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clarkebond

Hinckley & Bosworth Borough Council
Development Control
Council Offices
Argents Mead
Hinckley
Leicestershire
LE10 1BZ

For the attention of Mr James Hicks

- 2 SEP 2009

YB00327/NHM/01SEP

01st September 2009

Dear James

**Re: Planning Permission Application No. 08/00720/FUL**

**The construction of a City Circuit and Ancillary Facilities including creation of a Pond and the erection of Mast and Control Centre with associated parking and vehicular access.**

With reference to your planning approval letter dated 11th July 2008, I write to you in order to discharge planning conditions 3 & 4 attached to the Approval in relation to the surface water drainage from the site.

**Condition 3 – Mitigation Measures**

a) I confirm that the discharge from the site would be controlled via a 85 l/s pump adjacent to the proposed attenuation pond and as such this will not increase the risk of flooding off-site. See attached *YB00327 Simulation 100yr* for confirmation.
b) The proposed attenuation within the network has been designed with a capacity of 12500m$^3$ which is in excess of the minimum requirement stated. Due to the proposed invert level and the need to use the pond as a 'borrow pit' to balance the earthworks on the circuit the designed attenuation pond will be approximately 20000m3 in capacity. See attached drawing no. *YB00327 T505 – Proposed Attenuation Pond Plan and Cross Sections* detailing the proposed pond cross-section.
c) The surface water run-off from the entire circuit discharges directly to Outfall 1 via the attenuation pond. See Drawing No. *YB00327 T500 - Proposed Circuit Drainage Networks* detailing the outfall location.

**Condition 4 – Network Details**

a) Simulation results for the 30-year rainfall event and the 100-year plus an additional allowance of 30% considering the impact of climate change has been included with this letter. See attached *YB00327 Simulation 100yr & YB00327 Simulation 30yr.*

b) Find enclosed the network details for the proposed surface water drainage system *YB00327 Simulation 100yr.*

c) Find enclosed Drawing No. *YB00327 SK09 - Detailed Plan of Surcharge System 100yr + 30% CC* which details the areas of the network which are liable to flooding in the 100-year plus an additional allowance of 30% considering the impact of Climate Change. The drawing shows that all flood water will remain within the site boundary and would not cause flooding to nearby properties.

d) Find enclosed *YB00327 Simulation 100yr* confirming the simulation of the proposed attenuation pond for 100-year plus an additional allowance of 30% considering the impact of Climate Change event.

The drainage network presented for approval is as detailed on Drawing No. *YB00327 500 - Proposed Circuit Drainage Networks,* however due to budgetary constraints the scheme has been de-scoped as detailed on Drawing No. *YB00327 500 Rev A - Proposed Circuit Drainage Networks*. It is still proposed to deliver the scheme as detailed on Drawing No. *YB00327 500* title in the future and as such the drainage network will be constructed considering this circuit arrangement minus a few drainage runs which will be rendered redundant. These runs will be installed when the future construction takes place.

The items referred to in Conditions 5 & 6 of your planning approval letter have been removed from the stage of the proposed works and as such are no longer applicable.

I trust that the enclosed is sufficient in order for you to provide approval in writing so that the works can commence on site. If you require any further information please contact me.

Yours sincerely
For and on Behalf of Clarke Bond (Midlands) Ltd



**Nick Moore** MEng (Hons)
Project Engineer

Cc
Nick Wakefield – Environment Agency
Sarah Mallet – Environment Agency

[redacted]

# Application for Planning Permission.
# Town and Country Planning Act 1990

Publication of planning applications on council web sites
Please note that with the exception of applicant contact details and Certificates of Ownership, the information provided on this application form and in supporting documents may be published on the council's website.
If any other information that is provided as part of the application which falls within the definition of personal data under the Data Protection Act and is not to be published on the council's website, please contact the council's planning department.

## 1. Applicant Name, Address and Contact Details

Title: Mr | First name: Nick | Surname: Clare

Company name: innovITS

Street address: John Eccles House
Robert Robinson Avenue
Oxford Science Park
Town/City: Oxford
County: Oxfordshire
Country: England
Postcode: OX4 4GP

| | Country Code | National Number | Extension Number |
|---|---|---|---|
| Telephone number: | 0044 | (0)1865 338012 | |
| Mobile number: | | | |
| Fax number: | | | |

Email address:

Are you an agent acting on behalf of the applicant? (•) Yes ( ) No

## 2. Agent Name, Address and Contact Details

Title: Mr | First Name: Ian | Surname: Lawrence

Company name: MIRA Ltd

Street address: MIRA Ltd
Watling Street
Town/City: Nuneaton
County: Warwickshire
Country: England
Postcode: CV10 0TU

| | Country Code | National Number | Extension Number |
|---|---|---|---|
| Telephone number: | 0044 | (0)24 76355158 | |
| Mobile number: | | | |
| Fax number: | 0044 | (0)24 76358158 | |

Email address: ian.lawrence@mira.co.uk

## 3. Description of the Proposal

Please describe the proposed development including any change of use:

Construction of a City Circuit and parking area with associated overhead VMS and traffic signal gantries, traffic lights, VMS and traffic signs and street lights, control centre and assoicated access and parking, earth bunds and other works described within the supporting documents.

Has the building, work or change of use already started? ( ) Yes (•) No

## 4. Site Address Details

Full postal address of the site (including full postcode where available)

House: 0 Suffix:

House name: MIRA Ltd

Street address: Watling Street

Town/City: NUNEATON

County: Warwickshire

Postcode: CV10 0TU

Description of location or a grid reference
(must be completed if postcode is not known):

Easting: 436374

Northing: 295228

Description:

## 5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? (●) Yes ( ) No

If Yes, please complete the following information about the advice you were given (this will help the authority to deal with this application more efficiently):

Officer name:

Title: Mr First name: Chris Surname: Merriamn

Reference:

Date (DD/MM/YYYY): 11/04/07 (Must be pre-application submission)

Details of the pre-application advice received:

Meeting to notify the LA of MIRA's intension and discuss possible issues. Main issue would possibly be noise pollution.

## 6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? ( ) Yes (●) No

Is a new or altered pedestrian access proposed to or from the public highway? ( ) Yes (●) No

Are there any new public roads to be provided within the site? ( ) Yes (●) No

Are there any new public rights of way to be provided within or adjacent to the site? ( ) Yes (●) No

Do the proposals require any diversions/extinguishments and/or creation of rights of way? ( ) Yes (●) No

## 7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? ( ) Yes (●) No

Have arrangements been made for the separate storage and collection of recyclable waste? (●) Yes ( ) No

If Yes, please provide details:

Existing site recycling facilities will be used.

## 8. Neighbour and Community Consultation

Have you consulted your neighbours or the local community about the proposal? (●) Yes ( ) No

If Yes, please provide details:

The proposal was discuss at the local liaison committee meeting.

## 9. Council Employee / Member

Is the applicant or agent related to any member of staff or elected member of the council? ( ) Yes (●) No

## 10. Materials

Please state what materials (including type, colour and name) are to be used externally (if applicable):

**Walls - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

The control centre will be a Portakabin type structure

## 10. Materials (continued)

**Roof - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

The control centre will be a Portakabin type structure

**Windows - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

Double glazed units as fitted by Portakabin

**Doors - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

Standard portakabin doors

**Boundary treatments - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

None

**Vehicle access and hard standing - description:**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

The access and parking area around the control centre will be asphalt. The city circuit will be mainly asphalt with a short section of concrete pavement.

**Lighting - add description**

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

Some form of external lighting will be installed by the control centre. Street lighting columns will be provided around the city circuit. The lamps will be interchangable to provide different lighting conditions for testing.

**Others - description:**

Type of other material:

Description of *existing* materials and finishes:

none

Description of *proposed* materials and finishes:

The test track will be mainly asphalt with sections of concrete

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement? (•) Yes ( ) No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

PG/054/001 Location Plan
PG/054/002 Street Furniture, Gantries and Bunding Layout
PG/054/003 Pavement and Traffic Calming Layout
YB00327_E200 Proposed Circuit Layout
YB00327_E500 Proposed Drainage Plan
170703/01 innovITS ADVANCE Project 1 City Circuit Traffic Statement
170703/02 innovITS ADVANCE Project 1 City Circuit Design and Access Statement
DJB/6147 Baseline Environmental Noise Level Survey Report
DJB/6147/A Noise Impact Assessment for Proposed innovITS ADVANCE Project 1 City Circuit
YB00327/05/01 Drainage Strategy
YB00327/05/02 Geometry and Pavement Design

## 11. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

| Type of vehicle | Existing number of spaces | Total proposed (including spaces retained) | Difference in spaces |
|---|---|---|---|
| Cars | 0 | 40 | 40 |
| Disability spaces | 0 | 1 | 1 |
| Cycle spaces | 0 | 2 | 2 |

## 12. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer ☒ Package treatment plant ☐ Unknown ☐

Septic tank ☐ Cess pit ☐

Other

or utilise existing toilet block

Are you proposing to connect to the existing drainage system? ○ Yes ○ No ◉ Unknown

## 13. Assessment of Flood Risk

Is the site within an area at risk of flooding? Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary. ○ Yes ◉ No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? ○ Yes ◉ No

Will the proposal increase the flood risk elsewhere? ○ Yes ◉ No

How will surface water be disposed of?

☐ Sustainable drainage system ☒ Main sewer ☒ Pond/lake

☐ Soakaway ☐ Existing watercourse

## 14. Biodiversity and Geological Conservation

Is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

b) Designated sites, important habitats or other biodiversity features

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

c) Features of geological conservation importance

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

## 15. Existing Use

Please describe the current use of the site:

Arable land

Is the site currently vacant? ○ Yes ◉ No

Does the proposal involve any of the following:

Land which is known to be contaminated? ○ Yes ◉ No

Land where contamination is suspected for all or part of the site? ○ Yes ◉ No

A proposed use that would be particularly vulnerable to the presence of contamination? ○ Yes ◉ No

**Application advice**
If you have said Yes to any of the above, you will need to submit an appropriate contamination assessment.

## 16. Trees and Hedges

Are there trees or hedges on the proposed development site? ○ Yes ◉ No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? ○ Yes ◉ No

If Yes to either or both of the above, you will need to provide a full Tree Survey with accompanying plan before your application can be determined. Your Local Planning Authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'

## 17. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? ○ Yes ◉ No

## 18. Residential Units

Does your proposal include the gain or loss of residential units? ○ Yes ◉ No

## 19. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss or gain of non-residential floorspace? ◉ Yes ○ No

## 19. All Types of Development: Non-residential Floorspace (continued)

| Use class/type of use | | Existing gross internal floorspace (square metres) | Gross internal floorspace to be lost by change of use or demolition (square metres) | Total gross internal floorspace proposed (including changes of use) (square metres) | Net additional gross internal floorspace following development (square metres) |
|---|---|---|---|---|---|
| B1 (a) | Office (other than A2) | 0.0 | 0.0 | 60.0 | 60.0 |
| | Total | 0.0 | 0.0 | 60.0 | 60.0 |

For hotels, residential institutions and hostels, please additionally indicate the loss or gain of rooms:

| Use Class | Types of use | Existing rooms to be lost by change of use or demolition | Total rooms proposed (including changes of use) | Net additional rooms |
|---|---|---|---|---|

## 20. Employment

If known, please complete the following information regarding employees:

| | Full-time | Part-time | Equivalent number of full-time |
|---|---|---|---|
| Existing employees | 560 | 17 | 0 |
| Proposed employees | 4 | 0 | 0 |

## 21. Hours of Opening

If known, please state the hours of opening for each non-residential use proposed:

| Use | Monday to Friday Start Time | Monday to Friday End Time | Saturday Start Time | Saturday End Time | Sunday and Bank Holidays Start Time | Sunday and Bank Holidays End Time | Not Known |
|---|---|---|---|---|---|---|---|
| Other | 00:00:00 | 23:59:00 | 00:00:00 | 23:59:00 | 00:00:00 | 23:59:00 | ☐ |

## 22. Site Area

What is the site area? 16.00 hectares

## 23. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

Automotive and Telematics testing

Is the proposal for a waste management development? ○ Yes ◉ No

## 24. Hazardous Substances

Is any hazardous waste involved in the proposal? ○ Yes ◉ No

## 25. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? ◉ Yes ○ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

◉ The agent ○ The applicant ○ Other person

## 26. Certificates (Certificate A)

**Certificate of Ownership - Certificate A**

**Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7**

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Title: Mr First name: Ian Surname: Lawrence

Person role: Agent Declaration date: 11/07/08 ☒ Declaration made

## 26. Certificates (Agricultural Holdings Certificate)

**Agricultural Holding Certificate**

**Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7**

Agricultural Land Declaration - You Must Select Either A or B

(A) None of the land to which the application relates is, or is part of an agricultural holding. ◉

(B) I have/The applicant has given the requisite notice to every person other than myself/the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below: ○

## 26. Certificates (Agricultural Holdings Certificate - continued)

Title: Mr | First Name: Ian | Surname: Lawrence

Person role: Agent | Declaration date: 11/07/08 | ☒ Declaration Made

## 27. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information. ☒

Date 11/07/08

Hinckley & Bosworth Borough Council
*A Borough to be proud of*

planning@hinckley-bosworth.gov.uk
01455 238141

Council Offices
Argents Mead
Hinckley
Leicestershire
LE10 1BZ

# Application for approval of details reserved by condition.

Town and Country Planning Act 1990

Planning (Listed Buildings and Conservation Areas) Act 1990

**Publication of applications on planning authority websites**

**Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.**

Please complete using block capitals and black ink.
It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

## 1. Applicant Name and Address

| | |
|---|---|
| Title: | MR |
| First name: | TONY |
| Last name: | WYATT |
| Company (optional): | INNOVITS |
| Unit: | |
| House number: | |
| House suffix: | |
| House name: | JOHN ECCLES HOUSE |
| Address 1: | ROBERT ROBINSON AVENUE |
| Address 2: | OXFORD SCIENCE PARK |
| Address 3: | |
| Town: | OXFORD |
| County: | OXFORDSHIRE |
| Country: | UK |
| Postcode: | |

## 2. Agent Name and Address

| | |
|---|---|
| Title: | MR |
| First name: | NICK |
| Last name: | MOORE |
| Company (optional): | CLARKE BOND |
| Unit: | |
| House number: | 59 |
| House suffix: | |
| House name: | SELLY WICK HOUSE |
| Address 1: | SELLY WICK ROAD |
| Address 2: | SELLY PARK |
| Address 3: | |
| Town: | BIRMINGHAM |
| County: | WEST MIDLANDS |
| Country: | UK |
| Postcode: | B29 7JE |

## 3. Site Address Details

Please provide the full postal address of the application site.

| | | | | | |
|---|---|---|---|---|---|
| Unit: | | House number: | | House suffix: | |
| House name: | MIRA LTD | | | | |
| Address 1: | WATLING STREET | | | | |
| Address 2: | NUNEATON | | | | |
| Address 3: | | | | | |
| Town: | | | | | |
| County: | WARWICKSHIRE | | | | |
| Postcode (optional): | CV10 0TU | | | | |

Description of location or a grid reference.
(must be completed if postcode is not known):

Easting: | Northing:

Description:

## 4. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? ☐ Yes ☐ No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently).

