer	S29L	11.000	S29	20.9	1.191	1.878	0.2554	
15 minute summer	S29	11.001	S30	34.2	1.006	0.961	0.5647	
15 minute summer	S30La	12.000	S30	104.6	2.854	1.020	0.7897	
15 minute summer	S30Lb	13.000	S30	44.7	2.304	0.434	0.6193	
15 minute summer	S30	11.002	S31	190.0	2.265	0.949	1.8419	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S31	12	115.420	0.761	206.0	1.3442	0.0000	SURCHARGED
15 minute summer	S32L	11	115.609	0.826	62.8	0.9346	0.0000	SURCHARGED
15 minute summer	S32	12	115.103	1.046	261.9	1.8484	0.0000	SURCHARGED
15 minute summer	S33	12	114.811	0.975	272.2	1.7223	0.0000	SURCHARGED
15 minute summer	S34	12	114.201	0.772	733.0	1.9654	0.0000	SURCHARGED
15 minute summer	S35	12	113.770	0.579	745.8	1.0229	0.0000	SURCHARGED
15 minute summer	S36L	11	113.813	0.123	55.6	0.1386	0.0000	OK
15 minute summer	S36	11	113.218	0.892	795.0	1.5767	0.0000	SURCHARGED
15 minute summer	S37L	11	115.334	1.345	86.1	1.5208	0.0000	SURCHARGED
15 minute summer	S37	12	114.910	1.137	104.9	2.0084	0.0000	SURCHARGED
15 minute summer	S38L	12	115.524	1.570	43.7	1.7752	0.0000	SURCHARGED
15 minute summer	S38	12	114.690	1.056	141.4	1.8652	0.0000	SURCHARGED
15 minute summer	S39La	12	114.117	0.201	30.5	0.2270	0.0000	SURCHARGED
15 minute summer	S39Lb	12	114.043	0.275	21.5	0.3113	0.0000	SURCHARGED
15 minute summer	S39	12	114.000	0.783	197.8	1.3838	0.0000	SURCHARGED
15 minute summer	S40	11	112.734	1.091	1026.3	2.7764	0.0000	SURCHARGED
15 minute summer	S41La	11	113.476	0.808	71.8	0.9142	0.0000	SURCHARGED
15 minute summer	S41Lb	10	112.607	0.087	34.1	0.0985	0.0000	OK
15 minute summer	S41	11	111.645	0.543	1162.6	1.3825	0.0000	OK
15 minute summer	S42La	10	112.322	0.142	128.6	0.1609	0.0000	OK
15 minute summer	S42Lb	10	112.138	0.091	60.4	0.1034	0.0000	OK
15 minute summer	S42	11	111.192	0.568	1363.7	1.4466	0.0000	OK
15 minute summer	S43	10	111.232	0.063	12.6	0.0709	0.0000	OK
15 minute summer	S44L	10	111.441	0.574	118.4	1.4605	0.0000	SURCHARGED
15 minute summer	S44	11	110.866	0.711	1508.0	1.8093	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	193.9	2.030	0.721	3.6901	
15 minute summer	S32L	14.000	S32	57.7	3.584	1.019	0.0881	
15 minute summer	S32	11.004	S33	257.9	2.338	1.151	1.9463	
15 minute summer	S33	11.005	S34	269.2	2.441	1.345	3.6713	
15 minute summer	S34	1.007	S35	728.6	3.595	1.343	4.1122	
15 minute summer	S35	1.008	S36	755.9	4.410	0.814	5.1185	
15 minute summer	S36L	15.000	S36	54.6	4.150	0.827	0.1200	
15 minute summer	S36	1.009	S40	799.2	3.700	0.901	3.9411	
15 minute summer	S37L	16.000	S37	78.0	1.961	1.468	0.8221	
15 minute summer	S37	16.001	S38	96.8	2.434	1.867	0.2517	
15 minute summer	S38L	17.000	S38	36.6	2.077	2.148	0.3252	
15 minute summer	S38	16.002	S39	139.9	2.010	1.259	2.9370	
15 minute summer	S39La	18.000	S39	29.4	3.198	0.519	0.0967	
15 minute summer	S39Lb	19.000	S39	20.4	2.776	0.360	0.0705	
15 minute summer	S39	16.003	S40	199.1	3.081	0.978	2.6925	
15 minute summer	S40	1.010	S41	1032.4	3.666	1.564	11.8273	
15 minute summer	S41La	20.000	S41	69.1	3.926	1.271	0.1826	
15 minute summer	S41Lb	21.000	S41	34.0	3.210	0.636	0.0969	
15 minute summer	S41	1.011	S42	1165.5	3.498	0.909	15.5437	
15 minute summer	S42La	22.000	S42	128.4	4.865	0.731	0.2415	
15 minute summer	S42Lb	23.000	S42	60.3	3.992	0.349	0.1240	
15 minute summer	S42	1.012	S44	1366.2	3.497	0.854	11.0728	
15 minute summer	S43	24.000	S44	12.5	1.345	0.171	0.5450	
15 minute summer	S44L	25.000	S44	116.1	2.919	1.689	0.4229	
15 minute summer	S44	1.013	S45	1535.5	3.658	1.243	8.3415	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S45	11	110.606	0.650	1548.1	1.6540	0.0000	OK
15 minute summer	S46L	11	111.503	0.984	78.9	1.1128	0.0000	SURCHARGED
15 minute summer	S46	11	110.075	0.362	1611.3	0.9219	0.0000	OK
15 minute summer	S47L	10	114.592	0.133	34.7	0.1506	0.0000	OK
15 minute summer	S47	10	114.474	0.196	78.2	0.4994	0.0000	OK
15 minute summer	S48L	1	114.520	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S48	11	114.158	0.257	91.3	0.2903	0.0000	OK
15 minute summer	S49L	11	114.948	1.042	146.5	1.1789	0.0000	SURCHARGED
15 minute summer	S49	11	114.149	0.423	238.9	0.4784	0.0000	SURCHARGED
15 minute summer	S50	10	113.979	0.092	30.5	0.1622	0.0000	OK
15 minute summer	S51	10	113.840	0.112	54.2	0.1977	0.0000	OK
15 minute summer	S52	11	113.815	0.343	300.6	0.6068	0.0000	OK
15 minute summer	S53	11	113.566	0.373	311.3	0.6593	0.0000	OK
15 minute summer	S54L	10	113.740	0.081	25.7	0.0918	0.0000	OK
15 minute summer	S54	11	113.237	0.216	348.0	0.3815	0.0000	OK
15 minute summer	S54AL	10	112.957	0.350	47.8	0.3956	0.0000	SURCHARGED
15 minute summer	S54A	10	112.294	0.177	87.8	0.3124	0.0000	OK
15 minute summer	S54B	11	111.865	0.219	458.6	0.3874	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	0.1256	0.0000	OK
15 minute summer	S55	12	110.623	0.419	583.0	0.7404	0.0000	OK
15 minute summer	S56L	10	111.143	0.090	56.8	0.1021	0.0000	OK
15 minute summer	S56	12	110.440	0.661	645.2	1.1676	0.0000	SURCHARGED
15 minute summer	S57L	12	110.380	0.361	61.6	0.4081	0.0000	SURCHARGED
15 minute summer	S57	12	110.286	0.793	711.8	1.4007	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	1522.5	5.025	1.100	5.9934	
15 minute summer	S46L	26.000	S46	75.7	4.303	1.338	0.1287	
15 minute summer	S46	1.015	S60	1596.8	7.192	0.433	4.4503	
15 minute summer	S47L	27.000	S47	34.5	1.413	0.664	0.2595	
15 minute summer	S47	27.001	S48	76.9	1.588	0.773	1.8335	
15 minute summer	S48L	28.000	S48	0.0	0.000	0.000	0.1008	
15 minute summer	S48	27.002	S49	90.6	1.096	0.453	1.6669	
15 minute summer	S49L	29.000	S49	142.9	3.595	5.166	0.4143	
15 minute summer	S49	27.003	S52	239.1	2.168	1.190	1.9203	
15 minute summer	S50	30.000	S51	30.3	1.130	0.094	0.4291	
15 minute summer	S51	30.001	S52	53.9	0.683	0.140	1.4380	
15 minute summer	S52	27.004	S53	299.9	2.216	0.927	3.7682	
15 minute summer	S53	27.005	S54	311.4	3.329	0.803	1.6047	
15 minute summer	S54L	31.000	S54	25.6	2.639	0.568	0.0516	
15 minute summer	S54	27.006	S54B	348.4	4.636	0.480	1.8418	
15 minute summer	S54AL	43.000	S54A	47.1	2.674	1.403	0.0939	
15 minute summer	S54A	43.001	S54B	86.8	1.512	0.336	2.8824	
15 minute summer	S54B	27.007	S55	459.0	3.049	0.297	4.3646	
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	0.894	0.1534	
15 minute summer	S55	27.008	S56	574.7	2.890	0.834	10.4418	
15 minute summer	S56L	34.000	S56	56.7	3.816	0.341	0.2324	
15 minute summer	S56	27.009	S57	634.9	3.006	0.708	4.7612	
15 minute summer	S57L	35.000	S57	61.4	2.089	0.836	0.3029	
15 minute summer	S57	27.010	S58	708.7	2.854	0.920	10.6919	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S58L	11	110.533	0.749	47.2	0.8475	0.0000	SURCHARGED
15 minute summer	S58	11	109.879	0.861	768.2	1.5215	0.0000	SURCHARGED
15 minute summer	S59L	11	110.268	0.940	50.8	1.0632	0.0000	SURCHARGED
15 minute summer	S59	12	109.689	0.890	806.2	1.5719	0.0000	SURCHARGED
15 minute summer	S60L	10	110.261	0.094	39.5	0.1064	0.0000	OK
15 minute summer	S60	11	109.551	1.197	2413.3	3.0467	0.0000	SURCHARGED
15 minute summer	S61	11	109.136	1.447	2450.3	3.6832	0.0000	SURCHARGED
15 minute summer	S62	11	108.855	1.439	2453.0	3.6615	0.0000	SURCHARGED
15 minute summer	S63La	11	109.005	0.970	46.0	1.0972	0.0000	SURCHARGED
15 minute summer	S63Lb	11	109.229	1.229	75.9	1.3903	0.0000	SURCHARGED
15 minute summer	S63	11	108.558	1.347	2581.2	3.4270	0.0000	SURCHARGED
15 minute summer	S64L	11	108.411	0.724	113.0	0.8192	0.0000	SURCHARGED
15 minute summer	S64	9	108.216	1.369	2695.4	3.4841	0.0000	SURCHARGED
15 minute summer	S65L	10	108.362	0.110	46.6	0.1246	0.0000	OK
960 minute summer	S65	645	108.188	1.354	362.7	3.4464	0.0000	SURCHARGED
1440 minute summer	HW11	1170	108.149	1.332	501.3	0.0000	0.0000	OK
1440 minute summer	HW12	1200	108.150	1.333	613.0	0.0000	0.0000	FLOOD RISK
1440 minute summer	S66	1200	108.150	1.342	23.6	7.6834	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	45.6	2.588	1.470	0.1843	
15 minute summer	S58	27.011	S59	761.9	2.987	0.990	4.9451	
15 minute summer	S59L	37.000	S59	47.6	2.703	2.678	0.1388	
15 minute summer	S59	27.012	S60	811.9	3.148	1.053	3.2610	
15 minute summer	S60L	38.000	S60	39.4	3.337	0.718	0.1651	
15 minute summer	S60	1.016	S61	2440.0	4.128	0.864	21.0692	
15 minute summer	S61	1.017	S62	2445.0	3.858	1.097	13.8442	
15 minute summer	S62	1.018	S63	2463.9	3.888	1.104	10.3761	
15 minute summer	S63La	39.000	S63	41.2	2.338	2.322	0.1288	
15 minute summer	S63Lb	40.000	S63	70.2	3.987	3.936	0.0681	
15 minute summer	S63	1.019	S64	2576.0	4.065	1.292	23.1150	
15 minute summer	S64L	41.000	S64	117.2	2.948	1.662	0.3582	
15 minute summer	S64	1.020	S65	2650.5	4.183	3.946	7.1426	
15 minute summer	S65L	42.000	S65	46.5	3.171	0.889	0.1200	
960 minute summer	S65	1.021	HW11	363.5	1.704	0.558	9.9179	
1440 minute summer	HW11	Flow through pond	HW12	613.0	0.031	0.037	3684.6963	
1440 minute summer	HW12	1.022	S66	23.6	0.037	0.036	5.2781	
1440 minute summer	S66	Hydro-Brake®	hw13	23.2				1211.4

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN	File: FW2285 Network 3.pfd Network: SW Network 3 Jon Davey July 2024	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								
Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S67L	0.036	5.00	116.640	Manhole	1200	443759.776	291437.274	1.642
S67	0.029	5.00	116.626	Manhole	1200	443754.601	291440.646	1.760
S68	0.044	5.00	116.483	Manhole	1200	443746.454	291428.477	1.779
S69L	0.052	5.00	116.100	Manhole	1200	443761.907	291388.316	1.247
S69			116.000	Manhole	1500	443752.954	291385.392	1.676
S70			116.000	Manhole	1500	443760.577	291359.063	1.743
S71L	0.108	5.00	116.500	Manhole	1200	443813.132	291379.558	2.000
S71			116.000	Manhole	1500	443814.426	291375.457	1.880
S72	0.050	5.00	116.498	Manhole	1500	443796.103	291443.938	1.671
S73La	0.033	5.00	116.320	Manhole	1200	443805.881	291407.158	1.573
S73Lb	0.090	5.00	116.346	Manhole	1200	443816.318	291411.988	1.616
S73	0.016	5.00	116.446	Manhole	1500	443811.848	291409.919	1.990
S74	0.015	5.00	116.569	Manhole	1500	443819.303	291394.976	2.256
S75L	0.120	5.00	116.650	Manhole	1200	443828.243	291381.036	1.881
S75	0.017	5.00	116.499	Manhole	1500	443824.059	291378.789	2.430
S76	0.011	5.00	116.313	Manhole	1500	443830.286	291361.590	2.336
S77	0.017	5.00	116.252	Manhole	1500	443837.366	291353.859	2.334
S78L	0.037	5.00	116.481	Manhole	1200	443851.912	291342.796	2.329
S78	0.031	5.00	116.345	Manhole	1500	443850.095	291349.382	2.562
S79L	0.102	5.00	116.530	Manhole	1200	443897.490	291356.796	2.254
S79	0.037	5.00	116.401	Manhole	1500	443895.594	291362.985	2.828
S80L	0.060	5.00	116.600	Manhole	1200	443927.311	291365.336	1.898
S80	0.021	5.00	116.458	Manhole	1800	443925.227	291372.140	3.060
S81L	0.102	5.00	115.641	Manhole	1500	443885.768	291282.814	2.205
S81	0.030	5.00	115.632	Manhole	1500	443889.207	291283.895	2.644
S82	0.011	5.00	116.063	Manhole	1500	443908.339	291289.821	3.124
S83L	0.072	5.00	115.800	Manhole	1200	443928.509	291300.272	2.310
S83	0.023	5.00	115.829	Manhole	1500	443930.239	291296.618	2.946
S84	0.013	5.00	115.717	Manhole	1500	443949.339	291302.550	2.883
S85L	0.048	5.00	115.800	Manhole	1200	443954.279	291315.608	2.286
S85	0.028	5.00	115.754	Manhole	1200	443959.139	291313.356	2.433
S86	0.010	5.00	115.683	Manhole	1500	443971.732	291336.944	2.949
S87L	0.054	5.00	115.769	Manhole	1200	443969.106	291347.360	2.209
S87	0.038	5.00	115.755	Manhole	1500	443973.894	291348.997	3.064
S88	0.012	5.00	116.258	Manhole	1500	443964.335	291384.353	3.744
S89			115.739	Manhole	1500	444004.060	291398.006	3.340
S91			115.513	Manhole	1800	444020.925	291402.553	3.397
S92L	0.077	5.00	115.313	Manhole	1200	444009.789	291445.245	1.765
S92	0.013	5.00	115.286	Manhole	1200	444013.272	291446.339	2.178
S93	0.042	5.00	115.287	Manhole	1800	444017.554	291433.597	3.215
S94L	0.057	5.00	114.788	Manhole	1200	444042.544	291447.402	1.591
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Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S94	0.020	5.00	114.794	Manhole	1800	444044.192	291442.029	2.759
S95La	0.029	5.00	114.300	Manhole	1200	444054.557	291480.418	1.386
S95Lb	0.025	5.00	114.250	Manhole	1200	444063.621	291483.265	1.556
S95	0.026	5.00	114.279	Manhole	1200	444060.181	291482.048	2.100
S96	0.059	5.00	114.304	Manhole	1800	444070.570	291451.147	3.665
S97L	0.072	5.00	113.400	Manhole	1200	444116.288	291471.699	2.579
S97	0.020	5.00	113.420	Manhole	1800	444118.166	291466.495	3.769
S98L	0.049	5.00	112.010	Manhole	1200	444150.009	291482.356	2.491
S98	0.033	5.00	112.082	Manhole	1800	444151.509	291477.890	3.638
S99L	0.070	5.00	110.750	Manhole	1200	444188.412	291495.138	1.416
S99			110.700	Manhole	1800	444189.788	291490.853	2.799
S100			110.700	Manhole	1800	444219.480	291500.384	3.797
HW14			107.500	Manhole	1	444232.144	291519.066	1.230
HW15		5.00	107.500	Manhole	1	444293.606	291529.740	1.230
S101			107.500	Manhole	2700	444300.866	291535.204	1.247
HW16			106.000	Manhole	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	6.176	0.600	114.998	114.940	0.058	106.5	150	5.11	50.0
1.001	S67	S68	14.645	0.600	114.866	114.780	0.086	170.3	225	5.35	50.0
1.002	S68	S69	43.773	0.600	114.704	114.522	0.182	240.5	300	6.07	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	6.53	48.4
1.004	S70	S71	56.289	0.600	114.257	114.120	0.137	410.9	450	7.47	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	7.59	44.9
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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S67L	S67	0.973	17.2	4.9	1.492	1.536	1.492	1.536	0.036	0.0
1.001	S67	S68	0.999	39.7	8.8	1.535	1.478	1.478	1.535	0.065	0.0
1.002	S68	S69	1.009	71.3	14.8	1.479	1.178	1.178	1.479	0.109	0.0
2.000	S69L	S69	1.486	26.3	7.0	1.097	1.226	1.097	1.226	0.052	0.0
1.003	S69	S70	0.999	158.8	21.1	1.226	1.293	1.226	1.293	0.161	0.0
1.004	S70	S71	0.996	158.5	19.7	1.293	1.430	1.293	1.430	0.161	0.0
3.000	S71L	S71	2.493	99.1	14.6	1.775	1.430	1.430	1.775	0.108	0.0
1.005	S71	S75	1.434	228.1	32.7	1.430	1.980	1.430	1.980	0.269	0.0
4.000	S72	S73	1.001	39.8	6.8	1.446	1.615	1.446	1.615	0.050	0.0
5.000	S73La	S73	1.007	17.8	4.5	1.423	1.615	1.423	1.615	0.033	0.0
6.000	S73Lb	S73	1.002	17.7	12.2	1.466	1.615	1.466	1.615	0.090	0.0
4.001	S73	S74	1.675	185.0	25.6	1.615	1.881	1.615	1.881	0.189	0.0
4.002	S74	S75	1.813	200.3	27.6	1.881	1.980	1.881	1.980	0.204	0.0

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	7.80	44.2
1.007	S76	S77	10.483	0.600	113.978	113.919	0.059	177.7	450	7.92	43.9
1.008	S77	S78	13.494	0.600	113.918	113.783	0.135	100.0	450	8.03	43.6
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	8.76	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	31.015	0.600	113.573	113.398	0.175	177.2	525	9.07	40.9
10.000	S80L	S80	7.116	0.600	114.702	113.773	0.929	7.7	150	5.03	50.0
1.011	S80	S88	31.170	0.600	113.398	112.514	0.884	35.3	525	9.20	40.6
11.000	S81L	S81	3.605	0.600	113.436	113.138	0.298	12.1	300	5.01	50.0
11.001	S81	S82	20.029	0.600	112.988	112.939	0.049	410.0	450	5.35	50.0
11.002	S82	S83	22.931	0.600	112.939	112.883	0.056	410.0	450	5.73	50.0
12.000	S83L	S83	4.043	0.600	113.490	113.183	0.307	13.2	150	5.02	50.0
11.003	S83	S84	20.000	0.600	112.883	112.834	0.049	410.0	450	6.07	50.0
11.004	S84	S86	41.041	0.600	112.834	112.734	0.100	410.0	450	6.75	47.6
13.000	S85L	S85	5.356	0.600	113.514	113.396	0.118	45.4	150	5.06	50.0
14.001	S85	S86	26.739	0.600	113.321	112.962	0.359	74.5	225	5.35	50.0
11.005	S86	S87	12.245	0.600	112.734	112.691	0.043	284.8	450	6.92	47.0
14.000	S87L	S87	5.060	0.600	113.560	112.994	0.566	8.9	150	5.02	50.0
11.006	S87	S88	36.625	0.600	112.694	112.589	0.105	348.8	450	7.48	45.2
1.012	S88	S89	42.006	0.600	112.514	112.399	0.115	365.3	525	9.81	39.2
1.013	S89	S91	17.467	0.600	112.399	112.341	0.058	301.2	525	10.03	38.8
1.014	S91	S93	31.226	0.600	112.116	112.072	0.044	709.7	750	10.53	37.8

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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)
17.000	S92L	S92	3.651	0.600	113.548	113.183	0.365	10.0	150	5.02	50.0
17.001	S92	S93	13.443	0.600	113.108	112.597	0.511	26.3	225	5.11	50.0
1.015	S93	S94	27.940	0.600	112.072	112.035	0.037	755.1	750	10.99	36.9
18.000	S94L	S94	5.620	0.600	113.197	112.635	0.562	10.0	150	5.03	50.0
1.016	S94	S96	27.910	0.600	112.035	110.640	1.395	20.0	750	11.07	36.8
19.000	S95La	S95	5.856	0.600	112.914	112.328	0.586	10.0	150	5.03	50.0
20.000	S95Lb	S95	3.648	0.600	112.694	112.329	0.365	10.0	150	5.02	50.0
19.001	S95	S96	32.600	0.600	112.179	111.089	1.090	29.9	300	5.22	50.0
1.017	S96	S97	50.010	0.600	110.639	109.651	0.988	50.6	750	11.28	36.4
21.000	S97L	S97	5.532	0.600	110.821	110.251	0.570	9.7	150	5.03	50.0
1.018	S97	S98	35.236	0.600	109.651	108.444	1.207	29.2	750	11.39	36.2
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	11.60	35.9
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	11.70	35.7
1.021	S100	HW14	22.569	0.600	106.903	106.270	0.633	35.7	750	11.78	35.5
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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
17.000	S92L	S92	3.204	56.6	10.4	1.615	1.953	1.615	1.953	0.077	0.0
17.001	S92	S93	2.561	101.8	12.2	1.953	2.465	1.953	2.465	0.090	0.0
1.015	S93	S94	1.010	446.3	150.0	2.465	2.009	2.009	2.465	1.499	0.0
18.000	S94L	S94	3.204	56.6	7.7	1.441	2.009	1.441	2.009	0.057	0.0
1.016	S94	S96	6.272	2770.9	157.2	2.009	2.914	2.009	2.914	1.576	0.0
19.000	S95La	S95	3.205	56.6	3.9	1.236	1.801	1.236	1.801	0.029	0.0
20.000	S95Lb	S95	3.205	56.6	3.4	1.406	1.800	1.406	1.800	0.025	0.0
19.001	S95	S96	2.885	203.9	10.8	1.800	2.915	1.800	2.915	0.080	0.0
1.017	S96	S97	3.938	1739.9	169.3	2.915	3.019	2.915	3.019	1.715	0.0
21.000	S97L	S97	3.253	57.5	9.8	2.429	3.019	2.429	3.019	0.072	0.0
1.018	S97	S98	5.190	2292.9	177.4	3.019	2.888	2.888	3.019	1.807	0.0
22.000	S98L	S98	3.464	61.2	6.6	2.341	2.888	2.341	2.888	0.049	0.0
1.019	S98	S99	3.246	1433.8	183.6	2.888	2.049	2.049	2.888	1.889	0.0
23.000	S99L	S99	4.364	77.1	9.5	1.266	2.049	1.266	2.049	0.070	0.0
1.020	S99	S100	5.016	2216.0	189.5	2.049	3.047	2.049	3.047	1.959	0.0
1.021	S100	HW14	4.695	2074.2	188.8	3.047	0.480	0.480	3.047	1.959	0.0
1.022	HW15	S101	1.203	531.5	0.0	0.480	0.497	0.480	0.497	0.000	0.0
1.023	S101	HW16	2.478	98.5	0.0	1.022	0.675	0.675	1.022	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	6.176	106.5	150	116.640	114.998	1.492	116.626	114.940	1.536
1.001	14.645	170.3	225	116.626	114.866	1.535	116.483	114.780	1.478
1.002	43.773	240.5	300	116.483	114.704	1.479	116.000	114.522	1.178
2.000	10.549	46.1	150	116.100	114.853	1.097	116.000	114.624	1.226
1.003	27.410	409.1	450	116.000	114.324	1.226	116.000	114.257	1.293
1.004	56.289	410.9	450	116.000	114.257	1.293	116.000	114.120	1.430
3.000	4.300	27.7	225	116.500	114.500	1.775	116.000	114.345	1.430
1.005	10.193	199.9	450	116.000	114.120	1.430	116.499	114.069	1.980
4.000	37.486	169.6	225	116.498	114.827	1.446	116.446	114.606	1.615
5.000	6.575	99.6	150	116.320	114.747	1.423	116.446	114.681	1.615
6.000	4.926	100.5	150	116.346	114.730	1.466	116.446	114.681	1.615
4.001	16.700	116.8	375	116.446	114.456	1.615	116.569	114.313	1.881
4.002	16.871	99.8	375	116.569	114.313	1.881	116.499	114.144	1.980
7.000	4.749	10.0	225	116.650	114.769	1.656	116.499	114.294	1.980
1.006	18.292	198.8	450	116.499	114.069	1.980	116.313	113.977	1.886
1.007	10.483	177.7	450	116.313	113.978	1.885	116.252	113.919	1.883
1.008	13.494	100.0	450	116.252	113.918	1.884	116.345	113.783	2.112
8.000	6.832	99.0	150	116.481	114.152	2.179	116.345	114.083	2.112
1.009	47.489	349.2	450	116.345	113.784	2.111	116.401	113.648	2.303
9.000	6.473	19.7	150	116.530	114.276	2.104	116.401	113.947	2.304
1.010	31.015	177.2	525	116.401	113.573	2.303	116.458	113.398	2.535
10.000	7.116	7.7	150	116.600	114.702	1.748	116.458	113.773	2.535
1.011	31.170	35.3	525	116.458	113.398	2.535	116.258	112.514	3.219
11.000	3.605	12.1	300	115.641	113.436	1.905	115.632	113.138	2.194
11.001	20.029	410.0	450	115.632	112.988	2.194	116.063	112.939	2.674

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.000	S67L	1200	Manhole	S67	1200	1
1.001	S67	1200	Manhole	S68	1200	1
1.002	S68	1200	Manhole	S69	1500	1
2.000	S69L	1200	Manhole	S69	1500	1
1.003	S69	1500	Manhole	S70	1500	1
1.004	S70	1500	Manhole	S71	1500	1
3.000	S71L	1200	Manhole	S71	1500	1
1.005	S71	1500	Manhole	S75	1500	1
4.000	S72	1500	Manhole	S73	1500	1
5.000	S73La	1200	Manhole	S73	1500	1
6.000	S73Lb	1200	Manhole	S73	1500	1
4.001	S73	1500	Manhole	S74	1500	1
4.002	S74	1500	Manhole	S75	1500	1
7.000	S75L	1200	Manhole	S75	1500	1
1.006	S75	1500	Manhole	S76	1500	1
1.007	S76	1500	Manhole	S77	1500	1
1.008	S77	1500	Manhole	S78	1500	1
8.000	S78L	1200	Manhole	S78	1500	1
1.009	S78	1500	Manhole	S79	1500	1
9.000	S79L	1200	Manhole	S79	1500	1
1.010	S79	1500	Manhole	S80	1800	1
10.000	S80L	1200	Manhole	S80	1800	1
1.011	S80	1800	Manhole	S88	1500	1
11.000	S81L	1500	Manhole	S81	1500	1
11.001	S81	1500	Manhole	S82	1500	1

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.002	22.931	410.0	450	116.063	112.939	2.674	115.829	112.883	2.496
12.000	4.043	13.2	150	115.800	113.490	2.160	115.829	113.183	2.496
11.003	20.000	410.0	450	115.829	112.883	2.496	115.717	112.834	2.433
11.004	41.041	410.0	450	115.717	112.834	2.433	115.683	112.734	2.499
13.000	5.356	45.4	150	115.800	113.514	2.136	115.754	113.396	2.208
14.001	26.739	74.5	225	115.754	113.321	2.208	115.683	112.962	2.496
11.005	12.245	284.8	450	115.683	112.734	2.499	115.755	112.691	2.614
14.000	5.060	8.9	150	115.769	113.560	2.059	115.755	112.994	2.611
11.006	36.625	348.8	450	115.755	112.694	2.611	116.258	112.589	3.219
1.012	42.006	365.3	525	116.258	112.514	3.219	115.739	112.399	2.815
1.013	17.467	301.2	525	115.739	112.399	2.815	115.513	112.341	2.647
1.014	31.226	709.7	750	115.513	112.116	2.647	115.287	112.072	2.465
17.000	3.651	10.0	150	115.313	113.548	1.615	115.286	113.183	1.953
17.001	13.443	26.3	225	115.286	113.108	1.953	115.287	112.597	2.465
1.015	27.940	755.1	750	115.287	112.072	2.465	114.794	112.035	2.009
18.000	5.620	10.0	150	114.788	113.197	1.441	114.794	112.635	2.009
1.016	27.910	20.0	750	114.794	112.035	2.009	114.304	110.640	2.914
19.000	5.856	10.0	150	114.300	112.914	1.236	114.279	112.328	1.801
20.000	3.648	10.0	150	114.250	112.694	1.406	114.279	112.329	1.800
19.001	32.600	29.9	300	114.279	112.179	1.800	114.304	111.089	2.915
1.017	50.010	50.6	750	114.304	110.639	2.915	113.420	109.651	3.019
21.000	5.532	9.7	150	113.400	110.821	2.429	113.420	110.251	3.019
1.018	35.236	29.2	750	113.420	109.651	3.019	112.082	108.444	2.888
22.000	4.067	8.6	150	112.010	109.519	2.341	112.082	109.044	2.888
1.019	40.414	74.4	750	112.082	108.444	2.888	110.700	107.901	2.049

