

# Response to Objection to Outline planning permission for Extension of MIRA Technology Park

## Technical Note

**Date:** 17/01/2023

**Client Name:** ERI MTP Limited

**Document Reference:** EED13833-118-TN-5-1-2

This document has been prepared and checked in accordance with  
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

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**Issue**

**Prepared by**

Ameena Syed  
Principal Engineer

**Checked & Approved by**

Harry Chetty  
Technical Director

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### Introduction

- 1.1. Waterman was commissioned by ERI MTP Limited to address objections raised to an outline planning application for the Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping, and enabling works - all matters reserved. The Site is located to the south of Watling Street, Caldecote, CV10 0TS.
- 1.2. The objection from Warwickshire County Council LLFA is included in Appendix A and the further information required to overcome the objection, as outlined by LLFA, is summarised below:

Given the proposals to revise the drainage strategy so that an adequate buffer alongside the onsite watercourse can be provided and limit the site discharge rate to 4.32l/s/ha, the LLFA requires evidence to illustrate that it is possible to provide a viable drainage scheme that meets these criteria. Supporting evidence should include:

- A revised Indicative Surface Water Drainage Strategy to illustrate the nature and layout of the proposed drainage features.
- Calculations to demonstrate that there is adequate attenuation to limit the site's discharge to the appropriate greenfield run off rate

### Proposed Surface Water Drainage Strategy

- 1.1. This note provides the supporting evidence to confirm that the attenuation volume designed in the original FRA (EED13833-118-R-2-4-3-FRA) submitted as part of the outline planning application remains same even for the reduced discharge rate to 4.32l/s/ha. This has been achieved by using

hydrobrake to optimise the upstream hydraulics instead of the orifice as flow control device, as such, 16No. orifice flow control devices have been replaced with hydrobrakes.

- 1.2. The total Site area within the red line boundary is 59.5ha. As the watercourse bisects the Site, it will be necessary to provide two outfalls which serve the areas to the north and south of the watercourse, henceforth referred to as the 'northern catchment' and 'southern catchment' respectively. The outline drainage strategy layout in Appendix B shows the indicative location of these outfalls.
- 1.3. All areas which remain permeable (undeveloped) have been excluded from the drainage strategy on the basis that they will continue to discharge to the watercourse at greenfield rates. It is proposed to use SuDS to attenuate runoff from the developed parts of the Site to greenfield runoff rates (QBAR).
- 1.4. The greenfield runoff rate calculated for the Site in line with the IoH124 method is 4.32l/s/ha. Based on the proposed impermeable area, the total rate of discharge from the Site should not exceed 172.8l/s.
- 1.5. To demonstrate whether there is sufficient space within the development to accommodate the appropriate SuDS, this rate has been pro-rated for the impermeable area of each catchment, see Table 1 and Appendix C for calculations.

**Table 1: Impermeable area and limiting greenfield discharge rate from the Northern and Southern Catchments**

|                    | <b>Impermeable Area (ha)</b> | <b>Greenfield runoff rate (l/s)</b> |
|--------------------|------------------------------|-------------------------------------|
| Northern Catchment | ~13                          | 56.2                                |
| Southern Catchment | ~27                          | 116.6                               |
| <b>Total</b>       | <b>~40</b>                   | <b>172.8</b>                        |

- 1.6. The required volume of attenuation has been established using Micro Drainage Network module based on a rainfall event of 1 in 100-year storm including a 40% allowance for climate change. The strategy has also been assessed for the 1 in 1 year and 1 in 30-year return period event. Refer to Table 3 below (and Appendix B & C) for details on the attenuation proposed.

**Table 2: Attenuation Details**

| <b>Catchment</b> | <b>Attenuation Volume Required (m<sup>3</sup>)</b> |
|------------------|----------------------------------------------------|
| Northern         | ~12,588                                            |
| Southern         | ~34,962                                            |
| <b>Total:</b>    | <b>~47,550</b>                                     |

- 1.7. From Table 2 and 3 above, it can be concluded that there is no increase in the net volume of attenuation required even when the limiting discharge reduced from 6.3 l/s/ha to 4.32 l/s/ha. The preliminary calculations indicate no above ground flooding under the 1 in 30-year event. There is circ. 10 m<sup>3</sup> of total flooding under the 1 in 100-year event including a 40% allowance for climate change. This flooding is deemed acceptable as the shallow flooding occurs at non vulnerable locations such as carpark and highways which can be contained within the areas. Also, this shallow flood paths shall be addressed in the detailed design either by providing additional storage or designated areas within the car park or loading bays.