Please tick if the full contact details are not known, and then complete as much as possible: ☐

Officer name:

Reference:

Date (DD/MM/YYYY):
(must be pre-application submission)

Details of pre-application advice received?

## 5. Description Of Your Proposal

Please provide a description of the approved development as shown on the decision letter, including the application reference number and date of decision in the sections below:

CONSTRUCTION OF CITY CIRCUIT AND ANCILLARY FACILITIES INCLUDING CREATION OF POND AND ERECTION OF MAST AND CONTROL CENTRE WITH ASSOCIATED PARKING AND ACCESS

Reference number: 08/00720/FUL Date of decision: 11 JULY 2008 (Date must be pre-application submission) (DD/MM/YYYY)

Please state the condition number(s) to which this application relates:

| | | | |
|---|---|---|---|
| 1. | CONDITION 3 - MITIGATION MEASURES | 6. | |
| 2. | CONDITION 4 - NETWORK DETAILS | 7. | |
| 3. | | 8. | |
| 4. | | 9. | |
| 5. | | 10. | |

Has the development already started? ☐ Yes ☑ No

If Yes, please state when the development started (DD/MM/YYYY): (date must be pre-application submission)

Has the development been completed? ☐ Yes ☑ No

If Yes, please state when the development was completed (DD/MM/YYYY): (date must be pre-application submission)

## 6. Discharge Of Condition

Please provide a full description and/or list of the materials/details that are being submitted for approval:

PLEASE REFER TO LETTER Y800327/NHM/27 JUL ATTACHED TO THIS APPLICATION

## 7. Part Discharge Of Condition(s)

Are you seeking to discharge only part of a condition? ☐ Yes ☑ No

If Yes, please indicate which part of the condition your application relates to:

## 8. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

The original and 3 copies of a completed and dated application form: ☑

The original and 3 copies of other plans and drawings or information necessary to describe the subject of the application: ☑

The correct fee: ☑

## 9. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

Signed - Applicant:

Or signed - Agent: NL

Date (DD/MM/YYYY): 01/09/09 (date cannot be pre-application)

## 10. Applicant Contact Details

Telephone numbers

| Country code: | National number: | Extension number: |
|---|---|---|
| | | |

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional):

## 11. Agent Contact Details

Telephone numbers

| Country code: | National number: | Extension number: |
|---|---|---|
| 0121 | 414 1989 | |

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional): nickmoore@clarkeband.co.uk

## 12. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? ☐ Yes ☑ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? *(Please select only one)* ☐ Agent ☐ Applicant ☑ Other (if different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name: IAN OSBORNE

Telephone number: 024 7635 5478

Email address: ian.osborne@mira-co.uk.

# HINCKLEY & BOSWORTH BOROUGH COUNCIL

COUNCIL OFFICES, ARGENTS MEAD,
HINCKLEY, LEICESTERSHIRE LE10 1BZ
TEL: (01455) 238141 (EXT: )

V.A.T. REGISTRATION No.
115 3665 82

Mira Ltd
Watling Street
Lindley
Nuneaton
CV10 0TT

INVOICE

INVOICE DATE 2/09/09

MISCELLANEOUS ACCOUNT

| Particulars | V.A.T. RATE % | AMOUNT |
|---|---|---|
| PLANNING 08/00920/FUL | | 85.00 |
| | | |
| | | |
| BUILDING REGULATIONS | | |
| | | |
| | | |
| | | |

| | | | |
|---|---|---|---|
| £5 Notes and over | | SUB TOTAL | |
| £1 Coins | | | |
| 50p Coins | | | |
| Silver | | V.A.T. | |
| Bronze Coins | | | |
| Chqs, P.O.'s etc. | | TOTAL DUE | 85.00 |
| TOTAL: | | | |

RM1SC EDL/T1047ZRCMQC
£85.00 01 03/09/2009 HNK311680 *PAID*

The Council's Official receipt

## Global Variables

| | |
|---|---|
| Region | FSR - England & Wales |
| Return Period (yrs) | 30 |
| M5-60 (mm) | 20.000 |
| Ratio R | 0.400 |
| Volumetric Runoff Coef | 0.750 |
| Profile Type | Summer |
| PIMP (%) | 100 |
| Areal Reduction Factor | 1.000 |
| Storm Duration (mins) | 15 |
| Hot Start (mins) | 0 |
| Hot Start Level (mm) | 0 |
| Manhole Headloss Coefficient | 0.500 |
| MADD Factor * 10m³/ha Storage | 2.000 |
| Foul Sewage/Hectare (l/s) | 0.00 |
| Additional Flow - % of Total Flow | 30 |
| Inlet Coefficient | 0.800 |
| Number of Input Hydrographs | 0 |
| Number of Time/Area Diagrams | 0 |
| Number of Bifurcations | 0 |
| Number of Overflows | 0 |
| Number of Off-Line Controls | 0 |
| Number of On-Line Controls | 1 |

**Starting Storm file name**

O:\CB Midlands\Birmingham Projects\YB00327 - MIRA InnovITS Advanced City Circuit\10.0 Design\10.1 Drainage\WinDes\July 09\MIRA 20090828 EA Submission#1.SWS

## Freely Discharging Outfalls

| Outfall Pipe Number | Outfall MH/No | C.Level (m) | I.Level (m) | D,L (mm) | B (mm) |
|---|---|---|---|---|---|
| 1.007 | 83 | 91.960 | 88.638 | 1200 | 0 |

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On-Line Controls (Pump)

| US/PN | Volume ($m^3$) | Ctrl MH Name | Invert (m) | Headloss (m) | Flow (l/s) |
|---|---|---|---|---|---|
| 1.006 | 4.194 | 84 | 88.658 | 0.2 | 85.0 |
| | | | | 0.4 | 85.0 |
| | | | | 0.6 | 85.0 |
| | | | | 0.8 | 85.0 |
| | | | | 1.0 | 85.0 |
| | | | | 1.4 | 85.0 |
| | | | | 1.8 | 85.0 |
| | | | | 2.2 | 85.0 |
| | | | | 2.6 | 85.0 |
| | | | | 3.0 | 85.0 |
| | | | | 3.4 | 85.0 |

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Storage Pond at pipe 1.006 USMH 83

Storage Pond Invert Level (m) 88.728

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 500.0 | 1.2 | 3800.0 | 2.4 | 4250.0 | 3.6 | 4800.0 | 4.8 | 5000.0 |
| 0.2 | 1000.0 | 1.4 | 3900.0 | 2.6 | 4300.0 | 3.8 | 4900.0 | 5.0 | 5000.0 |
| 0.4 | 2000.0 | 1.6 | 4000.0 | 2.8 | 4350.0 | 4.0 | 5000.0 | | |
| 0.6 | 3500.0 | 1.8 | 4100.0 | 3.0 | 4400.0 | 4.2 | 5000.0 | | |
| 0.8 | 3600.0 | 2.0 | 4150.0 | 3.2 | 4600.0 | 4.4 | 5000.0 | | |
| 1.0 | 3700.0 | 2.2 | 4200.0 | 3.4 | 4700.0 | 4.6 | 5000.0 | | |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| | | | |
|---|---|---|---|
| Margin for Flood Risk warning (mm) | 0 | Inertia Status | OFF |
| DTS Status | ON | Analysis Time Step | Fine |
| DVD Status | ON | | |

| | |
|---|---|
| Profile(s) | Summer and Winter |
| Duration(s) (mins) | 15, 30, 60, 120, 240, 360, 480, 960, 1440, 2160, 2880, 4320 |
| Return Period(s) (years) | 30 |
| Climate Change (%) | 0 |

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 1.000 | 15 Winter | 30 | 0% | 1 | | | | |
| 1.001 | 15 Winter | 30 | 0% | 1 | | | | |
| 2.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 3.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.003 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 4.000 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.004 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.005 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 6.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 7.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.002 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 8.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.003 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 9.000 | 30 Winter | 30 | 0% | 1 | 30/15 Winter | | | |
| 5.004 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 10.000 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol (m³) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| | 1.000 | 92.330 | -0.171 | 0.000 | 0.13 | 0.0 | 7.6 | O K |
| | 1.001 | 92.121 | -0.157 | 0.000 | 0.20 | 0.0 | 7.6 | O K |
| | 2.000 | 93.221 | 0.511 | 0.000 | 0.59 | 0.0 | 28.6 | SURCH'ED |
| | 2.001 | 93.122 | 0.690 | 0.000 | 0.85 | 0.0 | 32.1 | SURCH'ED |
| | 3.000 | 92.980 | 0.306 | 0.000 | 0.37 | 0.0 | 17.9 | SURCH'ED |
| | 2.002 | 92.946 | 0.753 | 0.000 | 1.34 | 0.0 | 51.1 | SURCH'ED |
| | 2.003 | 92.512 | 0.557 | 0.000 | 1.39 | 0.0 | 53.8 | SURCH'ED |
| | 4.000 | 92.093 | 0.330 | 0.000 | 0.55 | 0.0 | 25.8 | SURCH'ED |
| | 2.004 | 92.074 | 0.505 | 0.000 | 1.12 | 0.0 | 86.1 | SURCH'ED |
| | 2.005 | 91.901 | 0.679 | 0.000 | 1.11 | 0.0 | 113.9 | SURCH'ED |
| | 5.000 | 93.235 | 1.041 | 0.000 | 1.46 | 0.0 | 207.7 | SURCH'ED |
| | 6.000 | 93.031 | 0.925 | 0.000 | 1.15 | 0.0 | 41.6 | SURCH'ED |
| | 5.001 | 92.887 | 0.904 | 0.000 | 1.70 | 0.0 | 254.1 | SURCH'ED |
| | 7.000 | 93.041 | 1.148 | 0.000 | 1.70 | 0.0 | 29.5 | SURCH'ED |
| | 5.002 | 92.540 | 0.872 | 0.000 | 1.75 | 0.0 | 257.9 | SURCH'ED |
| | 8.000 | 92.615 | 0.673 | 0.000 | 1.76 | 0.0 | 29.6 | SURCH'ED |
| | 5.003 | 92.411 | 0.825 | 0.000 | 1.45 | 0.0 | 281.8 | SURCH'ED |
| | 9.000 | 92.326 | 0.410 | 0.000 | 0.98 | 0.0 | 39.3 | SURCH'ED |
| | 5.004 | 92.291 | 0.809 | 0.000 | 1.65 | 0.0 | 324.1 | SURCH'ED |
| | 10.000 | 92.220 | 0.445 | 0.000 | 1.52 | 0.0 | 25.6 | SURCH'ED |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 5.005 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.006 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 5.007 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 11.000 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.006 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 12.000 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.007 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.008 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 14.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 14.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.003 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 15.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 15.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 15.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.004 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 16.000 | 15 Winter | 30 | 0% | 1 | 30/15 Winter | | | |
| 13.005 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 17.000 | 15 Winter | 30 | 0% | 1 | | | | |
| 13.006 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.007 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 13.008 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.009 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 18.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |