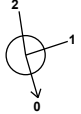
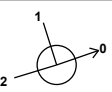
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
11.002	S82	1500	Manhole	S83	1500	1
12.000	S83L	1200	Manhole	S83	1500	1
11.003	S83	1500	Manhole	S84	1500	1
11.004	S84	1500	Manhole	S86	1500	1
13.000	S85L	1200	Manhole	S85	1200	1
14.001	S85	1200	Manhole	S86	1500	1
11.005	S86	1500	Manhole	S87	1500	1
14.000	S87L	1200	Manhole	S87	1500	1
11.006	S87	1500	Manhole	S88	1500	1
1.012	S88	1500	Manhole	S89	1500	1
1.013	S89	1500	Manhole	S91	1800	1
1.014	S91	1800	Manhole	S93	1800	1
17.000	S92L	1200	Manhole	S92	1200	1
17.001	S92	1200	Manhole	S93	1800	1
1.015	S93	1800	Manhole	S94	1800	1
18.000	S94L	1200	Manhole	S94	1800	1
1.016	S94	1800	Manhole	S96	1800	1
19.000	S95La	1200	Manhole	S95	1200	1
20.000	S95Lb	1200	Manhole	S95	1200	1
19.001	S95	1200	Manhole	S96	1800	1
1.017	S96	1800	Manhole	S97	1800	1
21.000	S97L	1200	Manhole	S97	1800	1
1.018	S97	1800	Manhole	S98	1800	1
22.000	S98L	1200	Manhole	S98	1800	1
1.019	S98	1800	Manhole	S99	1800	1

Pipeline Schedule

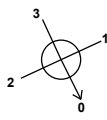
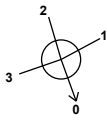
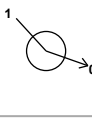
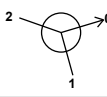
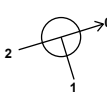
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
23.000	4.500	5.4	150	110.750	109.334	1.266	110.700	108.501	2.049
1.020	31.185	31.2	750	110.700	107.901	2.049	110.700	106.903	3.047
1.021	22.569	35.7	750	110.700	106.903	3.047	107.500	106.270	0.480
1.022	9.087	534.5	750	107.500	106.270	0.480	107.500	106.253	0.497
1.023	32.380	28.1	225	107.500	106.253	1.022	106.000	105.100	0.675

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
23.000	S99L	1200	Manhole	S99	1800	1
1.020	S99	1800	Manhole	S100	1800	1
1.021	S100	1800	Manhole	HW14	1	1
1.022	HW15	1	Manhole	S101	2700	1
1.023	S101	2700	Manhole	HW16	1	1

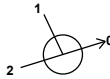
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S67L	443759.776	291437.274	116.640	1.642	1200	Manhole				
							0	1.000	114.998	150
S67	443754.601	291440.646	116.626	1.760	1200	Manhole				
							0	1.001	114.866	225
S68	443746.454	291428.477	116.483	1.779	1200	Manhole				
							1	1.001	114.780	225
S69L	443761.907	291388.316	116.100	1.247	1200	Manhole				
							0	2.000	114.853	150
S69	443752.954	291385.392	116.000	1.676	1500	Manhole				
							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	Manhole				
							1	1.003	114.257	450
							0	1.004	114.257	450
S71L	443813.132	291379.558	116.500	2.000	1200	Manhole				
							0	3.000	114.500	225
S71	443814.426	291375.457	116.000	1.880	1500	Manhole				
							1	3.000	114.345	225
							2	1.004	114.120	450
							0	1.005	114.120	450

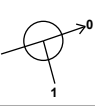
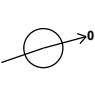
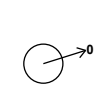
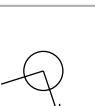
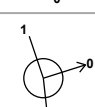
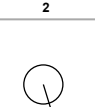
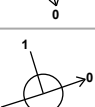
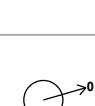
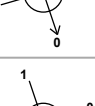
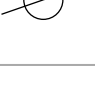
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S72	443796.103	291443.938	116.498	1.671	1500	Manhole	 0	4.000	114.827	225
S73La	443805.881	291407.158	116.320	1.573	1200	Manhole	 0	5.000	114.747	150
S73Lb	443816.318	291411.988	116.346	1.616	1200	Manhole	 0	6.000	114.730	150
S73	443811.848	291409.919	116.446	1.990	1500	Manhole	 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	Manhole	 1 0	4.001 4.002	114.313 114.313	375 375
S75L	443828.243	291381.036	116.650	1.881	1200	Manhole	 0	7.000	114.769	225
S75	443824.059	291378.789	116.499	2.430	1500	Manhole	 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	Manhole	 1 0	1.006 1.007	113.977 113.978	450 450
S77	443837.366	291353.859	116.252	2.334	1500	Manhole	 1 0	1.007 1.008	113.919 113.918	450 450
S78L	443851.912	291342.796	116.481	2.329	1200	Manhole	 0	8.000	114.152	150
S78	443850.095	291349.382	116.345	2.562	1500	Manhole	 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	Manhole	 0	9.000	114.276	150
S79	443895.594	291362.985	116.401	2.828	1500	Manhole	 1 2 0	9.000 1.009 1.010	113.947 113.648 113.573	150 450 525

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S80L	443927.311	291365.336	116.600	1.898	1200	Manhole		0	10.000	114.702	150
S80	443925.227	291372.140	116.458	3.060	1800	Manhole		1 2 0	10.000 1.010 1.011	113.773 113.398 113.398	150 525 525
S81L	443885.768	291282.814	115.641	2.205	1500	Manhole		0	11.000	113.436	300
S81	443889.207	291283.895	115.632	2.644	1500	Manhole		1 0	11.000 11.001	113.138 112.988	300 450
S82	443908.339	291289.821	116.063	3.124	1500	Manhole		1 0	11.001 11.002	112.939 112.939	450 450
S83L	443928.509	291300.272	115.800	2.310	1200	Manhole		0	12.000	113.490	150
S83	443930.239	291296.618	115.829	2.946	1500	Manhole		1 2 0	12.000 11.002 11.003	113.183 112.883 112.883	150 450 450
S84	443949.339	291302.550	115.717	2.883	1500	Manhole		1 0	11.003 11.004	112.834 112.834	450 450
S85L	443954.279	291315.608	115.800	2.286	1200	Manhole		0	13.000	113.514	150
S85	443959.139	291313.356	115.754	2.433	1200	Manhole		1 0	13.000 14.001	113.396 113.321	150 225
S86	443971.732	291336.944	115.683	2.949	1500	Manhole		1 2 0	14.001 11.004 11.005	112.962 112.734 112.734	225 450 450
S87L	443969.106	291347.360	115.769	2.209	1200	Manhole		0	14.000	113.560	150
S87	443973.894	291348.997	115.755	3.064	1500	Manhole		1 2 0	14.000 11.005 11.006	112.994 112.691 112.694	150 450 450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S88	443964.335	291384.353	116.258	3.744	1500	Manhole		1	11.006	112.589	450
							2	1.011	112.514	525	
							0	1.012	112.514	525	
S89	444004.060	291398.006	115.739	3.340	1500	Manhole		1	1.012	112.399	525
							0	1.013	112.399	525	
S91	444020.925	291402.553	115.513	3.397	1800	Manhole		1	1.013	112.341	525
							0	1.014	112.116	750	
S92L	444009.789	291445.245	115.313	1.765	1200	Manhole		0	17.000	113.548	150
S92	444013.272	291446.339	115.286	2.178	1200	Manhole		1	17.000	113.183	150
							0	17.001	113.108	225	
S93	444017.554	291433.597	115.287	3.215	1800	Manhole		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	Manhole		0	18.000	113.197	150
							1	18.000	112.635	150	
S94	444044.192	291442.029	114.794	2.759	1800	Manhole		2	1.015	112.035	750
							0	1.016	112.035	750	
							1	19.000	112.914	150	
S95La	444054.557	291480.418	114.300	1.386	1200	Manhole		0	19.000	112.914	150
S95Lb	444063.621	291483.265	114.250	1.556	1200	Manhole		0	20.000	112.694	150
							1	20.000	112.329	150	
S95	444060.181	291482.048	114.279	2.100	1200	Manhole		2	19.000	112.328	150
							0	19.001	112.179	300	
							1	19.001	111.089	300	
S96	444070.570	291451.147	114.304	3.665	1800	Manhole		2	1.016	110.640	750
							0	1.017	110.639	750	
							1	110.639	750		
S97L	444116.288	291471.699	113.400	2.579	1200	Manhole		0	21.000	110.821	150

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S97	444118.166	291466.495	113.420	3.769	1800	Manhole		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	Manhole		0	22.000	109.519	150
S98	444151.509	291477.890	112.082	3.638	1800	Manhole		1	22.000	109.044	150
							2	1.018	108.444	750	
							0	1.019	108.444	750	
S99L	444188.412	291495.138	110.750	1.416	1200	Manhole		0	23.000	109.334	150
S99	444189.788	291490.853	110.700	2.799	1800	Manhole		1	23.000	108.501	150
							2	1.019	107.901	750	
							0	1.020	107.901	750	
S100	444219.480	291500.384	110.700	3.797	1800	Manhole		1	1.020	106.903	750
							0	1.021	106.903	750	
HW14	444232.144	291519.066	107.500	1.230	1	Manhole		1	1.021	106.270	750
HW15	444293.606	291529.740	107.500	1.230	1	Manhole		0	1.022	106.270	750
							1	1.022	106.253	750	
S101	444300.866	291535.204	107.500	1.247	2700	Manhole		0	1.023	106.253	225
HW16	444330.832	291547.472	106.000	0.900	1	Manhole		1	1.023	105.100	225

Rainfall Methodology	FSR
FSR Region	England and Wales
M5-60 (mm)	20.000
Ratio-R	0.400
Summer CV	0.750
Analysis Speed	Detailed

Skip Steady State	x
Drain Down Time (mins)	240
Additional Storage (m ³ /ha)	0.0
Check Discharge Rate(s)	x
Check Discharge Volume	x

15	30	60	120	180	240	360	480	600	720	960	1440
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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-0143-1070-1500-1070
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	10.7	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

Other (defaults)

Entry Loss (manhole)	0.000	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.000	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058
2 year 30 minute summer	91.753	25.963
2 year 60 minute summer	61.301	16.200
2 year 120 minute summer	37.449	9.897
2 year 180 minute summer	28.672	7.378
2 year 240 minute summer	22.636	5.982
2 year 360 minute summer	17.235	4.435
2 year 480 minute summer	13.550	3.581
2 year 600 minute summer	11.088	3.033
2 year 720 minute summer	9.878	2.647
2 year 960 minute summer	8.113	2.136
2 year 1440 minute summer	5.891	1.579
30 year 15 minute summer	268.706	76.035
30 year 30 minute summer	174.929	49.499
30 year 60 minute summer	116.589	30.811
30 year 120 minute summer	70.438	18.615
30 year 180 minute summer	53.298	13.715
30 year 240 minute summer	41.604	10.995
30 year 360 minute summer	31.221	8.034

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 480 minute summer	24.324	6.428
30 year 600 minute summer	19.756	5.404
30 year 720 minute summer	17.490	4.687
30 year 960 minute summer	14.215	3.743
30 year 1440 minute summer	10.161	2.723
100 year +40% CC 15 minute summer	488.233	138.153
100 year +40% CC 30 minute summer	320.551	90.705
100 year +40% CC 60 minute summer	214.603	56.713
100 year +40% CC 120 minute summer	129.587	34.246
100 year +40% CC 180 minute summer	97.729	25.149
100 year +40% CC 240 minute summer	75.977	20.078
100 year +40% CC 360 minute summer	56.677	14.585
100 year +40% CC 480 minute summer	43.979	11.622
100 year +40% CC 600 minute summer	35.604	9.738
100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 1440 minute summer	18.055	4.839
100 year +40% CC +10% A 15 minute summer	488.233	138.153
100 year +40% CC +10% A 30 minute summer	320.551	90.705
100 year +40% CC +10% A 60 minute summer	214.603	56.713
100 year +40% CC +10% A 120 minute summer	129.587	34.246
100 year +40% CC +10% A 180 minute summer	97.729	25.149
100 year +40% CC +10% A 240 minute summer	75.977	20.078
100 year +40% CC +10% A 360 minute summer	56.677	14.585
100 year +40% CC +10% A 480 minute summer	43.979	11.622
100 year +40% CC +10% A 600 minute summer	35.604	9.738
100 year +40% CC +10% A 720 minute summer	31.433	8.424
100 year +40% CC +10% A 960 minute summer	25.432	6.697
100 year +40% CC +10% A 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.060	0.062	6.2	0.0701	0.0000	OK
15 minute summer	S67	10	114.947	0.081	11.2	0.0912	0.0000	OK
15 minute summer	S68	11	114.807	0.103	18.7	0.1163	0.0000	OK
15 minute summer	S69L	10	114.913	0.060	9.0	0.0683	0.0000	OK
15 minute summer	S69	11	114.447	0.123	27.1	0.2175	0.0000	OK
15 minute summer	S70	12	114.378	0.121	27.2	0.2143	0.0000	OK
15 minute summer	S71L	10	114.566	0.066	18.7	0.0746	0.0000	OK
15 minute summer	S71	11	114.274	0.154	43.3	0.2724	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	114.838	0.108	15.6	0.1226	0.0000	OK
15 minute summer	S73	10	114.560	0.104	32.2	0.1846	0.0000	OK
15 minute summer	S74	11	114.417	0.104	34.6	0.1836	0.0000	OK
15 minute summer	S75L	10	114.823	0.054	20.8	0.0608	0.0000	OK
15 minute summer	S75	11	114.272	0.203	99.5	0.3586	0.0000	OK
15 minute summer	S76	11	114.177	0.200	100.9	0.3528	0.0000	OK
15 minute summer	S77	11	114.111	0.193	103.2	0.3412	0.0000	OK
15 minute summer	S78L	10	114.214	0.062	6.4	0.0698	0.0000	OK
15 minute summer	S78	12	114.040	0.257	114.2	0.4535	0.0000	OK
15 minute summer	S79L	10	114.346	0.070	17.7	0.0787	0.0000	OK
15 minute summer	S79	12	113.789	0.216	133.4	0.3810	0.0000	OK
15 minute summer	S80L	10	114.743	0.041	10.4	0.0461	0.0000	OK
15 minute summer	S80	12	113.545	0.147	145.2	0.3749	0.0000	OK
15 minute summer	S81L	10	113.484	0.048	17.7	0.0841	0.0000	OK
15 minute summer	S81	10	113.101	0.113	22.9	0.2003	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	6.2	0.899	0.358	0.0423	
15 minute summer	S67	1.001	S68	11.1	0.867	0.279	0.1869	
15 minute summer	S68	1.002	S69	18.5	0.866	0.259	0.9346	
15 minute summer	S69L	2.000	S69	8.9	1.349	0.340	0.0698	
15 minute summer	S69	1.003	S70	27.2	0.810	0.171	0.9426	
15 minute summer	S70	1.004	S71	26.1	0.658	0.165	2.2983	
15 minute summer	S71L	3.000	S71	18.7	1.930	0.188	0.0416	
15 minute summer	S71	1.005	S75	43.3	0.788	0.190	0.5980	
15 minute summer	S72	4.000	S73	8.5	0.808	0.213	0.3928	
15 minute summer	S73La	5.000	S73	5.7	0.900	0.318	0.0413	
15 minute summer	S73Lb	6.000	S73	15.5	1.138	0.875	0.0671	
15 minute summer	S73	4.001	S74	32.0	1.283	0.173	0.4159	
15 minute summer	S74	4.002	S75	34.5	1.290	0.172	0.4893	
15 minute summer	S75L	7.000	S75	20.8	2.865	0.125	0.0344	
15 minute summer	S75	1.006	S76	99.1	1.444	0.433	1.2551	
15 minute summer	S76	1.007	S77	100.4	1.492	0.415	0.7055	
15 minute summer	S77	1.008	S78	102.9	1.307	0.318	1.0624	
15 minute summer	S78L	8.000	S78	6.3	0.930	0.356	0.0466	
15 minute summer	S78	1.009	S79	114.2	1.290	0.664	4.2045	
15 minute summer	S79L	9.000	S79	17.6	2.210	0.438	0.0517	
15 minute summer	S79	1.010	S80	134.0	2.026	0.369	2.0626	
15 minute summer	S80L	10.000	S80	10.4	2.690	0.160	0.0274	
15 minute summer	S80	1.011	S88	145.8	1.464	0.178	3.1489	
15 minute summer	S81L	11.000	S81	17.7	2.470	0.055	0.0258	
15 minute summer	S81	11.001	S82	22.6	0.701	0.142	0.6457	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	11	113.059	0.120	24.5	0.2112	0.0000	OK
15 minute summer	S83L	10	113.542	0.052	12.5	0.0583	0.0000	OK
15 minute summer	S83	11	113.035	0.152	40.2	0.2688	0.0000	OK
15 minute summer	S84	11	112.989	0.155	42.5	0.2744	0.0000	OK
15 minute summer	S85L	10	113.572	0.058	8.3	0.0651	0.0000	OK
15 minute summer	S85	10	113.392	0.071	13.2	0.0798	0.0000	OK
15 minute summer	S86	11	112.912	0.178	56.7	0.3153	0.0000	OK
15 minute summer	S87L	10	113.600	0.040	9.4	0.0455	0.0000	OK
15 minute summer	S87	12	112.894	0.203	70.8	0.3593	0.0000	OK
15 minute summer	S88	12	112.863	0.349	216.0	0.6171	0.0000	OK
15 minute summer	S89	12	112.723	0.324	216.6	0.5716	0.0000	OK
15 minute summer	S91	13	112.449	0.333	214.2	0.8474	0.0000	OK
15 minute summer	S92L	10	113.598	0.050	13.4	0.0563	0.0000	OK
15 minute summer	S92	10	113.167	0.059	15.7	0.0671	0.0000	OK
15 minute summer	S93	13	112.391	0.319	231.4	0.8117	0.0000	OK
15 minute summer	S94L	10	113.240	0.043	9.9	0.0481	0.0000	OK
15 minute summer	S94	12	112.182	0.146	268.2	0.3728	0.0000	OK
15 minute summer	S95La	10	112.944	0.030	5.0	0.0341	0.0000	OK
15 minute summer	S95Lb	10	112.722	0.028	4.3	0.0317	0.0000	OK
15 minute summer	S95	10	112.231	0.052	13.8	0.0591	0.0000	OK
15 minute summer	S96	13	110.834	0.195	258.3	0.4969	0.0000	OK
15 minute summer	S97L	10	110.869	0.048	12.5	0.0538	0.0000	OK
15 minute summer	S97	13	109.820	0.169	272.1	0.4307	0.0000	OK
15 minute summer	S98L	10	109.557	0.038	8.5	0.0428	0.0000	OK
15 minute summer	S98	13	108.664	0.220	275.9	0.5604	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	24.4	0.605	0.154	0.9264	
15 minute summer	S83L	12.000	S83	12.5	2.330	0.253	0.0216	
15 minute summer	S83	11.003	S84	40.3	0.844	0.254	0.9557	
15 minute summer	S84	11.004	S86	42.2	0.790	0.266	2.1944	
15 minute summer	S85L	13.000	S85	8.3	1.328	0.312	0.0333	
15 minute summer	S85	14.001	S86	12.9	1.220	0.214	0.2835	
15 minute summer	S86	11.005	S87	55.6	0.874	0.291	0.7810	
15 minute summer	S87L	14.000	S87	9.4	2.472	0.156	0.0192	
15 minute summer	S87	11.006	S88	68.8	0.874	0.400	3.1009	
15 minute summer	S88	1.012	S89	216.6	1.483	0.858	6.1352	
15 minute summer	S89	1.013	S91	214.2	1.577	0.770	2.3882	
15 minute summer	S91	1.014	S93	219.4	1.196	0.476	5.7308	
15 minute summer	S92L	17.000	S92	13.4	2.625	0.236	0.0186	
15 minute summer	S92	17.001	S93	15.6	1.867	0.153	0.1121	
15 minute summer	S93	1.015	S94	257.7	2.261	0.577	3.2835	
15 minute summer	S94L	18.000	S94	9.9	2.411	0.174	0.0230	
15 minute summer	S94	1.016	S96	238.7	3.260	0.086	2.0527	
15 minute summer	S95La	19.000	S95	5.0	1.979	0.088	0.0147	
15 minute summer	S95Lb	20.000	S95	4.3	1.891	0.076	0.0083	
15 minute summer	S95	19.001	S96	13.6	1.660	0.067	0.2670	
15 minute summer	S96	1.017	S97	264.1	3.202	0.152	4.1312	
15 minute summer	S97L	21.000	S97	12.5	2.602	0.217	0.0265	
15 minute summer	S97	1.018	S98	268.8	2.967	0.117	3.2049	
15 minute summer	S98L	22.000	S98	8.5	2.439	0.138	0.0141	
15 minute summer	S98	1.019	S99	273.1	2.949	0.190	3.7551	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.374	0.040	12.1	0.0456	0.0000	OK
15 minute summer	S99	13	108.076	0.175	279.2	0.4465	0.0000	OK
15 minute summer	S100	13	107.087	0.184	279.5	0.4673	0.0000	OK
480 minute summer	HW14	352	106.516	0.246	55.1	0.0000	0.0000	OK
480 minute summer	HW15	352	106.516	0.246	32.1	0.0000	0.0000	OK
480 minute summer	S101	344	106.516	0.263	12.7	1.5057	0.0000	SURCHARGED
480 minute summer	HW16	352	105.148	0.048	9.8	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	12.1	3.188	0.157	0.0170	
15 minute summer	S99	1.020	S100	279.5	3.461	0.126	2.5191	
15 minute summer	S100	1.021	HW14	280.6	3.599	0.135	1.7824	
480 minute summer	HW14	Flow through pond	HW15	32.1	0.058	0.001	272.7312	
480 minute summer	HW15	1.022	S101	12.7	0.166	0.024	1.1952	
480 minute summer	S101	1.023	HW16	9.8	1.598	0.100	0.1988	287.3