## APPENDIX A

Your ref: PAP/2022/0423  
Our ref: WCC002597 R1/FRM/GF/002  
Your letter received: 02/12/2022



**SENT BY EMAIL**

Mr Jeff Brown  
Head of Development Control  
North Warwickshire Borough Council  
The Council House  
South Street  
Atherstone CV9 1DE

Flood Risk Management  
Warwickshire County Council  
Shire Hall  
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Warwickshire  
CV34 4RL  
Tel: 01926 412982  
[FRMPlanning@warwickshire.gov.uk](mailto:FRMPlanning@warwickshire.gov.uk)  
[www.warwickshire.gov.uk](http://www.warwickshire.gov.uk)

**FAO Jeff Brown**

16 December 2022

Dear Mr Brown

**PROPOSAL:** Outline planning permission for Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping and enabling works - All matters reserved

**LOCATION:** Land to the south of, Watling Street, Caldecote, CV10 0TS

Warwickshire County Council as the Lead Local Flood Authority (LLFA) has reviewed the additional information for this application which was received on the 2 December 2022. It is understood this is in response to the LLFA's prior response on 10 October 2022 where the following was considered outstanding.

1. The LLFA requires further information regarding the capacity and flood risk associated with the on site watercourse to demonstrate that proposals will not increase flood risk on site and elsewhere. Further evidence should include:
  - An evaluation of the on site channel capacity including surveyed cross sections demonstrating that there is sufficient capacity to accommodate contributing flows from the site. This is particularly pertinent given the proposals to remove storage capacity on site by infilling the southern ditch and increase the contributing catchment area to the watercourse.
  - Discussion around the potential risk of bank overtopping and anticipated flow routes and flood outlines.
  - Information on the condition of the downstream culvert passing under the A444 demonstrating that flow will not be constricted and pose an increase to flood risk.
2. Given the proposed catchment changes, indicative site levels and further discussion should be provided on the anticipated increase in cross catchment flows and flow routes demonstrating that flood risk will not be increased on site or elsewhere as a result. This should also provide clarification as to whether land raising is proposed as part of the strategy.



*Working for  
Warwickshire*

3. Given the above requirements for further flood risk investigation in point 1, demonstrate that the proposed drainage features are outside the 8m watercourse easement and any anticipated flood outlines. This is to ensure their performance will not be compromised should the watercourse overtop, and that there will be adequate access for maintenance. This should include further details on the drainage layout plan 'Attenuation Summary' illustrating where the watercourse lies in relation to the drainage features and further detail on the outfall locations.
4. The proposed discharge rate of 6.2l/s/ha is higher than the usual average QBAR discharge rate for areas underlain with clay (Soil type 4). The LLFA requires further evidence demonstrating that calculations are correct and follow best practice methodology.
5. The LLFA notes the proposals for Permeable paving and multiple ponds to provide surface water attenuation and a treatment train, which is welcomed. However the current drainage strategy still relies on substantial storage volumes from underground tanks. The LLFA therefore requires further evidence that opportunities to maximise above ground SuDS within the strategy have been explored and further justification is provided for the chosen methodologies.

The LLFA welcomes the additional calculations that have been provided to give assurance that the on site watercourse and downstream culverts have sufficient capacity to receive additional flows following the proposed development without increasing flood risk. The LLFA also acknowledges the proposals to revise the drainage strategy to limit the discharge rate to the appropriate greenfield rate of 4.32l/s/ha and provide an adequate buffer from the on site watercourse. However, whilst this is an outline application, the LLFA still requires further information to demonstrate that adequate attenuation can be incorporated in the design which meets the outlined design criteria to demonstrate that it is possible to deliver a viable drainage scheme.

Based on the information submitted the LLFA currently **maintains our objection** to the development based on the following reasons.

#### **Reason**

The information submitted with this application does not comply with the requirements set out in the National Planning Policy Framework<sup>i</sup> (NPPF) and supporting Flood Risk & Coastal Change guidance<sup>ii</sup>. Specifically:

- The details relating to the surface water drainage are insufficient.

The submitted information does not therefore allow a suitable assessment of the proposed development, considering flood risk and surface water drainage matters.

#### **Overcoming our objection**

You can overcome our objection by submitting further information which is detailed below. This information should provide details of the proposed surface water drainage considering the scale and nature of the development to ensure the site will not increase risk elsewhere and where possible reduces flood risk overall. If this cannot be achieved we are likely to maintain our objection to the application.