| Lvl Ex. PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|
| 5.005 | 92.147 | 0.750 | 0.000 | 1.31 | 0.0 | 357.7 | SURCH'ED |
| 5.006 | 92.027 | 0.752 | 0.000 | 1.25 | 0.0 | 341.4 | SURCH'ED |
| 5.007 | 91.890 | 0.737 | 0.000 | 0.91 | 0.0 | 342.1 | SURCH'ED |
| 11.000 | 91.810 | 0.813 | 0.000 | 1.33 | 0.0 | 22.4 | SURCH'ED |
| 2.006 | 91.762 | 0.969 | 0.000 | 1.26 | 0.0 | 422.9 | SURCH'ED |
| 12.000 | 91.690 | 0.678 | 0.000 | 0.63 | 0.0 | 4.8 | SURCH'ED |
| 2.007 | 91.675 | 0.992 | 0.000 | 1.26 | 0.0 | 419.3 | SURCH'ED |
| 2.008 | 91.584 | 0.963 | 0.000 | 1.44 | 0.0 | 415.4 | SURCH'ED |
| 13.000 | 92.942 | 0.372 | 0.000 | 0.14 | 0.0 | 9.0 | SURCH'ED |
| 13.001 | 92.924 | 0.796 | 0.000 | 0.41 | 0.0 | 15.6 | SURCH'ED |
| 13.002 | 92.901 | 1.068 | 0.000 | 1.06 | 0.0 | 38.3 | SURCH'ED |
| 14.000 | 93.422 | 0.977 | 0.000 | 0.18 | 0.0 | 11.4 | SURCH'ED |
| 14.001 | 93.407 | 1.362 | 0.000 | 1.98 | 0.0 | 78.5 | SURCH'ED |
| 13.003 | 92.763 | 1.050 | 0.000 | 1.46 | 0.0 | 151.0 | SURCH'ED |
| 15.000 | 94.140 | 1.464 | 0.000 | 1.63 | 0.0 | 27.4 | SURCH'ED |
| 15.001 | 93.770 | 1.294 | 0.000 | 1.81 | 0.0 | 73.0 | SURCH'ED |
| 15.002 | 92.649 | 0.556 | 0.000 | 1.50 | 0.0 | 95.4 | SURCH'ED |
| 13.004 | 92.469 | 0.927 | 0.000 | 1.77 | 0.0 | 245.4 | SURCH'ED |
| 16.000 | 92.352 | 0.119 | 0.000 | 0.91 | 0.0 | 35.6 | SURCH'ED |
| 13.005 | 92.245 | 0.781 | 0.000 | 1.75 | 0.0 | 269.8 | SURCH'ED |
| 17.000 | 91.906 | -0.065 | 0.000 | 0.85 | 0.0 | 33.9 | O K |
| 13.006 | 91.847 | 0.570 | 0.000 | 1.44 | 0.0 | 283.2 | SURCH'ED |
| 13.007 | 91.712 | 0.551 | 0.000 | 1.61 | 0.0 | 292.9 | SURCH'ED |
| 13.008 | 91.614 | 0.514 | 0.000 | 2.00 | 0.0 | 314.0 | SURCH'ED |
| 2.009 | 91.509 | 0.931 | 0.000 | 1.57 | 0.0 | 688.4 | SURCH'ED |
| 18.000 | 91.588 | 0.126 | 0.000 | 1.50 | 0.0 | 53.9 | SURCH'ED |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 2.010 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.011 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.012 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.013 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 19.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.014 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.015 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.016 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.017 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 2.018 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 1.002 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 1.003 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 20.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 21.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 20.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 20.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 22.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 22.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 22.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 23.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 22.003 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 24.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 22.004 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 25.000 | 15 Winter | 30 | 0% | 1 | | | | |
| 25.001 | 15 Winter | 30 | 0% | 1 | | | | |
| 25.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol (m³) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| | 2.010 | 91.336 | 0.828 | 0.000 | 2.07 | 0.0 | 707.4 | SURCH'ED |
| | 2.011 | 91.267 | 0.789 | 0.000 | 1.31 | 0.0 | 701.3 | SURCH'ED |
| | 2.012 | 91.171 | 0.752 | 0.000 | 1.32 | 0.0 | 702.3 | SURCH'ED |
| | 2.013 | 91.069 | 0.711 | 0.000 | 1.26 | 0.0 | 703.4 | SURCH'ED |
| | 19.000 | 92.407 | 0.370 | 0.000 | 2.14 | 0.0 | 76.4 | SURCH'ED |
| | 2.014 | 90.951 | 0.668 | 0.000 | 1.31 | 0.0 | 729.5 | SURCH'ED |
| | 2.015 | 90.823 | 0.615 | 0.000 | 1.53 | 0.0 | 734.1 | SURCH'ED |
| | 2.016 | 90.725 | 0.563 | 0.000 | 1.36 | 0.0 | 736.9 | SURCH'ED |
| | 2.017 | 90.607 | 0.508 | 0.000 | 1.31 | 0.0 | 737.3 | SURCH'ED |
| | 2.018 | 90.473 | 0.452 | 0.000 | 1.85 | 0.0 | 738.1 | SURCH'ED |
| | 1.002 | 90.385 | 0.400 | 0.000 | 1.40 | 0.0 | 743.7 | SURCH'ED |
| | 1.003 | 90.273 | 0.346 | 0.000 | 1.30 | 0.0 | 752.1 | SURCH'ED |
| | 20.000 | 93.316 | 0.791 | 0.000 | 1.86 | 0.0 | 68.6 | SURCH'ED |
| | 21.000 | 93.025 | 0.596 | 0.000 | 1.26 | 0.0 | 45.4 | SURCH'ED |
| | 20.001 | 92.881 | 0.570 | 0.000 | 1.54 | 0.0 | 160.4 | SURCH'ED |
| | 20.002 | 92.394 | 0.270 | 0.000 | 2.24 | 0.0 | 215.6 | SURCH'ED |
| | 22.000 | 93.189 | 1.019 | 0.000 | 0.64 | 0.0 | 49.6 | SURCH'ED |
| | 22.001 | 93.090 | 1.097 | 0.000 | 0.78 | 0.0 | 65.5 | SURCH'ED |
| | 22.002 | 92.909 | 1.291 | 0.000 | 1.15 | 0.0 | 79.0 | SURCH'ED |
| | 23.000 | 92.539 | 0.373 | 0.000 | 0.53 | 0.0 | 23.6 | SURCH'ED |
| | 22.003 | 92.478 | 1.182 | 0.000 | 1.50 | 0.0 | 112.1 | SURCH'ED |
| | 24.000 | 92.414 | 0.062 | 0.000 | 1.28 | 0.0 | 46.2 | SURCH'ED |
| | 22.004 | 91.750 | 0.778 | 0.000 | 1.73 | 0.0 | 162.2 | SURCH'ED |
| | 25.000 | 92.825 | -0.120 | 0.000 | 0.44 | 0.0 | 20.9 | O K |
| | 25.001 | 92.641 | -0.089 | 0.000 | 0.65 | 0.0 | 25.0 | O K |
| | 25.002 | 92.433 | 0.095 | 0.000 | 1.17 | 0.0 | 44.4 | SURCH'ED |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 20.003 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 20.004 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 26.000 | 15 Winter | 30 | 0% | 1 | 30/15 Winter | | | |
| 26.001 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 27.000 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 26.002 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 28.000 | 15 Winter | 30 | 0% | 1 | | | | |
| 26.003 | 15 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 1.004 | 30 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 1.005 | 30 Winter | 30 | 0% | 1 | 30/30 Summer | | | |
| 1.006 | 240 Winter | 30 | 0% | 1 | 30/15 Summer | | | |
| 1.007 | 240 Winter | 30 | 0% | 1 | 30/30 Summer | | | |

| Lvl Ex. PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|
| 20.003 | 91.556 | 0.649 | 0.000 | 1.99 | 0.0 | 417.0 | SURCH'ED |
| 20.004 | 91.051 | 0.266 | 0.000 | 2.12 | 0.0 | 429.6 | SURCH'ED |
| 26.000 | 91.789 | 0.087 | 0.000 | 0.23 | 0.0 | 5.7 | SURCH'ED |
| 26.001 | 91.744 | 1.142 | 0.000 | 0.92 | 0.0 | 15.6 | SURCH'ED |
| 27.000 | 92.236 | 0.261 | 0.000 | 1.87 | 0.0 | 67.2 | SURCH'ED |
| 26.002 | 91.736 | 1.385 | 0.000 | 1.89 | 0.0 | 78.1 | SURCH'ED |
| 28.000 | 92.237 | -0.091 | 0.000 | 0.66 | 0.0 | 25.1 | O K |
| 26.003 | 90.495 | 0.503 | 0.000 | 1.88 | 0.0 | 125.4 | SURCH'ED |
| 1.004 | 90.119 | 0.314 | 0.000 | 1.61 | 0.0 | 1079.6 | SURCH'ED |
| 1.005 | 89.889 | 0.151 | 0.000 | 2.27 | 0.0 | 1080.6 | SURCH'ED |
| 1.006 | 89.641 | 0.613 | 0.000 | 2.52 | 0.0 | 89.3 | SURCH'ED |
| 1.007 | 89.235 | 0.277 | 0.000 | 4.21 | 0.0 | 85.0 | SURCH'ED |

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## Rainfall Hyetograph

| | |
|---|---|
| Region | FSR - England & Wales |
| Return Period (yrs) | 30 |
| M5-60 (mm) | 20.000 |
| Ratio R | 0.400 |
| Profile Type | Summer |
| Storm Duration (mins) | 15 |

| Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|
| 1 | 25.59 | 5 | 51.06 | 9 | 173.13 | 13 | 32.05 |
| 2 | 28.13 | 6 | 87.48 | 10 | 87.48 | 14 | 28.13 |
| 3 | 32.05 | 7 | 173.13 | 11 | 51.06 | 15 | 25.59 |
| 4 | 38.47 | 8 | 268.71 | 12 | 38.47 | | |

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## Global Variables

| | |
|---|---|
| Region | FSR - England & Wales |
| Return Period (yrs) | 100 |
| M5-60 (mm) | 20.000 |
| Ratio R | 0.400 |
| Volumetric Runoff Coef | 0.840 |
| Profile Type | Winter |
| PIMP (%) | 100 |
| Areal Reduction Factor | 1.000 |
| Storm Duration (mins) | 480 |
| Hot Start (mins) | 0 |
| Hot Start Level (mm) | 0 |
| Manhole Headloss Coefficient | 0.500 |
| MADD Factor * 10m³/ha Storage | 2.000 |
| Foul Sewage/Hectare (l/s) | 0.00 |
| Additional Flow - % of Total Flow | 30 |
| Inlet Coefficient | 0.800 |
| Number of Input Hydrographs | 0 |
| Number of Time/Area Diagrams | 0 |
| Number of Bifurcations | 0 |
| Number of Overflows | 0 |
| Number of Off-Line Controls | 0 |
| Number of On-Line Controls | 1 |

**Starting Storm file name**

O:\CB Midlands\Birmingham Projects\YB00327 - MIRA InnovITS Advanced City Circuit\10.0 Design\10.1 Drainage\WinDes\July 09\MIRA 20090828 EA Submission#1.SWS

## Freely Discharging Outfalls

| Outfall Pipe Number | Outfall MH/No | C.Level (m) | I.Level (m) | D,L (mm) | B (mm) |
|---|---|---|---|---|---|
| 1.007 | 83 | 91.960 | 88.638 | 1200 | 0 |

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On-Line Controls (Pump)

| US/PN | Volume ($m^3$) | Ctrl MH Name | Invert (m) | Headloss (m) | Flow (l/s) |
|---|---|---|---|---|---|
| 1.006 | 4.194 | 84 | 88.658 | 0.2 | 85.0 |
| | | | | 0.4 | 85.0 |
| | | | | 0.6 | 85.0 |
| | | | | 0.8 | 85.0 |
| | | | | 1.0 | 85.0 |
| | | | | 1.4 | 85.0 |
| | | | | 1.8 | 85.0 |
| | | | | 2.2 | 85.0 |
| | | | | 2.6 | 85.0 |
| | | | | 3.0 | 85.0 |
| | | | | 3.4 | 85.0 |

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Storage Pond at pipe 1.006 USMH 83

Storage Pond Invert Level (m) 88.728

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 500.0 | 1.2 | 3800.0 | 2.4 | 4250.0 | 3.6 | 4800.0 | 4.8 | 5000.0 |
| 0.2 | 1000.0 | 1.4 | 3900.0 | 2.6 | 4300.0 | 3.8 | 4900.0 | 5.0 | 5000.0 |
| 0.4 | 2000.0 | 1.6 | 4000.0 | 2.8 | 4350.0 | 4.0 | 5000.0 | | |
| 0.6 | 3500.0 | 1.8 | 4100.0 | 3.0 | 4400.0 | 4.2 | 5000.0 | | |
| 0.8 | 3600.0 | 2.0 | 4150.0 | 3.2 | 4600.0 | 4.4 | 5000.0 | | |
| 1.0 | 3700.0 | 2.2 | 4200.0 | 3.4 | 4700.0 | 4.6 | 5000.0 | | |

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## Network Details

* - Indicates pipe has been modified outside of WinDes's Storm/Foul & Schedules

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 13.06 | 0.223 | 58.5 | 0.021 | 7.50 | 1 | 0.600 | o | 225 |
| 1.001 | 31.94 | 0.191 | 166.9 | 0.000 | 0.00 | 1 | 0.600 | o | 225 |
| 2.000 | 27.61 | 0.278 | 99.2 | 0.092 | 7.50 | 1 | 0.600 | o | 225 |
| 2.001 | 40.19 | 0.239 | 168.4 | 0.027 | 0.00 | 1 | 0.600 | o | 225 |
| 3.000 | 20.14 | 0.213 | 94.6 | 0.052 | 7.50 | 1 | 0.600 | o | 225 |
| 2.002 | 39.99 | 0.238 | 167.7 | 0.024 | 0.00 | 1 | 0.600 | o | 225 |
| 2.003 | 64.68 | 0.386 | 167.7 | 0.021 | 0.00 | 1 | 0.600 | o | 225 |
| 4.000 | 19.05 | 0.192 | 99.2 | 0.084 | 7.50 | 1 | 0.600 | o | 225 |
| 2.004 | 66.15 | 0.347 | 190.7 | 0.067 | 0.00 | 1 | 0.600 | o | 300 |
| 2.005 | 18.40 | 0.210 | 87.4 | 0.110 | 0.00 | 1 | 0.600 | o | 300 |
| 5.000 | 26.71 | 0.177 | 150.7 | 0.654 | 7.50 | 1 | 0.600 | o | 375 |
| 6.000 | 20.71 | 0.123 | 168.4 | 0.134 | 7.50 | 1 | 0.600 | o | 225 |
| 5.001 | 69.59 | 0.174 | 400.8 | 0.064 | 0.00 | 1 | 0.600 | o | 450 |
| 7.000 | 20.94 | 0.225 | 93.2 | 0.104 | 7.50 | 1 | 0.600 | o | 150 |
| 5.002 | 28.57 | 0.082 | 347.9 | 0.018 | 0.00 | 1 | 0.600 | o | 450 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 1 | 93.876 | 92.276 | 1.375 | 94.007 | 92.053 | 1.729 | | 1050 |
| 1.001 | 2 | 94.007 | 92.053 | 1.729 | 94.133 | 91.861 | 2.047 | | 1200 |
| 2.000 | 3 | 94.135 | 92.485 | 1.425 | 94.094 | 92.207 | 1.662 | | 1050 |
| 2.001 | 4 | 94.094 | 92.207 | 1.662 | 93.886 | 91.968 | 1.693 | | 1200 |
| 3.000 | 5 | 94.099 | 92.449 | 1.425 | 93.886 | 92.236 | 1.425 | | 1050 |
| 2.002 | 6 | 93.886 | 91.968 | 1.693 | 93.641 | 91.730 | 1.687 | | 1200 |
| 2.003 | 7 | 93.641 | 91.730 | 1.687 | 93.073 | 91.344 | 1.504 | | 1200 |
| 4.000 | 8 | 93.188 | 91.538 | 1.425 | 93.073 | 91.346 | 1.502 | | 1050 |
| 2.004 | 9 | 93.073 | 91.269 | 1.504 | 92.722 | 90.922 | 1.500 | | 1200 |
| 2.005 | 10 | 92.722 | 90.922 | 1.500 | 92.512 | 90.712 | 1.500 | | 1050 |
| 5.000 | 11 | 93.694 | 91.819 | 1.500 | 93.517 | 91.642 | 1.500 | | 1350 |
| 6.000 | 12 | 93.606 | 91.881 | 1.500 | 93.517 | 91.758 | 1.534 | | 1050 |
| 5.001 | 13 | 93.517 | 91.533 | 1.534 | 93.370 | 91.359 | 1.561 | | 1350 |
| 7.000 | 14 | 93.393 | 91.743 | 1.500 | 93.370 | 91.518 | 1.702 | | 1200 |
| 5.002 | 15 | 93.370 | 91.218 | 1.702 | 93.376 | 91.136 | 1.789 | | 1350 |