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.089	0.091	11.8	0.1025	0.0000	OK
15 minute summer	S67	10	114.982	0.115	21.2	0.1306	0.0000	OK
15 minute summer	S68	11	114.850	0.146	35.5	0.1656	0.0000	OK
15 minute summer	S69L	10	114.941	0.088	17.1	0.0994	0.0000	OK
15 minute summer	S69	11	114.496	0.172	51.7	0.3041	0.0000	OK
15 minute summer	S70	11	114.427	0.170	51.9	0.3011	0.0000	OK
15 minute summer	S71L	10	114.593	0.093	35.5	0.1047	0.0000	OK
15 minute summer	S71	11	114.375	0.255	84.2	0.4505	0.0000	OK
15 minute summer	S72	10	114.926	0.099	16.5	0.1742	0.0000	OK
15 minute summer	S73La	10	114.831	0.084	10.9	0.0954	0.0000	OK
15 minute summer	S73Lb	10	114.965	0.235	29.6	0.2661	0.0000	SURCHARGED
15 minute summer	S73	10	114.603	0.147	61.4	0.2605	0.0000	OK
15 minute summer	S74	10	114.467	0.154	65.9	0.2726	0.0000	OK
15 minute summer	S75L	10	114.844	0.075	39.5	0.0844	0.0000	OK
15 minute summer	S75	11	114.375	0.306	191.7	0.5405	0.0000	OK
15 minute summer	S76	11	114.276	0.299	194.4	0.5284	0.0000	OK
15 minute summer	S77	11	114.217	0.299	198.8	0.5289	0.0000	OK
15 minute summer	S78L	11	114.243	0.091	12.2	0.1028	0.0000	OK
15 minute summer	S78	12	114.191	0.408	219.0	0.7208	0.0000	OK
15 minute summer	S79L	10	114.381	0.105	33.6	0.1183	0.0000	OK
15 minute summer	S79	12	113.888	0.315	255.9	0.5570	0.0000	OK
15 minute summer	S80L	10	114.759	0.057	19.7	0.0643	0.0000	OK
15 minute summer	S80	12	113.605	0.206	279.2	0.5255	0.0000	OK
15 minute summer	S81L	10	113.501	0.065	33.6	0.1151	0.0000	OK
15 minute summer	S81	10	113.149	0.161	43.4	0.2852	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	11.7	1.054	0.681	0.0686	
15 minute summer	S67	1.001	S68	21.0	1.027	0.529	0.2997	
15 minute summer	S68	1.002	S69	35.2	1.041	0.494	1.4818	
15 minute summer	S69L	2.000	S69	17.0	1.586	0.647	0.1130	
15 minute summer	S69	1.003	S70	51.9	0.958	0.326	1.5169	
15 minute summer	S70	1.004	S71	50.2	0.715	0.317	4.1544	
15 minute summer	S71L	3.000	S71	35.4	2.305	0.357	0.0661	
15 minute summer	S71	1.005	S75	83.9	0.886	0.368	1.0569	
15 minute summer	S72	4.000	S73	16.1	0.964	0.404	0.6254	
15 minute summer	S73La	5.000	S73	10.8	1.062	0.608	0.0669	
15 minute summer	S73Lb	6.000	S73	29.4	1.668	1.659	0.0858	
15 minute summer	S73	4.001	S74	61.0	1.481	0.330	0.6920	
15 minute summer	S74	4.002	S75	66.0	1.274	0.329	0.9558	
15 minute summer	S75L	7.000	S75	39.4	3.440	0.238	0.0568	
15 minute summer	S75	1.006	S76	190.9	1.685	0.835	2.0723	
15 minute summer	S76	1.007	S77	193.5	1.736	0.799	1.1687	
15 minute summer	S77	1.008	S78	197.8	1.487	0.612	1.7685	
15 minute summer	S78L	8.000	S78	12.1	1.092	0.678	0.0829	
15 minute summer	S78	1.009	S79	217.6	1.568	1.264	6.5300	
15 minute summer	S79L	9.000	S79	33.5	2.555	0.830	0.0848	
15 minute summer	S79	1.010	S80	255.1	2.383	0.702	3.3209	
15 minute summer	S80L	10.000	S80	19.6	3.219	0.304	0.0434	
15 minute summer	S80	1.011	S88	277.6	1.666	0.339	4.5947	
15 minute summer	S81L	11.000	S81	33.5	2.985	0.104	0.0405	
15 minute summer	S81	11.001	S82	42.8	0.795	0.270	1.1328	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	13	113.144	0.205	46.4	0.3621	0.0000	OK
15 minute summer	S83L	10	113.563	0.073	23.7	0.0830	0.0000	OK
15 minute summer	S83	13	113.126	0.243	76.3	0.4299	0.0000	OK
15 minute summer	S84	12	113.143	0.309	80.0	0.5458	0.0000	OK
15 minute summer	S85L	10	113.597	0.083	15.8	0.0942	0.0000	OK
15 minute summer	S85	10	113.421	0.100	24.9	0.1127	0.0000	OK
15 minute summer	S86	12	113.127	0.393	102.1	0.6950	0.0000	OK
15 minute summer	S87L	10	113.616	0.056	17.8	0.0635	0.0000	OK
15 minute summer	S87	12	113.123	0.431	120.0	0.7625	0.0000	OK
15 minute summer	S88	12	113.091	0.577	373.6	1.0201	0.0000	SURCHARGED
15 minute summer	S89	12	112.857	0.458	377.0	0.8087	0.0000	OK
15 minute summer	S91	12	112.571	0.455	377.5	1.1588	0.0000	OK
15 minute summer	S92L	10	113.618	0.070	25.3	0.0796	0.0000	OK
15 minute summer	S92	10	113.191	0.083	29.5	0.0933	0.0000	OK
15 minute summer	S93	13	112.513	0.441	410.6	1.1228	0.0000	OK
15 minute summer	S94L	10	113.257	0.060	18.8	0.0674	0.0000	OK
15 minute summer	S94	11	112.230	0.195	475.7	0.4967	0.0000	OK
15 minute summer	S95La	10	112.956	0.042	9.5	0.0471	0.0000	OK
15 minute summer	S95Lb	10	112.733	0.039	8.2	0.0437	0.0000	OK
15 minute summer	S95	10	112.251	0.072	26.2	0.0814	0.0000	OK
15 minute summer	S96	12	110.899	0.260	462.0	0.6612	0.0000	OK
15 minute summer	S97L	10	110.888	0.067	23.7	0.0760	0.0000	OK
15 minute summer	S97	12	109.881	0.230	492.7	0.5846	0.0000	OK
15 minute summer	S98L	10	109.572	0.053	16.1	0.0595	0.0000	OK
15 minute summer	S98	12	108.747	0.303	512.8	0.7701	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	46.0	0.682	0.290	1.8078	
15 minute summer	S83L	12.000	S83	23.6	2.766	0.479	0.0346	
15 minute summer	S83	11.003	S84	75.9	0.981	0.478	2.0332	
15 minute summer	S84	11.004	S86	74.1	0.855	0.467	5.3955	
15 minute summer	S85L	13.000	S85	15.7	1.568	0.594	0.0537	
15 minute summer	S85	14.001	S86	24.6	1.455	0.409	0.6159	
15 minute summer	S86	11.005	S87	90.6	0.887	0.475	1.8564	
15 minute summer	S87L	14.000	S87	17.8	2.960	0.296	0.0534	
15 minute summer	S87	11.006	S88	109.8	0.922	0.638	5.7532	
15 minute summer	S88	1.012	S89	377.0	1.751	1.494	8.7337	
15 minute summer	S89	1.013	S91	377.5	1.967	1.357	3.3467	
15 minute summer	S91	1.014	S93	376.6	1.382	0.818	8.5345	
15 minute summer	S92L	17.000	S92	25.3	3.118	0.446	0.0296	
15 minute summer	S92	17.001	S93	29.4	2.234	0.289	0.1770	
15 minute summer	S93	1.015	S94	455.6	2.586	1.021	4.9894	
15 minute summer	S94L	18.000	S94	18.7	2.882	0.331	0.0366	
15 minute summer	S94	1.016	S96	419.5	3.860	0.151	3.1372	
15 minute summer	S95La	19.000	S95	9.5	2.383	0.167	0.0233	
15 minute summer	S95Lb	20.000	S95	8.2	2.284	0.144	0.0131	
15 minute summer	S95	19.001	S96	26.0	2.008	0.127	0.4219	
15 minute summer	S96	1.017	S97	468.6	3.760	0.269	6.2375	
15 minute summer	S97L	21.000	S97	23.6	3.100	0.411	0.0422	
15 minute summer	S97	1.018	S98	491.5	3.515	0.214	4.9406	
15 minute summer	S98L	22.000	S98	16.1	2.924	0.262	0.0223	
15 minute summer	S98	1.019	S99	511.7	3.533	0.357	5.8637	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.390	0.056	23.0	0.0637	0.0000	OK
15 minute summer	S99	12	108.145	0.244	529.9	0.6202	0.0000	OK
15 minute summer	S100	12	107.161	0.258	532.3	0.6563	0.0000	OK
480 minute summer	HW14	432	106.691	0.421	99.4	0.0000	0.0000	OK
480 minute summer	HW15	424	106.691	0.421	55.4	0.0000	0.0000	OK
480 minute summer	S101	464	106.713	0.460	59.4	2.6316	0.0000	SURCHARGED
600 minute summer	HW16	555	105.150	0.050	10.7	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	S99L	23.000	S99	23.0	3.819	0.298	0.0271	
15 minute summer	S99	1.020	S100	532.3	4.130	0.240	4.0203	
15 minute summer	S100	1.021	HW14	538.1	4.689	0.259	2.6080	
480 minute summer	HW14	Flow through pond	HW15	55.4	0.077	0.001	542.3242	
480 minute summer	HW15	1.022	S101	59.4	0.239	0.112	2.4379	
480 minute summer	S101	1.023	HW16	10.7	1.639	0.108	0.2111	352.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.162	0.164	21.5	0.1857	0.0000	SURCHARGED
15 minute summer	S67	12	115.109	0.242	38.5	0.2743	0.0000	SURCHARGED
15 minute summer	S68	12	115.053	0.349	64.3	0.3942	0.0000	SURCHARGED
15 minute summer	S69L	11	115.192	0.339	31.1	0.3838	0.0000	SURCHARGED
15 minute summer	S69	12	114.957	0.633	92.5	1.1177	0.0000	SURCHARGED
15 minute summer	S70	12	114.955	0.698	85.3	1.2327	0.0000	SURCHARGED
15 minute summer	S71L	12	114.953	0.453	64.6	0.5125	0.0000	SURCHARGED
15 minute summer	S71	12	114.918	0.798	138.3	1.4096	0.0000	SURCHARGED
15 minute summer	S72	12	115.007	0.179	29.9	0.3171	0.0000	OK
15 minute summer	S73La	12	115.016	0.269	19.7	0.3046	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.289	0.559	53.8	0.6318	0.0000	SURCHARGED
15 minute summer	S73	12	114.961	0.505	111.1	0.8920	0.0000	SURCHARGED
15 minute summer	S74	12	114.934	0.621	119.3	1.0971	0.0000	SURCHARGED
15 minute summer	S75L	12	114.934	0.165	71.8	0.1870	0.0000	OK
15 minute summer	S75	12	114.908	0.839	288.7	1.4827	0.0000	SURCHARGED
15 minute summer	S76	12	114.800	0.823	287.5	1.4549	0.0000	SURCHARGED
15 minute summer	S77	12	114.730	0.812	287.2	1.4349	0.0000	SURCHARGED
15 minute summer	S78L	12	114.662	0.510	22.1	0.5767	0.0000	SURCHARGED
15 minute summer	S78	12	114.624	0.841	317.7	1.4861	0.0000	SURCHARGED
15 minute summer	S79L	10	114.845	0.569	61.0	0.6440	0.0000	SURCHARGED
15 minute summer	S79	12	114.175	0.602	392.4	1.0632	0.0000	SURCHARGED
15 minute summer	S80L	10	114.782	0.080	35.9	0.0904	0.0000	OK
15 minute summer	S80	12	114.029	0.631	439.4	1.6067	0.0000	SURCHARGED
15 minute summer	S81L	12	114.048	0.612	61.0	1.0820	0.0000	SURCHARGED
15 minute summer	S81	12	114.038	1.050	127.8	1.8550	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	21.2	1.205	1.231	0.1087	
15 minute summer	S67	1.001	S68	38.0	1.202	0.957	0.5824	
15 minute summer	S68	1.002	S69	62.3	1.221	0.873	3.0825	
15 minute summer	S69L	2.000	S69	30.3	1.719	1.152	0.1857	
15 minute summer	S69	1.003	S70	85.3	1.049	0.537	4.3429	
15 minute summer	S70	1.004	S71	96.3	0.782	0.608	8.9186	
15 minute summer	S71L	3.000	S71	65.7	2.638	0.663	0.1710	
15 minute summer	S71	1.005	S75	146.0	1.114	0.640	1.6150	
15 minute summer	S72	4.000	S73	29.0	1.106	0.730	1.3821	
15 minute summer	S73La	5.000	S73	19.5	1.197	1.096	0.1158	
15 minute summer	S73Lb	6.000	S73	52.9	3.008	2.990	0.0867	
15 minute summer	S73	4.001	S74	110.3	1.642	0.596	1.8420	
15 minute summer	S74	4.002	S75	105.4	1.282	0.526	1.8608	
15 minute summer	S75L	7.000	S75	71.4	3.763	0.431	0.1687	
15 minute summer	S75	1.006	S76	281.2	1.775	1.230	2.8982	
15 minute summer	S76	1.007	S77	277.5	1.752	1.147	1.6610	
15 minute summer	S77	1.008	S78	283.0	1.786	0.875	2.1380	
15 minute summer	S78L	8.000	S78	19.6	1.139	1.101	0.1203	
15 minute summer	S78	1.009	S79	314.0	1.982	1.825	7.5243	
15 minute summer	S79L	9.000	S79	59.4	3.374	1.474	0.1140	
15 minute summer	S79	1.010	S80	393.1	2.462	1.081	6.7003	
15 minute summer	S80L	10.000	S80	35.8	3.762	0.553	0.0909	
15 minute summer	S80	1.011	S88	414.7	2.047	0.507	6.7337	
15 minute summer	S81L	11.000	S81	58.8	3.486	0.183	0.2539	
15 minute summer	S81	11.001	S82	71.5	0.877	0.451	3.1735	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	114.024	1.085	77.8	1.9165	0.0000	SURCHARGED
15 minute summer	S83L	12	114.184	0.694	43.1	0.7854	0.0000	SURCHARGED
15 minute summer	S83	12	114.016	1.133	136.4	2.0024	0.0000	SURCHARGED
15 minute summer	S84	12	114.017	1.182	123.1	2.0894	0.0000	SURCHARGED
15 minute summer	S85L	12	114.172	0.658	28.7	0.7442	0.0000	SURCHARGED
15 minute summer	S85	12	114.079	0.758	42.2	0.8577	0.0000	SURCHARGED
15 minute summer	S86	12	113.954	1.220	156.9	2.1552	0.0000	SURCHARGED
15 minute summer	S87L	12	114.029	0.469	32.3	0.5302	0.0000	SURCHARGED
15 minute summer	S87	12	113.926	1.235	200.3	2.1814	0.0000	SURCHARGED
15 minute summer	S88	12	113.791	1.277	618.5	2.2557	0.0000	SURCHARGED
15 minute summer	S89	12	113.104	0.705	609.0	1.2454	0.0000	SURCHARGED
15 minute summer	S91	12	112.750	0.634	608.2	1.6131	0.0000	OK
15 minute summer	S92L	10	113.651	0.103	46.0	0.1163	0.0000	OK
15 minute summer	S92	10	113.223	0.115	53.7	0.1305	0.0000	OK
15 minute summer	S93	12	112.658	0.586	667.8	1.4912	0.0000	OK
15 minute summer	S94L	10	113.281	0.084	34.1	0.0951	0.0000	OK
30 minute summer	S94	20	112.300	0.265	732.0	0.6742	0.0000	OK
15 minute summer	S95La	10	112.971	0.057	17.3	0.0644	0.0000	OK
15 minute summer	S95Lb	10	112.747	0.053	15.0	0.0597	0.0000	OK
15 minute summer	S95	10	112.277	0.098	47.7	0.1105	0.0000	OK
30 minute summer	S96	19	110.989	0.350	768.0	0.8919	0.0000	OK
15 minute summer	S97L	10	110.918	0.097	43.1	0.1098	0.0000	OK
15 minute summer	S97	12	109.947	0.296	793.7	0.7524	0.0000	OK
15 minute summer	S98L	10	109.592	0.073	29.3	0.0829	0.0000	OK
30 minute summer	S98	20	108.844	0.399	815.3	1.0166	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	84.3	0.730	0.531	3.6333	
15 minute summer	S83L	12.000	S83	40.7	3.115	0.825	0.0712	
15 minute summer	S83	11.003	S84	115.7	1.077	0.729	3.1689	
15 minute summer	S84	11.004	S86	117.2	0.841	0.738	6.5027	
15 minute summer	S85L	13.000	S85	26.2	1.661	0.991	0.0943	
15 minute summer	S85	14.001	S86	41.5	1.518	0.688	1.0634	
15 minute summer	S86	11.005	S87	157.8	0.996	0.827	1.9401	
15 minute summer	S87L	14.000	S87	30.6	3.224	0.511	0.0891	
15 minute summer	S87	11.006	S88	198.3	1.252	1.152	5.8030	
15 minute summer	S88	1.012	S89	609.0	2.819	2.413	9.0747	
15 minute summer	S89	1.013	S91	608.2	2.816	2.186	3.7231	
15 minute summer	S91	1.014	S93	604.7	1.589	1.313	11.9596	
15 minute summer	S92L	17.000	S92	45.9	3.574	0.811	0.0469	
15 minute summer	S92	17.001	S93	53.5	2.615	0.525	0.2750	
15 minute summer	S93	1.015	S94	645.4	2.976	1.446	6.9324	
15 minute summer	S94L	18.000	S94	34.0	3.355	0.601	0.0570	
30 minute summer	S94	1.016	S96	699.1	4.296	0.252	4.5825	
15 minute summer	S95La	19.000	S95	17.3	2.819	0.305	0.0358	
15 minute summer	S95Lb	20.000	S95	15.0	2.711	0.264	0.0201	
15 minute summer	S95	19.001	S96	47.3	2.382	0.232	0.6477	
30 minute summer	S96	1.017	S97	754.4	4.243	0.434	9.0154	
15 minute summer	S97L	21.000	S97	43.0	3.573	0.748	0.0666	
15 minute summer	S97	1.018	S98	792.2	3.982	0.346	7.0187	
15 minute summer	S98L	22.000	S98	29.2	3.431	0.478	0.0347	
30 minute summer	S98	1.019	S99	834.9	4.039	0.582	8.3576	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.413	0.079	41.9	0.0894	0.0000	OK
15 minute summer	S99	12	108.218	0.317	868.6	0.8076	0.0000	OK
15 minute summer	S100	12	107.238	0.335	871.3	0.8520	0.0000	OK
600 minute summer	HW14	615	107.021	0.751	145.5	0.0000	0.0000	OK
720 minute summer	HW15	720	107.021	0.750	71.2	0.0000	0.0000	SURCHARGED
720 minute summer	S101	705	107.021	0.768	13.1	4.3958	0.0000	SURCHARGED
60 minute summer	HW16	44	105.150	0.050	10.7	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	S99L	23.000	S99	41.8	4.466	0.542	0.0422	
15 minute summer	S99	1.020	S100	871.3	4.746	0.393	5.7257	
15 minute summer	S100	1.021	HW14	872.4	5.463	0.421	3.6174	
600 minute summer	HW14	Flow through pond	HW15	74.8	0.080	0.002	1115.5933	
720 minute summer	HW15	1.022	S101	13.1	0.188	0.025	3.9980	
720 minute summer	S101	1.023	HW16	10.7	1.639	0.109	0.2114	487.0

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	12	115.438	0.440	23.7	0.4974	0.0000	SURCHARGED
15 minute summer	S67	12	115.383	0.517	42.5	0.5849	0.0000	SURCHARGED
15 minute summer	S68	12	115.337	0.633	71.0	0.7159	0.0000	SURCHARGED
15 minute summer	S69L	12	115.481	0.628	34.2	0.7104	0.0000	SURCHARGED
15 minute summer	S69	12	115.266	0.942	102.8	1.6646	0.0000	SURCHARGED
15 minute summer	S70	12	115.241	0.984	89.9	1.7384	0.0000	SURCHARGED
15 minute summer	S71L	12	115.265	0.765	71.0	0.8653	0.0000	SURCHARGED
15 minute summer	S71	12	115.217	1.097	137.1	1.9389	0.0000	SURCHARGED
15 minute summer	S72	12	115.350	0.523	32.9	0.9243	0.0000	SURCHARGED
15 minute summer	S73La	12	115.335	0.587	21.7	0.6644	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.632	0.902	59.2	1.0203	0.0000	SURCHARGED
15 minute summer	S73	12	115.280	0.824	122.3	1.4555	0.0000	SURCHARGED
15 minute summer	S74	12	115.243	0.930	126.3	1.6432	0.0000	SURCHARGED
15 minute summer	S75L	12	115.267	0.498	78.9	0.5631	0.0000	SURCHARGED
15 minute summer	S75	12	115.203	1.134	308.1	2.0038	0.0000	SURCHARGED
15 minute summer	S76	12	115.065	1.088	311.1	1.9222	0.0000	SURCHARGED
15 minute summer	S77	12	114.982	1.064	315.7	1.8792	0.0000	SURCHARGED
15 minute summer	S78L	12	114.943	0.791	24.3	0.8950	0.0000	SURCHARGED
15 minute summer	S78	12	114.869	1.086	347.0	1.9184	0.0000	SURCHARGED
15 minute summer	S79L	12	115.060	0.784	67.1	0.8868	0.0000	SURCHARGED
15 minute summer	S79	12	114.390	0.817	414.7	1.4432	0.0000	SURCHARGED
15 minute summer	S80L	10	114.787	0.085	39.5	0.0959	0.0000	OK
15 minute summer	S80	12	114.185	0.787	442.3	2.0028	0.0000	SURCHARGED
15 minute summer	S81L	12	114.271	0.835	67.1	1.4761	0.0000	SURCHARGED
15 minute summer	S81	12	114.259	1.271	82.4	2.2454	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	23.4	1.332	1.363	0.1087	
15 minute summer	S67	1.001	S68	42.1	1.247	1.061	0.5824	
15 minute summer	S68	1.002	S69	68.4	1.184	0.959	3.0825	
15 minute summer	S69L	2.000	S69	33.4	1.895	1.270	0.1857	
15 minute summer	S69	1.003	S70	89.9	1.045	0.566	4.3429	
15 minute summer	S70	1.004	S71	103.4	0.854	0.653	8.9186	
15 minute summer	S71L	3.000	S71	66.8	2.558	0.674	0.1710	
15 minute summer	S71	1.005	S75	138.5	1.109	0.607	1.6150	
15 minute summer	S72	4.000	S73	32.4	1.088	0.813	1.4909	
15 minute summer	S73La	5.000	S73	21.3	1.216	1.199	0.1158	
15 minute summer	S73Lb	6.000	S73	58.2	3.303	3.284	0.0867	
15 minute summer	S73	4.001	S74	116.4	1.678	0.629	1.8420	
15 minute summer	S74	4.002	S75	115.2	1.270	0.575	1.8608	
15 minute summer	S75L	7.000	S75	78.6	3.731	0.475	0.1889	
15 minute summer	S75	1.006	S76	304.2	1.920	1.330	2.8982	
15 minute summer	S76	1.007	S77	305.0	1.925	1.260	1.6610	
15 minute summer	S77	1.008	S78	308.9	1.950	0.955	2.1380	
15 minute summer	S78L	8.000	S78	22.6	1.284	1.267	0.1203	
15 minute summer	S78	1.009	S79	330.5	2.086	1.921	7.5243	
15 minute summer	S79L	9.000	S79	65.1	3.697	1.615	0.1140	
15 minute summer	S79	1.010	S80	393.3	2.457	1.082	6.7003	
15 minute summer	S80L	10.000	S80	39.4	3.849	0.609	0.0978	
15 minute summer	S80	1.011	S88	433.8	2.091	0.530	6.7337	
15 minute summer	S81L	11.000	S81	63.6	3.581	0.198	0.2539	
15 minute summer	S81	11.001	S82	87.5	0.891	0.551	3.1735	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	114.239	1.300	94.7	2.2979	0.0000	SURCHARGED
15 minute summer	S83L	12	114.422	0.932	47.4	1.0536	0.0000	SURCHARGED
15 minute summer	S83	12	114.226	1.343	135.8	2.3724	0.0000	SURCHARGED
15 minute summer	S84	12	114.207	1.373	132.3	2.4260	0.0000	SURCHARGED
15 minute summer	S85L	12	114.412	0.898	31.6	1.0152	0.0000	SURCHARGED
15 minute summer	S85	12	114.296	0.975	45.9	1.1029	0.0000	SURCHARGED
15 minute summer	S86	12	114.130	1.396	181.3	2.4672	0.0000	SURCHARGED
15 minute summer	S87L	12	114.236	0.676	35.5	0.7648	0.0000	SURCHARGED
15 minute summer	S87	12	114.094	1.403	230.4	2.4797	0.0000	SURCHARGED
15 minute summer	S88	12	113.932	1.418	656.9	2.5049	0.0000	SURCHARGED
15 minute summer	S89	12	113.156	0.757	656.4	1.3371	0.0000	SURCHARGED
15 minute summer	S91	13	112.758	0.642	655.5	1.6341	0.0000	OK
15 minute summer	S92L	10	113.659	0.111	50.7	0.1255	0.0000	OK
15 minute summer	S92	10	113.230	0.122	59.2	0.1384	0.0000	OK
15 minute summer	S93	12	112.692	0.620	715.9	1.5767	0.0000	OK
15 minute summer	S94L	10	113.286	0.089	37.5	0.1010	0.0000	OK
30 minute summer	S94	20	112.306	0.271	883.8	0.6903	0.0000	OK
15 minute summer	S95La	10	112.974	0.060	19.1	0.0680	0.0000	OK
15 minute summer	S95Lb	10	112.749	0.055	16.4	0.0626	0.0000	OK
15 minute summer	S95	10	112.282	0.103	52.5	0.1162	0.0000	OK
15 minute summer	S96	12	110.998	0.359	828.9	0.9131	0.0000	OK
15 minute summer	S97L	10	110.925	0.104	47.4	0.1176	0.0000	OK
30 minute summer	S97	19	109.961	0.309	852.4	0.7876	0.0000	OK
15 minute summer	S98L	10	109.597	0.077	32.2	0.0876	0.0000	OK
30 minute summer	S98	19	108.873	0.429	906.0	1.0914	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	76.7	0.733	0.484	3.6333	
15 minute summer	S83L	12.000	S83	44.7	3.159	0.907	0.0712	
15 minute summer	S83	11.003	S84	124.1	1.062	0.782	3.1689	
15 minute summer	S84	11.004	S86	136.6	0.862	0.861	6.5027	
15 minute summer	S85L	13.000	S85	28.3	1.685	1.069	0.0943	
15 minute summer	S85	14.001	S86	41.1	1.554	0.682	1.0634	
15 minute summer	S86	11.005	S87	175.5	1.108	0.920	1.9401	
15 minute summer	S87L	14.000	S87	31.7	3.304	0.529	0.0891	
15 minute summer	S87	11.006	S88	219.0	1.382	1.272	5.8030	
15 minute summer	S88	1.012	S89	656.4	3.039	2.601	9.0747	
15 minute summer	S89	1.013	S91	655.5	3.035	2.356	3.7353	
15 minute summer	S91	1.014	S93	648.6	1.648	1.408	12.2868	
15 minute summer	S92L	17.000	S92	50.6	3.627	0.893	0.0509	
15 minute summer	S92	17.001	S93	58.9	2.677	0.579	0.2960	
15 minute summer	S93	1.015	S94	699.8	3.031	1.568	7.3224	
15 minute summer	S94L	18.000	S94	37.4	3.429	0.661	0.0613	
30 minute summer	S94	1.016	S96	735.6	4.437	0.265	4.6893	
15 minute summer	S95La	19.000	S95	19.0	2.895	0.336	0.0385	
15 minute summer	S95Lb	20.000	S95	16.4	2.778	0.289	0.0215	
15 minute summer	S95	19.001	S96	52.1	2.447	0.255	0.6941	
15 minute summer	S96	1.017	S97	801.1	4.246	0.460	9.4634	
15 minute summer	S97L	21.000	S97	47.3	3.637	0.823	0.0719	
30 minute summer	S97	1.018	S98	861.7	4.006	0.376	7.6031	
15 minute summer	S98L	22.000	S98	32.1	3.512	0.525	0.0372	
30 minute summer	S98	1.019	S99	920.2	4.080	0.642	9.1137	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.418	0.084	46.0	0.0947	0.0000	OK
15 minute summer	S99	12	108.239	0.338	963.8	0.8603	0.0000	OK
15 minute summer	S100	12	107.260	0.357	971.8	0.9078	0.0000	OK
720 minute summer	HW14	735	107.096	0.826	162.4	0.0000	0.0000	OK
720 minute summer	HW15	735	107.095	0.824	81.8	0.0000	0.0000	SURCHARGED
720 minute summer	S101	735	107.095	0.842	11.5	4.8187	0.0000	SURCHARGED
480 minute summer	HW16	248	105.150	0.050	10.7	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	S99L	23.000	S99	45.9	4.566	0.595	0.0453	
15 minute summer	S99	1.020	S100	971.8	4.873	0.439	6.2195	
15 minute summer	S100	1.021	HW14	961.7	5.647	0.464	3.8536	
720 minute summer	HW14	Flow through pond	HW15	81.8	0.077	0.002	1258.2169	
720 minute summer	HW15	1.022	S101	11.5	0.168	0.022	3.9994	
720 minute summer	S101	1.023	HW16	10.7	1.639	0.109	0.2113	484.3

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN	File: FW2285 Network 3 Surcharged C Network: SW Network 3 Jon Davey July 2024	Page 1 FW2285 Burbage Field Farm Network 3 Surcharged Outfall
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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)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S67L	0.036	5.00	116.640	Manhole	1200	443759.776	291437.274	1.642
S67	0.029	5.00	116.626	Manhole	1200	443754.601	291440.646	1.760
S68	0.044	5.00	116.483	Manhole	1200	443746.454	291428.477	1.779
S69L	0.052	5.00	116.100	Manhole	1200	443761.907	291388.316	1.247
S69			116.000	Manhole	1500	443752.954	291385.392	1.676
S70			116.000	Manhole	1500	443760.577	291359.063	1.743
S71L	0.108	5.00	116.500	Manhole	1200	443813.132	291379.558	2.000
S71			116.000	Manhole	1500	443814.426	291375.457	1.880
S72	0.050	5.00	116.498	Manhole	1500	443796.103	291443.938	1.671
S73La	0.033	5.00	116.320	Manhole	1200	443805.881	291407.158	1.573
S73Lb	0.090	5.00	116.346	Manhole	1200	443816.318	291411.988	1.616
S73	0.016	5.00	116.446	Manhole	1500	443811.848	291409.919	1.990
S74	0.015	5.00	116.569	Manhole	1500	443819.303	291394.976	2.256
S75L	0.120	5.00	116.650	Manhole	1200	443828.243	291381.036	1.881
S75	0.017	5.00	116.499	Manhole	1500	443824.059	291378.789	2.430
S76	0.011	5.00	116.313	Manhole	1500	443830.286	291361.590	2.336
S77	0.017	5.00	116.252	Manhole	1500	443837.366	291353.859	2.334
S78L	0.037	5.00	116.481	Manhole	1200	443851.912	291342.796	2.329
S78	0.031	5.00	116.345	Manhole	1500	443850.095	291349.382	2.562
S79L	0.102	5.00	116.530	Manhole	1200	443897.490	291356.796	2.254
S79	0.037	5.00	116.401	Manhole	1500	443895.594	291362.985	2.828
S80L	0.060	5.00	116.600	Manhole	1200	443927.311	291365.336	1.898
S80	0.021	5.00	116.458	Manhole	1800	443925.227	291372.140	3.060
S81L	0.102	5.00	115.641	Manhole	1500	443885.768	291282.814	2.205
S81	0.030	5.00	115.632	Manhole	1500	443889.207	291283.895	2.644
S82	0.011	5.00	116.063	Manhole	1500	443908.339	291289.821	3.124
S83L	0.072	5.00	115.800	Manhole	1200	443928.509	291300.272	2.310
S83	0.023	5.00	115.829	Manhole	1500	443930.239	291296.618	2.946
S84	0.013	5.00	115.717	Manhole	1500	443949.339	291302.550	2.883
S85L	0.048	5.00	115.800	Manhole	1200	443954.279	291315.608	2.286
S85	0.028	5.00	115.754	Manhole	1200	443959.139	291313.356	2.433
S86	0.010	5.00	115.683	Manhole	1500	443971.732	291336.944	2.949
S87L	0.054	5.00	115.769	Manhole	1200	443969.106	291347.360	2.209
S87	0.038	5.00	115.755	Manhole	1500	443973.894	291348.997	3.064
S88	0.012	5.00	116.258	Manhole	1500	443964.335	291384.353	3.744
S89			115.739	Manhole	1500	444004.060	291398.006	3.340
S91			115.513	Manhole	1800	444020.925	291402.553	3.397
S92L	0.077	5.00	115.313	Manhole	1200	444009.789	291445.245	1.765
S92	0.013	5.00	115.286	Manhole	1200	444013.272	291446.339	2.178
S93	0.042	5.00	115.287	Manhole	1800	444017.554	291433.597	3.215
S94L	0.057	5.00	114.788	Manhole	1200	444042.544	291447.402	1.591

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S94	0.020	5.00	114.794	Manhole	1800	444044.192	291442.029	2.759
S95La	0.029	5.00	114.300	Manhole	1200	444054.557	291480.418	1.386
S95Lb	0.025	5.00	114.250	Manhole	1200	444063.621	291483.265	1.556
S95	0.026	5.00	114.279	Manhole	1200	444060.181	291482.048	2.100
S96	0.059	5.00	114.304	Manhole	1800	444070.570	291451.147	3.665
S97L	0.072	5.00	113.400	Manhole	1200	444116.288	291471.699	2.579
S97	0.020	5.00	113.420	Manhole	1800	444118.166	291466.495	3.769
S98L	0.049	5.00	112.010	Manhole	1200	444150.009	291482.356	2.491
S98	0.033	5.00	112.082	Manhole	1800	444151.509	291477.890	3.638
S99L	0.070	5.00	110.750	Manhole	1200	444188.412	291495.138	1.416
S99			110.700	Manhole	1800	444189.788	291490.853	2.799
S100			110.700	Manhole	1800	444219.480	291500.384	3.797
HW14			107.500	Manhole	1	444232.144	291519.066	1.230
HW15		5.00	107.500	Manhole	1	444293.606	291529.740	1.230
S101			107.500	Manhole	2700	444300.866	291535.204	1.247
HW16			106.000	Manhole	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	6.176	0.600	114.998	114.940	0.058	106.5	150	5.11	50.0
1.001	S67	S68	14.645	0.600	114.866	114.780	0.086	170.3	225	5.35	50.0
1.002	S68	S69	43.773	0.600	114.704	114.522	0.182	240.5	300	6.07	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	6.53	48.4
1.004	S70	S71	56.289	0.600	114.257	114.120	0.137	410.9	450	7.47	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	7.59	44.9
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