At the 'outline' planning stage a the Surface Water Drainage Strategy should be developed to inform the masterplan or indicative site layout. This should be based on SuDS principles and provide opportunity to attenuate surface water runoff, improve water quality and provide amenity and biodiversity. This should be supported by suitable high-level calculations demonstrating the performance of the attenuation and that adequate space is provided.

Given the above, the following comments are made and further information required is outlined. This forms the basis of our current objection:

1. Given the proposals to revise the drainage strategy so that an adequate buffer alongside the on site watercourse can be provided and limit the site discharge rate to 4.32l/s/ha, the LLFA

requires evidence to illustrate that it is possible to provide a viable drainage scheme that meets these criteria. Supporting evidence should include:

- a. A revised Indicative Surface Water Drainage Strategy to illustrate the nature and layout of the proposed drainage features.
- b. Calculations to demonstrate that there is adequate attenuation to limit the site's discharge to the appropriate greenfield run off rate.

We ask to be re-consulted with the results of any additional information. We will provide you with bespoke comments within 21 days of receiving formal reconsultation..

### Informative

- a) Surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management. Sustainable Drainage Systems (SuDS) are an approach to managing surface water run-off which seeks to mimic natural drainage systems and retain water on-site as opposed to traditional drainage approaches which involve piping water off-site as quickly as possible.
- b) The LLFA does not consider oversized pipes or box culverts as sustainable drainage. Where such attenuation is considered necessary, this should be supplemented with suitable above ground features such as green roofs, rain-gardens and tree pits to provide water quality, amenity and bio-diversity benefits.
- c) Reference is made to the LLFA's *Flood Risk & Sustainable Drainage Local guidance for developers*<sup>iii</sup> which provides further advice and guidance as to how surface water drainage proposals should be designed.

Yours sincerely

*Georgina Flower*

Georgina Flower  
Flood Risk Management Engineer

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### Documents Reviewed:

- Response to Objection to Outline planning permission for Extension of MIRA Technology Park\_Land to the south of, Watling Street, Caldecote, CV10 0TS\_EED13833-118-TN-3-1-3

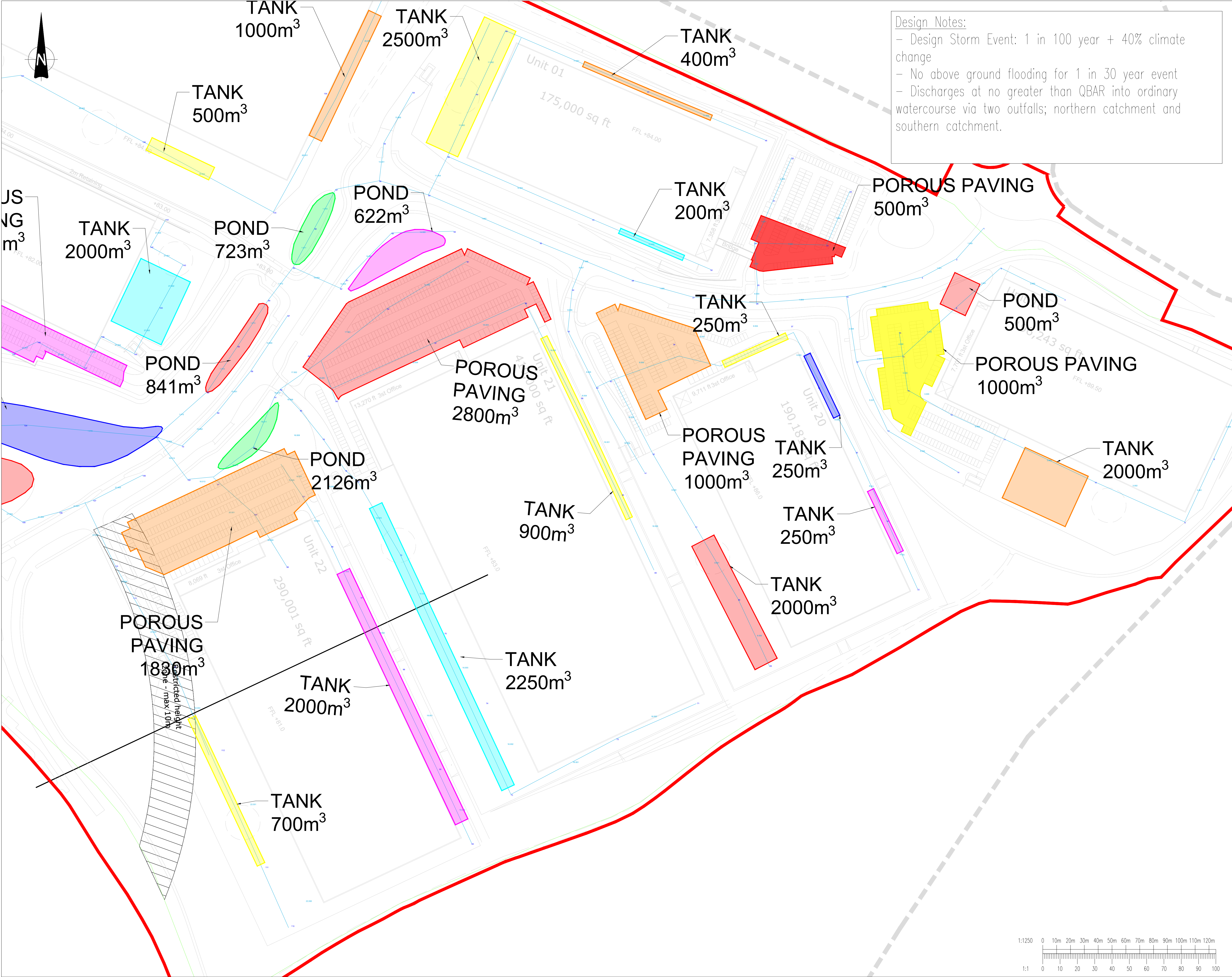
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<sup>i</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf)