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## Network Details

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 8.000 | 20.13 | 0.203 | 99.0 | 0.091 | 7.50 | 1 | 0.600 | o | 150 |
| 5.003 | 51.22 | 0.104 | 491.3 | 0.032 | 0.00 | 1 | 0.600 | o | 525 |
| 9.000 | 19.94 | 0.145 | 137.2 | 0.122 | 7.50 | 1 | 0.600 | o | 225 |
| 5.004 | 38.66 | 0.085 | 453.2 | 0.114 | 0.00 | 1 | 0.600 | o | 525 |
| 10.000 | 21.08 | 0.213 | 99.2 | 0.082 | 7.50 | 1 | 0.600 | o | 150 |
| 5.005 | 60.94 | 0.122 | 500.0 | 0.133 | 0.00 | 1 | 0.600 | o | 600 |
| 5.006 | 60.94 | 0.122 | 500.0 | 0.018 | 0.00 | 1 | 0.600 | o | 600 |
| 5.007 | 21.60 | 0.141 | 153.2 | 0.071 | 0.00 | 1 | 0.600 | o | 600 |
| 11.000 | 20.21 | 0.204 | 99.2 | 0.076 | 7.50 | 1 | 0.600 | o | 150 |
| 2.006 | 32.18 | 0.064 | 500.0 | 0.049 | 0.00 | 1 | 0.600 | o | 675 |
| 12.000 | 19.26 | 0.329 | 58.5 | 0.015 | 7.50 | 1 | 0.600 | o | 100 |
| 2.007 | 30.80 | 0.062 | 500.0 | 0.087 | 0.00 | 1 | 0.600 | o | 675 |
| 2.008 | 21.73 | 0.043 | 500.0 | 0.007 | 0.00 | 1 | 0.600 | o | 675 |
| 13.000 | 25.85 | 0.442 | 58.5 | 0.024 | 7.50 | 1 | 0.600 | o | 225 |
| 13.001 | 50.03 | 0.295 | 169.6 | 0.010 | 5.00 | 1 | 0.600 | o | 225 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 8.000 | 16 | 93.442 | 91.792 | 1.500 | 93.376 | 91.588 | 1.637 | | 1200 |
| 5.003 | 17 | 93.376 | 91.061 | 1.789 | 93.270 | 90.957 | 1.789 | | 1500 |
| 9.000 | 18 | 93.416 | 91.691 | 1.500 | 93.270 | 91.545 | 1.500 | | 1050 |
| 5.004 | 19 | 93.270 | 90.957 | 1.789 | 93.157 | 90.872 | 1.761 | | 1500 |
| 10.000 | 20 | 93.275 | 91.625 | 1.500 | 93.157 | 91.412 | 1.595 | | 1200 |
| 5.005 | 21 | 93.157 | 90.797 | 1.761 | 92.908 | 90.675 | 1.633 | | 1500 |
| 5.006 | 22 | 92.908 | 90.675 | 1.633 | 92.657 | 90.553 | 1.504 | | 1500 |
| 5.007 | 23 | 92.657 | 90.553 | 1.504 | 92.512 | 90.412 | 1.500 | | 1500 |
| 11.000 | 24 | 92.497 | 90.847 | 1.500 | 92.512 | 90.643 | 1.719 | | 1200 |
| 2.006 | 25 | 92.512 | 90.118 | 1.719 | 92.446 | 90.054 | 1.717 | | 1500 |
| 12.000 | 26 | 92.512 | 90.912 | 1.500 | 92.446 | 90.583 | 1.763 | | 1050 |
| 2.007 | 27 | 92.446 | 90.008 | 1.763 | 92.438 | 89.946 | 1.817 | | 1500 |
| 2.008 | 28 | 92.438 | 89.946 | 1.817 | 92.613 | 89.903 | 2.035 | | 1500 |
| 13.000 | 29 | 93.945 | 92.345 | 1.375 | 93.856 | 91.903 | 1.728 | | 1050 |
| 13.001 | 30 | 93.856 | 91.903 | 1.728 | 93.573 | 91.608 | 1.740 | | 1200 |

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## Network Details

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 13.002 | 20.36 | 0.120 | 169.6 | 0.116 | 5.00 | 1 | 0.600 | o | 225 |
| 14.000 | 23.35 | 0.399 | 58.5 | 0.023 | 7.50 | 1 | 0.600 | o | 225 |
| 14.001 | 25.02 | 0.172 | 145.4 | 0.220 | 5.00 | 1 | 0.600 | o | 225 |
| 13.003 | 54.84 | 0.171 | 321.0 | 0.128 | 0.00 | 1 | 0.600 | o | 375 |
| 15.000 | 19.86 | 0.200 | 99.2 | 0.071 | 7.50 | 1 | 0.600 | o | 150 |
| 15.001 | 59.07 | 0.382 | 154.4 | 0.166 | 0.00 | 1 | 0.600 | o | 225 |
| 15.002 | 24.45 | 0.101 | 241.5 | 0.087 | 0.00 | 1 | 0.600 | o | 300 |
| 13.004 | 31.32 | 0.078 | 400.8 | 0.036 | 0.00 | 1 | 0.600 | o | 450 |
| 16.000 | 24.54 | 0.164 | 149.6 | 0.098 | 7.50 | 1 | 0.600 | o | 225 |
| 13.005 | 70.38 | 0.187 | 377.3 | 0.018 | 0.00 | 1 | 0.600 | o | 450 |
| 17.000 | 20.84 | 0.149 | 139.9 | 0.092 | 7.50 | 1 | 0.600 | o | 225 |
| 13.006 | 57.13 | 0.116 | 491.3 | 0.068 | 0.00 | 1 | 0.600 | o | 525 |
| 13.007 | 30.15 | 0.061 | 491.4 | 0.066 | 0.00 | 1 | 0.600 | o | 525 |
| 13.008 | 20.74 | 0.042 | 491.3 | 0.128 | 0.00 | 1 | 0.600 | o | 525 |
| 2.009 | 35.13 | 0.070 | 499.9 | 0.006 | 0.00 | 1 | 0.600 | o | 750 |
| 18.000 | 18.26 | 0.109 | 168.2 | 0.146 | 7.50 | 1 | 0.600 | o | 225 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 13.002 | 31 | 93.573 | 91.608 | 1.740 | 93.536 | 91.488 | 1.823 | | 1200 |
| 14.000 | 32 | 93.820 | 92.220 | 1.375 | 93.780 | 91.820 | 1.735 | | 1050 |
| 14.001 | 33 | 93.780 | 91.820 | 1.735 | 93.536 | 91.648 | 1.662 | | 1200 |
| 13.003 | 34 | 93.536 | 91.338 | 1.823 | 93.557 | 91.167 | 2.015 | | 1350 |
| 15.000 | 35 | 94.176 | 92.526 | 1.500 | 94.143 | 92.326 | 1.668 | | 1200 |
| 15.001 | 36 | 94.143 | 92.251 | 1.668 | 93.818 | 91.868 | 1.724 | | 1200 |
| 15.002 | 37 | 93.818 | 91.793 | 1.724 | 93.557 | 91.692 | 1.565 | | 1200 |
| 13.004 | 38 | 93.557 | 91.092 | 2.015 | 93.463 | 91.014 | 1.999 | | 1350 |
| 16.000 | 39 | 93.658 | 92.008 | 1.425 | 93.463 | 91.844 | 1.394 | | 1050 |
| 13.005 | 40 | 93.463 | 91.014 | 1.999 | 93.210 | 90.827 | 1.932 | | 1350 |
| 17.000 | 41 | 93.396 | 91.746 | 1.425 | 93.210 | 91.597 | 1.387 | | 1050 |
| 13.006 | 42 | 93.210 | 90.752 | 1.932 | 92.724 | 90.636 | 1.563 | | 1500 |
| 13.007 | 43 | 92.724 | 90.636 | 1.563 | 92.668 | 90.575 | 1.569 | | 1500 |
| 13.008 | 44 | 92.668 | 90.575 | 1.569 | 92.613 | 90.532 | 1.555 | | 1500 |
| 2.009 | 45 | 92.613 | 89.828 | 2.035 | 92.956 | 89.758 | 2.448 | | 1800 |
| 18.000 | 46 | 92.962 | 91.237 | 1.500 | 92.956 | 91.129 | 1.602 | | 1050 |

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## Network Details

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 2.010 | 14.60 | 0.029 | 499.9 | 0.037 | 0.00 | 1 | 0.600 | o | 825 |
| 2.011 | 29.94 | 0.060 | 499.9 | 0.000 | 0.00 | 1 | 0.600 | o | 825 |
| 2.012 | 30.14 | 0.060 | 500.0 | 0.071 | 0.00 | 1 | 0.600 | o | 825 |
| 2.013 | 37.62 | 0.075 | 500.0 | 0.047 | 0.00 | 1 | 0.600 | o | 825 |
| 19.000 | 17.52 | 0.105 | 167.7 | 0.210 | 7.50 | 1 | 0.600 | o | 225 |
| 2.014 | 37.44 | 0.075 | 500.0 | 0.054 | 0.00 | 1 | 0.600 | o | 825 |
| 2.015 | 22.82 | 0.046 | 499.9 | 0.089 | 0.00 | 1 | 0.600 | o | 825 |
| 2.016 | 31.99 | 0.064 | 500.1 | 0.046 | 0.00 | 1 | 0.600 | o | 825 |
| 2.017 | 38.81 | 0.078 | 499.9 | 0.015 | 0.00 | 1 | 0.600 | o | 825 |
| 2.018 | 17.98 | 0.036 | 500.1 | 0.008 | 5.00 | 1 | 0.600 | o | 825 |
| 1.002 | 29.01 | 0.058 | 500.1 | 0.063 | 0.00 | 1 | 0.600 | o | 825 |
| 1.003 | 46.92 | 0.094 | 500.0 | 0.149 | 0.00 | 1 | 0.600 | o | 825 |
| 20.000 | 24.77 | 0.148 | 167.9 | 0.184 | 7.50 | 1 | 0.600 | o | 225 |
| 21.000 | 19.92 | 0.118 | 168.4 | 0.117 | 7.50 | 1 | 0.600 | o | 225 |
| 20.001 | 59.96 | 0.187 | 321.0 | 0.180 | 0.00 | 1 | 0.600 | o | 375 |
| 20.002 | 20.02 | 0.066 | 302.1 | 0.168 | 0.00 | 1 | 0.600 | o | 375 |
| 22.000 | 29.77 | 0.177 | 168.2 | 0.153 | 7.50 | 1 | 0.600 | o | 225 |
| 22.001 | 45.67 | 0.300 | 152.0 | 0.084 | 0.00 | 1 | 0.600 | o | 225 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 2.010 | 47 | 92.956 | 89.683 | 2.448 | 92.990 | 89.653 | 2.512 | | 1800 |
| 2.011 | 48 | 92.990 | 89.653 | 2.512 | 93.186 | 89.594 | 2.768 | | 1800 |
| 2.012 | 49 | 93.186 | 89.594 | 2.768 | 93.321 | 89.533 | 2.962 | | 1800 |
| 2.013 | 50 | 93.321 | 89.533 | 2.962 | 93.635 | 89.458 | 3.352 | | 1800 |
| 19.000 | 51 | 93.537 | 91.812 | 1.500 | 93.635 | 91.707 | 1.703 | | 1050 |
| 2.014 | 52 | 93.635 | 89.458 | 3.352 | 93.803 | 89.383 | 3.594 | | 1800 |
| 2.015 | 53 | 93.803 | 89.383 | 3.594 | 93.948 | 89.337 | 3.785 | | 1800 |
| 2.016 | 54 | 93.948 | 89.337 | 3.785 | 94.035 | 89.274 | 3.936 | | 1800 |
| 2.017 | 55 | 94.035 | 89.274 | 3.936 | 94.081 | 89.196 | 4.060 | | 1800 |
| 2.018 | 56 | 94.081 | 89.196 | 4.060 | 94.133 | 89.160 | 4.148 | | 1800 |
| 1.002 | 57 | 94.133 | 89.160 | 4.148 | 94.122 | 89.102 | 4.195 | | 1800 |
| 1.003 | 58 | 94.122 | 89.102 | 4.195 | 93.913 | 89.008 | 4.080 | | 1800 |
| 20.000 | 59 | 94.025 | 92.300 | 1.500 | 93.975 | 92.153 | 1.597 | | 1050 |
| 21.000 | 60 | 93.929 | 92.204 | 1.500 | 93.975 | 92.086 | 1.664 | | 1050 |
| 20.001 | 61 | 93.975 | 91.936 | 1.664 | 93.958 | 91.749 | 1.834 | | 1350 |
| 20.002 | 62 | 93.958 | 91.749 | 1.834 | 93.973 | 91.683 | 1.916 | | 1350 |
| 22.000 | 63 | 93.595 | 91.870 | 1.500 | 93.430 | 91.693 | 1.511 | | 1050 |
| 22.001 | 64 | 93.430 | 91.693 | 1.511 | 93.360 | 91.393 | 1.742 | | 1200 |