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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	7.80	44.2
1.007	S76	S77	10.483	0.600	113.978	113.919	0.059	177.7	450	7.92	43.9
1.008	S77	S78	13.494	0.600	113.918	113.783	0.135	100.0	450	8.03	43.6
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	8.76	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	31.015	0.600	113.573	113.398	0.175	177.2	525	9.07	40.9
10.000	S80L	S80	7.116	0.600	114.702	113.773	0.929	7.7	150	5.03	50.0
1.011	S80	S88	31.170	0.600	113.398	112.514	0.884	35.3	525	9.20	40.6
11.000	S81L	S81	3.605	0.600	113.436	113.138	0.298	12.1	300	5.01	50.0
11.001	S81	S82	20.029	0.600	112.988	112.939	0.049	410.0	450	5.35	50.0
11.002	S82	S83	22.931	0.600	112.939	112.883	0.056	410.0	450	5.73	50.0
12.000	S83L	S83	4.043	0.600	113.490	113.183	0.307	13.2	150	5.02	50.0
11.003	S83	S84	20.000	0.600	112.883	112.834	0.049	410.0	450	6.07	50.0
11.004	S84	S86	41.041	0.600	112.834	112.734	0.100	410.0	450	6.75	47.6
13.000	S85L	S85	5.356	0.600	113.514	113.396	0.118	45.4	150	5.06	50.0
14.001	S85	S86	26.739	0.600	113.321	112.962	0.359	74.5	225	5.35	50.0
11.005	S86	S87	12.245	0.600	112.734	112.691	0.043	284.8	450	6.92	47.0
14.000	S87L	S87	5.060	0.600	113.560	112.994	0.566	8.9	150	5.02	50.0
11.006	S87	S88	36.625	0.600	112.694	112.589	0.105	348.8	450	7.48	45.2
1.012	S88	S89	42.006	0.600	112.514	112.399	0.115	365.3	525	9.81	39.2
1.013	S89	S91	17.467	0.600	112.399	112.341	0.058	301.2	525	10.03	38.8
1.014	S91	S93	31.226	0.600	112.116	112.072	0.044	709.7	750	10.53	37.8

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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)
17.000	S92L	S92	3.651	0.600	113.548	113.183	0.365	10.0	150	5.02	50.0
17.001	S92	S93	13.443	0.600	113.108	112.597	0.511	26.3	225	5.11	50.0
1.015	S93	S94	27.940	0.600	112.072	112.035	0.037	755.1	750	10.99	36.9
18.000	S94L	S94	5.620	0.600	113.197	112.635	0.562	10.0	150	5.03	50.0
1.016	S94	S96	27.910	0.600	112.035	110.640	1.395	20.0	750	11.07	36.8
19.000	S95La	S95	5.856	0.600	112.914	112.328	0.586	10.0	150	5.03	50.0
20.000	S95Lb	S95	3.648	0.600	112.694	112.329	0.365	10.0	150	5.02	50.0
19.001	S95	S96	32.600	0.600	112.179	111.089	1.090	29.9	300	5.22	50.0
1.017	S96	S97	50.010	0.600	110.639	109.651	0.988	50.6	750	11.28	36.4
21.000	S97L	S97	5.532	0.600	110.821	110.251	0.570	9.7	150	5.03	50.0
1.018	S97	S98	35.236	0.600	109.651	108.444	1.207	29.2	750	11.39	36.2
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	11.60	35.9
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	11.70	35.7
1.021	S100	HW14	22.569	0.600	106.903	106.270	0.633	35.7	750	11.78	35.5
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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
17.000	S92L	S92	3.204	56.6	10.4	1.615	1.953	1.615	1.953	0.077	0.0
17.001	S92	S93	2.561	101.8	12.2	1.953	2.465	1.953	2.465	0.090	0.0
1.015	S93	S94	1.010	446.3	150.0	2.465	2.009	2.009	2.465	1.499	0.0
18.000	S94L	S94	3.204	56.6	7.7	1.441	2.009	1.441	2.009	0.057	0.0
1.016	S94	S96	6.272	2770.9	157.2	2.009	2.914	2.009	2.914	1.576	0.0
19.000	S95La	S95	3.205	56.6	3.9	1.236	1.801	1.236	1.801	0.029	0.0
20.000	S95Lb	S95	3.205	56.6	3.4	1.406	1.800	1.406	1.800	0.025	0.0
19.001	S95	S96	2.885	203.9	10.8	1.800	2.915	1.800	2.915	0.080	0.0
1.017	S96	S97	3.938	1739.9	169.3	2.915	3.019	2.915	3.019	1.715	0.0
21.000	S97L	S97	3.253	57.5	9.8	2.429	3.019	2.429	3.019	0.072	0.0
1.018	S97	S98	5.190	2292.9	177.4	3.019	2.888	2.888	3.019	1.807	0.0
22.000	S98L	S98	3.464	61.2	6.6	2.341	2.888	2.341	2.888	0.049	0.0
1.019	S98	S99	3.246	1433.8	183.6	2.888	2.049	2.049	2.888	1.889	0.0
23.000	S99L	S99	4.364	77.1	9.5	1.266	2.049	1.266	2.049	0.070	0.0
1.020	S99	S100	5.016	2216.0	189.5	2.049	3.047	2.049	3.047	1.959	0.0
1.021	S100	HW14	4.695	2074.2	188.8	3.047	0.480	0.480	3.047	1.959	0.0
1.022	HW15	S101	1.203	531.5	0.0	0.480	0.497	0.480	0.497	0.000	0.0
1.023	S101	HW16	2.478	98.5	0.0	1.022	0.675	0.675	1.022	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	6.176	106.5	150	116.640	114.998	1.492	116.626	114.940	1.536
1.001	14.645	170.3	225	116.626	114.866	1.535	116.483	114.780	1.478
1.002	43.773	240.5	300	116.483	114.704	1.479	116.000	114.522	1.178
2.000	10.549	46.1	150	116.100	114.853	1.097	116.000	114.624	1.226
1.003	27.410	409.1	450	116.000	114.324	1.226	116.000	114.257	1.293
1.004	56.289	410.9	450	116.000	114.257	1.293	116.000	114.120	1.430
3.000	4.300	27.7	225	116.500	114.500	1.775	116.000	114.345	1.430
1.005	10.193	199.9	450	116.000	114.120	1.430	116.499	114.069	1.980
4.000	37.486	169.6	225	116.498	114.827	1.446	116.446	114.606	1.615
5.000	6.575	99.6	150	116.320	114.747	1.423	116.446	114.681	1.615
6.000	4.926	100.5	150	116.346	114.730	1.466	116.446	114.681	1.615
4.001	16.700	116.8	375	116.446	114.456	1.615	116.569	114.313	1.881
4.002	16.871	99.8	375	116.569	114.313	1.881	116.499	114.144	1.980
7.000	4.749	10.0	225	116.650	114.769	1.656	116.499	114.294	1.980
1.006	18.292	198.8	450	116.499	114.069	1.980	116.313	113.977	1.886
1.007	10.483	177.7	450	116.313	113.978	1.885	116.252	113.919	1.883
1.008	13.494	100.0	450	116.252	113.918	1.884	116.345	113.783	2.112
8.000	6.832	99.0	150	116.481	114.152	2.179	116.345	114.083	2.112
1.009	47.489	349.2	450	116.345	113.784	2.111	116.401	113.648	2.303
9.000	6.473	19.7	150	116.530	114.276	2.104	116.401	113.947	2.304
1.010	31.015	177.2	525	116.401	113.573	2.303	116.458	113.398	2.535
10.000	7.116	7.7	150	116.600	114.702	1.748	116.458	113.773	2.535
1.011	31.170	35.3	525	116.458	113.398	2.535	116.258	112.514	3.219
11.000	3.605	12.1	300	115.641	113.436	1.905	115.632	113.138	2.194
11.001	20.029	410.0	450	115.632	112.988	2.194	116.063	112.939	2.674

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.000	S67L	1200	Manhole	S67	1200	1
1.001	S67	1200	Manhole	S68	1200	1
1.002	S68	1200	Manhole	S69	1500	1
2.000	S69L	1200	Manhole	S69	1500	1
1.003	S69	1500	Manhole	S70	1500	1
1.004	S70	1500	Manhole	S71	1500	1
3.000	S71L	1200	Manhole	S71	1500	1
1.005	S71	1500	Manhole	S75	1500	1
4.000	S72	1500	Manhole	S73	1500	1
5.000	S73La	1200	Manhole	S73	1500	1
6.000	S73Lb	1200	Manhole	S73	1500	1
4.001	S73	1500	Manhole	S74	1500	1
4.002	S74	1500	Manhole	S75	1500	1
7.000	S75L	1200	Manhole	S75	1500	1
1.006	S75	1500	Manhole	S76	1500	1
1.007	S76	1500	Manhole	S77	1500	1
1.008	S77	1500	Manhole	S78	1500	1
8.000	S78L	1200	Manhole	S78	1500	1
1.009	S78	1500	Manhole	S79	1500	1
9.000	S79L	1200	Manhole	S79	1500	1
1.010	S79	1500	Manhole	S80	1800	1
10.000	S80L	1200	Manhole	S80	1800	1
1.011	S80	1800	Manhole	S88	1500	1
11.000	S81L	1500	Manhole	S81	1500	1
11.001	S81	1500	Manhole	S82	1500	1

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.002	22.931	410.0	450	116.063	112.939	2.674	115.829	112.883	2.496
12.000	4.043	13.2	150	115.800	113.490	2.160	115.829	113.183	2.496
11.003	20.000	410.0	450	115.829	112.883	2.496	115.717	112.834	2.433
11.004	41.041	410.0	450	115.717	112.834	2.433	115.683	112.734	2.499
13.000	5.356	45.4	150	115.800	113.514	2.136	115.754	113.396	2.208
14.001	26.739	74.5	225	115.754	113.321	2.208	115.683	112.962	2.496
11.005	12.245	284.8	450	115.683	112.734	2.499	115.755	112.691	2.614
14.000	5.060	8.9	150	115.769	113.560	2.059	115.755	112.994	2.611
11.006	36.625	348.8	450	115.755	112.694	2.611	116.258	112.589	3.219
1.012	42.006	365.3	525	116.258	112.514	3.219	115.739	112.399	2.815
1.013	17.467	301.2	525	115.739	112.399	2.815	115.513	112.341	2.647
1.014	31.226	709.7	750	115.513	112.116	2.647	115.287	112.072	2.465
17.000	3.651	10.0	150	115.313	113.548	1.615	115.286	113.183	1.953
17.001	13.443	26.3	225	115.286	113.108	1.953	115.287	112.597	2.465
1.015	27.940	755.1	750	115.287	112.072	2.465	114.794	112.035	2.009
18.000	5.620	10.0	150	114.788	113.197	1.441	114.794	112.635	2.009
1.016	27.910	20.0	750	114.794	112.035	2.009	114.304	110.640	2.914
19.000	5.856	10.0	150	114.300	112.914	1.236	114.279	112.328	1.801
20.000	3.648	10.0	150	114.250	112.694	1.406	114.279	112.329	1.800
19.001	32.600	29.9	300	114.279	112.179	1.800	114.304	111.089	2.915
1.017	50.010	50.6	750	114.304	110.639	2.915	113.420	109.651	3.019
21.000	5.532	9.7	150	113.400	110.821	2.429	113.420	110.251	3.019
1.018	35.236	29.2	750	113.420	109.651	3.019	112.082	108.444	2.888
22.000	4.067	8.6	150	112.010	109.519	2.341	112.082	109.044	2.888
1.019	40.414	74.4	750	112.082	108.444	2.888	110.700	107.901	2.049

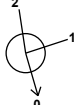
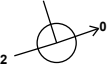
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
11.002	S82	1500	Manhole	S83	1500	1
12.000	S83L	1200	Manhole	S83	1500	1
11.003	S83	1500	Manhole	S84	1500	1
11.004	S84	1500	Manhole	S86	1500	1
13.000	S85L	1200	Manhole	S85	1200	1
14.001	S85	1200	Manhole	S86	1500	1
11.005	S86	1500	Manhole	S87	1500	1
14.000	S87L	1200	Manhole	S87	1500	1
11.006	S87	1500	Manhole	S88	1500	1
1.012	S88	1500	Manhole	S89	1500	1
1.013	S89	1500	Manhole	S91	1800	1
1.014	S91	1800	Manhole	S93	1800	1
17.000	S92L	1200	Manhole	S92	1200	1
17.001	S92	1200	Manhole	S93	1800	1
1.015	S93	1800	Manhole	S94	1800	1
18.000	S94L	1200	Manhole	S94	1800	1
1.016	S94	1800	Manhole	S96	1800	1
19.000	S95La	1200	Manhole	S95	1200	1
20.000	S95Lb	1200	Manhole	S95	1200	1
19.001	S95	1200	Manhole	S96	1800	1
1.017	S96	1800	Manhole	S97	1800	1
21.000	S97L	1200	Manhole	S97	1800	1
1.018	S97	1800	Manhole	S98	1800	1
22.000	S98L	1200	Manhole	S98	1800	1
1.019	S98	1800	Manhole	S99	1800	1

Pipeline Schedule

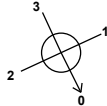
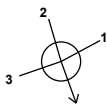
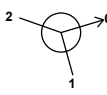
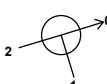
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
23.000	4.500	5.4	150	110.750	109.334	1.266	110.700	108.501	2.049
1.020	31.185	31.2	750	110.700	107.901	2.049	110.700	106.903	3.047
1.021	22.569	35.7	750	110.700	106.903	3.047	107.500	106.270	0.480
1.022	9.087	534.5	750	107.500	106.270	0.480	107.500	106.253	0.497
1.023	32.380	28.1	225	107.500	106.253	1.022	106.000	105.100	0.675

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
23.000	S99L	1200	Manhole	S99	1800	1
1.020	S99	1800	Manhole	S100	1800	1
1.021	S100	1800	Manhole	HW14	1	1
1.022	HW15	1	Manhole	S101	2700	1
1.023	S101	2700	Manhole	HW16	1	1

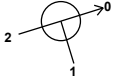
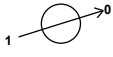
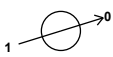
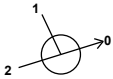
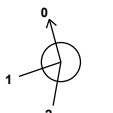
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S67L	443759.776	291437.274	116.640	1.642	1200	Manhole				
							0	1.000	114.998	150
S67	443754.601	291440.646	116.626	1.760	1200	Manhole				
							0	1.001	114.866	225
S68	443746.454	291428.477	116.483	1.779	1200	Manhole				
							1	1.001	114.780	225
S69L	443761.907	291388.316	116.100	1.247	1200	Manhole				
							0	2.000	114.853	150
S69	443752.954	291385.392	116.000	1.676	1500	Manhole				
							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	Manhole				
							1	1.003	114.257	450
							0	1.004	114.257	450
S71L	443813.132	291379.558	116.500	2.000	1200	Manhole				
							0	3.000	114.500	225
S71	443814.426	291375.457	116.000	1.880	1500	Manhole				
							1	3.000	114.345	225
							2	1.004	114.120	450
							0	1.005	114.120	450

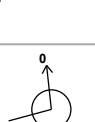
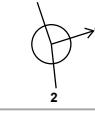
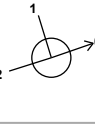
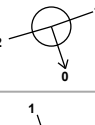
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S72	443796.103	291443.938	116.498	1.671	1500	Manhole	 0	4.000	114.827	225
S73La	443805.881	291407.158	116.320	1.573	1200	Manhole	 0	5.000	114.747	150
S73Lb	443816.318	291411.988	116.346	1.616	1200	Manhole	 0	6.000	114.730	150
S73	443811.848	291409.919	116.446	1.990	1500	Manhole	 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	Manhole	 1 0	4.001 4.002	114.313 114.313	375 375
S75L	443828.243	291381.036	116.650	1.881	1200	Manhole	 0	7.000	114.769	225
S75	443824.059	291378.789	116.499	2.430	1500	Manhole	 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	Manhole	 1 0	1.006 1.007	113.977 113.978	450 450
S77	443837.366	291353.859	116.252	2.334	1500	Manhole	 1 0	1.007 1.008	113.919 113.918	450 450
S78L	443851.912	291342.796	116.481	2.329	1200	Manhole	 0	8.000	114.152	150
S78	443850.095	291349.382	116.345	2.562	1500	Manhole	 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	Manhole	 0	9.000	114.276	150
S79	443895.594	291362.985	116.401	2.828	1500	Manhole	 1 2 0	9.000 1.009 1.010	113.947 113.648 113.573	150 450 525

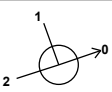
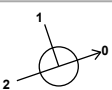
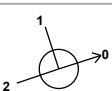
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S80L	443927.311	291365.336	116.600	1.898	1200	Manhole	 0	10.000	114.702	150
S80	443925.227	291372.140	116.458	3.060	1800	Manhole	 1 2 0	10.000 1.010 1.011	113.773 113.398 113.398	150 525 525
S81L	443885.768	291282.814	115.641	2.205	1500	Manhole	 0	11.000	113.436	300
S81	443889.207	291283.895	115.632	2.644	1500	Manhole	 1 0	11.000 11.001	113.138 112.988	300 450
S82	443908.339	291289.821	116.063	3.124	1500	Manhole	 1 0	11.001 11.002	112.939 112.939	450 450
S83L	443928.509	291300.272	115.800	2.310	1200	Manhole	 0	12.000	113.490	150
S83	443930.239	291296.618	115.829	2.946	1500	Manhole	 1 2 0	12.000 11.002 11.003	113.183 112.883 112.883	150 450 450
S84	443949.339	291302.550	115.717	2.883	1500	Manhole	 1 0	11.003 11.004	112.834 112.834	450 450
S85L	443954.279	291315.608	115.800	2.286	1200	Manhole	 0	13.000	113.514	150
S85	443959.139	291313.356	115.754	2.433	1200	Manhole	 1 0	13.000 14.001	113.396 113.321	150 225
S86	443971.732	291336.944	115.683	2.949	1500	Manhole	 1 2 0	14.001 11.004 11.005	112.962 112.734 112.734	225 450 450
S87L	443969.106	291347.360	115.769	2.209	1200	Manhole	 0	14.000	113.560	150
S87	443973.894	291348.997	115.755	3.064	1500	Manhole	 1 2 0	14.000 11.005 11.006	112.994 112.691 112.694	150 450 450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S88	443964.335	291384.353	116.258	3.744	1500	Manhole		1	11.006	112.589	450
								2	1.011	112.514	525
								0	1.012	112.514	525
S89	444004.060	291398.006	115.739	3.340	1500	Manhole		1	1.012	112.399	525
								0	1.013	112.399	525
S91	444020.925	291402.553	115.513	3.397	1800	Manhole		1	1.013	112.341	525
								0	1.014	112.116	750
S92L	444009.789	291445.245	115.313	1.765	1200	Manhole					
S92	444013.272	291446.339	115.286	2.178	1200	Manhole		0	17.000	113.548	150
								1	17.000	113.183	150
								0	17.001	113.108	225
S93	444017.554	291433.597	115.287	3.215	1800	Manhole		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	Manhole					
								0	18.000	113.197	150
S94	444044.192	291442.029	114.794	2.759	1800	Manhole		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	Manhole					
								0	19.000	112.914	150
S95Lb	444063.621	291483.265	114.250	1.556	1200	Manhole					
								0	20.000	112.694	150
S95	444060.181	291482.048	114.279	2.100	1200	Manhole		1	20.000	112.329	150
								2	19.000	112.328	150
								0	19.001	112.179	300
S96	444070.570	291451.147	114.304	3.665	1800	Manhole		1	19.001	111.089	300
								2	1.016	110.640	750
								0	1.017	110.639	750
S97L	444116.288	291471.699	113.400	2.579	1200	Manhole					
								0	21.000	110.821	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S97	444118.166	291466.495	113.420	3.769	1800	Manhole		1 21.000 2 1.017 0 1.018	110.251 109.651 109.651	150 750 750
S98L	444150.009	291482.356	112.010	2.491	1200	Manhole		0 22.000	109.519	150
S98	444151.509	291477.890	112.082	3.638	1800	Manhole		1 22.000 2 1.018 0 1.019	109.044 108.444 108.444	150 750 750
S99L	444188.412	291495.138	110.750	1.416	1200	Manhole		0 23.000	109.334	150
S99	444189.788	291490.853	110.700	2.799	1800	Manhole		1 23.000 2 1.019 0 1.020	108.501 107.901 107.901	150 750 750
S100	444219.480	291500.384	110.700	3.797	1800	Manhole		1 1.020	106.903	750
HW14	444232.144	291519.066	107.500	1.230	1	Manhole		1 1.021	106.270	750
HW15	444293.606	291529.740	107.500	1.230	1	Manhole		0 1.022	106.270	750
S101	444300.866	291535.204	107.500	1.247	2700	Manhole		1 1.022	106.253	750
HW16	444330.832	291547.472	106.000	0.900	1	Manhole		1 1.023	105.100	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
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

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058	30 year 360 minute summer	31.221	8.034
2 year 30 minute summer	91.753	25.963	30 year 480 minute summer	24.324	6.428
2 year 60 minute summer	61.301	16.200	30 year 600 minute summer	19.756	5.404
2 year 120 minute summer	37.449	9.897	30 year 720 minute summer	17.490	4.687
2 year 180 minute summer	28.672	7.378	30 year 960 minute summer	14.215	3.743
2 year 240 minute summer	22.636	5.982	30 year 1440 minute summer	10.161	2.723
2 year 360 minute summer	17.235	4.435	100 year +40% CC 15 minute summer	488.233	138.153
2 year 480 minute summer	13.550	3.581	100 year +40% CC 30 minute summer	320.551	90.705
2 year 600 minute summer	11.088	3.033	100 year +40% CC 60 minute summer	214.603	56.713
2 year 720 minute summer	9.878	2.647	100 year +40% CC 120 minute summer	129.587	34.246
2 year 960 minute summer	8.113	2.136	100 year +40% CC 180 minute summer	97.729	25.149
2 year 1440 minute summer	5.891	1.579	100 year +40% CC 240 minute summer	75.977	20.078
30 year 15 minute summer	268.706	76.035	100 year +40% CC 360 minute summer	56.677	14.585
30 year 30 minute summer	174.929	49.499	100 year +40% CC 480 minute summer	43.979	11.622
30 year 60 minute summer	116.589	30.811	100 year +40% CC 600 minute summer	35.604	9.738
30 year 120 minute summer	70.438	18.615	100 year +40% CC 720 minute summer	31.433	8.424
30 year 180 minute summer	53.298	13.715	100 year +40% CC 960 minute summer	25.432	6.697
30 year 240 minute summer	41.604	10.995	100 year +40% CC 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.060	0.062	6.2	0.0701	0.0000	OK
15 minute summer	S67	10	114.947	0.081	11.2	0.0912	0.0000	OK
15 minute summer	S68	11	114.807	0.103	18.7	0.1163	0.0000	OK
15 minute summer	S69L	10	114.913	0.060	9.0	0.0683	0.0000	OK
15 minute summer	S69	11	114.447	0.123	27.1	0.2175	0.0000	OK
15 minute summer	S70	12	114.378	0.121	27.2	0.2143	0.0000	OK
15 minute summer	S71L	10	114.566	0.066	18.7	0.0746	0.0000	OK
15 minute summer	S71	11	114.274	0.154	43.3	0.2724	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	114.838	0.108	15.6	0.1226	0.0000	OK
15 minute summer	S73	10	114.560	0.104	32.2	0.1846	0.0000	OK
15 minute summer	S74	11	114.417	0.104	34.6	0.1836	0.0000	OK
15 minute summer	S75L	10	114.823	0.054	20.8	0.0608	0.0000	OK
15 minute summer	S75	11	114.272	0.203	99.5	0.3586	0.0000	OK
15 minute summer	S76	11	114.177	0.200	100.9	0.3528	0.0000	OK
15 minute summer	S77	11	114.111	0.193	103.2	0.3412	0.0000	OK
15 minute summer	S78L	10	114.214	0.062	6.4	0.0698	0.0000	OK
15 minute summer	S78	12	114.040	0.257	114.2	0.4535	0.0000	OK
15 minute summer	S79L	10	114.346	0.070	17.7	0.0787	0.0000	OK
15 minute summer	S79	12	113.789	0.216	133.4	0.3810	0.0000	OK
15 minute summer	S80L	10	114.743	0.041	10.4	0.0461	0.0000	OK
15 minute summer	S80	12	113.545	0.147	145.2	0.3749	0.0000	OK
15 minute summer	S81L	10	113.484	0.048	17.7	0.0841	0.0000	OK
15 minute summer	S81	10	113.101	0.113	22.9	0.2003	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	6.2	0.899	0.358	0.0423	
15 minute summer	S67	1.001	S68	11.1	0.867	0.279	0.1869	
15 minute summer	S68	1.002	S69	18.5	0.866	0.259	0.9346	
15 minute summer	S69L	2.000	S69	8.9	1.349	0.340	0.0698	
15 minute summer	S69	1.003	S70	27.2	0.810	0.171	0.9426	
15 minute summer	S70	1.004	S71	26.1	0.658	0.165	2.2983	
15 minute summer	S71L	3.000	S71	18.7	1.930	0.188	0.0416	
15 minute summer	S71	1.005	S75	43.3	0.788	0.190	0.5980	
15 minute summer	S72	4.000	S73	8.5	0.808	0.213	0.3928	
15 minute summer	S73La	5.000	S73	5.7	0.900	0.318	0.0413	
15 minute summer	S73Lb	6.000	S73	15.5	1.138	0.875	0.0671	
15 minute summer	S73	4.001	S74	32.0	1.283	0.173	0.4159	
15 minute summer	S74	4.002	S75	34.5	1.290	0.172	0.4893	
15 minute summer	S75L	7.000	S75	20.8	2.865	0.125	0.0344	
15 minute summer	S75	1.006	S76	99.1	1.444	0.433	1.2551	
15 minute summer	S76	1.007	S77	100.4	1.492	0.415	0.7055	
15 minute summer	S77	1.008	S78	102.9	1.307	0.318	1.0624	
15 minute summer	S78L	8.000	S78	6.3	0.930	0.356	0.0466	
15 minute summer	S78	1.009	S79	114.2	1.290	0.664	4.2045	
15 minute summer	S79L	9.000	S79	17.6	2.210	0.438	0.0517	
15 minute summer	S79	1.010	S80	134.0	2.026	0.369	2.0626	
15 minute summer	S80L	10.000	S80	10.4	2.690	0.160	0.0274	
15 minute summer	S80	1.011	S88	145.8	1.464	0.178	3.1489	
15 minute summer	S81L	11.000	S81	17.7	2.470	0.055	0.0258	
15 minute summer	S81	11.001	S82	22.6	0.701	0.142	0.6457	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	11	113.059	0.120	24.5	0.2112	0.0000	OK
15 minute summer	S83L	10	113.542	0.052	12.5	0.0583	0.0000	OK
15 minute summer	S83	11	113.035	0.152	40.2	0.2688	0.0000	OK
15 minute summer	S84	11	112.989	0.155	42.5	0.2744	0.0000	OK
15 minute summer	S85L	10	113.572	0.058	8.3	0.0651	0.0000	OK
15 minute summer	S85	10	113.392	0.071	13.2	0.0798	0.0000	OK
15 minute summer	S86	11	112.912	0.178	56.7	0.3153	0.0000	OK
15 minute summer	S87L	10	113.600	0.040	9.4	0.0455	0.0000	OK
15 minute summer	S87	12	112.894	0.203	70.8	0.3593	0.0000	OK
15 minute summer	S88	12	112.863	0.349	216.0	0.6171	0.0000	OK
15 minute summer	S89	12	112.723	0.324	216.6	0.5716	0.0000	OK
15 minute summer	S91	13	112.449	0.333	214.2	0.8474	0.0000	OK
15 minute summer	S92L	10	113.598	0.050	13.4	0.0563	0.0000	OK
15 minute summer	S92	10	113.167	0.059	15.7	0.0671	0.0000	OK
15 minute summer	S93	13	112.391	0.319	231.4	0.8117	0.0000	OK
15 minute summer	S94L	10	113.240	0.043	9.9	0.0481	0.0000	OK
15 minute summer	S94	12	112.182	0.146	268.2	0.3728	0.0000	OK
15 minute summer	S95La	10	112.944	0.030	5.0	0.0341	0.0000	OK
15 minute summer	S95Lb	10	112.722	0.028	4.3	0.0317	0.0000	OK
15 minute summer	S95	10	112.231	0.052	13.8	0.0591	0.0000	OK
15 minute summer	S96	13	110.834	0.195	258.3	0.4969	0.0000	OK
15 minute summer	S97L	10	110.869	0.048	12.5	0.0538	0.0000	OK
15 minute summer	S97	13	109.820	0.169	272.1	0.4307	0.0000	OK
15 minute summer	S98L	10	109.557	0.038	8.5	0.0428	0.0000	OK
15 minute summer	S98	13	108.664	0.220	275.9	0.5604	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	24.4	0.605	0.154	0.9264	
15 minute summer	S83L	12.000	S83	12.5	2.330	0.253	0.0216	
15 minute summer	S83	11.003	S84	40.3	0.844	0.254	0.9557	
15 minute summer	S84	11.004	S86	42.2	0.790	0.266	2.1944	
15 minute summer	S85L	13.000	S85	8.3	1.328	0.312	0.0333	
15 minute summer	S85	14.001	S86	12.9	1.220	0.214	0.2835	
15 minute summer	S86	11.005	S87	55.6	0.874	0.291	0.7810	
15 minute summer	S87L	14.000	S87	9.4	2.472	0.156	0.0192	
15 minute summer	S87	11.006	S88	68.8	0.874	0.400	3.1009	
15 minute summer	S88	1.012	S89	216.6	1.483	0.858	6.1352	
15 minute summer	S89	1.013	S91	214.2	1.577	0.770	2.3882	
15 minute summer	S91	1.014	S93	219.4	1.196	0.476	5.7308	
15 minute summer	S92L	17.000	S92	13.4	2.625	0.236	0.0186	
15 minute summer	S92	17.001	S93	15.6	1.867	0.153	0.1121	
15 minute summer	S93	1.015	S94	257.7	2.261	0.577	3.2835	
15 minute summer	S94L	18.000	S94	9.9	2.411	0.174	0.0230	
15 minute summer	S94	1.016	S96	238.7	3.260	0.086	2.0527	
15 minute summer	S95La	19.000	S95	5.0	1.979	0.088	0.0147	
15 minute summer	S95Lb	20.000	S95	4.3	1.891	0.076	0.0083	
15 minute summer	S95	19.001	S96	13.6	1.660	0.067	0.2670	
15 minute summer	S96	1.017	S97	264.1	3.202	0.152	4.1312	
15 minute summer	S97L	21.000	S97	12.5	2.602	0.217	0.0265	
15 minute summer	S97	1.018	S98	268.8	2.967	0.117	3.2049	
15 minute summer	S98L	22.000	S98	8.5	2.439	0.138	0.0141	
15 minute summer	S98	1.019	S99	273.1	2.949	0.190	3.7551	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.374	0.040	12.1	0.0456	0.0000	OK
15 minute summer	S99	13	108.076	0.175	279.2	0.4465	0.0000	OK
15 minute summer	S100	13	107.087	0.184	279.5	0.4673	0.0000	OK
480 minute summer	HW14	352	106.516	0.246	55.1	0.0000	0.0000	OK
480 minute summer	HW15	352	106.516	0.246	32.1	0.0000	0.0000	OK
480 minute summer	S101	344	106.516	0.263	13.0	1.5056	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	7.2	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	S99L	23.000	S99	12.1	3.188	0.157	0.0170	
15 minute summer	S99	1.020	S100	279.5	3.461	0.126	2.5191	
15 minute summer	S100	1.021	HW14	280.6	3.599	0.135	1.7824	
480 minute summer	HW14	Flow through pond	HW15	32.1	0.058	0.001	272.7238	
480 minute summer	HW15	1.022	S101	13.0	0.167	0.024	1.1952	
480 minute summer	S101	1.023	HW16	9.8	0.355	0.100	0.7433	287.3