<sup>ii</sup> <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

<sup>iii</sup> <https://api.warwickshire.gov.uk/documents/WCCC-1039-95>

## APPENDIX B



Design Notes:

- Design Storm Event: 1 in 100 year + 40% climate change
- No above ground flooding for 1 in 30 year event
- Discharges at no greater than QBAR into ordinary watercourse via two outfalls; northern catchment and southern catchment.

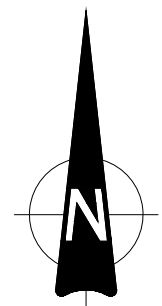
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|     |          |                        |    |
|-----|----------|------------------------|----|
| P04 | 02.08.22 | UPDATED SITE LAYOUT    | KS |
| P03 | 06.05.22 | UPDATED LAYOUT         | KS |
| P02 | 25.02.22 | ATTENUATION AMENDMENTS | KT |
| P01 | 14.01.22 | FIRST ISSUE            | KT |
| Rev | Date     | Description            | By |

|            |                                                                                          |
|------------|------------------------------------------------------------------------------------------|
| Amendments |                                                                                          |
| Project    | MIRA Technology Park South Site                                                          |
| Title      | MIRA Southern Manufacturing Sector Surface Water Attenuation Summary Southern Catchments |
| Client     | ERI MTP Limited                                                                          |