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## Network Details

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 22.002 | 77.86 | 0.322 | 241.6 | 0.089 | 0.00 | 1 | 0.600 | o | 300 |
| 23.000 | 19.90 | 0.181 | 109.9 | 0.068 | 7.50 | 1 | 0.600 | o | 225 |
| 22.003 | 65.26 | 0.324 | 201.4 | 0.066 | 0.00 | 1 | 0.600 | o | 300 |
| 24.000 | 19.09 | 0.113 | 168.4 | 0.125 | 7.50 | 1 | 0.600 | o | 225 |
| 22.004 | 20.78 | 0.065 | 320.5 | 0.048 | 0.00 | 1 | 0.600 | o | 375 |
| 25.000 | 21.49 | 0.215 | 100.0 | 0.057 | 7.50 | 1 | 0.600 | o | 225 |
| 25.001 | 66.16 | 0.392 | 168.9 | 0.013 | 0.00 | 1 | 0.600 | o | 225 |
| 25.002 | 45.79 | 0.271 | 168.9 | 0.059 | 0.00 | 1 | 0.600 | o | 225 |
| 20.003 | 51.79 | 0.122 | 425.9 | 0.048 | 0.00 | 1 | 0.600 | o | 525 |
| 20.004 | 33.54 | 0.082 | 409.0 | 0.071 | 0.00 | 1 | 0.600 | o | 525 |
| 26.000 | 54.98 | 1.100 | 50.0 | 0.014 | 7.50 | 1 | 0.600 | o | 150 |
| 26.001 | 25.22 | 0.251 | 100.3 | 0.000 | 0.00 | 1 | 0.600 | o | 150 |
| 27.000 | 17.95 | 0.107 | 167.9 | 0.183 | 7.50 | 1 | 0.600 | o | 225 |
| 26.002 | 52.28 | 0.359 | 145.8 | 0.045 | 0.00 | 1 | 0.600 | o | 225 |
| 28.000 | 18.87 | 0.126 | 149.7 | 0.068 | 7.50 | 1 | 0.600 | o | 225 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 22.002 | 65 | 93.360 | 91.318 | 1.742 | 93.601 | 90.996 | 2.305 | | 1200 |
| 23.000 | 66 | 93.591 | 91.941 | 1.425 | 93.601 | 91.760 | 1.616 | | 1050 |
| 22.003 | 67 | 93.601 | 90.996 | 2.305 | 93.852 | 90.672 | 2.880 | | 1200 |
| 24.000 | 68 | 93.852 | 92.127 | 1.500 | 93.852 | 92.014 | 1.613 | | 1050 |
| 22.004 | 69 | 93.852 | 90.597 | 2.880 | 93.973 | 90.532 | 3.067 | | 1350 |
| 25.000 | 70 | 94.370 | 92.720 | 1.425 | 94.361 | 92.505 | 1.631 | | 1050 |
| 25.001 | 71 | 94.361 | 92.505 | 1.631 | 94.130 | 92.113 | 1.792 | | 1200 |
| 25.002 | 72 | 94.130 | 92.113 | 1.792 | 93.973 | 91.842 | 1.906 | | 1200 |
| 20.003 | 73 | 93.973 | 90.382 | 3.067 | 93.958 | 90.260 | 3.173 | | 1500 |
| 20.004 | 74 | 93.958 | 90.260 | 3.173 | 93.913 | 90.178 | 3.209 | | 1500 |
| 26.000 | 75 | 93.152 | 91.552 | 1.450 | 93.315 | 90.452 | 2.713 | | 1050 |
| 26.001 | 76 | 93.315 | 90.452 | 2.713 | 93.403 | 90.201 | 3.052 | | 1200 |
| 27.000 | 77 | 93.475 | 91.750 | 1.500 | 93.403 | 91.643 | 1.535 | | 1050 |
| 26.002 | 78 | 93.403 | 90.126 | 3.052 | 93.671 | 89.767 | 3.679 | | 1200 |
| 28.000 | 79 | 93.753 | 92.103 | 1.425 | 93.671 | 91.977 | 1.468 | | 1050 |

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Network Details

| PN | Length (m) | Fall (m) | Slope (1:x) | Area (ha) | T.E. (mins) | Rain Pro | k (mm) | Hyd Sect | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 26.003 | 45.09 | 0.187 | 241.2 | 0.093 | 0.00 | 1 | 0.600 | o | 300 |
| 1.004 | 33.36 | 0.067 | 500.0 | 0.190 | 0.00 | 1 | 0.600 | o | 900 |
| 1.005 | 17.51 | 0.035 | 500.0 | 0.000 | 0.00 | 1 | 0.600 | o | 900 |
| 1.006 | 61.14 | 0.071 | 866.4 | 0.000 | 0.00 | 1 | 0.600 | o | 300 |
| 1.007 | 17.28 | 0.020 | 865.7 | 0.000 | 0.00 | 1 | 0.600 | o | 300 |