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.089	0.091	11.8	0.1025	0.0000	OK
15 minute summer	S67	10	114.982	0.115	21.2	0.1306	0.0000	OK
15 minute summer	S68	11	114.850	0.146	35.5	0.1656	0.0000	OK
15 minute summer	S69L	10	114.941	0.088	17.1	0.0994	0.0000	OK
15 minute summer	S69	11	114.496	0.172	51.7	0.3041	0.0000	OK
15 minute summer	S70	11	114.427	0.170	51.9	0.3011	0.0000	OK
15 minute summer	S71L	10	114.593	0.093	35.5	0.1047	0.0000	OK
15 minute summer	S71	11	114.375	0.255	84.2	0.4505	0.0000	OK
15 minute summer	S72	10	114.926	0.099	16.5	0.1742	0.0000	OK
15 minute summer	S73La	10	114.831	0.084	10.9	0.0954	0.0000	OK
15 minute summer	S73Lb	10	114.965	0.235	29.6	0.2661	0.0000	SURCHARGED
15 minute summer	S73	10	114.603	0.147	61.4	0.2605	0.0000	OK
15 minute summer	S74	10	114.467	0.154	65.9	0.2726	0.0000	OK
15 minute summer	S75L	10	114.844	0.075	39.5	0.0844	0.0000	OK
15 minute summer	S75	11	114.375	0.306	191.7	0.5405	0.0000	OK
15 minute summer	S76	11	114.276	0.299	194.4	0.5284	0.0000	OK
15 minute summer	S77	11	114.217	0.299	198.8	0.5289	0.0000	OK
15 minute summer	S78L	11	114.243	0.091	12.2	0.1028	0.0000	OK
15 minute summer	S78	12	114.191	0.408	219.0	0.7208	0.0000	OK
15 minute summer	S79L	10	114.381	0.105	33.6	0.1183	0.0000	OK
15 minute summer	S79	12	113.888	0.315	255.9	0.5570	0.0000	OK
15 minute summer	S80L	10	114.759	0.057	19.7	0.0643	0.0000	OK
15 minute summer	S80	12	113.605	0.206	279.2	0.5255	0.0000	OK
15 minute summer	S81L	10	113.501	0.065	33.6	0.1151	0.0000	OK
15 minute summer	S81	10	113.149	0.161	43.4	0.2852	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	11.7	1.054	0.681	0.0686	
15 minute summer	S67	1.001	S68	21.0	1.027	0.529	0.2997	
15 minute summer	S68	1.002	S69	35.2	1.041	0.494	1.4818	
15 minute summer	S69L	2.000	S69	17.0	1.586	0.647	0.1130	
15 minute summer	S69	1.003	S70	51.9	0.958	0.326	1.5169	
15 minute summer	S70	1.004	S71	50.2	0.715	0.317	4.1544	
15 minute summer	S71L	3.000	S71	35.4	2.305	0.357	0.0661	
15 minute summer	S71	1.005	S75	83.9	0.886	0.368	1.0569	
15 minute summer	S72	4.000	S73	16.1	0.964	0.404	0.6254	
15 minute summer	S73La	5.000	S73	10.8	1.062	0.608	0.0669	
15 minute summer	S73Lb	6.000	S73	29.4	1.668	1.659	0.0858	
15 minute summer	S73	4.001	S74	61.0	1.481	0.330	0.6920	
15 minute summer	S74	4.002	S75	66.0	1.274	0.329	0.9558	
15 minute summer	S75L	7.000	S75	39.4	3.440	0.238	0.0568	
15 minute summer	S75	1.006	S76	190.9	1.685	0.835	2.0723	
15 minute summer	S76	1.007	S77	193.5	1.736	0.799	1.1687	
15 minute summer	S77	1.008	S78	197.8	1.487	0.612	1.7685	
15 minute summer	S78L	8.000	S78	12.1	1.092	0.678	0.0829	
15 minute summer	S78	1.009	S79	217.6	1.568	1.264	6.5300	
15 minute summer	S79L	9.000	S79	33.5	2.555	0.830	0.0848	
15 minute summer	S79	1.010	S80	255.1	2.383	0.702	3.3209	
15 minute summer	S80L	10.000	S80	19.6	3.219	0.304	0.0434	
15 minute summer	S80	1.011	S88	277.6	1.666	0.339	4.5947	
15 minute summer	S81L	11.000	S81	33.5	2.985	0.104	0.0405	
15 minute summer	S81	11.001	S82	42.8	0.795	0.270	1.1328	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	13	113.144	0.205	46.4	0.3621	0.0000	OK
15 minute summer	S83L	10	113.563	0.073	23.7	0.0830	0.0000	OK
15 minute summer	S83	13	113.126	0.243	76.3	0.4299	0.0000	OK
15 minute summer	S84	12	113.143	0.309	80.0	0.5458	0.0000	OK
15 minute summer	S85L	10	113.597	0.083	15.8	0.0942	0.0000	OK
15 minute summer	S85	10	113.421	0.100	24.9	0.1127	0.0000	OK
15 minute summer	S86	12	113.127	0.393	102.1	0.6950	0.0000	OK
15 minute summer	S87L	10	113.616	0.056	17.8	0.0635	0.0000	OK
15 minute summer	S87	12	113.123	0.431	120.0	0.7625	0.0000	OK
15 minute summer	S88	12	113.091	0.577	373.6	1.0201	0.0000	SURCHARGED
15 minute summer	S89	12	112.857	0.458	377.0	0.8087	0.0000	OK
15 minute summer	S91	12	112.571	0.455	377.5	1.1588	0.0000	OK
15 minute summer	S92L	10	113.618	0.070	25.3	0.0796	0.0000	OK
15 minute summer	S92	10	113.191	0.083	29.5	0.0933	0.0000	OK
15 minute summer	S93	13	112.513	0.441	410.6	1.1228	0.0000	OK
15 minute summer	S94L	10	113.257	0.060	18.8	0.0674	0.0000	OK
15 minute summer	S94	11	112.230	0.195	475.7	0.4967	0.0000	OK
15 minute summer	S95La	10	112.956	0.042	9.5	0.0471	0.0000	OK
15 minute summer	S95Lb	10	112.733	0.039	8.2	0.0437	0.0000	OK
15 minute summer	S95	10	112.251	0.072	26.2	0.0814	0.0000	OK
15 minute summer	S96	12	110.899	0.260	462.0	0.6612	0.0000	OK
15 minute summer	S97L	10	110.888	0.067	23.7	0.0760	0.0000	OK
15 minute summer	S97	12	109.881	0.230	492.7	0.5846	0.0000	OK
15 minute summer	S98L	10	109.572	0.053	16.1	0.0595	0.0000	OK
15 minute summer	S98	12	108.747	0.303	512.8	0.7701	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	46.0	0.682	0.290	1.8078	
15 minute summer	S83L	12.000	S83	23.6	2.766	0.479	0.0346	
15 minute summer	S83	11.003	S84	75.9	0.981	0.478	2.0332	
15 minute summer	S84	11.004	S86	74.1	0.855	0.467	5.3955	
15 minute summer	S85L	13.000	S85	15.7	1.568	0.594	0.0537	
15 minute summer	S85	14.001	S86	24.6	1.455	0.409	0.6159	
15 minute summer	S86	11.005	S87	90.6	0.887	0.475	1.8564	
15 minute summer	S87L	14.000	S87	17.8	2.960	0.296	0.0534	
15 minute summer	S87	11.006	S88	109.8	0.922	0.638	5.7532	
15 minute summer	S88	1.012	S89	377.0	1.751	1.494	8.7337	
15 minute summer	S89	1.013	S91	377.5	1.967	1.357	3.3467	
15 minute summer	S91	1.014	S93	376.6	1.382	0.818	8.5345	
15 minute summer	S92L	17.000	S92	25.3	3.118	0.446	0.0296	
15 minute summer	S92	17.001	S93	29.4	2.234	0.289	0.1770	
15 minute summer	S93	1.015	S94	455.6	2.586	1.021	4.9894	
15 minute summer	S94L	18.000	S94	18.7	2.882	0.331	0.0366	
15 minute summer	S94	1.016	S96	419.5	3.860	0.151	3.1372	
15 minute summer	S95La	19.000	S95	9.5	2.383	0.167	0.0233	
15 minute summer	S95Lb	20.000	S95	8.2	2.284	0.144	0.0131	
15 minute summer	S95	19.001	S96	26.0	2.008	0.127	0.4219	
15 minute summer	S96	1.017	S97	468.6	3.760	0.269	6.2375	
15 minute summer	S97L	21.000	S97	23.6	3.100	0.411	0.0422	
15 minute summer	S97	1.018	S98	491.5	3.515	0.214	4.9406	
15 minute summer	S98L	22.000	S98	16.1	2.924	0.262	0.0223	
15 minute summer	S98	1.019	S99	511.7	3.533	0.357	5.8637	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.390	0.056	23.0	0.0637	0.0000	OK
15 minute summer	S99	12	108.145	0.244	529.9	0.6202	0.0000	OK
15 minute summer	S100	12	107.161	0.258	532.3	0.6563	0.0000	OK
480 minute summer	HW14	432	106.691	0.421	99.4	0.0000	0.0000	OK
480 minute summer	HW15	424	106.691	0.421	55.4	0.0000	0.0000	OK
480 minute summer	S101	480	106.713	0.460	59.1	2.6316	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	9.9	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	23.0	3.819	0.298	0.0271	
15 minute summer	S99	1.020	S100	532.3	4.130	0.240	4.0203	
15 minute summer	S100	1.021	HW14	538.1	4.689	0.259	2.6080	
480 minute summer	HW14	Flow through pond	HW15	55.4	0.077	0.001	542.3145	
480 minute summer	HW15	1.022	S101	59.1	0.239	0.111	2.4378	
480 minute summer	S101	1.023	HW16	10.7	0.383	0.108	0.7494	352.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S67L	10	115.162	0.164	21.5	0.1857	0.0000	SURCHARGED
15 minute summer	S67	12	115.109	0.242	38.5	0.2743	0.0000	SURCHARGED
15 minute summer	S68	12	115.053	0.349	64.3	0.3942	0.0000	SURCHARGED
15 minute summer	S69L	11	115.192	0.339	31.1	0.3838	0.0000	SURCHARGED
15 minute summer	S69	12	114.957	0.633	92.5	1.1177	0.0000	SURCHARGED
15 minute summer	S70	12	114.955	0.698	85.3	1.2327	0.0000	SURCHARGED
15 minute summer	S71L	12	114.953	0.453	64.6	0.5125	0.0000	SURCHARGED
15 minute summer	S71	12	114.918	0.798	138.3	1.4096	0.0000	SURCHARGED
15 minute summer	S72	12	115.007	0.179	29.9	0.3171	0.0000	OK
15 minute summer	S73La	12	115.016	0.269	19.7	0.3046	0.0000	SURCHARGED
15 minute summer	S73Lb	12	115.289	0.559	53.8	0.6318	0.0000	SURCHARGED
15 minute summer	S73	12	114.961	0.505	111.1	0.8920	0.0000	SURCHARGED
15 minute summer	S74	12	114.934	0.621	119.3	1.0971	0.0000	SURCHARGED
15 minute summer	S75L	12	114.934	0.165	71.8	0.1870	0.0000	OK
15 minute summer	S75	12	114.908	0.839	288.7	1.4827	0.0000	SURCHARGED
15 minute summer	S76	12	114.800	0.823	287.5	1.4549	0.0000	SURCHARGED
15 minute summer	S77	12	114.730	0.812	287.2	1.4349	0.0000	SURCHARGED
15 minute summer	S78L	12	114.662	0.510	22.1	0.5767	0.0000	SURCHARGED
15 minute summer	S78	12	114.624	0.841	317.7	1.4861	0.0000	SURCHARGED
15 minute summer	S79L	10	114.845	0.569	61.0	0.6440	0.0000	SURCHARGED
15 minute summer	S79	12	114.175	0.602	392.4	1.0632	0.0000	SURCHARGED
15 minute summer	S80L	10	114.782	0.080	35.9	0.0904	0.0000	OK
15 minute summer	S80	12	114.029	0.631	439.4	1.6067	0.0000	SURCHARGED
15 minute summer	S81L	12	114.048	0.612	61.0	1.0820	0.0000	SURCHARGED
15 minute summer	S81	12	114.038	1.050	127.8	1.8550	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	21.2	1.205	1.231	0.1087	
15 minute summer	S67	1.001	S68	38.0	1.202	0.957	0.5824	
15 minute summer	S68	1.002	S69	62.3	1.221	0.873	3.0825	
15 minute summer	S69L	2.000	S69	30.3	1.719	1.152	0.1857	
15 minute summer	S69	1.003	S70	85.3	1.049	0.537	4.3429	
15 minute summer	S70	1.004	S71	96.3	0.782	0.608	8.9186	
15 minute summer	S71L	3.000	S71	65.7	2.638	0.663	0.1710	
15 minute summer	S71	1.005	S75	146.0	1.114	0.640	1.6150	
15 minute summer	S72	4.000	S73	29.0	1.106	0.730	1.3821	
15 minute summer	S73La	5.000	S73	19.5	1.197	1.096	0.1158	
15 minute summer	S73Lb	6.000	S73	52.9	3.008	2.990	0.0867	
15 minute summer	S73	4.001	S74	110.3	1.642	0.596	1.8420	
15 minute summer	S74	4.002	S75	105.4	1.282	0.526	1.8608	
15 minute summer	S75L	7.000	S75	71.4	3.763	0.431	0.1687	
15 minute summer	S75	1.006	S76	281.2	1.775	1.230	2.8982	
15 minute summer	S76	1.007	S77	277.5	1.752	1.147	1.6610	
15 minute summer	S77	1.008	S78	283.0	1.786	0.875	2.1380	
15 minute summer	S78L	8.000	S78	19.6	1.139	1.101	0.1203	
15 minute summer	S78	1.009	S79	314.0	1.982	1.825	7.5243	
15 minute summer	S79L	9.000	S79	59.4	3.374	1.474	0.1140	
15 minute summer	S79	1.010	S80	393.1	2.462	1.081	6.7003	
15 minute summer	S80L	10.000	S80	35.8	3.762	0.553	0.0909	
15 minute summer	S80	1.011	S88	414.7	2.047	0.507	6.7337	
15 minute summer	S81L	11.000	S81	58.8	3.486	0.183	0.2539	
15 minute summer	S81	11.001	S82	71.5	0.877	0.451	3.1735	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S82	12	114.024	1.085	77.8	1.9165	0.0000	SURCHARGED
15 minute summer	S83L	12	114.184	0.694	43.1	0.7854	0.0000	SURCHARGED
15 minute summer	S83	12	114.016	1.133	136.4	2.0024	0.0000	SURCHARGED
15 minute summer	S84	12	114.017	1.182	123.1	2.0894	0.0000	SURCHARGED
15 minute summer	S85L	12	114.172	0.658	28.7	0.7442	0.0000	SURCHARGED
15 minute summer	S85	12	114.079	0.758	42.2	0.8577	0.0000	SURCHARGED
15 minute summer	S86	12	113.954	1.220	156.9	2.1552	0.0000	SURCHARGED
15 minute summer	S87L	12	114.029	0.469	32.3	0.5302	0.0000	SURCHARGED
15 minute summer	S87	12	113.926	1.235	200.3	2.1814	0.0000	SURCHARGED
15 minute summer	S88	12	113.791	1.277	618.5	2.2557	0.0000	SURCHARGED
15 minute summer	S89	12	113.104	0.705	609.0	1.2454	0.0000	SURCHARGED
15 minute summer	S91	12	112.750	0.634	608.2	1.6131	0.0000	OK
15 minute summer	S92L	10	113.651	0.103	46.0	0.1163	0.0000	OK
15 minute summer	S92	10	113.223	0.115	53.7	0.1305	0.0000	OK
15 minute summer	S93	12	112.658	0.586	667.8	1.4912	0.0000	OK
15 minute summer	S94L	10	113.281	0.084	34.1	0.0951	0.0000	OK
30 minute summer	S94	20	112.300	0.265	732.0	0.6742	0.0000	OK
15 minute summer	S95La	10	112.971	0.057	17.3	0.0644	0.0000	OK
15 minute summer	S95Lb	10	112.747	0.053	15.0	0.0597	0.0000	OK
15 minute summer	S95	10	112.277	0.098	47.7	0.1105	0.0000	OK
30 minute summer	S96	19	110.989	0.350	768.0	0.8919	0.0000	OK
15 minute summer	S97L	10	110.918	0.097	43.1	0.1098	0.0000	OK
15 minute summer	S97	12	109.947	0.296	793.7	0.7524	0.0000	OK
15 minute summer	S98L	10	109.592	0.073	29.3	0.0829	0.0000	OK
30 minute summer	S98	20	108.844	0.399	815.3	1.0166	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	84.3	0.730	0.531	3.6333	
15 minute summer	S83L	12.000	S83	40.7	3.115	0.825	0.0712	
15 minute summer	S83	11.003	S84	115.7	1.077	0.729	3.1689	
15 minute summer	S84	11.004	S86	117.2	0.841	0.738	6.5027	
15 minute summer	S85L	13.000	S85	26.2	1.661	0.991	0.0943	
15 minute summer	S85	14.001	S86	41.5	1.518	0.688	1.0634	
15 minute summer	S86	11.005	S87	157.8	0.996	0.827	1.9401	
15 minute summer	S87L	14.000	S87	30.6	3.224	0.511	0.0891	
15 minute summer	S87	11.006	S88	198.3	1.252	1.152	5.8030	
15 minute summer	S88	1.012	S89	609.0	2.819	2.413	9.0747	
15 minute summer	S89	1.013	S91	608.2	2.816	2.186	3.7231	
15 minute summer	S91	1.014	S93	604.7	1.589	1.313	11.9596	
15 minute summer	S92L	17.000	S92	45.9	3.574	0.811	0.0469	
15 minute summer	S92	17.001	S93	53.5	2.615	0.525	0.2750	
15 minute summer	S93	1.015	S94	645.4	2.976	1.446	6.9324	
15 minute summer	S94L	18.000	S94	34.0	3.355	0.601	0.0570	
30 minute summer	S94	1.016	S96	699.1	4.296	0.252	4.5825	
15 minute summer	S95La	19.000	S95	17.3	2.819	0.305	0.0358	
15 minute summer	S95Lb	20.000	S95	15.0	2.711	0.264	0.0201	
15 minute summer	S95	19.001	S96	47.3	2.382	0.232	0.6477	
30 minute summer	S96	1.017	S97	754.4	4.243	0.434	9.0154	
15 minute summer	S97L	21.000	S97	43.0	3.573	0.748	0.0666	
15 minute summer	S97	1.018	S98	792.2	3.982	0.346	7.0187	
15 minute summer	S98L	22.000	S98	29.2	3.431	0.478	0.0347	
30 minute summer	S98	1.019	S99	834.9	4.039	0.582	8.3576	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S99L	10	109.413	0.079	41.9	0.0894	0.0000	OK
15 minute summer	S99	12	108.218	0.317	868.6	0.8076	0.0000	OK
15 minute summer	S100	12	107.238	0.335	871.3	0.8520	0.0000	OK
600 minute summer	HW14	615	107.021	0.751	145.5	0.0000	0.0000	OK
720 minute summer	HW15	720	107.021	0.750	71.2	0.0000	0.0000	SURCHARGED
720 minute summer	S101	705	107.021	0.768	13.2	4.3957	0.0000	SURCHARGED
15 minute summer	HW16	1	106.000	0.900	10.6	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	41.8	4.466	0.542	0.0422	
15 minute summer	S99	1.020	S100	871.3	4.746	0.393	5.7257	
15 minute summer	S100	1.021	HW14	872.4	5.463	0.421	3.6174	
600 minute summer	HW14	Flow through pond	HW15	74.8	0.080	0.002	1115.5753	
720 minute summer	HW15	1.022	S101	13.2	0.190	0.025	3.9980	
720 minute summer	S101	1.023	HW16	10.7	0.384	0.109	0.7496	486.9