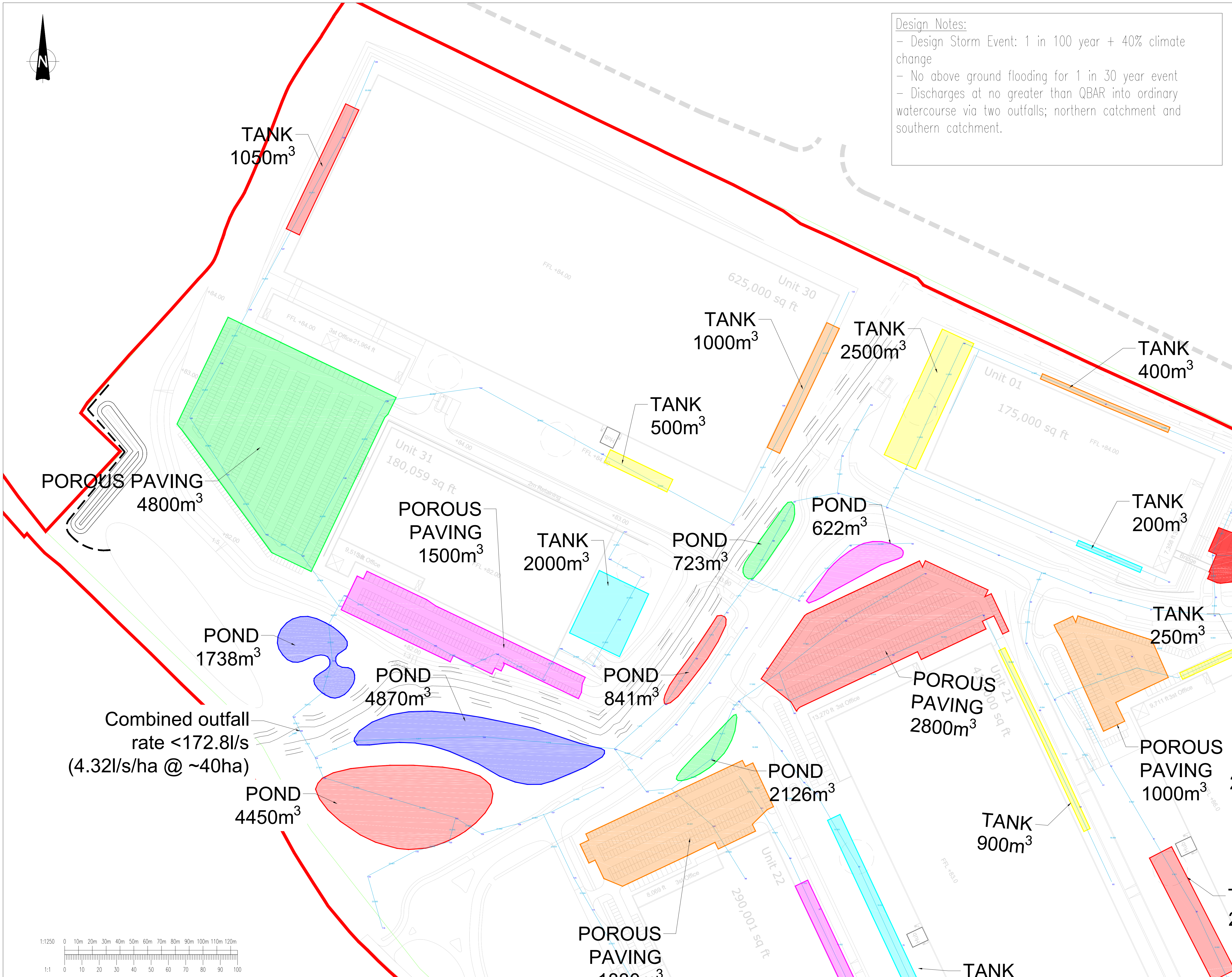
|                                                                                                                |             |            |          |
|----------------------------------------------------------------------------------------------------------------|-------------|------------|----------|
| Pickfords Wharf Clink Street London SE1 9DG<br>1 020 7928 7888<br>mail@watermangroup.com www.watermangroup.com |             |            |          |
| Status                                                                                                         | PRELIMINARY |            |          |
| Designed By                                                                                                    | KT          | Checked By | HC       |
| Drawn By                                                                                                       | KT          | Date       | Jan 2022 |
| Project - Originator - Volume - Level - Type - Role - Number                                                   |             |            | Revision |
| 13833-WIE-ZZ-XX-DR-92003                                                                                       |             |            | P04      |



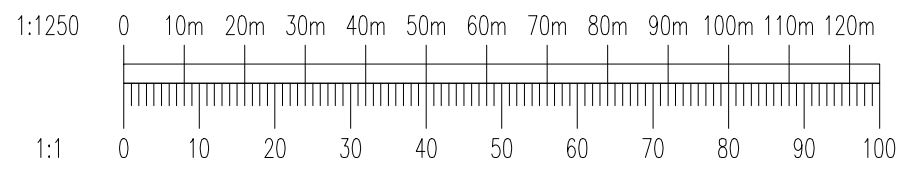
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|                                                                                          |          |                                   |          |
|------------------------------------------------------------------------------------------|----------|-----------------------------------|----------|
| P05                                                                                      | 06.01.23 | GREENFIELD DISCHARGE RATE AMENDED | CM       |
| P04                                                                                      | 02.08.22 | UPDATED SITE LAYOUT               | KS       |
| P03                                                                                      | 06.05.22 | UPDATED LAYOUT                    | KS       |
| P02                                                                                      | 25.02.22 | ATTENUATION AMENDMENTS            | KS       |
| P01                                                                                      | 14.01.22 | FIRST ISSUE                       | KT       |
| Rev                                                                                      | Date     | Description                       | By       |
| Amendments                                                                               |          |                                   |          |
| Project                                                                                  |          |                                   |          |
| MIRA Technology Park South Site                                                          |          |                                   |          |
| Title                                                                                    |          |                                   |          |
| MIRA Southern Manufacturing Sector Surface Water Attenuation Summary Northern Catchments |          |                                   |          |
| Client                                                                                   |          |                                   |          |
| ERI MTP Limited                                                                          |          |                                   |          |
| Status                                                                                   |          |                                   |          |
| PRELIMINARY                                                                              |          |                                   |          |
| Designed By                                                                              |          |                                   |          |
| KT                                                                                       |          |                                   |          |
| Checked By                                                                               |          |                                   |          |
| HC                                                                                       |          |                                   |          |
| Waterman Ref                                                                             |          |                                   |          |
| onsultin                                                                                 |          |                                   |          |
| Drawn By                                                                                 |          |                                   |          |
| KT                                                                                       |          |                                   |          |
| Date                                                                                     |          |                                   |          |
| Jan 2022                                                                                 |          |                                   |          |
| Scales @ A1                                                                              |          |                                   |          |
| 1:1250                                                                                   |          |                                   |          |
| Project - Originator - Volume - Level - Type - Role - Number                             |          |                                   | Revision |
| 13833-WIE-ZZ-XX-DR-92004                                                                 |          |                                   | P05      |