| PN | USMH No. | US/CL (m) | US/IL (m) | US C.Depth (m) | DS/CL (m) | DS/IL (m) | DS C.Depth (m) | Ctrl No. | US/MH (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 26.003 | 80 | 93.671 | 89.692 | 3.679 | 93.913 | 89.505 | 4.108 | | 1200 |
| 1.004 | 81 | 93.913 | 88.905 | 4.108 | 93.896 | 88.838 | 4.158 | | 1800 |
| 1.005 | 82 | 93.896 | 88.838 | 4.158 | 91.960 | 88.803 | 2.257 | | 1800 |
| 1.006 | 83 | 91.960 | 88.728 | 2.932 | 91.960 | 88.658 | 3.002 | | 1800 |
| 1.007 | 84 | 91.960 | 88.658 | 3.002 | 91.960 | 88.638 | 3.022 | 5 | 1800 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 1.000 | o | 225 | 1 | 93.876 | 92.276 | 1.375 | 1050 |
| 1.001 | o | 225 | 2 | 94.007 | 92.053 | 1.729 | 1200 |
| 2.000 | o | 225 | 3 | 94.135 | 92.485 | 1.425 | 1050 |
| 2.001 | o | 225 | 4 | 94.094 | 92.207 | 1.662 | 1200 |
| 3.000 | o | 225 | 5 | 94.099 | 92.449 | 1.425 | 1050 |
| 2.002 | o | 225 | 6 | 93.886 | 91.968 | 1.693 | 1200 |
| 2.003 | o | 225 | 7 | 93.641 | 91.730 | 1.687 | 1200 |
| 4.000 | o | 225 | 8 | 93.188 | 91.538 | 1.425 | 1050 |
| 2.004 | o | 300 | 9 | 93.073 | 91.269 | 1.504 | 1200 |
| 2.005 | o | 300 | 10 | 92.722 | 90.922 | 1.500 | 1050 |
| 5.000 | o | 375 | 11 | 93.694 | 91.819 | 1.500 | 1350 |
| 6.000 | o | 225 | 12 | 93.606 | 91.881 | 1.500 | 1050 |
| 5.001 | o | 450 | 13 | 93.517 | 91.533 | 1.534 | 1350 |
| 7.000 | o | 150 | 14 | 93.393 | 91.743 | 1.500 | 1200 |
| 5.002 | o | 450 | 15 | 93.370 | 91.218 | 1.702 | 1350 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 1.000 | 13.06 | 58.5 | 2 | 94.007 | 92.053 | 1.729 | 1200 |
| 1.001 | 31.94 | 166.9 | 57 | 94.133 | 91.861 | 2.047 | 1800 |
| 2.000 | 27.61 | 99.2 | 4 | 94.094 | 92.207 | 1.662 | 1200 |
| 2.001 | 40.19 | 168.4 | 6 | 93.886 | 91.968 | 1.693 | 1200 |
| 3.000 | 20.14 | 94.6 | 6 | 93.886 | 92.236 | 1.425 | 1200 |
| 2.002 | 39.99 | 167.7 | 7 | 93.641 | 91.730 | 1.687 | 1200 |
| 2.003 | 64.68 | 167.7 | 9 | 93.073 | 91.344 | 1.504 | 1200 |
| 4.000 | 19.05 | 99.2 | 9 | 93.073 | 91.346 | 1.502 | 1200 |
| 2.004 | 66.15 | 190.7 | 10 | 92.722 | 90.922 | 1.500 | 1050 |
| 2.005 | 18.40 | 87.4 | 25 | 92.512 | 90.712 | 1.500 | 1500 |
| 5.000 | 26.71 | 150.7 | 13 | 93.517 | 91.642 | 1.500 | 1350 |
| 6.000 | 20.71 | 168.4 | 13 | 93.517 | 91.758 | 1.534 | 1350 |
| 5.001 | 69.59 | 400.8 | 15 | 93.370 | 91.359 | 1.561 | 1350 |
| 7.000 | 20.94 | 93.2 | 15 | 93.370 | 91.518 | 1.702 | 1350 |
| 5.002 | 28.57 | 347.9 | 17 | 93.376 | 91.136 | 1.789 | 1500 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 8.000 | o | 150 | 16 | 93.442 | 91.792 | 1.500 | 1200 |
| 5.003 | o | 525 | 17 | 93.376 | 91.061 | 1.789 | 1500 |
| 9.000 | o | 225 | 18 | 93.416 | 91.691 | 1.500 | 1050 |
| 5.004 | o | 525 | 19 | 93.270 | 90.957 | 1.789 | 1500 |
| 10.000 | o | 150 | 20 | 93.275 | 91.625 | 1.500 | 1200 |
| 5.005 | o | 600 | 21 | 93.157 | 90.797 | 1.761 | 1500 |
| 5.006 | o | 600 | 22 | 92.908 | 90.675 | 1.633 | 1500 |
| 5.007 | o | 600 | 23 | 92.657 | 90.553 | 1.504 | 1500 |
| 11.000 | o | 150 | 24 | 92.497 | 90.847 | 1.500 | 1200 |
| 2.006 | o | 675 | 25 | 92.512 | 90.118 | 1.719 | 1500 |
| 12.000 | o | 100 | 26 | 92.512 | 90.912 | 1.500 | 1050 |
| 2.007 | o | 675 | 27 | 92.446 | 90.008 | 1.763 | 1500 |
| 2.008 | o | 675 | 28 | 92.438 | 89.946 | 1.817 | 1500 |
| 13.000 | o | 225 | 29 | 93.945 | 92.345 | 1.375 | 1050 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 8.000 | 20.13 | 99.0 | 17 | 93.376 | 91.588 | 1.637 | 1500 |
| 5.003 | 51.22 | 491.3 | 19 | 93.270 | 90.957 | 1.789 | 1500 |
| 9.000 | 19.94 | 137.2 | 19 | 93.270 | 91.545 | 1.500 | 1500 |
| 5.004 | 38.66 | 453.2 | 21 | 93.157 | 90.872 | 1.761 | 1500 |
| 10.000 | 21.08 | 99.2 | 21 | 93.157 | 91.412 | 1.595 | 1500 |
| 5.005 | 60.94 | 500.0 | 22 | 92.908 | 90.675 | 1.633 | 1500 |
| 5.006 | 60.94 | 500.0 | 23 | 92.657 | 90.553 | 1.504 | 1500 |
| 5.007 | 21.60 | 153.2 | 25 | 92.512 | 90.412 | 1.500 | 1500 |
| 11.000 | 20.21 | 99.2 | 25 | 92.512 | 90.643 | 1.719 | 1500 |
| 2.006 | 32.18 | 500.0 | 27 | 92.446 | 90.054 | 1.717 | 1500 |
| 12.000 | 19.26 | 58.5 | 27 | 92.446 | 90.583 | 1.763 | 1500 |
| 2.007 | 30.80 | 500.0 | 28 | 92.438 | 89.946 | 1.817 | 1500 |
| 2.008 | 21.73 | 500.0 | 45 | 92.613 | 89.903 | 2.035 | 1800 |
| 13.000 | 25.85 | 58.5 | 30 | 93.856 | 91.903 | 1.728 | 1200 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 13.001 | o | 225 | 30 | 93.856 | 91.903 | 1.728 | 1200 |
| 13.002 | o | 225 | 31 | 93.573 | 91.608 | 1.740 | 1200 |
| 14.000 | o | 225 | 32 | 93.820 | 92.220 | 1.375 | 1050 |
| 14.001 | o | 225 | 33 | 93.780 | 91.820 | 1.735 | 1200 |
| 13.003 | o | 375 | 34 | 93.536 | 91.338 | 1.823 | 1350 |
| 15.000 | o | 150 | 35 | 94.176 | 92.526 | 1.500 | 1200 |
| 15.001 | o | 225 | 36 | 94.143 | 92.251 | 1.668 | 1200 |
| 15.002 | o | 300 | 37 | 93.818 | 91.793 | 1.724 | 1200 |
| 13.004 | o | 450 | 38 | 93.557 | 91.092 | 2.015 | 1350 |
| 16.000 | o | 225 | 39 | 93.658 | 92.008 | 1.425 | 1050 |
| 13.005 | o | 450 | 40 | 93.463 | 91.014 | 1.999 | 1350 |
| 17.000 | o | 225 | 41 | 93.396 | 91.746 | 1.425 | 1050 |
| 13.006 | o | 525 | 42 | 93.210 | 90.752 | 1.932 | 1500 |
| 13.007 | o | 525 | 43 | 92.724 | 90.636 | 1.563 | 1500 |
| 13.008 | o | 525 | 44 | 92.668 | 90.575 | 1.569 | 1500 |
| 2.009 | o | 750 | 45 | 92.613 | 89.828 | 2.035 | 1800 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 13.001 | 50.03 | 169.6 | 31 | 93.573 | 91.608 | 1.740 | 1200 |
| 13.002 | 20.36 | 169.6 | 34 | 93.536 | 91.488 | 1.823 | 1350 |
| 14.000 | 23.35 | 58.5 | 33 | 93.780 | 91.820 | 1.735 | 1200 |
| 14.001 | 25.02 | 145.4 | 34 | 93.536 | 91.648 | 1.662 | 1350 |
| 13.003 | 54.84 | 321.0 | 38 | 93.557 | 91.167 | 2.015 | 1350 |
| 15.000 | 19.86 | 99.2 | 36 | 94.143 | 92.326 | 1.668 | 1200 |
| 15.001 | 59.07 | 154.4 | 37 | 93.818 | 91.868 | 1.724 | 1200 |
| 15.002 | 24.45 | 241.5 | 38 | 93.557 | 91.692 | 1.565 | 1350 |
| 13.004 | 31.32 | 400.8 | 40 | 93.463 | 91.014 | 1.999 | 1350 |
| 16.000 | 24.54 | 149.6 | 40 | 93.463 | 91.844 | 1.394 | 1350 |
| 13.005 | 70.38 | 377.3 | 42 | 93.210 | 90.827 | 1.932 | 1500 |
| 17.000 | 20.84 | 139.9 | 42 | 93.210 | 91.597 | 1.387 | 1500 |
| 13.006 | 57.13 | 491.3 | 43 | 92.724 | 90.636 | 1.563 | 1500 |
| 13.007 | 30.15 | 491.4 | 44 | 92.668 | 90.575 | 1.569 | 1500 |
| 13.008 | 20.74 | 491.3 | 45 | 92.613 | 90.532 | 1.555 | 1800 |
| 2.009 | 35.13 | 499.9 | 47 | 92.956 | 89.758 | 2.448 | 1800 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 18.000 | o | 225 | 46 | 92.962 | 91.237 | 1.500 | 1050 |
| 2.010 | o | 825 | 47 | 92.956 | 89.683 | 2.448 | 1800 |
| 2.011 | o | 825 | 48 | 92.990 | 89.653 | 2.512 | 1800 |
| 2.012 | o | 825 | 49 | 93.186 | 89.594 | 2.768 | 1800 |
| 2.013 | o | 825 | 50 | 93.321 | 89.533 | 2.962 | 1800 |
| 19.000 | o | 225 | 51 | 93.537 | 91.812 | 1.500 | 1050 |
| 2.014 | o | 825 | 52 | 93.635 | 89.458 | 3.352 | 1800 |
| 2.015 | o | 825 | 53 | 93.803 | 89.383 | 3.594 | 1800 |
| 2.016 | o | 825 | 54 | 93.948 | 89.337 | 3.785 | 1800 |
| 2.017 | o | 825 | 55 | 94.035 | 89.274 | 3.936 | 1800 |
| 2.018 | o | 825 | 56 | 94.081 | 89.196 | 4.060 | 1800 |
| 1.002 | o | 825 | 57 | 94.133 | 89.160 | 4.148 | 1800 |
| 1.003 | o | 825 | 58 | 94.122 | 89.102 | 4.195 | 1800 |
| 20.000 | o | 225 | 59 | 94.025 | 92.300 | 1.500 | 1050 |
| 21.000 | o | 225 | 60 | 93.929 | 92.204 | 1.500 | 1050 |
| 20.001 | o | 375 | 61 | 93.975 | 91.936 | 1.664 | 1350 |
| 20.002 | o | 375 | 62 | 93.958 | 91.749 | 1.834 | 1350 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 18.000 | 18.26 | 168.2 | 47 | 92.956 | 91.129 | 1.602 | 1800 |
| 2.010 | 14.60 | 499.9 | 48 | 92.990 | 89.653 | 2.512 | 1800 |
| 2.011 | 29.94 | 499.9 | 49 | 93.186 | 89.594 | 2.768 | 1800 |
| 2.012 | 30.14 | 500.0 | 50 | 93.321 | 89.533 | 2.962 | 1800 |
| 2.013 | 37.62 | 500.0 | 52 | 93.635 | 89.458 | 3.352 | 1800 |
| 19.000 | 17.52 | 167.7 | 52 | 93.635 | 91.707 | 1.703 | 1800 |
| 2.014 | 37.44 | 500.0 | 53 | 93.803 | 89.383 | 3.594 | 1800 |
| 2.015 | 22.82 | 499.9 | 54 | 93.948 | 89.337 | 3.785 | 1800 |
| 2.016 | 31.99 | 500.1 | 55 | 94.035 | 89.274 | 3.936 | 1800 |
| 2.017 | 38.81 | 499.9 | 56 | 94.081 | 89.196 | 4.060 | 1800 |
| 2.018 | 17.98 | 500.1 | 57 | 94.133 | 89.160 | 4.148 | 1800 |
| 1.002 | 29.01 | 500.1 | 58 | 94.122 | 89.102 | 4.195 | 1800 |
| 1.003 | 46.92 | 500.0 | 81 | 93.913 | 89.008 | 4.080 | 1800 |
| 20.000 | 24.77 | 167.9 | 61 | 93.975 | 92.153 | 1.597 | 1350 |
| 21.000 | 19.92 | 168.4 | 61 | 93.975 | 92.086 | 1.664 | 1350 |
| 20.001 | 59.96 | 321.0 | 62 | 93.958 | 91.749 | 1.834 | 1350 |
| 20.002 | 20.02 | 302.1 | 73 | 93.973 | 91.683 | 1.916 | 1500 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 22.000 | o | 225 | 63 | 93.595 | 91.870 | 1.500 | 1050 |
| 22.001 | o | 225 | 64 | 93.430 | 91.693 | 1.511 | 1200 |
| 22.002 | o | 300 | 65 | 93.360 | 91.318 | 1.742 | 1200 |
| 23.000 | o | 225 | 66 | 93.591 | 91.941 | 1.425 | 1050 |
| 22.003 | o | 300 | 67 | 93.601 | 90.996 | 2.305 | 1200 |
| 24.000 | o | 225 | 68 | 93.852 | 92.127 | 1.500 | 1050 |
| 22.004 | o | 375 | 69 | 93.852 | 90.597 | 2.880 | 1350 |
| 25.000 | o | 225 | 70 | 94.370 | 92.720 | 1.425 | 1050 |
| 25.001 | o | 225 | 71 | 94.361 | 92.505 | 1.631 | 1200 |
| 25.002 | o | 225 | 72 | 94.130 | 92.113 | 1.792 | 1200 |
| 20.003 | o | 525 | 73 | 93.973 | 90.382 | 3.067 | 1500 |
| 20.004 | o | 525 | 74 | 93.958 | 90.260 | 3.173 | 1500 |
| 26.000 | o | 150 | 75 | 93.152 | 91.552 | 1.450 | 1050 |
| 26.001 | o | 150 | 76 | 93.315 | 90.452 | 2.713 | 1200 |
| 27.000 | o | 225 | 77 | 93.475 | 91.750 | 1.500 | 1050 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 22.000 | 29.77 | 168.2 | 64 | 93.430 | 91.693 | 1.511 | 1200 |
| 22.001 | 45.67 | 152.0 | 65 | 93.360 | 91.393 | 1.742 | 1200 |
| 22.002 | 77.86 | 241.6 | 67 | 93.601 | 90.996 | 2.305 | 1200 |
| 23.000 | 19.90 | 109.9 | 67 | 93.601 | 91.760 | 1.616 | 1200 |
| 22.003 | 65.26 | 201.4 | 69 | 93.852 | 90.672 | 2.880 | 1350 |
| 24.000 | 19.09 | 168.4 | 69 | 93.852 | 92.014 | 1.613 | 1350 |
| 22.004 | 20.78 | 320.5 | 73 | 93.973 | 90.532 | 3.067 | 1500 |
| 25.000 | 21.49 | 100.0 | 71 | 94.361 | 92.505 | 1.631 | 1200 |
| 25.001 | 66.16 | 168.9 | 72 | 94.130 | 92.113 | 1.792 | 1200 |
| 25.002 | 45.79 | 168.9 | 73 | 93.973 | 91.842 | 1.906 | 1500 |
| 20.003 | 51.79 | 425.9 | 74 | 93.958 | 90.260 | 3.173 | 1500 |
| 20.004 | 33.54 | 409.0 | 81 | 93.913 | 90.178 | 3.209 | 1800 |
| 26.000 | 54.98 | 50.0 | 76 | 93.315 | 90.452 | 2.713 | 1200 |
| 26.001 | 25.22 | 100.3 | 78 | 93.403 | 90.201 | 3.052 | 1200 |
| 27.000 | 17.95 | 167.9 | 78 | 93.403 | 91.643 | 1.535 | 1200 |

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## PIPELINE SCHEDULES

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 26.002 | o | 225 | 78 | 93.403 | 90.126 | 3.052 | 1200 |
| 28.000 | o | 225 | 79 | 93.753 | 92.103 | 1.425 | 1050 |
| 26.003 | o | 300 | 80 | 93.671 | 89.692 | 3.679 | 1200 |
| 1.004 | o | 900 | 81 | 93.913 | 88.905 | 4.108 | 1800 |
| 1.005 | o | 900 | 82 | 93.896 | 88.838 | 4.158 | 1800 |
| 1.006 | o | 300 | 83 | 91.960 | 88.728 | 2.932 | 1800 |
| 1.007 | o | 300 | 84 | 91.960 | 88.658 | 3.002 | 1800 |

### Downstream Manhole

| PN | Length (m) | Slope (1:x) | MH No. | C.Level (m) | I.Level (m) | C.Depth (m) | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|
| 26.002 | 52.28 | 145.8 | 80 | 93.671 | 89.767 | 3.679 | 1200 |
| 28.000 | 18.87 | 149.7 | 80 | 93.671 | 91.977 | 1.468 | 1200 |
| 26.003 | 45.09 | 241.2 | 81 | 93.913 | 89.505 | 4.108 | 1800 |
| 1.004 | 33.36 | 500.0 | 82 | 93.896 | 88.838 | 4.158 | 1800 |
| 1.005 | 17.51 | 500.0 | 83 | 91.960 | 88.803 | 2.257 | 1800 |
| 1.006 | 61.14 | 866.4 | 84 | 91.960 | 88.658 | 3.002 | 1800 |
| 1.007 | 17.28 | 865.7 | 83 | 91.960 | 88.638 | 3.022 | 1200 |

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## MANHOLE SCHEDULES

| M/Hole Number | Cover Level (m) | M/Hole Depth (m) | M/Hole Diam.,L*W (mm) | Pipes Out PN | Pipes Out IL. (m) | Pipes Out D (mm) | Pipes In PN | Pipes In IL. (m) | Pipes In D (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 93.876 | 1.600 | 1050 | 1.000 | 92.276 | 225 | | | |
| 2 | 94.007 | 1.954 | 1200 | 1.001 | 92.053 | 225 | 1.000 | 92.053 | 225 |
| 3 | 94.135 | 1.650 | 1050 | 2.000 | 92.485 | 225 | | | |
| 4 | 94.094 | 1.887 | 1200 | 2.001 | 92.207 | 225 | 2.000 | 92.207 | 225 |
| 5 | 94.099 | 1.650 | 1050 | 3.000 | 92.449 | 225 | | | |
| 6 | 93.886 | 1.918 | 1200 | 2.002 | 91.968 | 225 | 2.001 | 91.968 | 225 |
| | | | | | | | 3.000 | 92.236 | 225 |
| 7 | 93.641 | 1.912 | 1200 | 2.003 | 91.730 | 225 | 2.002 | 91.730 | 225 |
| 8 | 93.188 | 1.650 | 1050 | 4.000 | 91.538 | 225 | | | |
| 9 | 93.073 | 1.804 | 1200 | 2.004 | 91.269 | 300 | 2.003 | 91.344 | 225 |
| | | | | | | | 4.000 | 91.346 | 225 |
| 10 | 92.722 | 1.800 | 1050 | 2.005 | 90.922 | 300 | 2.004 | 90.922 | 300 |
| 11 | 93.694 | 1.875 | 1350 | 5.000 | 91.819 | 375 | | | |
| 12 | 93.606 | 1.725 | 1050 | 6.000 | 91.881 | 225 | | | |
| 13 | 93.517 | 1.984 | 1350 | 5.001 | 91.533 | 450 | 5.000 | 91.642 | 375 |
| | | | | | | | 6.000 | 91.758 | 225 |
| 14 | 93.393 | 1.650 | 1200 | 7.000 | 91.743 | 150 | | | |
| 15 | 93.370 | 2.152 | 1350 | 5.002 | 91.218 | 450 | 5.001 | 91.359 | 450 |
| | | | | | | | 7.000 | 91.518 | 150 |
| 16 | 93.442 | 1.650 | 1200 | 8.000 | 91.792 | 150 | | | |
| 17 | 93.376 | 2.314 | 1500 | 5.003 | 91.061 | 525 | 5.002 | 91.136 | 450 |
| | | | | | | | 8.000 | 91.588 | 150 |
| 18 | 93.416 | 1.725 | 1050 | 9.000 | 91.691 | 225 | | | |
| 19 | 93.270 | 2.314 | 1500 | 5.004 | 90.957 | 525 | 5.003 | 90.957 | 525 |
| | | | | | | | 9.000 | 91.545 | 225 |
| 20 | 93.275 | 1.650 | 1200 | 10.000 | 91.625 | 150 | | | |
| 21 | 93.157 | 2.361 | 1500 | 5.005 | 90.797 | 600 | 5.004 | 90.872 | 525 |
| | | | | | | | 10.000 | 91.412 | 150 |
| 22 | 92.908 | 2.233 | 1500 | 5.006 | 90.675 | 600 | 5.005 | 90.675 | 600 |
| 23 | 92.657 | 2.104 | 1500 | 5.007 | 90.553 | 600 | 5.006 | 90.553 | 600 |
| 24 | 92.497 | 1.650 | 1200 | 11.000 | 90.847 | 150 | | | |
| 25 | 92.512 | 2.394 | 1500 | 2.006 | 90.118 | 675 | 2.005 | 90.712 | 300 |
| | | | | | | | 5.007 | 90.412 | 600 |
| | | | | | | | 11.000 | 90.643 | 150 |