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN			File: FW2285 Adoptable Drainage Net Network: SW Network 4 Jon Davey July 2024			Page 1 FW2285 Burbage Field Farm Network 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																																																																																																																																																																																																																																																																																																																																												
<table><tr><th>Name</th><th>Area (ha)</th><th>T of E (mins)</th><th>Cover Level (m)</th><th>Node Type</th><th>Diameter (mm)</th><th>Easting (m)</th><th>Northing (m)</th><th>Depth (m)</th></tr><tr><td>S102</td><td>0.046</td><td>5.00</td><td>113.330</td><td>Manhole</td><td>1200</td><td>444479.431</td><td>291754.803</td><td>1.438</td></tr><tr><td>S103</td><td>0.030</td><td>5.00</td><td>112.628</td><td>Manhole</td><td>1200</td><td>444472.108</td><td>291734.898</td><td>1.502</td></tr><tr><td>S104L</td><td>0.065</td><td>5.00</td><td>112.267</td><td>Manhole</td><td>1200</td><td>444472.650</td><td>291718.227</td><td>1.894</td></tr><tr><td>S104</td><td>0.020</td><td>5.00</td><td>111.735</td><td>Manhole</td><td>1200</td><td>444483.601</td><td>291711.432</td><td>1.598</td></tr><tr><td>S105</td><td>0.018</td><td>5.00</td><td>111.072</td><td>Manhole</td><td>1200</td><td>444481.686</td><td>291691.630</td><td>1.498</td></tr><tr><td>S106</td><td>0.020</td><td>5.00</td><td>110.748</td><td>Manhole</td><td>1200</td><td>444497.965</td><td>291672.775</td><td>1.500</td></tr><tr><td>S107</td><td>0.010</td><td>5.00</td><td>110.593</td><td>Manhole</td><td>1200</td><td>444501.855</td><td>291658.744</td><td>1.500</td></tr><tr><td>S108</td><td>0.012</td><td>5.00</td><td>110.213</td><td>Manhole</td><td>1200</td><td>444499.035</td><td>291644.546</td><td>1.500</td></tr><tr><td>S109L</td><td>0.044</td><td>5.00</td><td>109.640</td><td>Manhole</td><td>1200</td><td>444485.970</td><td>291638.442</td><td>1.297</td></tr><tr><td>S109</td><td>0.030</td><td>5.00</td><td>109.648</td><td>Manhole</td><td>1200</td><td>444490.094</td><td>291633.112</td><td>1.500</td></tr><tr><td>S110L</td><td>0.057</td><td>5.00</td><td>108.250</td><td>Manhole</td><td>1200</td><td>444459.015</td><td>291612.253</td><td>1.144</td></tr><tr><td>S110</td><td>0.027</td><td>5.00</td><td>108.270</td><td>Manhole</td><td>1200</td><td>444462.690</td><td>291608.295</td><td>1.518</td></tr><tr><td>S111L</td><td>0.047</td><td>5.00</td><td>107.600</td><td>Manhole</td><td>1200</td><td>444434.035</td><td>291590.102</td><td>1.343</td></tr><tr><td>S111</td><td>0.010</td><td>5.00</td><td>107.562</td><td>Manhole</td><td>1200</td><td>444435.285</td><td>291583.479</td><td>1.650</td></tr><tr><td>S112</td><td>0.033</td><td>5.00</td><td>107.313</td><td>Manhole</td><td>1200</td><td>444421.127</td><td>291579.546</td><td>1.650</td></tr><tr><td>S113L</td><td>0.084</td><td>5.00</td><td>107.370</td><td>Manhole</td><td>1200</td><td>444399.148</td><td>291588.949</td><td>1.882</td></tr><tr><td>S113</td><td></td><td></td><td>107.389</td><td>Manhole</td><td>1200</td><td>444398.098</td><td>291584.164</td><td>2.325</td></tr><tr><td>HW21</td><td></td><td></td><td>106.300</td><td>Manhole</td><td></td><td>444392.865</td><td>291574.374</td><td>1.269</td></tr><tr><td>S114L</td><td>0.049</td><td>5.00</td><td>110.300</td><td>Manhole</td><td>1200</td><td>444454.757</td><td>291676.928</td><td>1.452</td></tr><tr><td>S114</td><td>0.037</td><td>5.00</td><td>110.153</td><td>Manhole</td><td>1200</td><td>444459.264</td><td>291672.153</td><td>1.499</td></tr><tr><td>S115La</td><td>0.128</td><td>5.00</td><td>108.990</td><td>Manhole</td><td>1200</td><td>444427.447</td><td>291651.484</td><td>1.577</td></tr><tr><td>S115Lb</td><td>0.037</td><td>5.00</td><td>109.000</td><td>Manhole</td><td>1200</td><td>444433.123</td><td>291641.030</td><td>1.535</td></tr><tr><td>S115</td><td>0.021</td><td>5.00</td><td>108.785</td><td>Manhole</td><td>1200</td><td>444430.189</td><td>291644.190</td><td>2.235</td></tr><tr><td>S116</td><td>0.057</td><td>5.00</td><td>108.467</td><td>Manhole</td><td>1200</td><td>444416.379</td><td>291637.767</td><td>1.964</td></tr><tr><td>S117La</td><td>0.063</td><td>5.00</td><td>108.900</td><td>Manhole</td><td>1200</td><td>444388.744</td><td>291649.396</td><td>2.205</td></tr><tr><td>S117Lb</td><td>0.057</td><td>5.00</td><td>109.000</td><td>Manhole</td><td>1200</td><td>444387.944</td><td>291649.243</td><td>1.542</td></tr><tr><td>S117</td><td></td><td></td><td>108.819</td><td>Manhole</td><td>1200</td><td>444385.327</td><td>291643.147</td><td>2.713</td></tr><tr><td>S118</td><td>0.025</td><td>5.00</td><td>108.654</td><td>Manhole</td><td>1200</td><td>444375.733</td><td>291648.800</td><td>2.582</td></tr><tr><td>S119</td><td></td><td></td><td>107.717</td><td>Manhole</td><td>1200</td><td>444349.998</td><td>291624.828</td><td>1.754</td></tr><tr><td>S120L</td><td>0.067</td><td>5.00</td><td>108.000</td><td>Manhole</td><td>1200</td><td>444353.141</td><td>291605.428</td><td>2.472</td></tr><tr><td>S120</td><td></td><td></td><td>107.000</td><td>Manhole</td><td>1200</td><td>444354.732</td><td>291606.222</td><td>1.758</td></tr><tr><td>HW22</td><td></td><td></td><td>106.286</td><td>Manhole</td><td></td><td>444355.507</td><td>291596.120</td><td>1.205</td></tr><tr><td>HW23</td><td></td><td>5.00</td><td>106.286</td><td>Manhole</td><td></td><td>444370.615</td><td>291565.689</td><td>1.255</td></tr><tr><td>S121</td><td></td><td></td><td>106.300</td><td>Manhole</td><td>2700</td><td>444364.822</td><td>291560.491</td><td>1.289</td></tr><tr><td>HW24</td><td></td><td></td><td>105.600</td><td>Manhole</td><td></td><td>444342.087</td><td>291539.997</td><td>0.895</td></tr></table>									Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	S102	0.046	5.00	113.330	Manhole	1200	444479.431	291754.803	1.438	S103	0.030	5.00	112.628	Manhole	1200	444472.108	291734.898	1.502	S104L	0.065	5.00	112.267	Manhole	1200	444472.650	291718.227	1.894	S104	0.020	5.00	111.735	Manhole	1200	444483.601	291711.432	1.598	S105	0.018	5.00	111.072	Manhole	1200	444481.686	291691.630	1.498	S106	0.020	5.00	110.748	Manhole	1200	444497.965	291672.775	1.500	S107	0.010	5.00	110.593	Manhole	1200	444501.855	291658.744	1.500	S108	0.012	5.00	110.213	Manhole	1200	444499.035	291644.546	1.500	S109L	0.044	5.00	109.640	Manhole	1200	444485.970	291638.442	1.297	S109	0.030	5.00	109.648	Manhole	1200	444490.094	291633.112	1.500	S110L	0.057	5.00	108.250	Manhole	1200	444459.015	291612.253	1.144	S110	0.027	5.00	108.270	Manhole	1200	444462.690	291608.295	1.518	S111L	0.047	5.00	107.600	Manhole	1200	444434.035	291590.102	1.343	S111	0.010	5.00	107.562	Manhole	1200	444435.285	291583.479	1.650	S112	0.033	5.00	107.313	Manhole	1200	444421.127	291579.546	1.650	S113L	0.084	5.00	107.370	Manhole	1200	444399.148	291588.949	1.882	S113			107.389	Manhole	1200	444398.098	291584.164	2.325	HW21			106.300	Manhole		444392.865	291574.374	1.269	S114L	0.049	5.00	110.300	Manhole	1200	444454.757	291676.928	1.452	S114	0.037	5.00	110.153	Manhole	1200	444459.264	291672.153	1.499	S115La	0.128	5.00	108.990	Manhole	1200	444427.447	291651.484	1.577	S115Lb	0.037	5.00	109.000	Manhole	1200	444433.123	291641.030	1.535	S115	0.021	5.00	108.785	Manhole	1200	444430.189	291644.190	2.235	S116	0.057	5.00	108.467	Manhole	1200	444416.379	291637.767	1.964	S117La	0.063	5.00	108.900	Manhole	1200	444388.744	291649.396	2.205	S117Lb	0.057	5.00	109.000	Manhole	1200	444387.944	291649.243	1.542	S117			108.819	Manhole	1200	444385.327	291643.147	2.713	S118	0.025	5.00	108.654	Manhole	1200	444375.733	291648.800	2.582	S119			107.717	Manhole	1200	444349.998	291624.828	1.754	S120L	0.067	5.00	108.000	Manhole	1200	444353.141	291605.428	2.472	S120			107.000	Manhole	1200	444354.732	291606.222	1.758	HW22			106.286	Manhole		444355.507	291596.120	1.205	HW23		5.00	106.286	Manhole		444370.615	291565.689	1.255	S121			106.300	Manhole	2700	444364.822	291560.491	1.289	HW24			105.600	Manhole		444342.087	291539.997	0.895
Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)																																																																																																																																																																																																																																																																																																																																				
S102	0.046	5.00	113.330	Manhole	1200	444479.431	291754.803	1.438																																																																																																																																																																																																																																																																																																																																				
S103	0.030	5.00	112.628	Manhole	1200	444472.108	291734.898	1.502																																																																																																																																																																																																																																																																																																																																				
S104L	0.065	5.00	112.267	Manhole	1200	444472.650	291718.227	1.894																																																																																																																																																																																																																																																																																																																																				
S104	0.020	5.00	111.735	Manhole	1200	444483.601	291711.432	1.598																																																																																																																																																																																																																																																																																																																																				
S105	0.018	5.00	111.072	Manhole	1200	444481.686	291691.630	1.498																																																																																																																																																																																																																																																																																																																																				
S106	0.020	5.00	110.748	Manhole	1200	444497.965	291672.775	1.500																																																																																																																																																																																																																																																																																																																																				
S107	0.010	5.00	110.593	Manhole	1200	444501.855	291658.744	1.500																																																																																																																																																																																																																																																																																																																																				
S108	0.012	5.00	110.213	Manhole	1200	444499.035	291644.546	1.500																																																																																																																																																																																																																																																																																																																																				
S109L	0.044	5.00	109.640	Manhole	1200	444485.970	291638.442	1.297																																																																																																																																																																																																																																																																																																																																				
S109	0.030	5.00	109.648	Manhole	1200	444490.094	291633.112	1.500																																																																																																																																																																																																																																																																																																																																				
S110L	0.057	5.00	108.250	Manhole	1200	444459.015	291612.253	1.144																																																																																																																																																																																																																																																																																																																																				
S110	0.027	5.00	108.270	Manhole	1200	444462.690	291608.295	1.518																																																																																																																																																																																																																																																																																																																																				
S111L	0.047	5.00	107.600	Manhole	1200	444434.035	291590.102	1.343																																																																																																																																																																																																																																																																																																																																				
S111	0.010	5.00	107.562	Manhole	1200	444435.285	291583.479	1.650																																																																																																																																																																																																																																																																																																																																				
S112	0.033	5.00	107.313	Manhole	1200	444421.127	291579.546	1.650																																																																																																																																																																																																																																																																																																																																				
S113L	0.084	5.00	107.370	Manhole	1200	444399.148	291588.949	1.882																																																																																																																																																																																																																																																																																																																																				
S113			107.389	Manhole	1200	444398.098	291584.164	2.325																																																																																																																																																																																																																																																																																																																																				
HW21			106.300	Manhole		444392.865	291574.374	1.269																																																																																																																																																																																																																																																																																																																																				
S114L	0.049	5.00	110.300	Manhole	1200	444454.757	291676.928	1.452																																																																																																																																																																																																																																																																																																																																				
S114	0.037	5.00	110.153	Manhole	1200	444459.264	291672.153	1.499																																																																																																																																																																																																																																																																																																																																				
S115La	0.128	5.00	108.990	Manhole	1200	444427.447	291651.484	1.577																																																																																																																																																																																																																																																																																																																																				
S115Lb	0.037	5.00	109.000	Manhole	1200	444433.123	291641.030	1.535																																																																																																																																																																																																																																																																																																																																				
S115	0.021	5.00	108.785	Manhole	1200	444430.189	291644.190	2.235																																																																																																																																																																																																																																																																																																																																				
S116	0.057	5.00	108.467	Manhole	1200	444416.379	291637.767	1.964																																																																																																																																																																																																																																																																																																																																				
S117La	0.063	5.00	108.900	Manhole	1200	444388.744	291649.396	2.205																																																																																																																																																																																																																																																																																																																																				
S117Lb	0.057	5.00	109.000	Manhole	1200	444387.944	291649.243	1.542																																																																																																																																																																																																																																																																																																																																				
S117			108.819	Manhole	1200	444385.327	291643.147	2.713																																																																																																																																																																																																																																																																																																																																				
S118	0.025	5.00	108.654	Manhole	1200	444375.733	291648.800	2.582																																																																																																																																																																																																																																																																																																																																				
S119			107.717	Manhole	1200	444349.998	291624.828	1.754																																																																																																																																																																																																																																																																																																																																				
S120L	0.067	5.00	108.000	Manhole	1200	444353.141	291605.428	2.472																																																																																																																																																																																																																																																																																																																																				
S120			107.000	Manhole	1200	444354.732	291606.222	1.758																																																																																																																																																																																																																																																																																																																																				
HW22			106.286	Manhole		444355.507	291596.120	1.205																																																																																																																																																																																																																																																																																																																																				
HW23		5.00	106.286	Manhole		444370.615	291565.689	1.255																																																																																																																																																																																																																																																																																																																																				
S121			106.300	Manhole	2700	444364.822	291560.491	1.289																																																																																																																																																																																																																																																																																																																																				
HW24			105.600	Manhole		444342.087	291539.997	0.895																																																																																																																																																																																																																																																																																																																																				
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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	26.130	0.600	111.126	110.212	0.914	28.6	225	5.32	50.0
2.000	S104L	S104	12.888	0.600	110.373	110.287	0.086	149.9	150	5.26	50.0
1.002	S104	S105	19.894	0.600	110.137	109.574	0.563	35.3	300	5.44	50.0
1.003	S105	S106	24.911	0.600	109.574	109.248	0.326	76.4	300	5.67	50.0
1.004	S106	S107	14.560	0.600	109.248	109.093	0.155	93.9	300	5.82	50.0
1.005	S107	S108	14.475	0.600	109.093	108.713	0.380	38.1	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	6.740	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	49.6
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	36.971	0.600	106.752	105.912	0.840	44.0	450	6.41	48.8
5.000	S111L	S111	6.740	0.600	106.257	106.212	0.045	149.8	150	5.14	50.0
1.009	S111	S112	14.694	0.600	105.912	105.663	0.249	59.0	450	6.50	48.5
1.010	S112	S113	23.488	0.600	105.663	105.139	0.524	44.8	450	6.63	48.0
6.000	S113L	S113	4.898	0.600	105.488	105.439	0.049	100.0	150	5.08	50.0
1.011	S113	HW21	11.102	0.600	105.064	105.031	0.033	336.4	525	6.78	47.5
7.000	S114L	S114	6.566	0.600	108.848	108.804	0.044	149.2	150	5.13	50.0
7.001	S114	S115	40.340	0.600	108.654	106.625	2.029	19.9	300	5.32	50.0
8.000	S115La	S115	7.793	0.600	107.413	106.700	0.713	10.9	225	5.03	50.0
9.000	S115Lb	S115	4.312	0.600	107.465	106.775	0.690	6.2	150	5.02	50.0
7.002	S115	S116	15.230	0.600	106.550	106.503	0.047	324.0	375	5.58	50.0
7.003	S116	S117	43.003	0.600	106.503	106.106	0.397	108.3	375	5.99	50.0
10.000	S117La	S117	7.122	0.600	106.695	106.331	0.364	19.6	150	5.05	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S102	S103	2.496	99.2	6.2	1.213	1.277	1.213	1.277	0.046	0.0
1.001	S103	S104	2.456	97.6	10.3	1.277	1.298	1.277	1.298	0.076	0.0
2.000	S104L	S104	0.818	14.5	8.8	1.744	1.298	1.298	1.744	0.065	0.0
1.002	S104	S105	2.653	187.5	21.8	1.298	1.198	1.198	1.298	0.161	0.0
1.003	S105	S106	1.800	127.2	24.3	1.198	1.200	1.198	1.200	0.179	0.0
1.004	S106	S107	1.622	114.7	27.0	1.200	1.200	1.200	1.200	0.199	0.0
1.005	S107	S108	2.555	180.6	28.3	1.200	1.200	1.200	1.200	0.209	0.0
1.006	S108	S109	3.114	220.1	30.0	1.200	1.200	1.200	1.200	0.221	0.0
3.000	S109L	S109	0.819	14.5	6.0	1.147	1.200	1.147	1.200	0.044	0.0
1.007	S109	S110	2.897	204.7	39.6	1.200	1.068	1.068	1.200	0.295	0.0
4.000	S110L	S110	1.005	17.8	7.7	0.994	1.068	0.994	1.068	0.057	0.0
1.008	S110	S111	3.071	488.4	50.1	1.068	1.200	1.068	1.200	0.379	0.0
5.000	S111L	S111	0.819	14.5	6.4	1.193	1.200	1.193	1.200	0.047	0.0
1.009	S111	S112	2.650	421.5	57.3	1.200	1.200	1.200	1.200	0.436	0.0
1.010	S112	S113	3.043	483.9	61.0	1.200	1.800	1.200	1.800	0.469	0.0
6.000	S113L	S113	1.005	17.8	11.4	1.732	1.800	1.732	1.800	0.084	0.0
1.011	S113	HW21	1.215	263.1	71.2	1.800	0.744	0.744	1.800	0.553	0.0
7.000	S114L	S114	0.820	14.5	6.6	1.302	1.199	1.199	1.302	0.049	0.0
7.001	S114	S115	3.541	250.3	11.7	1.199	1.860	1.199	1.860	0.086	0.0
8.000	S115La	S115	3.980	158.2	17.3	1.352	1.860	1.352	1.860	0.128	0.0
9.000	S115Lb	S115	4.057	71.7	5.0	1.385	1.860	1.385	1.860	0.037	0.0
7.002	S115	S116	1.001	110.5	36.9	1.860	1.589	1.589	1.860	0.272	0.0
7.003	S116	S117	1.740	192.2	44.6	1.589	2.338	1.589	2.338	0.329	0.0
10.000	S117La	S117	2.287	40.4	8.5	2.055	2.338	2.055	2.338	0.063	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	6.634	0.600	107.458	106.331	1.127	5.9	150	5.03	50.0
7.004	S117	S118	11.136	0.600	106.106	106.072	0.034	327.5	375	6.18	49.7
7.005	S118	S119	35.170	0.600	106.072	105.963	0.109	322.7	375	6.76	47.6
7.006	S119	S120	19.199	0.600	105.963	105.242	0.721	26.6	375	6.85	47.2
12.000	S120L	S120	1.778	0.600	105.528	105.467	0.061	29.1	150	5.02	50.0
7.007	S120	HW22	10.132	0.600	105.242	105.181	0.061	166.1	375	6.97	46.8
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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	S117Lb	S117	4.181	73.9	7.7	1.392	2.338	1.392	2.338	0.057	0.0
7.004	S117	S118	0.995	109.9	60.5	2.338	2.207	2.207	2.338	0.449	0.0
7.005	S118	S119	1.003	110.8	61.1	2.207	1.379	1.379	2.207	0.474	0.0
7.006	S119	S120	3.523	389.1	60.7	1.379	1.383	1.379	1.383	0.474	0.0
12.000	S120L	S120	1.871	33.1	9.1	2.322	1.383	1.383	2.322	0.067	0.0
7.007	S120	HW22	1.403	154.9	68.7	1.383	0.730	0.730	1.383	0.541	0.0
1.012	HW23	S121	1.129	244.4	0.0	0.730	0.764	0.730	0.764	0.000	0.0
1.013	S121	HW24	1.307	52.0	0.0	1.064	0.670	0.670	1.064	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	113.330	111.892	1.213	112.628	111.126	1.277
1.001	26.130	28.6	225	112.628	111.126	1.277	111.735	110.212	1.298
2.000	12.888	149.9	150	112.267	110.373	1.744	111.735	110.287	1.298
1.002	19.894	35.3	300	111.735	110.137	1.298	111.072	109.574	1.198
1.003	24.911	76.4	300	111.072	109.574	1.198	110.748	109.248	1.200
1.004	14.560	93.9	300	110.748	109.248	1.200	110.593	109.093	1.200
1.005	14.475	38.1	300	110.593	109.093	1.200	110.213	108.713	1.200
1.006	14.515	25.7	300	110.213	108.713	1.200	109.648	108.148	1.200
3.000	6.740	149.8	150	109.640	108.343	1.147	109.648	108.298	1.200
1.007	36.971	29.7	300	109.648	108.148	1.200	108.270	106.902	1.068
4.000	5.401	100.0	150	108.250	107.106	0.994	108.270	107.052	1.068
1.008	36.971	44.0	450	108.270	106.752	1.068	107.562	105.912	1.200

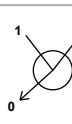
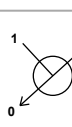
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.000	S102	1200	Manhole	S103	1200	1
1.001	S103	1200	Manhole	S104	1200	1
2.000	S104L	1200	Manhole	S104	1200	1
1.002	S104	1200	Manhole	S105	1200	1
1.003	S105	1200	Manhole	S106	1200	1
1.004	S106	1200	Manhole	S107	1200	1
1.005	S107	1200	Manhole	S108	1200	1
1.006	S108	1200	Manhole	S109	1200	1
3.000	S109L	1200	Manhole	S109	1200	1
1.007	S109	1200	Manhole	S110	1200	1
4.000	S110L	1200	Manhole	S110	1200	1
1.008	S110	1200	Manhole	S111	1200	1

Pipeline Schedule

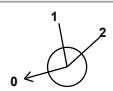
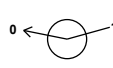
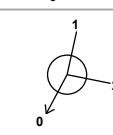
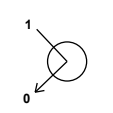
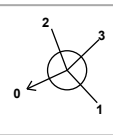
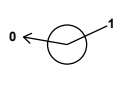
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.000	6.740	149.8	150	107.600	106.257	1.193	107.562	106.212	1.200
1.009	14.694	59.0	450	107.562	105.912	1.200	107.313	105.663	1.200
1.010	23.488	44.8	450	107.313	105.663	1.200	107.389	105.139	1.800
6.000	4.898	100.0	150	107.370	105.488	1.732	107.389	105.439	1.800
1.011	11.102	336.4	525	107.389	105.064	1.800	106.300	105.031	0.744
7.000	6.566	149.2	150	110.300	108.848	1.302	110.153	108.804	1.199
7.001	40.340	19.9	300	110.153	108.654	1.199	108.785	106.625	1.860
8.000	7.793	10.9	225	108.990	107.413	1.352	108.785	106.700	1.860
9.000	4.312	6.2	150	109.000	107.465	1.385	108.785	106.775	1.860
7.002	15.230	324.0	375	108.785	106.550	1.860	108.467	106.503	1.589
7.003	43.003	108.3	375	108.467	106.503	1.589	108.819	106.106	2.338
10.000	7.122	19.6	150	108.900	106.695	2.055	108.819	106.331	2.338
11.000	6.634	5.9	150	109.000	107.458	1.392	108.819	106.331	2.338
7.004	11.136	327.5	375	108.819	106.106	2.338	108.654	106.072	2.207
7.005	35.170	322.7	375	108.654	106.072	2.207	107.717	105.963	1.379
7.006	19.199	26.6	375	107.717	105.963	1.379	107.000	105.242	1.383
12.000	1.778	29.1	150	108.000	105.528	2.322	107.000	105.467	1.383
7.007	10.132	166.1	375	107.000	105.242	1.383	106.286	105.181	0.730
1.012	7.783	389.2	525	106.286	105.031	0.730	106.300	105.011	0.764
1.013	30.609	100.0	225	106.300	105.011	1.064	105.600	104.705	0.670

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
5.000	S111L	1200	Manhole	S111	1200	1
1.009	S111	1200	Manhole	S112	1200	1
1.010	S112	1200	Manhole	S113	1200	1
6.000	S113L	1200	Manhole	S113	1200	1
1.011	S113	1200	Manhole	HW21		1
7.000	S114L	1200	Manhole	S114	1200	1
7.001	S114	1200	Manhole	S115	1200	1
8.000	S115La	1200	Manhole	S115	1200	1
9.000	S115Lb	1200	Manhole	S115	1200	1
7.002	S115	1200	Manhole	S116	1200	1
7.003	S116	1200	Manhole	S117	1200	1
10.000	S117La	1200	Manhole	S117	1200	1
11.000	S117Lb	1200	Manhole	S117	1200	1
7.004	S117	1200	Manhole	S118	1200	1
7.005	S118	1200	Manhole	S119	1200	1
7.006	S119	1200	Manhole	S120	1200	1
12.000	S120L	1200	Manhole	S120	1200	1
7.007	S120	1200	Manhole	HW22		1
1.012	HW23		Manhole	S121	2700	1
1.013	S121	2700	Manhole	HW24		1

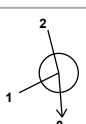
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S102	444479.431	291754.803	113.330	1.438	1200	Manhole		0	1.000	111.892	225
S103	444472.108	291734.898	112.628	1.502	1200	Manhole		1	1.000	111.126	225
S104L	444472.650	291718.227	112.267	1.894	1200	Manhole		0	1.001	111.126	225
S104	444483.601	291711.432	111.735	1.598	1200	Manhole		1	2.000	110.287	150
								2	1.001	110.212	225
								0	1.002	110.137	300
S105	444481.686	291691.630	111.072	1.498	1200	Manhole		1	1.002	109.574	300
								0	1.003	109.574	300
S106	444497.965	291672.775	110.748	1.500	1200	Manhole		1	1.003	109.248	300
								0	1.004	109.248	300
S107	444501.855	291658.744	110.593	1.500	1200	Manhole		1	1.004	109.093	300
								0	1.005	109.093	300
S108	444499.035	291644.546	110.213	1.500	1200	Manhole		1	1.005	108.713	300
								0	1.006	108.713	300
S109L	444485.970	291638.442	109.640	1.297	1200	Manhole		0	3.000	108.343	150
S109	444490.094	291633.112	109.648	1.500	1200	Manhole		1	3.000	108.298	150
								2	1.006	108.148	300
								0	1.007	108.148	300
S110L	444459.015	291612.253	108.250	1.144	1200	Manhole		0	4.000	107.106	150
S110	444462.690	291608.295	108.270	1.518	1200	Manhole		1	4.000	107.052	150
								2	1.007	106.902	300
								0	1.008	106.752	450
S111L	444434.035	291590.102	107.600	1.343	1200	Manhole		0	5.000	106.257	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S111	444435.285	291583.479	107.562	1.650	1200	Manhole		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	Manhole		1	1.009	105.663	450
								0	1.010	105.663	450
S113L	444399.148	291588.949	107.370	1.882	1200	Manhole		0	6.000	105.488	150
S113	444398.098	291584.164	107.389	2.325	1200	Manhole			1	6.000	105.439
								2	1.010	105.139	450
								0	1.011	105.064	525
HW21	444392.865	291574.374	106.300	1.269		Manhole		1	1.011	105.031	525
S114L	444454.757	291676.928	110.300	1.452	1200	Manhole		0	7.000	108.848	150
S114	444459.264	291672.153	110.153	1.499	1200	Manhole			1	7.000	108.804
								0	7.001	108.654	300
S115La	444427.447	291651.484	108.990	1.577	1200	Manhole		0	8.000	107.413	225
S115Lb	444433.123	291641.030	109.000	1.535	1200	Manhole			0	9.000	107.465
S115	444430.189	291644.190	108.785	2.235	1200	Manhole		1	9.000	106.775	150
								2	8.000	106.700	225
								3	7.001	106.625	300
								0	7.002	106.550	375
S116	444416.379	291637.767	108.467	1.964	1200	Manhole		1	7.002	106.503	375
								0	7.003	106.503	375
S117La	444388.744	291649.396	108.900	2.205	1200	Manhole		0	10.000	106.695	150
S117Lb	444387.944	291649.243	109.000	1.542	1200	Manhole			0	11.000	107.458

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S117	444385.327	291643.147	108.819	2.713	1200	Manhole		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	444375.733	291648.800	108.654	2.582	1200	Manhole		1	7.004	106.072	375
0	7.005	106.072	375								
S119	444349.998	291624.828	107.717	1.754	1200	Manhole		1	7.005	105.963	375
								0	7.006	105.963	375
S120L	444353.141	291605.428	108.000	2.472	1200	Manhole		0	12.000	105.528	150
S120	444354.732	291606.222	107.000	1.758	1200	Manhole			1	12.000	105.467
HW22	444355.507	291596.120	106.286	1.205	Manhole	1	2		7.006	105.242	375
							0		7.007	105.242	375
HW23	444370.615	291565.689	106.286	1.255		Manhole		1	7.007	105.181	375
S121	444364.822	291560.491	106.300	1.289	2700	Manhole			0	1.012	105.031
HW24	444342.087	291539.997	105.600	0.895	Manhole	1	1		1.012	105.011	525
							0	1.013	105.011	225	
								1	1.013	104.705	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
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-0104-4900-1000-4900
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	4.9	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

Other (defaults)

Entry Loss (manhole)	0.000	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.000	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058
2 year 30 minute summer	91.753	25.963
2 year 60 minute summer	61.301	16.200
2 year 120 minute summer	37.449	9.897
2 year 180 minute summer	28.672	7.378
2 year 240 minute summer	22.636	5.982
2 year 360 minute summer	17.235	4.435
2 year 480 minute summer	13.550	3.581
2 year 600 minute summer	11.088	3.033
2 year 720 minute summer	9.878	2.647
2 year 960 minute summer	8.113	2.136
2 year 1440 minute summer	5.891	1.579
30 year 15 minute summer	268.706	76.035
30 year 30 minute summer	174.929	49.499
30 year 60 minute summer	116.589	30.811
30 year 120 minute summer	70.438	18.615
30 year 180 minute summer	53.298	13.715
30 year 240 minute summer	41.604	10.995
30 year 360 minute summer	31.221	8.034

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 480 minute summer	24.324	6.428
30 year 600 minute summer	19.756	5.404
30 year 720 minute summer	17.490	4.687
30 year 960 minute summer	14.215	3.743
30 year 1440 minute summer	10.161	2.723
100 year +40% CC 15 minute summer	488.233	138.153
100 year +40% CC 30 minute summer	320.551	90.705
100 year +40% CC 60 minute summer	214.603	56.713
100 year +40% CC 120 minute summer	129.587	34.246
100 year +40% CC 180 minute summer	97.729	25.149
100 year +40% CC 240 minute summer	75.977	20.078
100 year +40% CC 360 minute summer	56.677	14.585
100 year +40% CC 480 minute summer	43.979	11.622
100 year +40% CC 600 minute summer	35.604	9.738
100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 1440 minute summer	18.055	4.839
100 year +40% CC +10% A 15 minute summer	488.233	138.153
100 year +40% CC +10% A 30 minute summer	320.551	90.705
100 year +40% CC +10% A 60 minute summer	214.603	56.713
100 year +40% CC +10% A 120 minute summer	129.587	34.246
100 year +40% CC +10% A 180 minute summer	97.729	25.149
100 year +40% CC +10% A 240 minute summer	75.977	20.078
100 year +40% CC +10% A 360 minute summer	56.677	14.585
100 year +40% CC +10% A 480 minute summer	43.979	11.622
100 year +40% CC +10% A 600 minute summer	35.604	9.738
100 year +40% CC +10% A 720 minute summer	31.433	8.424
100 year +40% CC +10% A 960 minute summer	25.432	6.697
100 year +40% CC +10% A 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.935	0.043	8.0	0.0760	0.0000	OK
15 minute summer	S103	10	111.181	0.055	13.1	0.0845	0.0000	OK
15 minute summer	S104L	10	110.471	0.098	11.3	0.1785	0.0000	OK
15 minute summer	S104	10	110.214	0.077	27.5	0.1062	0.0000	OK
15 minute summer	S105	11	109.673	0.099	30.5	0.1357	0.0000	OK
15 minute summer	S106	11	109.359	0.111	33.7	0.1549	0.0000	OK
15 minute summer	S107	11	109.184	0.091	35.7	0.1145	0.0000	OK
15 minute summer	S108	11	108.797	0.083	37.7	0.1078	0.0000	OK
15 minute summer	S109L	10	108.420	0.076	7.6	0.1384	0.0000	OK
15 minute summer	S109	11	108.248	0.100	50.2	0.1537	0.0000	OK
15 minute summer	S110L	10	107.185	0.079	9.9	0.1688	0.0000	OK
15 minute summer	S110	11	106.861	0.109	64.2	0.1616	0.0000	OK
15 minute summer	S111L	10	106.337	0.079	8.1	0.1455	0.0000	OK
15 minute summer	S111	11	106.038	0.126	73.8	0.1575	0.0000	OK
15 minute summer	S112	11	105.784	0.121	79.3	0.1858	0.0000	OK
15 minute summer	S113L	10	105.591	0.102	14.6	0.2074	0.0000	OK
15 minute summer	S113	11	105.303	0.239	93.3	0.2703	0.0000	OK
15 minute summer	HW21	11	105.291	0.260	92.8	0.0000	0.0000	OK
15 minute summer	S114L	10	108.930	0.082	8.5	0.1475	0.0000	OK
15 minute summer	S114	10	108.703	0.049	14.8	0.0796	0.0000	OK
15 minute summer	S115La	10	107.470	0.057	22.2	0.1562	0.0000	OK
15 minute summer	S115Lb	10	107.495	0.030	6.4	0.0490	0.0000	OK
15 minute summer	S115	11	106.710	0.160	46.7	0.2108	0.0000	OK
15 minute summer	S116	11	106.639	0.136	56.9	0.2326	0.0000	OK
15 minute summer	S117La	10	106.748	0.053	10.9	0.0905	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	7.9	1.246	0.080	0.1357	
15 minute summer	S103	1.001	S104	12.9	1.718	0.132	0.1967	
15 minute summer	S104L	2.000	S104	11.1	0.912	0.768	0.1571	
15 minute summer	S104	1.002	S105	27.4	1.602	0.146	0.3424	
15 minute summer	S105	1.003	S106	30.4	1.388	0.239	0.5464	
15 minute summer	S106	1.004	S107	34.0	1.637	0.296	0.3024	
15 minute summer	S107	1.005	S108	35.7	2.110	0.198	0.2453	
15 minute summer	S108	1.006	S109	37.8	2.066	0.172	0.2659	
15 minute summer	S109L	3.000	S109	7.5	0.834	0.519	0.0608	
15 minute summer	S109	1.007	S110	50.2	2.431	0.245	0.7634	
15 minute summer	S110L	4.000	S110	9.8	1.036	0.551	0.0510	
15 minute summer	S110	1.008	S111	64.2	1.959	0.132	1.2132	
15 minute summer	S111L	5.000	S111	8.0	0.847	0.554	0.0638	
15 minute summer	S111	1.009	S112	73.8	2.092	0.175	0.5187	
15 minute summer	S112	1.010	S113	79.2	1.937	0.164	1.0172	
15 minute summer	S113L	6.000	S113	14.4	1.128	0.813	0.0627	
15 minute summer	S113	1.011	HW21	92.8	0.922	0.353	1.1221	
15 minute summer	HW21	Flow through pond	HW23	189.5	0.201	0.003	77.4392	
15 minute summer	S114L	7.000	S114	8.4	0.857	0.579	0.0643	
15 minute summer	S114	7.001	S115	14.7	1.501	0.059	0.4785	
15 minute summer	S115La	8.000	S115	22.1	2.826	0.140	0.0610	
15 minute summer	S115Lb	9.000	S115	6.4	2.514	0.089	0.0109	
15 minute summer	S115	7.002	S116	47.0	1.167	0.425	0.6150	
15 minute summer	S116	7.003	S117	55.5	1.098	0.289	2.1869	
15 minute summer	S117La	10.000	S117	10.8	1.943	0.268	0.0397	

Results for 2 year Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.495	0.037	9.9	0.0695	0.0000	OK
15 minute summer	S117	11	106.322	0.216	76.1	0.2443	0.0000	OK
15 minute summer	S118	11	106.282	0.210	80.2	0.2786	0.0000	OK
15 minute summer	S119	11	106.078	0.115	80.7	0.1296	0.0000	OK
15 minute summer	S120L	10	105.589	0.061	11.6	0.1025	0.0000	OK
15 minute summer	S120	11	105.446	0.204	91.9	0.2311	0.0000	OK
15 minute summer	HW22	11	105.347	0.266	91.9	0.0000	0.0000	OK
360 minute summer	HW23	288	105.190	0.159	21.4	0.0000	0.0000	OK
360 minute summer	S121	288	105.190	0.179	4.7	1.0233	0.0000	OK
15 minute summer	HW24	1	104.705	0.000	4.1	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	9.9	2.914	0.133	0.0224	
15 minute summer	S117	7.004	S118	76.1	1.177	0.692	0.7197	
15 minute summer	S118	7.005	S119	80.7	1.766	0.729	1.6184	
15 minute summer	S119	7.006	S120	80.8	1.811	0.208	0.8622	
15 minute summer	S120L	12.000	S120	11.6	1.710	0.349	0.0120	
15 minute summer	S120	7.007	HW22	91.9	1.499	0.593	0.6211	
15 minute summer	HW22	Flow through pond	HW23	189.5	0.201	0.003	77.4392	
360 minute summer	HW23	1.012	S121	4.7	0.183	0.019	0.4661	
360 minute summer	S121	Hydro-Brake®	HW24	4.7				128.1