## APPENDIX C

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN    | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|-------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 1.000 | 29.776        | 0.418       | 71.2           | 0.089          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.001 | 28.167        | 0.169       | 166.7          | 0.051          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.002 | 56.167        | 1.304       | 43.1           | 0.085          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 2.000 | 51.285        | 0.228       | 224.9          | 0.319          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 2.001 | 52.741        | 0.234       | 225.4          | 0.242          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 2.002 | 52.189        | 0.232       | 225.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.000 | 50.454        | 0.224       | 225.2          | 0.362          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.001 | 50.454        | 0.224       | 225.2          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.002 | 71.034        | 0.316       | 224.8          | 0.655          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.003 | 72.588        | 0.323       | 224.7          | 0.649          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.004 | 42.415        | 0.189       | 224.4          | 0.649          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.005 | 28.266        | 0.126       | 224.3          | 0.133          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 3.006 | 24.843        | 0.216       | 115.0          | 0.098          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 4.000 | 17.446        | 0.103       | 169.4          | 0.164          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 2.003 | 33.644        | 0.150       | 224.3          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 5.000 | 58.583        | 0.450       | 130.2          | 0.095          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |
| 5.001 | 49.594        | 0.600       | 82.7           | 0.042          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |
| 2.004 | 47.603        | 0.212       | 224.5          | 0.301          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 1.003 | 65.344        | 3.035       | 21.5           | 0.142          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |

Network Results Table

| PN    | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|-------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 1.000 | 0.00            | 5.21           | 88.400       | 0.089            | 0.0                  | 0.0           | 0.0               | 2.41         | 383.5        | 0.0           |
| 1.001 | 0.00            | 5.50           | 87.982       | 0.140            | 0.0                  | 0.0           | 0.0               | 1.57         | 250.0        | 0.0           |
| 1.002 | 0.00            | 5.81           | 87.813       | 0.225            | 0.0                  | 0.0           | 0.0               | 3.10         | 493.8        | 0.0           |
| 2.000 | 0.00            | 5.63           | 87.276       | 0.319            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 2.001 | 0.00            | 6.28           | 87.048       | 0.561            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.7        | 0.0           |
| 2.002 | 0.00            | 6.93           | 86.814       | 0.561            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 3.000 | 0.00            | 5.62           | 87.700       | 0.362            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 3.001 | 0.00            | 6.25           | 87.476       | 0.362            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 3.002 | 0.00            | 7.12           | 87.252       | 1.017            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 3.003 | 0.00            | 8.02           | 86.936       | 1.666            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 3.004 | 0.00            | 8.54           | 86.613       | 2.315            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.2        | 0.0           |
| 3.005 | 0.00            | 8.89           | 86.424       | 2.448            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.2        | 0.0           |
| 3.006 | 0.00            | 9.11           | 86.298       | 2.546            | 0.0                  | 0.0           | 0.0               | 1.89         | 301.4        | 0.0           |
| 4.000 | 0.00            | 5.29           | 87.925       | 0.164            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 2.003 | 0.00            | 9.52           | 86.082       | 3.271            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.2        | 0.0           |
| 5.000 | 0.00            | 5.85           | 88.525       | 0.095            | 0.0                  | 0.0           | 0.0               | 1.14         | 45.5         | 0.0           |
| 5.001 | 0.00            | 6.43           | 88.075       | 0.137            | 0.0                  | 0.0           | 0.0               | 1.44         | 57.2         | 0.0           |
| 2.004 | 0.00            | 10.11          | 85.932       | 3.709            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.1        | 0.0           |
| 1.003 | 0.00            | 10.35          | 85.720       | 4.076            | 0.0                  | 0.0           | 0.0               | 4.40         | 699.3        | 0.0           |