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## MANHOLE SCHEDULES

| M/Hole Number | Cover Level (m) | M/Hole Depth (m) | M/Hole Diam.,L*W (mm) | Pipes Out PN | Pipes Out IL. (m) | Pipes Out D (mm) | Pipes In PN | Pipes In IL. (m) | Pipes In D (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 92.512 | 1.600 | 1050 | 12.000 | 90.912 | 100 | | | |
| 27 | 92.446 | 2.438 | 1500 | 2.007 | 90.008 | 675 | 2.006 | 90.054 | 675 |
| | | | | | | | 12.000 | 90.583 | 100 |
| 28 | 92.438 | 2.492 | 1500 | 2.008 | 89.946 | 675 | 2.007 | 89.946 | 675 |
| 29 | 93.945 | 1.600 | 1050 | 13.000 | 92.345 | 225 | | | |
| 30 | 93.856 | 1.953 | 1200 | 13.001 | 91.903 | 225 | 13.000 | 91.903 | 225 |
| 31 | 93.573 | 1.965 | 1200 | 13.002 | 91.608 | 225 | 13.001 | 91.608 | 225 |
| 32 | 93.820 | 1.600 | 1050 | 14.000 | 92.220 | 225 | | | |
| 33 | 93.780 | 1.960 | 1200 | 14.001 | 91.820 | 225 | 14.000 | 91.820 | 225 |
| 34 | 93.536 | 2.198 | 1350 | 13.003 | 91.338 | 375 | 13.002 | 91.488 | 225 |
| | | | | | | | 14.001 | 91.648 | 225 |
| 35 | 94.176 | 1.650 | 1200 | 15.000 | 92.526 | 150 | | | |
| 36 | 94.143 | 1.893 | 1200 | 15.001 | 92.251 | 225 | 15.000 | 92.326 | 150 |
| 37 | 93.818 | 2.024 | 1200 | 15.002 | 91.793 | 300 | 15.001 | 91.868 | 225 |
| 38 | 93.557 | 2.465 | 1350 | 13.004 | 91.092 | 450 | 13.003 | 91.167 | 375 |
| | | | | | | | 15.002 | 91.692 | 300 |
| 39 | 93.658 | 1.650 | 1050 | 16.000 | 92.008 | 225 | | | |
| 40 | 93.463 | 2.449 | 1350 | 13.005 | 91.014 | 450 | 13.004 | 91.014 | 450 |
| | | | | | | | 16.000 | 91.844 | 225 |
| 41 | 93.396 | 1.650 | 1050 | 17.000 | 91.746 | 225 | | | |
| 42 | 93.210 | 2.457 | 1500 | 13.006 | 90.752 | 525 | 13.005 | 90.827 | 450 |
| | | | | | | | 17.000 | 91.597 | 225 |
| 43 | 92.724 | 2.088 | 1500 | 13.007 | 90.636 | 525 | 13.006 | 90.636 | 525 |
| 44 | 92.668 | 2.094 | 1500 | 13.008 | 90.575 | 525 | 13.007 | 90.575 | 525 |
| 45 | 92.613 | 2.785 | 1800 | 2.009 | 89.828 | 750 | 2.008 | 89.903 | 675 |
| | | | | | | | 13.008 | 90.532 | 525 |
| 46 | 92.962 | 1.725 | 1050 | 18.000 | 91.237 | 225 | | | |
| 47 | 92.956 | 3.273 | 1800 | 2.010 | 89.683 | 825 | 2.009 | 89.758 | 750 |
| | | | | | | | 18.000 | 91.129 | 225 |
| 48 | 92.990 | 3.337 | 1800 | 2.011 | 89.653 | 825 | 2.010 | 89.653 | 825 |
| 49 | 93.186 | 3.593 | 1800 | 2.012 | 89.594 | 825 | 2.011 | 89.594 | 825 |
| 50 | 93.321 | 3.787 | 1800 | 2.013 | 89.533 | 825 | 2.012 | 89.533 | 825 |
| 51 | 93.537 | 1.725 | 1050 | 19.000 | 91.812 | 225 | | | |

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## MANHOLE SCHEDULES

| M/Hole Number | Cover Level (m) | M/Hole Depth (m) | M/Hole Diam.,L*W (mm) | Pipes Out PN | Pipes Out IL. (m) | Pipes Out D (mm) | Pipes In PN | Pipes In IL. (m) | Pipes In D (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 52 | 93.635 | 4.177 | 1800 | 2.014 | 89.458 | 825 | 2.013 | 89.458 | 825 |
| | | | | | | | 19.000 | 91.707 | 225 |
| 53 | 93.803 | 4.419 | 1800 | 2.015 | 89.383 | 825 | 2.014 | 89.383 | 825 |
| 54 | 93.948 | 4.610 | 1800 | 2.016 | 89.337 | 825 | 2.015 | 89.337 | 825 |
| 55 | 94.035 | 4.761 | 1800 | 2.017 | 89.274 | 825 | 2.016 | 89.274 | 825 |
| 56 | 94.081 | 4.885 | 1800 | 2.018 | 89.196 | 825 | 2.017 | 89.196 | 825 |
| 57 | 94.133 | 4.973 | 1800 | 1.002 | 89.160 | 825 | 1.001 | 91.861 | 225 |
| | | | | | | | 2.018 | 89.160 | 825 |
| 58 | 94.122 | 5.020 | 1800 | 1.003 | 89.102 | 825 | 1.002 | 89.102 | 825 |
| 59 | 94.025 | 1.725 | 1050 | 20.000 | 92.300 | 225 | | | |
| 60 | 93.929 | 1.725 | 1050 | 21.000 | 92.204 | 225 | | | |
| 61 | 93.975 | 2.039 | 1350 | 20.001 | 91.936 | 375 | 20.000 | 92.153 | 225 |
| | | | | | | | 21.000 | 92.086 | 225 |
| 62 | 93.958 | 2.209 | 1350 | 20.002 | 91.749 | 375 | 20.001 | 91.749 | 375 |
| 63 | 93.595 | 1.725 | 1050 | 22.000 | 91.870 | 225 | | | |
| 64 | 93.430 | 1.736 | 1200 | 22.001 | 91.693 | 225 | 22.000 | 91.693 | 225 |
| 65 | 93.360 | 2.042 | 1200 | 22.002 | 91.318 | 300 | 22.001 | 91.393 | 225 |
| 66 | 93.591 | 1.650 | 1050 | 23.000 | 91.941 | 225 | | | |
| 67 | 93.601 | 2.605 | 1200 | 22.003 | 90.996 | 300 | 22.002 | 90.996 | 300 |
| | | | | | | | 23.000 | 91.760 | 225 |
| 68 | 93.852 | 1.725 | 1050 | 24.000 | 92.127 | 225 | | | |
| 69 | 93.852 | 3.255 | 1350 | 22.004 | 90.597 | 375 | 22.003 | 90.672 | 300 |
| | | | | | | | 24.000 | 92.014 | 225 |
| 70 | 94.370 | 1.650 | 1050 | 25.000 | 92.720 | 225 | | | |
| 71 | 94.361 | 1.856 | 1200 | 25.001 | 92.505 | 225 | 25.000 | 92.505 | 225 |
| 72 | 94.130 | 2.017 | 1200 | 25.002 | 92.113 | 225 | 25.001 | 92.113 | 225 |
| 73 | 93.973 | 3.592 | 1500 | 20.003 | 90.382 | 525 | 20.002 | 91.683 | 375 |
| | | | | | | | 22.004 | 90.532 | 375 |
| | | | | | | | 25.002 | 91.842 | 225 |
| 74 | 93.958 | 3.698 | 1500 | 20.004 | 90.260 | 525 | 20.003 | 90.260 | 525 |
| 75 | 93.152 | 1.600 | 1050 | 26.000 | 91.552 | 150 | | | |
| 76 | 93.315 | 2.863 | 1200 | 26.001 | 90.452 | 150 | 26.000 | 90.452 | 150 |
| 77 | 93.475 | 1.725 | 1050 | 27.000 | 91.750 | 225 | | | |

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## MANHOLE SCHEDULES

| M/Hole Number | Cover Level (m) | M/Hole Depth (m) | M/Hole Diam.,L*W (mm) | Pipes Out PN | Pipes Out IL.(m) | Pipes Out D (mm) | Pipes In PN | Pipes In IL.(m) | Pipes In D (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 78 | 93.403 | 3.277 | 1200 | 26.002 | 90.126 | 225 | 26.001 | 90.201 | 150 |
| | | | | | | | 27.000 | 91.643 | 225 |
| 79 | 93.753 | 1.650 | 1050 | 28.000 | 92.103 | 225 | | | |
| 80 | 93.671 | 3.979 | 1200 | 26.003 | 89.692 | 300 | 26.002 | 89.767 | 225 |
| | | | | | | | 28.000 | 91.977 | 225 |
| 81 | 93.913 | 5.008 | 1800 | 1.004 | 88.905 | 900 | 1.003 | 89.008 | 825 |
| | | | | | | | 20.004 | 90.178 | 525 |
| | | | | | | | 26.003 | 89.505 | 300 |
| 82 | 93.896 | 5.058 | 1800 | 1.005 | 88.838 | 900 | 1.004 | 88.838 | 900 |
| 83 | 91.960 | 3.232 | 1800 | 1.006 | 88.728 | 300 | 1.005 | 88.803 | 900 |
| 84 | 91.960 | 3.302 | 1800 | 1.007 | 88.658 | 300 | 1.006 | 88.658 | 300 |
| 83 | 91.960 | 3.322 | 1200 | | OUTFALL | | 1.007 | 88.638 | 300 |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| | | | |
|---|---|---|---|
| Margin for Flood Risk warning (mm) | 0 | Inertia Status | OFF |
| DTS Status | ON | Analysis Time Step | Fine |
| DVD Status | ON | | |

| | |
|---|---|
| Profile(s) | Summer and Winter |
| Duration(s) (mins) | 15, 30, 60, 120, 240, 360, 480, 960, 1440, 2160, 2880, 4320 |
| Return Period(s) (years) | 1, 30, 100 |
| Climate Change (%) | 30, 30, 30 |