Results for 30 year Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.951	0.059	15.1	0.1044	0.0000	OK
15 minute summer	S103	10	111.203	0.077	24.9	0.1175	0.0000	OK
15 minute summer	S104L	11	110.588	0.215	21.4	0.3909	0.0000	SURCHARGED
15 minute summer	S104	10	110.244	0.106	51.7	0.1471	0.0000	OK
15 minute summer	S105	11	109.714	0.140	57.4	0.1917	0.0000	OK
15 minute summer	S106	11	109.406	0.158	63.7	0.2212	0.0000	OK
15 minute summer	S107	11	109.220	0.126	67.1	0.1599	0.0000	OK
15 minute summer	S108	11	108.829	0.116	71.0	0.1501	0.0000	OK
15 minute summer	S109L	10	108.460	0.117	14.5	0.2108	0.0000	OK
15 minute summer	S109	11	108.290	0.142	94.5	0.2174	0.0000	OK
15 minute summer	S110L	10	107.233	0.127	18.8	0.2710	0.0000	OK
15 minute summer	S110	11	106.903	0.151	121.4	0.2239	0.0000	OK
15 minute summer	S111L	10	106.380	0.123	15.5	0.2246	0.0000	OK
15 minute summer	S111	11	106.087	0.175	139.6	0.2196	0.0000	OK
15 minute summer	S112	11	105.832	0.169	150.2	0.2593	0.0000	OK
15 minute summer	S113L	10	105.702	0.214	27.6	0.4336	0.0000	SURCHARGED
15 minute summer	S113	11	105.436	0.372	177.1	0.4202	0.0000	OK
15 minute summer	HW21	11	105.424	0.393	176.6	0.0000	0.0000	OK
15 minute summer	S114L	10	108.974	0.126	16.1	0.2281	0.0000	OK
15 minute summer	S114	10	108.721	0.067	28.1	0.1092	0.0000	OK
15 minute summer	S115La	10	107.492	0.079	42.1	0.2173	0.0000	OK
15 minute summer	S115Lb	10	107.507	0.042	12.2	0.0677	0.0000	OK
15 minute summer	S115	10	106.770	0.220	88.9	0.2902	0.0000	OK
15 minute summer	S116	11	106.698	0.195	106.6	0.3338	0.0000	OK
15 minute summer	S117La	10	106.771	0.076	20.7	0.1293	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	15.0	1.491	0.151	0.2143	
15 minute summer	S103	1.001	S104	24.6	2.062	0.252	0.3117	
15 minute summer	S104L	2.000	S104	20.8	1.183	1.436	0.2187	
15 minute summer	S104	1.002	S105	51.5	1.901	0.274	0.5424	
15 minute summer	S105	1.003	S106	57.4	1.647	0.451	0.8698	
15 minute summer	S106	1.004	S107	64.0	1.943	0.558	0.4797	
15 minute summer	S107	1.005	S108	67.2	2.518	0.372	0.3866	
15 minute summer	S108	1.006	S109	71.1	2.452	0.323	0.4211	
15 minute summer	S109L	3.000	S109	14.3	0.998	0.989	0.0966	
15 minute summer	S109	1.007	S110	94.7	2.887	0.463	1.2135	
15 minute summer	S110L	4.000	S110	18.6	1.172	1.046	0.0855	
15 minute summer	S110	1.008	S111	121.5	2.347	0.249	1.9155	
15 minute summer	S111L	5.000	S111	15.3	1.024	1.058	0.1007	
15 minute summer	S111	1.009	S112	139.8	2.504	0.332	0.8206	
15 minute summer	S112	1.010	S113	150.3	1.923	0.311	1.9413	
15 minute summer	S113L	6.000	S113	27.2	1.546	1.532	0.0852	
15 minute summer	S113	1.011	HW21	176.6	1.049	0.671	1.8689	
15 minute summer	HW21	Flow through pond	HW23	349.6	0.255	0.005	148.8842	
15 minute summer	S114L	7.000	S114	15.9	1.040	1.097	0.1003	
15 minute summer	S114	7.001	S115	27.9	1.569	0.112	0.9173	
15 minute summer	S115La	8.000	S115	42.0	3.390	0.265	0.0965	
15 minute summer	S115Lb	9.000	S115	12.2	3.030	0.170	0.0173	
15 minute summer	S115	7.002	S116	87.8	1.405	0.794	0.9512	
15 minute summer	S116	7.003	S117	105.7	1.285	0.550	3.4663	
15 minute summer	S117La	10.000	S117	20.6	2.264	0.510	0.0790	

Results for 30 year Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.510	0.051	18.8	0.0962	0.0000	OK
15 minute summer	S117	11	106.438	0.332	144.6	0.3758	0.0000	OK
15 minute summer	S118	11	106.381	0.309	152.6	0.4099	0.0000	OK
15 minute summer	S119	11	106.124	0.161	153.4	0.1825	0.0000	OK
15 minute summer	S120L	10	105.618	0.090	22.1	0.1498	0.0000	OK
15 minute summer	S120	11	105.559	0.317	174.5	0.3588	0.0000	OK
15 minute summer	HW22	11	105.488	0.407	174.3	0.0000	0.0000	OK
360 minute summer	HW23	368	105.321	0.290	37.4	0.0000	0.0000	OK
360 minute summer	S121	368	105.321	0.310	5.2	1.7749	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.7	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	S117Lb	11.000	S117	18.8	3.232	0.254	0.0619	
15 minute summer	S117	7.004	S118	144.8	1.443	1.317	1.1167	
15 minute summer	S118	7.005	S119	153.4	2.108	1.385	2.5074	
15 minute summer	S119	7.006	S120	153.4	2.068	0.394	1.3899	
15 minute summer	S120L	12.000	S120	22.0	2.009	0.665	0.0196	
15 minute summer	S120	7.007	HW22	174.3	1.777	1.125	0.9937	
15 minute summer	HW22	Flow through pond	HW23	349.6	0.255	0.005	148.8842	
360 minute summer	HW23	1.012	S121	5.2	0.252	0.021	0.9920	
360 minute summer	S121	Hydro-Brake®	HW24	4.9				144.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.972	0.080	27.5	0.1424	0.0000	OK
15 minute summer	S103	10	111.233	0.107	45.3	0.1631	0.0000	OK
15 minute summer	S104L	11	111.014	0.641	38.9	1.1639	0.0000	SURCHARGED
15 minute summer	S104	11	110.285	0.148	93.0	0.2039	0.0000	OK
15 minute summer	S105	11	109.779	0.204	103.4	0.2804	0.0000	OK
15 minute summer	S106	11	109.491	0.243	115.2	0.3395	0.0000	OK
15 minute summer	S107	11	109.272	0.179	121.4	0.2262	0.0000	OK
15 minute summer	S108	11	108.876	0.163	128.4	0.2104	0.0000	OK
15 minute summer	S109L	10	108.588	0.245	26.3	0.4429	0.0000	SURCHARGED
15 minute summer	S109	11	108.355	0.207	171.1	0.3174	0.0000	OK
15 minute summer	S110L	10	107.395	0.289	34.1	0.6137	0.0000	SURCHARGED
15 minute summer	S110	11	106.960	0.208	219.9	0.3093	0.0000	OK
15 minute summer	S111L	10	106.523	0.266	28.1	0.4878	0.0000	SURCHARGED
15 minute summer	S111	11	106.159	0.247	253.0	0.3090	0.0000	OK
15 minute summer	S112	11	105.912	0.249	272.1	0.3816	0.0000	OK
15 minute summer	S113L	11	106.043	0.555	50.2	1.1224	0.0000	SURCHARGED
15 minute summer	S113	11	105.663	0.599	319.5	0.6772	0.0000	SURCHARGED
15 minute summer	HW21	11	105.614	0.583	319.1	0.0000	0.0000	OK
15 minute summer	S114L	10	109.126	0.278	29.3	0.5025	0.0000	SURCHARGED
15 minute summer	S114	10	108.745	0.091	50.9	0.1476	0.0000	OK
15 minute summer	S115La	11	107.577	0.164	76.5	0.4510	0.0000	OK
15 minute summer	S115Lb	11	107.544	0.079	22.1	0.1280	0.0000	OK
15 minute summer	S115	11	107.429	0.879	158.4	1.1597	0.0000	SURCHARGED
15 minute summer	S116	11	107.345	0.842	179.1	1.4399	0.0000	SURCHARGED
15 minute summer	S117La	11	107.266	0.571	37.7	0.9716	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	27.4	1.756	0.276	0.3312	
15 minute summer	S103	1.001	S104	44.8	2.424	0.459	0.4830	
15 minute summer	S104L	2.000	S104	37.4	2.122	2.583	0.2246	
15 minute summer	S104	1.002	S105	92.8	2.163	0.495	0.8521	
15 minute summer	S105	1.003	S106	103.8	1.847	0.816	1.3982	
15 minute summer	S106	1.004	S107	115.7	2.186	1.009	0.7638	
15 minute summer	S107	1.005	S108	121.6	2.933	0.673	0.6001	
15 minute summer	S108	1.006	S109	128.5	2.815	0.584	0.6608	
15 minute summer	S109L	3.000	S109	25.8	1.465	1.783	0.1169	
15 minute summer	S109	1.007	S110	171.4	3.301	0.837	1.9205	
15 minute summer	S110L	4.000	S110	33.3	1.894	1.878	0.0941	
15 minute summer	S110	1.008	S111	220.0	2.740	0.451	2.9691	
15 minute summer	S111L	5.000	S111	27.5	1.565	1.904	0.1173	
15 minute summer	S111	1.009	S112	253.3	2.854	0.601	1.3157	
15 minute summer	S112	1.010	S113	271.8	1.939	0.562	2.9187	
15 minute summer	S113L	6.000	S113	47.7	2.710	2.686	0.0862	
15 minute summer	S113	1.011	HW21	319.1	1.477	1.213	2.3984	
15 minute summer	HW21	Flow through pond	HW23	500.1	0.278	0.007	272.8255	
15 minute summer	S114L	7.000	S114	28.8	1.634	1.984	0.1144	
15 minute summer	S114	7.001	S115	50.6	1.557	0.202	1.7828	
15 minute summer	S115La	8.000	S115	73.8	3.464	0.466	0.2756	
15 minute summer	S115Lb	9.000	S115	21.4	3.316	0.299	0.0583	
15 minute summer	S115	7.002	S116	146.6	1.503	1.326	1.6798	
15 minute summer	S116	7.003	S117	176.7	1.602	0.919	4.7431	
15 minute summer	S117La	10.000	S117	33.2	2.196	0.821	0.1254	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.532	0.074	34.1	0.1375	0.0000	OK
15 minute summer	S117	11	106.998	0.892	242.3	1.0083	0.0000	SURCHARGED
15 minute summer	S118	11	106.831	0.759	255.0	1.0059	0.0000	SURCHARGED
15 minute summer	S119	12	106.237	0.273	252.7	0.3093	0.0000	OK
15 minute summer	S120L	12	105.994	0.466	40.1	0.7794	0.0000	SURCHARGED
15 minute summer	S120	12	105.931	0.689	286.6	0.7796	0.0000	SURCHARGED
15 minute summer	HW22	12	105.718	0.637	287.2	0.0000	0.0000	OK
720 minute summer	HW23	720	105.566	0.535	48.3	0.0000	0.0000	SURCHARGED
720 minute summer	S121	720	105.567	0.555	5.3	3.1805	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.9	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	34.0	3.339	0.461	0.0869	
15 minute summer	S117	7.004	S118	240.7	2.183	2.190	1.2283	
15 minute summer	S118	7.005	S119	252.7	2.415	2.281	3.4539	
15 minute summer	S119	7.006	S120	254.2	2.404	0.653	1.8855	
15 minute summer	S120L	12.000	S120	37.1	2.118	1.121	0.0313	
15 minute summer	S120	7.007	HW22	287.2	2.604	1.853	1.1175	
15 minute summer	HW22	Flow through pond	HW23	500.1	0.278	0.007	272.8255	
720 minute summer	HW23	1.012	S121	5.3	0.255	0.022	1.6814	
720 minute summer	S121	Hydro-Brake®	HW24	4.9				228.2

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.977	0.085	30.3	0.1554	0.0000	OK
15 minute summer	S103	10	111.239	0.113	49.8	0.1771	0.0000	OK
15 minute summer	S104L	11	111.127	0.754	42.8	1.4223	0.0000	SURCHARGED
15 minute summer	S104	11	110.293	0.156	101.8	0.2194	0.0000	OK
15 minute summer	S105	11	109.797	0.223	113.2	0.3109	0.0000	OK
15 minute summer	S106	11	109.520	0.272	126.5	0.3871	0.0000	OK
15 minute summer	S107	11	109.283	0.190	133.0	0.2424	0.0000	OK
15 minute summer	S108	11	108.886	0.173	140.6	0.2256	0.0000	OK
15 minute summer	S109L	10	108.619	0.276	28.9	0.5185	0.0000	SURCHARGED
15 minute summer	S109	11	108.371	0.223	187.7	0.3510	0.0000	OK
15 minute summer	S110L	10	107.435	0.328	37.5	0.7315	0.0000	SURCHARGED
15 minute summer	S110	11	106.972	0.219	241.5	0.3341	0.0000	OK
15 minute summer	S111L	10	106.558	0.301	30.9	0.5726	0.0000	SURCHARGED
15 minute summer	S111	11	106.177	0.265	277.7	0.3346	0.0000	OK
15 minute summer	S112	11	105.949	0.286	298.0	0.4486	0.0000	OK
15 minute summer	S113L	11	106.184	0.696	55.3	1.4699	0.0000	SURCHARGED
15 minute summer	S113	11	105.734	0.670	348.9	0.7573	0.0000	SURCHARGED
960 minute summer	HW21	1005	105.721	0.690	107.3	0.0000	0.0000	OK
15 minute summer	S114L	10	109.162	0.314	32.2	0.5882	0.0000	SURCHARGED
15 minute summer	S114	10	108.749	0.095	55.8	0.1595	0.0000	OK
15 minute summer	S115La	11	107.778	0.365	84.2	1.0639	0.0000	SURCHARGED
15 minute summer	S115Lb	12	107.682	0.217	24.3	0.3604	0.0000	SURCHARGED
15 minute summer	S115	12	107.613	1.063	168.3	1.4227	0.0000	SURCHARGED
15 minute summer	S116	12	107.520	1.017	189.4	1.7996	0.0000	SURCHARGED
15 minute summer	S117La	11	107.453	0.758	41.4	1.3334	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	30.2	1.801	0.304	0.3557	
15 minute summer	S103	1.001	S104	49.4	2.484	0.505	0.5193	
15 minute summer	S104L	2.000	S104	40.8	2.319	2.822	0.2246	
15 minute summer	S104	1.002	S105	101.9	2.186	0.544	0.9265	
15 minute summer	S105	1.003	S106	113.9	1.847	0.895	1.5350	
15 minute summer	S106	1.004	S107	126.7	2.188	1.105	0.8303	
15 minute summer	S107	1.005	S108	133.1	2.994	0.737	0.6432	
15 minute summer	S108	1.006	S109	140.8	2.856	0.640	0.7128	
15 minute summer	S109L	3.000	S109	28.3	1.608	1.957	0.1175	
15 minute summer	S109	1.007	S110	188.2	3.346	0.919	2.0796	
15 minute summer	S110L	4.000	S110	36.5	2.075	2.057	0.0941	
15 minute summer	S110	1.008	S111	241.4	2.779	0.494	3.2111	
15 minute summer	S111L	5.000	S111	30.2	1.717	2.089	0.1175	
15 minute summer	S111	1.009	S112	277.3	2.796	0.658	1.4917	
15 minute summer	S112	1.010	S113	297.0	2.034	0.614	3.1065	
15 minute summer	S113L	6.000	S113	51.9	2.949	2.924	0.0862	
15 minute summer	S113	1.011	HW21	348.1	1.612	1.323	2.3984	
960 minute summer	HW21	Flow through pond	HW23	-72.6	0.042	-0.001	723.2059	
15 minute summer	S114L	7.000	S114	31.5	1.789	2.173	0.1144	
15 minute summer	S114	7.001	S115	55.5	1.565	0.222	1.8078	
15 minute summer	S115La	8.000	S115	79.6	3.347	0.503	0.3099	
15 minute summer	S115Lb	9.000	S115	23.0	3.410	0.321	0.0759	
15 minute summer	S115	7.002	S116	157.5	1.534	1.425	1.6798	
15 minute summer	S116	7.003	S117	188.8	1.712	0.982	4.7431	
15 minute summer	S117La	10.000	S117	36.6	2.252	0.905	0.1254	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 95.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.547	0.088	37.5	0.1720	0.0000	OK
15 minute summer	S117	12	107.140	1.034	258.7	1.1692	0.0000	SURCHARGED
15 minute summer	S118	12	106.962	0.890	273.2	1.1957	0.0000	SURCHARGED
15 minute summer	S119	12	106.346	0.382	271.2	0.4326	0.0000	SURCHARGED
15 minute summer	S120L	11	106.091	0.563	44.1	0.9720	0.0000	SURCHARGED
15 minute summer	S120	12	106.005	0.763	304.9	0.8628	0.0000	SURCHARGED
15 minute summer	HW22	12	105.766	0.685	303.8	0.0000	0.0000	OK
960 minute summer	HW23	960	105.633	0.602	55.1	0.0000	0.0000	SURCHARGED
960 minute summer	S121	960	105.633	0.622	5.3	3.5603	0.0000	SURCHARGED
15 minute summer	HW24	1	104.705	0.000	4.9	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	36.9	3.427	0.499	0.0942	
15 minute summer	S117	7.004	S118	257.5	2.335	2.342	1.2283	
15 minute summer	S118	7.005	S119	271.2	2.493	2.449	3.8791	
15 minute summer	S119	7.006	S120	267.4	2.444	0.687	2.1176	
15 minute summer	S120L	12.000	S120	39.0	2.218	1.180	0.0313	
15 minute summer	S120	7.007	HW22	303.8	2.754	1.961	1.1175	
15 minute summer	HW22	Flow through pond	HW23	531.5	0.275	0.008	300.3951	
960 minute summer	HW23	1.012	S121	5.3	0.185	0.022	1.6814	
960 minute summer	S121	Hydro-Brake®	HW24	4.9				275.9

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)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S102	0.046	5.00	113.330	Manhole	1200	444479.431	291754.803	1.438
S103	0.030	5.00	112.628	Manhole	1200	444472.108	291734.898	1.502
S104L	0.065	5.00	112.267	Manhole	1200	444472.650	291718.227	1.894
S104	0.020	5.00	111.735	Manhole	1200	444483.601	291711.432	1.598
S105	0.018	5.00	111.072	Manhole	1200	444481.686	291691.630	1.498
S106	0.020	5.00	110.748	Manhole	1200	444497.965	291672.775	1.500
S107	0.010	5.00	110.593	Manhole	1200	444501.855	291658.744	1.500
S108	0.012	5.00	110.213	Manhole	1200	444499.035	291644.546	1.500
S109L	0.044	5.00	109.640	Manhole	1200	444485.970	291638.442	1.297
S109	0.030	5.00	109.648	Manhole	1200	444490.094	291633.112	1.500
S110L	0.057	5.00	108.250	Manhole	1200	444459.015	291612.253	1.144
S110	0.027	5.00	108.270	Manhole	1200	444462.690	291608.295	1.518
S111L	0.047	5.00	107.600	Manhole	1200	444434.035	291590.102	1.343
S111	0.010	5.00	107.562	Manhole	1200	444435.285	291583.479	1.650
S112	0.033	5.00	107.313	Manhole	1200	444421.127	291579.546	1.650
S113L	0.084	5.00	107.370	Manhole	1200	444399.148	291588.949	1.882
S113			107.389	Manhole	1200	444398.098	291584.164	2.325
HW21			106.300	Manhole		444392.865	291574.374	1.269
S114L	0.049	5.00	110.300	Manhole	1200	444454.757	291676.928	1.452
S114	0.037	5.00	110.153	Manhole	1200	444459.264	291672.153	1.499
S115La	0.128	5.00	108.990	Manhole	1200	444427.447	291651.484	1.577
S115Lb	0.037	5.00	109.000	Manhole	1200	444433.123	291641.030	1.535
S115	0.021	5.00	108.785	Manhole	1200	444430.189	291644.190	2.235
S116	0.057	5.00	108.467	Manhole	1200	444416.379	291637.767	1.964
S117La	0.063	5.00	108.900	Manhole	1200	444388.744	291649.396	2.205
S117Lb	0.057	5.00	109.000	Manhole	1200	444387.944	291649.243	1.542
S117			108.819	Manhole	1200	444385.327	291643.147	2.713
S118	0.025	5.00	108.654	Manhole	1200	444375.733	291648.800	2.582
S119			107.717	Manhole	1200	444349.998	291624.828	1.754
S120L	0.067	5.00	108.000	Manhole	1200	444353.141	291605.428	2.472
S120			107.000	Manhole	1200	444354.732	291606.222	1.758
HW22			106.286	Manhole		444355.507	291596.120	1.205
HW23		5.00	106.286	Manhole		444370.615	291565.689	1.255
S121			106.300	Manhole	2700	444364.822	291560.491	1.289
HW24			105.600	Manhole		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	26.130	0.600	111.126	110.212	0.914	28.6	225	5.32	50.0
2.000	S104L	S104	12.888	0.600	110.373	110.287	0.086	149.9	150	5.26	50.0
1.002	S104	S105	19.894	0.600	110.137	109.574	0.563	35.3	300	5.44	50.0
1.003	S105	S106	24.911	0.600	109.574	109.248	0.326	76.4	300	5.67	50.0
1.004	S106	S107	14.560	0.600	109.248	109.093	0.155	93.9	300	5.82	50.0
1.005	S107	S108	14.475	0.600	109.093	108.713	0.380	38.1	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	6.740	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	49.6
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	36.971	0.600	106.752	105.912	0.840	44.0	450	6.41	48.8
5.000	S111L	S111	6.740	0.600	106.257	106.212	0.045	149.8	150	5.14	50.0
1.009	S111	S112	14.694	0.600	105.912	105.663	0.249	59.0	450	6.50	48.5
1.010	S112	S113	23.488	0.600	105.663	105.139	0.524	44.8	450	6.63	48.0
6.000	S113L	S113	4.898	0.600	105.488	105.439	0.049	100.0	150	5.08	50.0
1.011	S113	HW21	11.102	0.600	105.064	105.031	0.033	336.4	525	6.78	47.5
7.000	S114L	S114	6.566	0.600	108.848	108.804	0.044	149.2	150	5.13	50.0
7.001	S114	S115	40.340	0.600	108.654	106.625	2.029	19.9	300	5.32	50.0
8.000	S115La	S115	7.793	0.600	107.413	106.700	0.713	10.9	225	5.03	50.0
9.000	S115Lb	S115	4.312	0.600	107.465	106.775	0.690	6.2	150	5.02	50.0
7.002	S115	S116	15.230	0.600	106.550	106.503	0.047	324.0	375	5.58	50.0
7.003	S116	S117	43.003	0.600	106.503	106.106	0.397	108.3	375	5.99	50.0
10.000	S117La	S117	7.122	0.600	106.695	106.331	0.364	19.6	150	5.05	50.0
Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	S102	S103	2.496	99.2	6.2	1.213	1.277	1.213	1.277	0.046	0.0
1.001	S103	S104	2.456	97.6	10.3	1.277	1.298	1.277	1.298	0.076	0.0
2.000	S104L	S104	0.818	14.5	8.8	1.744	1.298	1.298	1.744	0.065	0.0
1.002	S104	S105	2.653	187.5	21.8	1.298	1.198	1.198	1.298	0.161	0.0
1.003	S105	S106	1.800	127.2	24.3	1.198	1.200	1.198	1.200	0.179	0.0
1.004	S106	S107	1.622	114.7	27.0	1.200	1.200	1.200	1.200	0.199	0.0
1.005	S107	S108	2.555	180.6	28.3	1.200	1.200	1.200	1.200	0.209	0.0
1.006	S108	S109	3.114	220.1	30.0	1.200	1.200	1.200	1.200	0.221	0.0
3.000	S109L	S109	0.819	14.5	6.0	1.147	1.200	1.147	1.200	0.044	0.0
1.007	S109	S110	2.897	204.7	39.6	1.200	1.068	1.068	1.200	0.295	0.0
4.000	S110L	S110	1.005	17.8	7.7	0.994	1.068	0.994	1.068	0.057	0.0
1.008	S110	S111	3.071	488.4	50.1	1.068	1.200	1.068	1.200	0.379	0.0
5.000	S111L	S111	0.819	14.5	6.4	1.193	1.200	1.193	1.200	0.047	0.0
1.009	S111	S112	2.650	421.5	57.3	1.200	1.200	1.200	1.200	0.436	0.0
1.010	S112	S113	3.043	483.9	61.0	1.200	1.800	1.200	1.800	0.469	0.0
6.000	S113L	S113	1.005	17.8	11.4	1.732	1.800	1.732	1.800	0.084	0.0
1.011	S113	HW21	1.215	263.1	71.2	1.800	0.744	0.744	1.800	0.553	0.0
7.000	S114L	S114	0.820	14.5	6.6	1.302	1.199	1.199	1.302	0.049	0.0
7.001	S114	S115	3.541	250.3	11.7	1.199	1.860	1.199	1.860	0.086	0.0
8.000	S115La	S115	3.980	158.2	17.3	1.352	1.860	1.352	1.860	0.128	0.0
9.000	S115Lb	S115	4.057	71.7	5.0	1.385	1.860	1.385	1.860	0.037	0.0
7.002	S115	S116	1.001	110.5	36.9	1.860	1.589	1.589	1.860	0.272	0.0
7.003	S116	S117	1.740	192.2	44.6	1.589	2.338	1.589	2.338	0.329	0.0
10.000	S117La	S117	2.287	40.4	8.5	2.055	2.338	2.055	2.338	0.063	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	6.634	0.600	107.458	106.331	1.127	5.9	150	5.03	50.0
7.004	S117	S118	11.136	0.600	106.106	106.072	0.034	327.5	375	6.18	49.7
7.005	S118	S119	35.170	0.600	106.072	105.963	0.109	322.7	375	6.76	47.6
7.006	S119	S120	19.199	0.600	105.963	105.242	0.721	26.6	375	6.85	47.2
12.000	S120L	S120	1.778	0.600	105.528	105.467	0.061	29.1	150	5.02	50.0
7.007	S120	HW22	10.132	0.600	105.242	105.181	0.061	166.1	375	6.97	46.8
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	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
11.000	S117Lb	S117	4.181	73.9	7.7	1.392	2.338	1.392	2.338	0.057	0.0
7.004	S117	S118	0.995	109.9	60.5	2.338	2.207	2.207	2.338	0.449	0.0
7.005	S118	S119	1.003	110.8	61.1	2.207	1.379	1.379	2.207	0.474	0.0
7.006	S119	S120	3.523	389.1	60.7	1.379	1.383	1.379	1.383	0.474	0.0
12.000	S120L	S120	1.871	33.1	9.1	2.322	1.383	1.383	2.322	0.067	0.0
7.007	S120	HW22	1.403	154.9	68.7	1.383	0.730	0.730	1.383	0.541	0.0
1.012	HW23	S121	1.129	244.4	0.0	0.730	0.764	0.730	0.764	0.000	0.0
1.013	S121	HW24	1.307	52.0	0.0	1.064	0.670	0.670	1.064	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	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	113.330	111.892	1.213	112.628	111.126	1.277
1.001	26.130	28.6	225	112.628	111.126	1.277	111.735	110.212	1.298
2.000	12.888	149.9	150	112.267	110.373	1.744	111.735	110.287	1.298
1.002	19.894	35.3	300	111.735	110.137	1.298	111.072	109.574	1.198
1.003	24.911	76.4	300	111.072	109.574	1.198	110.748	109.248	1.200
1.004	14.560	93.9	300	110.748	109.248	1.200	110.593	109.093	1.200
1.005	14.475	38.1	300	110.593	109.093	1.200	110.213	108.713	1.200
1.006	14.515	25.7	300	110.213	108.713	1.200	109.648	108.148	1.200
3.000	6.740	149.8	150	109.640	108.343	1.147	109.648	108.298	1.200
1.007	36.971	29.7	300	109.648	108.148	1.200	108.270	106.902	1.068
4.000	5.401	100.0	150	108.250	107.106	0.994	108.270	107.052	1.068
1.008	36.971	44.0	450	108.270	106.752	1.068	107.562	105.912	1.200

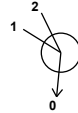
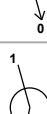
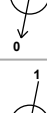
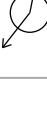
Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
1.000	S102	1200	Manhole	S103	1200	1
1.001	S103	1200	Manhole	S104	1200	1
2.000	S104L	1200	Manhole	S104	1200	1
1.002	S104	1200	Manhole	S105	1200	1
1.003	S105	1200	Manhole	S106	1200	1
1.004	S106	1200	Manhole	S107	1200	1
1.005	S107	1200	Manhole	S108	1200	1
1.006	S108	1200	Manhole	S109	1200	1
3.000	S109L	1200	Manhole	S109	1200	1
1.007	S109	1200	Manhole	S110	1200	1
4.000	S110L	1200	Manhole	S110	1200	1
1.008	S110	1200	Manhole	S111	1200	1