|                                                            |                                      |                                                                                    |
|------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                             |                                      | Page 2                                                                             |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG         | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023<br>File Surface Water Drainage Schemati... | Designed by AS<br>Checked by HC      |                                                                                    |
| Innovyze                                                   | Network 2020.1.3                     |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN    | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|-------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 6.000 | 33.512        | 0.137       | 244.6          | 0.135          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 6.001 | 33.683        | 0.398       | 84.6           | 0.099          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 7.000 | 42.464        | 0.173       | 245.5          | 0.185          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 7.001 | 51.923        | 0.362       | 143.4          | 0.079          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 6.002 | 30.132        | 0.123       | 245.0          | 0.023          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 6.003 | 13.278        | 0.054       | 245.9          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 1.004 | 46.235        | 0.600       | 77.1           | 0.121          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.005 | 45.485        | 0.900       | 50.5           | 0.125          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.006 | 71.671        | 1.100       | 65.2           | 0.199          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.000 | 60.979        | 0.271       | 225.0          | 0.770          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.001 | 60.979        | 0.271       | 225.0          | 0.672          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.002 | 60.968        | 0.271       | 225.0          | 0.621          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.003 | 60.968        | 0.271       | 225.0          | 0.119          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 9.000 | 54.181        | 0.241       | 224.8          | 0.095          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 9.001 | 54.181        | 0.241       | 224.8          | 0.368          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 9.002 | 54.035        | 0.240       | 225.1          | 0.366          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 9.003 | 54.035        | 0.240       | 225.1          | 0.352          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 9.004 | 35.700        | 0.088       | 405.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 9.005 | 43.119        | 0.254       | 169.8          | 0.123          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |
| 9.006 | 52.876        | 0.355       | 148.9          | 0.372          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |

Network Results Table

| PN    | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|-------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 6.000 | 0.00            | 5.43           | 86.500       | 0.135            | 0.0                  | 0.0           | 0.0               | 1.30         | 206.0        | 0.0           |
| 6.001 | 0.00            | 5.69           | 86.363       | 0.234            | 0.0                  | 0.0           | 0.0               | 2.21         | 351.7        | 0.0           |
| 7.000 | 0.00            | 5.55           | 86.500       | 0.185            | 0.0                  | 0.0           | 0.0               | 1.29         | 205.7        | 0.0           |
| 7.001 | 0.00            | 6.06           | 86.327       | 0.264            | 0.0                  | 0.0           | 0.0               | 1.70         | 269.7        | 0.0           |
| 6.002 | 0.00            | 6.45           | 85.965       | 0.521            | 0.0                  | 0.0           | 0.0               | 1.29         | 205.9        | 0.0           |
| 6.003 | 0.00            | 6.67           | 85.842       | 0.521            | 0.0                  | 0.0           | 0.0               | 1.00         | 70.6         | 0.0           |
| 1.004 | 0.00            | 10.69          | 82.685       | 4.718            | 0.0                  | 0.0           | 0.0               | 2.32         | 368.6        | 0.0           |
| 1.005 | 0.00            | 10.95          | 82.085       | 4.843            | 0.0                  | 0.0           | 0.0               | 2.87         | 455.7        | 0.0           |
| 1.006 | 0.00            | 11.42          | 81.185       | 5.042            | 0.0                  | 0.0           | 0.0               | 2.52         | 401.1        | 0.0           |
| 8.000 | 0.00            | 5.75           | 84.200       | 0.770            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 8.001 | 0.00            | 6.50           | 83.929       | 1.442            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 8.002 | 0.00            | 7.26           | 83.658       | 2.063            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 8.003 | 0.00            | 8.01           | 83.387       | 2.182            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 9.000 | 0.00            | 5.67           | 84.550       | 0.095            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 9.001 | 0.00            | 6.34           | 84.309       | 0.463            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 9.002 | 0.00            | 7.00           | 84.068       | 0.829            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 9.003 | 0.00            | 7.67           | 83.828       | 1.181            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 9.004 | 0.00            | 8.26           | 83.588       | 1.181            | 0.0                  | 0.0           | 0.0               | 1.00         | 159.5        | 0.0           |
| 9.005 | 0.00            | 8.98           | 83.500       | 1.304            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 9.006 | 0.00            | 9.81           | 83.246       | 1.676            | 0.0                  | 0.0           | 0.0               | 1.07         | 42.5         | 0.0           |