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 1.000 | 15 Winter | 100 | 30% | 1 | | | | |
| 1.001 | 15 Winter | 100 | 30% | 1 | | | | |
| 2.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Winter | | |
| 2.001 | 15 Summer | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 3.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.002 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 2.003 | 30 Summer | 100 | 30% | 1 | 30/15 Summer | 100/30 Summer | | |
| 4.000 | 30 Summer | 100 | 30% | 1 | 30/15 Summer | 100/30 Summer | | |
| 2.004 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 2.005 | 60 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 5.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Summer | | |
| 6.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Summer | | |
| 5.001 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | 30/30 Summer | | |
| 7.000 | 30 Winter | 100 | 30% | 1 | 1/15 Summer | 30/15 Summer | | |
| 5.002 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | 30/30 Winter | | |
| 8.000 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | 30/15 Winter | | |
| 5.003 | 15 Summer | 100 | 30% | 1 | 30/15 Summer | 100/30 Winter | | |
| 9.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 5.004 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 10.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| | 1.000 | 92.347 | -0.154 | 0.000 | 0.22 | 0.0 | 12.8 | O K |
| | 1.001 | 92.144 | -0.134 | 0.000 | 0.34 | 0.0 | 12.9 | O K |
| 7 | 2.000 | 94.143 | 1.433 | 8.103 | 0.68 | 0.0 | 32.8 | FLOOD |
| 4 | 2.001 | 94.094 | 1.662 | 0.161 | 0.91 | 0.0 | 34.5 | FLOOD |
| | 3.000 | 94.007 | 1.333 | 0.000 | 0.67 | 0.0 | 32.2 | SURCH'ED |
| 7 | 2.002 | 93.897 | 1.704 | 10.577 | 1.34 | 0.0 | 51.1 | FLOOD |
| 4 | 2.003 | 93.642 | 1.687 | 0.286 | 1.33 | 0.0 | 51.4 | FLOOD |
| 5 | 4.000 | 93.189 | 1.426 | 0.880 | 0.77 | 0.0 | 36.2 | FLOOD |
| 7 | 2.004 | 93.083 | 1.514 | 10.055 | 1.35 | 0.0 | 103.8 | FLOOD |
| 7 | 2.005 | 92.730 | 1.508 | 8.182 | 1.02 | 0.0 | 104.2 | FLOOD |
| 11 | 5.000 | 93.763 | 1.569 | 68.657 | 1.70 | 0.0 | 241.2 | FLOOD |
| 10 | 6.000 | 93.620 | 1.514 | 14.008 | 1.45 | 0.0 | 52.4 | FLOOD |
| 12 | 5.001 | 93.551 | 1.568 | 34.324 | 1.79 | 0.0 | 267.6 | FLOOD |
| 14 | 7.000 | 93.414 | 1.521 | 21.506 | 2.56 | 0.0 | 44.4 | FLOOD |
| 7 | 5.002 | 93.386 | 1.718 | 15.360 | 1.97 | 0.0 | 290.6 | FLOOD |
| 8 | 8.000 | 93.453 | 1.511 | 10.801 | 1.80 | 0.0 | 30.3 | FLOOD |
| | 5.003 | 93.339 | 1.753 | 0.000 | 1.72 | 0.0 | 333.6 | SURCH'ED |
| 4 | 9.000 | 93.420 | 1.504 | 4.296 | 1.38 | 0.0 | 55.4 | FLOOD |
| 6 | 5.004 | 93.276 | 1.794 | 5.533 | 1.90 | 0.0 | 372.5 | FLOOD |
| 6 | 10.000 | 93.282 | 1.507 | 6.716 | 1.93 | 0.0 | 32.5 | FLOOD |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 5.005 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 100/30 Summer | | |
| 5.006 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 5.007 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 11.000 | 60 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Summer | | |
| 2.006 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 12.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 2.007 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 2.008 | 30 Winter | 100 | 30% | 1 | 1/30 Winter | 30/30 Winter | | |
| 13.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 13.001 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 13.002 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Winter | | |
| 14.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 14.001 | 15 Winter | 100 | 30% | 1 | 1/15 Summer | 30/15 Summer | | |
| 13.003 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | 30/30 Winter | | |
| 15.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Summer | | |
| 15.001 | 15 Winter | 100 | 30% | 1 | 1/15 Summer | 30/15 Summer | | |
| 15.002 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 13.004 | 30 Winter | 100 | 30% | 1 | 1/15 Summer | 100/30 Summer | | |
| 16.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 100/30 Summer | | |
| 13.005 | 30 Summer | 100 | 30% | 1 | 1/15 Summer | 100/30 Summer | | |
| 17.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 13.006 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 13.007 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 30/30 Winter | | |
| 13.008 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.009 | 30 Winter | 100 | 30% | 1 | 1/30 Winter | | | |
| 18.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| 2 | 5.005 | 93.158 | 1.761 | 0.089 | 1.71 | 0.0 | 468.0 | FLOOD |
| 3 | 5.006 | 92.910 | 1.635 | 1.849 | 1.56 | 0.0 | 426.3 | FLOOD |
| 8 | 5.007 | 92.680 | 1.527 | 22.385 | 1.02 | 0.0 | 382.9 | FLOOD |
| 10 | 11.000 | 92.524 | 1.527 | 27.175 | 2.75 | 0.0 | 46.1 | FLOOD |
| 8 | 2.006 | 92.576 | 1.783 | 64.539 | 1.64 | 0.0 | 549.6 | FLOOD |
| 4 | 12.000 | 92.514 | 1.502 | 1.671 | 0.94 | 0.0 | 7.1 | FLOOD |
| 8 | 2.007 | 92.505 | 1.822 | 59.506 | 1.67 | 0.0 | 556.8 | FLOOD |
| 5 | 2.008 | 92.462 | 1.841 | 25.435 | 1.89 | 0.0 | 546.6 | FLOOD |
| | 13.000 | 93.710 | 1.140 | 0.000 | 0.24 | 0.0 | 14.9 | SURCH'ED |
| | 13.001 | 93.676 | 1.548 | 0.000 | 0.52 | 0.0 | 19.8 | SURCH'ED |
| 8 | 13.002 | 93.594 | 1.761 | 21.308 | 1.75 | 0.0 | 63.1 | FLOOD |
| 2 | 14.000 | 93.821 | 1.376 | 1.312 | 0.22 | 0.0 | 13.9 | FLOOD |
| 10 | 14.001 | 93.807 | 1.762 | 27.575 | 2.11 | 0.0 | 83.8 | FLOOD |
| 7 | 13.003 | 93.555 | 1.842 | 19.459 | 1.59 | 0.0 | 164.9 | FLOOD |
| 10 | 15.000 | 94.191 | 1.515 | 15.432 | 2.39 | 0.0 | 40.1 | FLOOD |
| 10 | 15.001 | 94.159 | 1.683 | 15.344 | 1.85 | 0.0 | 74.6 | FLOOD |
| | 15.002 | 93.785 | 1.692 | 0.000 | 1.70 | 0.0 | 108.1 | SURCH'ED |
| 2 | 13.004 | 93.558 | 2.016 | 0.928 | 2.04 | 0.0 | 283.7 | FLOOD |
| 3 | 16.000 | 93.659 | 1.426 | 0.695 | 1.40 | 0.0 | 54.8 | FLOOD |
| 2 | 13.005 | 93.463 | 1.999 | 0.155 | 2.00 | 0.0 | 309.0 | FLOOD |
| | 17.000 | 93.284 | 1.313 | 0.000 | 1.19 | 0.0 | 47.4 | SURCH'ED |
| | 13.006 | 93.063 | 1.786 | 0.000 | 1.74 | 0.0 | 342.4 | SURCH'ED |
| 6 | 13.007 | 92.742 | 1.581 | 18.119 | 1.90 | 0.0 | 346.7 | FLOOD |
| | 13.008 | 92.637 | 1.537 | 0.000 | 2.46 | 0.0 | 386.9 | SURCH'ED |
| | 2.009 | 92.488 | 1.910 | 0.000 | 1.80 | 0.0 | 791.6 | SURCH'ED |
| | 18.000 | 92.801 | 1.339 | 0.000 | 2.10 | 0.0 | 75.4 | SURCH'ED |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 2.010 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.011 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.012 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.013 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 19.000 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 2.014 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.015 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.016 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.017 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 2.018 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 1.002 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 1.003 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 20.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Winter | | |
| 21.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 20.001 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 20.002 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 22.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Summer | | |
| 22.001 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | 30/15 Summer | | |
| 22.002 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 30/15 Winter | | |
| 23.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 22.003 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 24.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 22.004 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 25.000 | 15 Winter | 100 | 30% | 1 | 100/15 Summer | | | |
| 25.001 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 25.002 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| | 2.010 | 92.445 | 1.937 | 0.000 | 2.49 | 0.0 | 853.4 | SURCH'ED |
| | 2.011 | 92.399 | 1.921 | 0.000 | 1.53 | 0.0 | 817.9 | SURCH'ED |
| | 2.012 | 92.349 | 1.930 | 0.000 | 1.53 | 0.0 | 815.1 | SURCH'ED |
| | 2.013 | 92.291 | 1.933 | 0.000 | 1.45 | 0.0 | 811.1 | SURCH'ED |
| | 19.000 | 93.253 | 1.216 | 0.000 | 3.55 | 0.0 | 127.0 | SURCH'ED |
| | 2.014 | 92.199 | 1.916 | 0.000 | 1.61 | 0.0 | 899.0 | SURCH'ED |
| | 2.015 | 92.014 | 1.806 | 0.000 | 1.92 | 0.0 | 918.9 | SURCH'ED |
| | 2.016 | 91.831 | 1.669 | 0.000 | 1.68 | 0.0 | 910.3 | SURCH'ED |
| | 2.017 | 91.638 | 1.539 | 0.000 | 1.61 | 0.0 | 905.3 | SURCH'ED |
| | 2.018 | 91.422 | 1.401 | 0.000 | 2.24 | 0.0 | 894.5 | SURCH'ED |
| | 1.002 | 91.195 | 1.210 | 0.000 | 1.73 | 0.0 | 915.0 | SURCH'ED |
| | 1.003 | 90.968 | 1.041 | 0.000 | 1.60 | 0.0 | 928.0 | SURCH'ED |
| 4 | 20.000 | 94.040 | 1.515 | 14.640 | 2.71 | 0.0 | 99.9 | FLOOD |
| 4 | 21.000 | 93.934 | 1.505 | 5.009 | 2.39 | 0.0 | 86.5 | FLOOD |
| | 20.001 | 93.850 | 1.539 | 0.000 | 2.06 | 0.0 | 214.1 | SURCH'ED |
| | 20.002 | 93.170 | 1.046 | 0.000 | 3.33 | 0.0 | 320.1 | SURCH'ED |
| 12 | 22.000 | 93.614 | 1.519 | 19.298 | 1.44 | 0.0 | 53.8 | FLOOD |
| 12 | 22.001 | 93.457 | 1.539 | 27.599 | 2.18 | 0.0 | 87.8 | FLOOD |
| 6 | 22.002 | 93.373 | 1.755 | 12.779 | 1.29 | 0.0 | 88.4 | FLOOD |
| | 23.000 | 93.584 | 1.418 | 0.000 | 1.02 | 0.0 | 45.8 | SURCH'ED |
| | 22.003 | 93.428 | 2.132 | 0.000 | 1.58 | 0.0 | 117.5 | SURCH'ED |
| | 24.000 | 93.243 | 0.891 | 0.000 | 2.18 | 0.0 | 78.4 | SURCH'ED |
| | 22.004 | 92.770 | 1.798 | 0.000 | 2.18 | 0.0 | 204.9 | SURCH'ED |
| | 25.000 | 93.613 | 0.668 | 0.000 | 0.74 | 0.0 | 34.9 | SURCH'ED |
| | 25.001 | 93.506 | 0.776 | 0.000 | 1.05 | 0.0 | 40.5 | SURCH'ED |
| | 25.002 | 93.166 | 0.828 | 0.000 | 1.61 | 0.0 | 61.5 | SURCH'ED |

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Summary Wizard of "CRITICAL"(Rank 1 by Max Level)
Results for Design Storms

| PN | Storm | Return Period | Climate Change | Rank | First X Surcharge | First Y Flood | First Z Overflow | O/F Act |
|---|---|---|---|---|---|---|---|---|
| 20.003 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 20.004 | 15 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 26.000 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | 100/30 Summer | | |
| 26.001 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 27.000 | 15 Winter | 100 | 30% | 1 | 30/15 Summer | 100/15 Summer | | |
| 26.002 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 28.000 | 15 Winter | 100 | 30% | 1 | 100/15 Winter | | | |
| 26.003 | 30 Winter | 100 | 30% | 1 | 1/15 Winter | | | |
| 1.004 | 30 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 1.005 | 360 Winter | 100 | 30% | 1 | 30/15 Summer | | | |
| 1.006 | 360 Winter | 100 | 30% | 1 | 1/15 Summer | | | |
| 1.007 | 480 Winter | 100 | 30% | 1 | 1/240 Winter | | | |

| Lvl Ex. | PN | Water Lvl. (m) | Surcharged Depth (m) | Flooded Vol ($m^3$) | Flow/ Capacity | Overflow (l/s) | Pipe Flow (l/s) | Status |
|---|---|---|---|---|---|---|---|---|
| | 20.003 | 92.456 | 1.549 | 0.000 | 2.79 | 0.0 | 582.8 | SURCH'ED |
| | 20.004 | 91.451 | 0.666 | 0.000 | 3.05 | 0.0 | 617.7 | SURCH'ED |
| 1 | 26.000 | 93.153 | 1.451 | 0.537 | 0.34 | 0.0 | 8.3 | FLOOD |
| | 26.001 | 93.142 | 2.540 | 0.000 | 1.17 | 0.0 | 19.8 | SURCH'ED |
| 4 | 27.000 | 93.483 | 1.508 | 7.944 | 2.25 | 0.0 | 80.6 | FLOOD |
| | 26.002 | 93.133 | 2.782 | 0.000 | 2.20 | 0.0 | 90.6 | SURCH'ED |
| | 28.000 | 92.347 | 0.019 | 0.000 | 1.11 | 0.0 | 42.4 | SURCH'ED |
| | 26.003 | 91.539 | 1.547 | 0.000 | 2.48 | 0.0 | 165.7 | SURCH'ED |
| | 1.004 | 90.723 | 0.918 | 0.000 | 2.44 | 0.0 | 1637.9 | SURCH'ED |
| | 1.005 | 90.217 | 0.479 | 0.000 | 1.46 | 0.0 | 692.6 | SURCH'ED |
| | 1.006 | 90.211 | 1.183 | 0.000 | 2.52 | 0.0 | 89.4 | SURCH'ED |
| | 1.007 | 89.874 | 0.916 | 0.000 | 4.21 | 0.0 | 85.0 | SURCH'ED |

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## Rainfall Hyetograph

| | |
|---|---|
| Region | FSR - England & Wales |
| Return Period (yrs) | 100 |
| M5-60 (mm) | 20.000 |
| Ratio R | 0.400 |
| Profile Type | Winter |
| Storm Duration (mins) | 480 |

| Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) | Time (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|
| 8 | 0.59 | 128 | 5.55 | 248 | 20.88 | 368 | 4.90 |
| 16 | 1.70 | 136 | 6.26 | 256 | 20.29 | 376 | 4.45 |
| 24 | 2.51 | 144 | 7.09 | 264 | 19.48 | 384 | 4.12 |
| 32 | 3.11 | 152 | 8.18 | 272 | 18.33 | 392 | 3.88 |
| 40 | 3.43 | 160 | 9.26 | 280 | 17.17 | 400 | 3.76 |
| 48 | 3.61 | 168 | 10.42 | 288 | 15.91 | 408 | 3.70 |
| 56 | 3.69 | 176 | 11.82 | 296 | 14.44 | 416 | 3.69 |
| 64 | 3.70 | 184 | 13.12 | 304 | 13.12 | 424 | 3.70 |
| 72 | 3.69 | 192 | 14.44 | 312 | 11.82 | 432 | 3.69 |
| 80 | 3.70 | 200 | 15.91 | 320 | 10.42 | 440 | 3.61 |
| 88 | 3.76 | 208 | 17.17 | 328 | 9.26 | 448 | 3.43 |
| 96 | 3.88 | 216 | 18.33 | 336 | 8.18 | 456 | 3.11 |
| 104 | 4.12 | 224 | 19.48 | 344 | 7.09 | 464 | 2.51 |
| 112 | 4.45 | 232 | 20.29 | 352 | 6.26 | 472 | 1.70 |
| 120 | 4.90 | 240 | 20.88 | 360 | 5.55 | 480 | 0.59 |

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