Pipeline Schedule

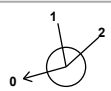
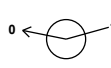
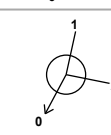
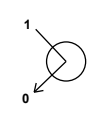
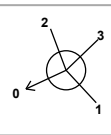
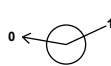
Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.000	6.740	149.8	150	107.600	106.257	1.193	107.562	106.212	1.200
1.009	14.694	59.0	450	107.562	105.912	1.200	107.313	105.663	1.200
1.010	23.488	44.8	450	107.313	105.663	1.200	107.389	105.139	1.800
6.000	4.898	100.0	150	107.370	105.488	1.732	107.389	105.439	1.800
1.011	11.102	336.4	525	107.389	105.064	1.800	106.300	105.031	0.744
7.000	6.566	149.2	150	110.300	108.848	1.302	110.153	108.804	1.199
7.001	40.340	19.9	300	110.153	108.654	1.199	108.785	106.625	1.860
8.000	7.793	10.9	225	108.990	107.413	1.352	108.785	106.700	1.860
9.000	4.312	6.2	150	109.000	107.465	1.385	108.785	106.775	1.860
7.002	15.230	324.0	375	108.785	106.550	1.860	108.467	106.503	1.589
7.003	43.003	108.3	375	108.467	106.503	1.589	108.819	106.106	2.338
10.000	7.122	19.6	150	108.900	106.695	2.055	108.819	106.331	2.338
11.000	6.634	5.9	150	109.000	107.458	1.392	108.819	106.331	2.338
7.004	11.136	327.5	375	108.819	106.106	2.338	108.654	106.072	2.207
7.005	35.170	322.7	375	108.654	106.072	2.207	107.717	105.963	1.379
7.006	19.199	26.6	375	107.717	105.963	1.379	107.000	105.242	1.383
12.000	1.778	29.1	150	108.000	105.528	2.322	107.000	105.467	1.383
7.007	10.132	166.1	375	107.000	105.242	1.383	106.286	105.181	0.730
1.012	7.783	389.2	525	106.286	105.031	0.730	106.300	105.011	0.764
1.013	30.609	100.0	225	106.300	105.011	1.064	105.600	104.705	0.670

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	MH Type
5.000	S111L	1200	Manhole	S111	1200	1
1.009	S111	1200	Manhole	S112	1200	1
1.010	S112	1200	Manhole	S113	1200	1
6.000	S113L	1200	Manhole	S113	1200	1
1.011	S113	1200	Manhole	HW21		1
7.000	S114L	1200	Manhole	S114	1200	1
7.001	S114	1200	Manhole	S115	1200	1
8.000	S115La	1200	Manhole	S115	1200	1
9.000	S115Lb	1200	Manhole	S115	1200	1
7.002	S115	1200	Manhole	S116	1200	1
7.003	S116	1200	Manhole	S117	1200	1
10.000	S117La	1200	Manhole	S117	1200	1
11.000	S117Lb	1200	Manhole	S117	1200	1
7.004	S117	1200	Manhole	S118	1200	1
7.005	S118	1200	Manhole	S119	1200	1
7.006	S119	1200	Manhole	S120	1200	1
12.000	S120L	1200	Manhole	S120	1200	1
7.007	S120	1200	Manhole	HW22		1
1.012	HW23		Manhole	S121	2700	1
1.013	S121	2700	Manhole	HW24		1

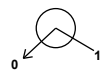
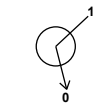
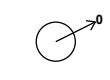
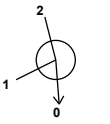
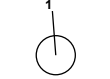
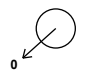
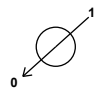
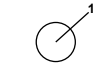
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S102	444479.431	291754.803	113.330	1.438	1200	Manhole		0	1.000	111.892	225
S103	444472.108	291734.898	112.628	1.502	1200	Manhole		1	1.000	111.126	225
S104L	444472.650	291718.227	112.267	1.894	1200	Manhole		0	1.001	111.126	225
S104	444483.601	291711.432	111.735	1.598	1200	Manhole		1	2.000	110.373	150
S105	444481.686	291691.630	111.072	1.498	1200	Manhole		2	2.000	110.287	150
S106	444497.965	291672.775	110.748	1.500	1200	Manhole		1	1.001	110.212	225
S107	444501.855	291658.744	110.593	1.500	1200	Manhole		0	1.002	110.137	300
S108	444499.035	291644.546	110.213	1.500	1200	Manhole		1	1.002	109.574	300
S109L	444485.970	291638.442	109.640	1.297	1200	Manhole		0	1.003	109.574	300
S109	444490.094	291633.112	109.648	1.500	1200	Manhole		1	1.003	109.248	300
S110L	444459.015	291612.253	108.250	1.144	1200	Manhole		0	1.004	109.248	300
S110	444462.690	291608.295	108.270	1.518	1200	Manhole		1	1.004	109.093	300
S111L	444434.035	291590.102	107.600	1.343	1200	Manhole		2	1.005	109.093	300
								0	1.006	108.713	300
								1	3.000	108.343	150
								2	3.000	108.298	150
								0	1.006	108.148	300
								1	1.007	108.148	300
								0	4.000	107.106	150
								2	4.000	107.052	150
								0	1.007	106.902	300
								1	1.008	106.752	450
								0	5.000	106.257	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
S111	444435.285	291583.479	107.562	1.650	1200	Manhole		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	Manhole		1 1.009 105.663 450 0 1.010 105.663 450		
S113L	444399.148	291588.949	107.370	1.882	1200	Manhole		0 6.000 105.488 150		
S113	444398.098	291584.164	107.389	2.325	1200	Manhole		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		Manhole		1 1.011 105.031 525		
S114L	444454.757	291676.928	110.300	1.452	1200	Manhole		0 7.000 108.848 150		
S114	444459.264	291672.153	110.153	1.499	1200	Manhole		1 7.000 108.804 150 0 7.001 108.654 300		
S115La	444427.447	291651.484	108.990	1.577	1200	Manhole		0 8.000 107.413 225		
S115Lb	444433.123	291641.030	109.000	1.535	1200	Manhole		0 9.000 107.465 150		
S115	444430.189	291644.190	108.785	2.235	1200	Manhole		1 9.000 106.775 150 2 8.000 106.700 225 3 7.001 106.625 300 0 7.002 106.550 375		
S116	444416.379	291637.767	108.467	1.964	1200	Manhole		1 7.002 106.503 375 0 7.003 106.503 375		
S117La	444388.744	291649.396	108.900	2.205	1200	Manhole		0 10.000 106.695 150		
S117Lb	444387.944	291649.243	109.000	1.542	1200	Manhole		0 11.000 107.458 150		

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
S117	444385.327	291643.147	108.819	2.713	1200	Manhole		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	444375.733	291648.800	108.654	2.582	1200	Manhole		1	7.004	106.072	375
0	7.005	106.072	375								
S119	444349.998	291624.828	107.717	1.754	1200	Manhole		1	7.005	105.963	375
								0	7.006	105.963	375
S120L	444353.141	291605.428	108.000	2.472	1200	Manhole		0	12.000	105.528	150
S120	444354.732	291606.222	107.000	1.758	1200	Manhole			1	12.000	105.467
							2		7.006	105.242	375
							0		7.007	105.242	375
HW22	444355.507	291596.120	106.286	1.205		Manhole		1	7.007	105.181	375
HW23	444370.615	291565.689	106.286	1.255		Manhole		0	1.012	105.031	525
S121	444364.822	291560.491	106.300	1.289	2700	Manhole			1	1.012	105.011
HW24	444342.087	291539.997	105.600	0.895		Manhole			0	1.013	105.011
								1	1.013	104.705	225

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
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

farrow walsh CIVIL	Farrow Walsh Ltd 62 Highcross Street Leicester LE1 4NN	File: FW2285 Adoptable Drainage Net Network: SW Network 4 Jon Davey July 2024	Page 8 FW2285 Burbage Field Farm Network 4 Surcharged Outfall
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Return Period
(years)

2

30

100

Climate Change
(CC %)

0

0

40

Additional Area
(A %)

0

0

0

Additional Flow
(Q %)

0

0

0

Node HW24 Surcharged Outfall

Overrides Design Area

x

Depression Storage Area (m²)

0

Evapo-transpiration (mm/day)

0

Overrides Design Additional Inflow

x

Depression Storage Depth (mm)

0

Applies to All storms

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	0.895	255	0.895	510	0.895	765	0.895	1020	0.895	1275	0.895
15	0.895	270	0.895	525	0.895	780	0.895	1035	0.895	1290	0.895
30	0.895	285	0.895	540	0.895	795	0.895	1050	0.895	1305	0.895
45	0.895	300	0.895	555	0.895	810	0.895	1065	0.895	1320	0.895
60	0.895	315	0.895	570	0.895	825	0.895	1080	0.895	1335	0.895
75	0.895	330	0.895	585	0.895	840	0.895	1095	0.895	1350	0.895
90	0.895	345	0.895	600	0.895	855	0.895	1110	0.895	1365	0.895
105	0.895	360	0.895	615	0.895	870	0.895	1125	0.895	1380	0.895
120	0.895	375	0.895	630	0.895	885	0.895	1140	0.895	1395	0.895
135	0.895	390	0.895	645	0.895	900	0.895	1155	0.895	1410	0.895
150	0.895	405	0.895	660	0.895	915	0.895	1170	0.895	1425	0.895
165	0.895	420	0.895	675	0.895	930	0.895	1185	0.895	1440	0.895
180	0.895	435	0.895	690	0.895	945	0.895	1200	0.895		
195	0.895	450	0.895	705	0.895	960	0.895	1215	0.895		
210	0.895	465	0.895	720	0.895	975	0.895	1230	0.895		
225	0.895	480	0.895	735	0.895	990	0.895	1245	0.895		
240	0.895	495	0.895	750	0.895	1005	0.895	1260	0.895		

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-0104-4900-1000-4900

Design Depth (m)

1.000

Min Outlet Diameter (m)

0.150

Design Flow (l/s)

4.9

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

Other (defaults)

Entry Loss (manhole)

0.000

Entry Loss (junction)

0.000

Apply Recommended Losses

x

Exit Loss (manhole)

0.000

Exit Loss (junction)

0.000

Flood Risk (m)

0.300

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	141.566	40.058	30 year 360 minute summer	31.221	8.034
2 year 30 minute summer	91.753	25.963	30 year 480 minute summer	24.324	6.428
2 year 60 minute summer	61.301	16.200	30 year 600 minute summer	19.756	5.404
2 year 120 minute summer	37.449	9.897	30 year 720 minute summer	17.490	4.687
2 year 180 minute summer	28.672	7.378	30 year 960 minute summer	14.215	3.743
2 year 240 minute summer	22.636	5.982	30 year 1440 minute summer	10.161	2.723
2 year 360 minute summer	17.235	4.435	100 year +40% CC 15 minute summer	488.233	138.153
2 year 480 minute summer	13.550	3.581	100 year +40% CC 30 minute summer	320.551	90.705
2 year 600 minute summer	11.088	3.033	100 year +40% CC 60 minute summer	214.603	56.713
2 year 720 minute summer	9.878	2.647	100 year +40% CC 120 minute summer	129.587	34.246
2 year 960 minute summer	8.113	2.136	100 year +40% CC 180 minute summer	97.729	25.149
2 year 1440 minute summer	5.891	1.579	100 year +40% CC 240 minute summer	75.977	20.078
30 year 15 minute summer	268.706	76.035	100 year +40% CC 360 minute summer	56.677	14.585
30 year 30 minute summer	174.929	49.499	100 year +40% CC 480 minute summer	43.979	11.622
30 year 60 minute summer	116.589	30.811	100 year +40% CC 600 minute summer	35.604	9.738
30 year 120 minute summer	70.438	18.615	100 year +40% CC 720 minute summer	31.433	8.424
30 year 180 minute summer	53.298	13.715	100 year +40% CC 960 minute summer	25.432	6.697
30 year 240 minute summer	41.604	10.995	100 year +40% CC 1440 minute summer	18.055	4.839

Results for 2 year Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.935	0.043	8.0	0.0760	0.0000	OK
15 minute summer	S103	10	111.181	0.055	13.1	0.0845	0.0000	OK
15 minute summer	S104L	10	110.471	0.098	11.3	0.1785	0.0000	OK
15 minute summer	S104	10	110.214	0.077	27.5	0.1062	0.0000	OK
15 minute summer	S105	11	109.673	0.099	30.5	0.1357	0.0000	OK
15 minute summer	S106	11	109.359	0.111	33.7	0.1549	0.0000	OK
15 minute summer	S107	11	109.184	0.091	35.7	0.1145	0.0000	OK
15 minute summer	S108	11	108.797	0.083	37.7	0.1078	0.0000	OK
15 minute summer	S109L	10	108.420	0.076	7.6	0.1384	0.0000	OK
15 minute summer	S109	11	108.248	0.100	50.2	0.1537	0.0000	OK
15 minute summer	S110L	10	107.185	0.079	9.9	0.1688	0.0000	OK
15 minute summer	S110	11	106.861	0.109	64.2	0.1616	0.0000	OK
15 minute summer	S111L	10	106.337	0.079	8.1	0.1455	0.0000	OK
15 minute summer	S111	11	106.038	0.126	73.8	0.1575	0.0000	OK
15 minute summer	S112	11	105.784	0.121	79.3	0.1858	0.0000	OK
15 minute summer	S113L	10	105.591	0.102	14.6	0.2074	0.0000	OK
1440 minute summer	S113	1440	105.315	0.251	6.6	0.2835	0.0000	OK
1440 minute summer	HW21	1440	105.318	0.287	9.1	0.0000	0.0000	OK
15 minute summer	S114L	10	108.930	0.082	8.5	0.1475	0.0000	OK
15 minute summer	S114	10	108.703	0.049	14.8	0.0796	0.0000	OK
15 minute summer	S115La	10	107.470	0.057	22.2	0.1562	0.0000	OK
15 minute summer	S115Lb	10	107.495	0.030	6.4	0.0490	0.0000	OK
15 minute summer	S115	11	106.710	0.160	46.7	0.2108	0.0000	OK
15 minute summer	S116	11	106.639	0.136	56.9	0.2326	0.0000	OK
15 minute summer	S117La	10	106.748	0.053	10.9	0.0905	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	7.9	1.246	0.080	0.1357	
15 minute summer	S103	1.001	S104	12.9	1.718	0.132	0.1967	
15 minute summer	S104L	2.000	S104	11.1	0.912	0.768	0.1571	
15 minute summer	S104	1.002	S105	27.4	1.602	0.146	0.3424	
15 minute summer	S105	1.003	S106	30.4	1.388	0.239	0.5464	
15 minute summer	S106	1.004	S107	34.0	1.637	0.296	0.3024	
15 minute summer	S107	1.005	S108	35.7	2.110	0.198	0.2453	
15 minute summer	S108	1.006	S109	37.8	2.066	0.172	0.2659	
15 minute summer	S109L	3.000	S109	7.5	0.834	0.519	0.0608	
15 minute summer	S109	1.007	S110	50.2	2.431	0.245	0.7634	
15 minute summer	S110L	4.000	S110	9.8	1.036	0.551	0.0510	
15 minute summer	S110	1.008	S111	64.2	1.959	0.132	1.2132	
15 minute summer	S111L	5.000	S111	8.0	0.847	0.554	0.0638	
15 minute summer	S111	1.009	S112	73.8	2.092	0.175	0.5187	
15 minute summer	S112	1.010	S113	79.2	1.937	0.164	1.0172	
15 minute summer	S113L	6.000	S113	14.4	1.128	0.813	0.0627	
1440 minute summer	S113	1.011	HW21	6.5	0.188	0.025	1.2341	
1440 minute summer	HW21	Flow through pond	HW23	-9.6	0.012	0.000	302.7518	
15 minute summer	S114L	7.000	S114	8.4	0.857	0.579	0.0643	
15 minute summer	S114	7.001	S115	14.7	1.501	0.059	0.4785	
15 minute summer	S115La	8.000	S115	22.1	2.826	0.140	0.0610	
15 minute summer	S115Lb	9.000	S115	6.4	2.514	0.089	0.0109	
15 minute summer	S115	7.002	S116	47.0	1.167	0.425	0.6150	
15 minute summer	S116	7.003	S117	55.5	1.098	0.289	2.1869	
15 minute summer	S117La	10.000	S117	10.8	1.943	0.268	0.0397	

Results for 2 year Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.495	0.037	9.9	0.0695	0.0000	OK
15 minute summer	S117	11	106.322	0.216	76.1	0.2443	0.0000	OK
15 minute summer	S118	11	106.282	0.210	80.2	0.2786	0.0000	OK
15 minute summer	S119	11	106.078	0.115	80.7	0.1296	0.0000	OK
15 minute summer	S120L	10	105.589	0.061	11.6	0.1025	0.0000	OK
15 minute summer	S120	11	105.446	0.204	91.9	0.2311	0.0000	OK
15 minute summer	HW22	11	105.347	0.266	91.9	0.0000	0.0000	OK
1440 minute summer	HW23	1680	105.313	0.282	7.4	0.0000	0.0000	OK
1440 minute summer	S121	1590	105.313	0.302	0.1	1.7288	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	9.9	2.914	0.133	0.0224	
15 minute summer	S117	7.004	S118	76.1	1.177	0.692	0.7197	
15 minute summer	S118	7.005	S119	80.7	1.766	0.729	1.6184	
15 minute summer	S119	7.006	S120	80.8	1.811	0.208	0.8622	
15 minute summer	S120L	12.000	S120	11.6	1.710	0.349	0.0120	
15 minute summer	S120	7.007	HW22	91.9	1.499	0.593	0.6211	
15 minute summer	HW22	Flow through pond	HW23	189.5	0.201	0.003	80.7282	
1440 minute summer	HW23	1.012	S121	-0.1	0.108	-0.001	0.9595	
1440 minute summer	S121	Hydro-Brake®	HW24	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.951	0.059	15.1	0.1044	0.0000	OK
15 minute summer	S103	10	111.203	0.077	24.9	0.1175	0.0000	OK
15 minute summer	S104L	11	110.588	0.215	21.4	0.3909	0.0000	SURCHARGED
15 minute summer	S104	10	110.244	0.106	51.7	0.1471	0.0000	OK
15 minute summer	S105	11	109.714	0.140	57.4	0.1917	0.0000	OK
15 minute summer	S106	11	109.406	0.158	63.7	0.2212	0.0000	OK
15 minute summer	S107	11	109.220	0.126	67.1	0.1599	0.0000	OK
15 minute summer	S108	11	108.829	0.116	71.0	0.1501	0.0000	OK
15 minute summer	S109L	10	108.460	0.117	14.5	0.2108	0.0000	OK
15 minute summer	S109	11	108.290	0.142	94.5	0.2174	0.0000	OK
15 minute summer	S110L	10	107.233	0.127	18.8	0.2710	0.0000	OK
15 minute summer	S110	11	106.903	0.151	121.4	0.2239	0.0000	OK
15 minute summer	S111L	10	106.380	0.123	15.5	0.2246	0.0000	OK
15 minute summer	S111	11	106.087	0.175	139.6	0.2196	0.0000	OK
15 minute summer	S112	11	105.832	0.169	150.2	0.2593	0.0000	OK
15 minute summer	S113L	10	105.702	0.214	27.6	0.4336	0.0000	SURCHARGED
1440 minute summer	S113	1500	105.484	0.420	11.7	0.4752	0.0000	OK
1440 minute summer	HW21	1500	105.489	0.458	38.3	0.0000	0.0000	OK
15 minute summer	S114L	10	108.974	0.126	16.1	0.2281	0.0000	OK
15 minute summer	S114	10	108.721	0.067	28.1	0.1092	0.0000	OK
15 minute summer	S115La	10	107.492	0.079	42.1	0.2173	0.0000	OK
15 minute summer	S115Lb	10	107.507	0.042	12.2	0.0677	0.0000	OK
15 minute summer	S115	10	106.770	0.220	88.9	0.2902	0.0000	OK
15 minute summer	S116	11	106.698	0.195	106.6	0.3338	0.0000	OK
15 minute summer	S117La	10	106.771	0.076	20.7	0.1293	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	15.0	1.491	0.151	0.2143	
15 minute summer	S103	1.001	S104	24.6	2.062	0.252	0.3117	
15 minute summer	S104L	2.000	S104	20.8	1.183	1.436	0.2187	
15 minute summer	S104	1.002	S105	51.5	1.901	0.274	0.5424	
15 minute summer	S105	1.003	S106	57.4	1.647	0.451	0.8698	
15 minute summer	S106	1.004	S107	64.0	1.943	0.558	0.4797	
15 minute summer	S107	1.005	S108	67.2	2.518	0.372	0.3866	
15 minute summer	S108	1.006	S109	71.1	2.452	0.323	0.4211	
15 minute summer	S109L	3.000	S109	14.3	0.998	0.989	0.0966	
15 minute summer	S109	1.007	S110	94.7	2.887	0.463	1.2135	
15 minute summer	S110L	4.000	S110	18.6	1.172	1.046	0.0855	
15 minute summer	S110	1.008	S111	121.5	2.347	0.249	1.9155	
15 minute summer	S111L	5.000	S111	15.3	1.024	1.058	0.1007	
15 minute summer	S111	1.009	S112	139.8	2.504	0.332	0.8206	
15 minute summer	S112	1.010	S113	150.3	1.923	0.311	1.9413	
15 minute summer	S113L	6.000	S113	27.2	1.546	1.532	0.0852	
1440 minute summer	S113	1.011	HW21	11.6	0.169	0.044	2.1374	
1440 minute summer	HW21	Flow through pond	HW23	-21.7	0.017	0.000	519.8365	
15 minute summer	S114L	7.000	S114	15.9	1.040	1.097	0.1003	
15 minute summer	S114	7.001	S115	27.9	1.569	0.112	0.9173	
15 minute summer	S115La	8.000	S115	42.0	3.390	0.265	0.0965	
15 minute summer	S115Lb	9.000	S115	12.2	3.030	0.170	0.0173	
15 minute summer	S115	7.002	S116	87.8	1.405	0.794	0.9512	
15 minute summer	S116	7.003	S117	105.7	1.285	0.550	3.4663	
15 minute summer	S117La	10.000	S117	20.6	2.264	0.510	0.0790	

Results for 30 year Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	10	107.510	0.051	18.8	0.0962	0.0000	OK
15 minute summer	S117	11	106.438	0.332	144.6	0.3758	0.0000	OK
15 minute summer	S118	11	106.381	0.309	152.6	0.4099	0.0000	OK
15 minute summer	S119	11	106.124	0.161	153.4	0.1825	0.0000	OK
15 minute summer	S120L	10	105.618	0.090	22.1	0.1498	0.0000	OK
15 minute summer	S120	11	105.559	0.317	174.5	0.3588	0.0000	OK
15 minute summer	HW22	11	105.488	0.407	174.3	0.0000	0.0000	OK
1440 minute summer	HW23	1500	105.483	0.452	17.4	0.0000	0.0000	OK
1440 minute summer	S121	1500	105.483	0.472	0.2	2.7005	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	18.8	3.232	0.254	0.0619	
15 minute summer	S117	7.004	S118	144.8	1.443	1.317	1.1167	
15 minute summer	S118	7.005	S119	153.4	2.108	1.385	2.5074	
15 minute summer	S119	7.006	S120	153.4	2.068	0.394	1.3899	
15 minute summer	S120L	12.000	S120	22.0	2.009	0.665	0.0196	
15 minute summer	S120	7.007	HW22	174.3	1.777	1.125	0.9937	
15 minute summer	HW22	Flow through pond	HW23	349.6	0.255	0.005	154.2240	
1440 minute summer	HW23	1.012	S121	-0.3	0.124	-0.001	1.5649	
1440 minute summer	S121	Hydro-Brake®	HW24	0.0				0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S102	10	111.972	0.080	27.5	0.1424	0.0000	OK
15 minute summer	S103	10	111.233	0.107	45.3	0.1631	0.0000	OK
15 minute summer	S104L	11	111.014	0.641	38.9	1.1639	0.0000	SURCHARGED
15 minute summer	S104	11	110.285	0.148	93.0	0.2039	0.0000	OK
15 minute summer	S105	11	109.779	0.204	103.4	0.2804	0.0000	OK
15 minute summer	S106	11	109.491	0.243	115.2	0.3395	0.0000	OK
15 minute summer	S107	11	109.272	0.179	121.4	0.2262	0.0000	OK
15 minute summer	S108	11	108.876	0.163	128.4	0.2104	0.0000	OK
15 minute summer	S109L	10	108.588	0.245	26.3	0.4429	0.0000	SURCHARGED
15 minute summer	S109	11	108.355	0.207	171.1	0.3174	0.0000	OK
15 minute summer	S110L	10	107.395	0.289	34.1	0.6137	0.0000	SURCHARGED
15 minute summer	S110	11	106.960	0.208	219.9	0.3093	0.0000	OK
15 minute summer	S111L	10	106.523	0.266	28.1	0.4878	0.0000	SURCHARGED
15 minute summer	S111	11	106.159	0.247	253.0	0.3090	0.0000	OK
15 minute summer	S112	11	105.912	0.249	272.1	0.3816	0.0000	OK
15 minute summer	S113L	11	106.043	0.555	50.2	1.1224	0.0000	SURCHARGED
1440 minute summer	S113	1080	105.709	0.645	22.5	0.7290	0.0000	SURCHARGED
960 minute summer	HW21	1125	105.752	0.721	148.3	0.0000	0.0000	OK
15 minute summer	S114L	10	109.126	0.278	29.3	0.5025	0.0000	SURCHARGED
15 minute summer	S114	10	108.745	0.091	50.9	0.1476	0.0000	OK
15 minute summer	S115La	11	107.577	0.164	76.5	0.4510	0.0000	OK
15 minute summer	S115Lb	11	107.544	0.079	22.1	0.1280	0.0000	OK
15 minute summer	S115	11	107.429	0.879	158.4	1.1597	0.0000	SURCHARGED
15 minute summer	S116	11	107.345	0.842	179.1	1.4399	0.0000	SURCHARGED
15 minute summer	S117La	11	107.266	0.571	37.7	0.9716	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	27.4	1.756	0.276	0.3312	
15 minute summer	S103	1.001	S104	44.8	2.424	0.459	0.4830	
15 minute summer	S104L	2.000	S104	37.4	2.122	2.583	0.2246	
15 minute summer	S104	1.002	S105	92.8	2.163	0.495	0.8521	
15 minute summer	S105	1.003	S106	103.8	1.847	0.816	1.3982	
15 minute summer	S106	1.004	S107	115.7	2.186	1.009	0.7638	
15 minute summer	S107	1.005	S108	121.6	2.933	0.673	0.6001	
15 minute summer	S108	1.006	S109	128.5	2.815	0.584	0.6608	
15 minute summer	S109L	3.000	S109	25.8	1.465	1.783	0.1169	
15 minute summer	S109	1.007	S110	171.4	3.301	0.837	1.9205	
15 minute summer	S110L	4.000	S110	33.3	1.894	1.878	0.0941	
15 minute summer	S110	1.008	S111	220.0	2.740	0.451	2.9691	
15 minute summer	S111L	5.000	S111	27.5	1.565	1.904	0.1173	
15 minute summer	S111	1.009	S112	253.3	2.854	0.601	1.3157	
15 minute summer	S112	1.010	S113	271.8	1.939	0.562	2.9187	
15 minute summer	S113L	6.000	S113	47.7	2.710	2.686	0.0862	
1440 minute summer	S113	1.011	HW21	20.6	0.236	0.078	2.3984	
960 minute summer	HW21	Flow through pond	HW23	-92.8	0.042	-0.001	797.3990	
15 minute summer	S114L	7.000	S114	28.8	1.634	1.984	0.1144	
15 minute summer	S114	7.001	S115	50.6	1.557	0.202	1.7828	
15 minute summer	S115La	8.000	S115	73.8	3.464	0.466	0.2756	
15 minute summer	S115Lb	9.000	S115	21.4	3.316	0.299	0.0583	
15 minute summer	S115	7.002	S116	146.6	1.503	1.326	1.6798	
15 minute summer	S116	7.003	S117	176.7	1.602	0.919	4.7431	
15 minute summer	S117La	10.000	S117	33.2	2.196	0.821	0.1254	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 94.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S117Lb	11	107.532	0.074	34.1	0.1375	0.0000	OK
15 minute summer	S117	11	106.998	0.892	242.3	1.0083	0.0000	SURCHARGED
15 minute summer	S118	11	106.831	0.759	255.0	1.0059	0.0000	SURCHARGED
15 minute summer	S119	12	106.237	0.273	252.7	0.3093	0.0000	OK
15 minute summer	S120L	12	105.994	0.466	40.1	0.7794	0.0000	SURCHARGED
15 minute summer	S120	12	105.931	0.689	286.6	0.7796	0.0000	SURCHARGED
15 minute summer	HW22	12	105.718	0.637	287.2	0.0000	0.0000	OK
1440 minute summer	HW23	1230	105.691	0.660	38.7	0.0000	0.0000	SURCHARGED
1440 minute summer	S121	1230	105.691	0.680	3.4	3.8921	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	34.0	3.339	0.461	0.0869	
15 minute summer	S117	7.004	S118	240.7	2.183	2.190	1.2283	
15 minute summer	S118	7.005	S119	252.7	2.415	2.281	3.4539	
15 minute summer	S119	7.006	S120	254.2	2.404	0.653	1.8855	
15 minute summer	S120L	12.000	S120	37.1	2.118	1.121	0.0313	
15 minute summer	S120	7.007	HW22	287.2	2.604	1.853	1.1175	
15 minute summer	HW22	Flow through pond	HW23	500.1	0.278	0.007	277.9591	
1440 minute summer	HW23	1.012	S121	3.4	0.016	0.014	1.6814	
1440 minute summer	S121	Hydro-Brake®	HW24	3.2				121.3