|                                                            |                                      |                                                                                    |
|------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                             |                                      | Page 3                                                                             |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG         | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023<br>File Surface Water Drainage Schemati... | Designed by AS<br>Checked by HC      |                                                                                    |
| Innovyze                                                   | Network 2020.1.3                     |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 8.004  | 42.514        | 0.764       | 55.6           | 0.200          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 10.000 | 49.536        | 0.291       | 170.2          | 0.119          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 8.005  | 67.003        | 0.298       | 224.8          | 0.118          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.006  | 30.085        | 0.134       | 224.5          | 0.074          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 8.007  | 34.082        | 0.151       | 225.7          | 0.021          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.007  | 87.646        | 0.219       | 400.2          | 0.182          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 11.000 | 92.007        | 0.409       | 225.0          | 0.550          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 11.001 | 111.365       | 0.495       | 225.0          | 0.507          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 11.002 | 50.443        | 0.224       | 225.2          | 0.351          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 11.003 | 49.563        | 0.220       | 225.3          | 0.255          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 12.000 | 92.570        | 0.411       | 225.2          | 0.573          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 12.001 | 114.081       | 0.507       | 225.0          | 0.507          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 11.004 | 31.092        | 0.138       | 225.3          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 1.008  | 36.823        | 0.164       | 224.5          | 0.048          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 13.000 | 42.323        | 0.249       | 170.0          | 0.070          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |
| 13.001 | 27.380        | 0.161       | 170.1          | 0.084          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 8.004  | 0.00            | 10.06          | 82.666       | 4.058            | 0.0                  | 0.0           | 0.0               | 2.73         | 434.2        | 0.0           |
| 10.000 | 0.00            | 5.83           | 83.075       | 0.119            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.7         | 0.0           |
| 8.005  | 0.00            | 10.89          | 81.902       | 4.295            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 8.006  | 0.00            | 11.26          | 81.604       | 4.369            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.1        | 0.0           |
| 8.007  | 0.00            | 11.68          | 81.470       | 4.390            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.6        | 0.0           |
| 1.007  | 0.00            | 13.13          | 80.085       | 9.614            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 11.000 | 0.00            | 6.13           | 82.275       | 0.550            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 11.001 | 0.00            | 7.51           | 81.866       | 1.057            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 11.002 | 0.00            | 8.13           | 81.371       | 1.408            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 11.003 | 0.00            | 8.74           | 81.147       | 1.663            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 12.000 | 0.00            | 6.14           | 82.350       | 0.573            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 12.001 | 0.00            | 7.55           | 81.939       | 1.080            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.9        | 0.0           |
| 11.004 | 0.00            | 9.13           | 80.927       | 2.743            | 0.0                  | 0.0           | 0.0               | 1.35         | 214.8        | 0.0           |
| 1.008  | 0.00            | 13.58          | 79.866       | 12.405           | 0.0                  | 0.0           | 0.0               | 1.35         | 215.1        | 0.0           |
| 13.000 | 0.00            | 5.71           | 81.575       | 0.070            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 13.001 | 0.00            | 6.16           | 81.326       | 0.154            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.7         | 0.0           |

|                                         |                  |                                                                                    |
|-----------------------------------------|------------------|------------------------------------------------------------------------------------|
| Waterman Group                          |                  | Page 4                                                                             |
| Pickfords Wharf                         | MIRA             |  |
| Clink Street                            | LAND SOUTH OF A5 |                                                                                    |
| London, SE1 9DG                         | EED13833         |                                                                                    |
| Date 05/01/2023                         | Designed by AS   |                                                                                    |
| File Surface Water Drainage Schemati... | Checked by HC    |                                                                                    |
| Innovyze                                | Network 2020.1.3 |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 1.009  | 32.029        | 0.080       | 400.4          | 0.050          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.010  | 32.092        | 0.080       | 401.2          | 0.072          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.011  | 32.186        | 0.080       | 400.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 14.000 | 44.759        | 0.500       | 89.5           | 0.116          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 14.001 | 47.142        | 1.000       | 47.1           | 0.062          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 14.002 | 7.536         | 0.044       | 170.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 14.003 | 37.226        | 0.344       | 108.2          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 1.012  | 29.639        | 0.074       | 400.5          | 0.041          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.013  | 39.855        | 0.100       | 398.6          | 0.084          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.014  | 39.878        | 0.100       | 398.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 1.015  | 49.110        | 1.186       | 41.4           | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 15.000 | 47.887        | 0.500       | 95.8           | 0.225          | 5.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 15.001 | 38.722        | 0.300       | 129.1          | 0.110          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 15.002 | 35.243        | 0.300       | 117.5          | 0.108          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 15.003 | 19.928        | 0.112       | 177.9          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |   |
| 16.000 | 62.845        | 0.157       | 400.3          | 0.645          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.001 | 68.166        | 0.170       | 400.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.002 | 69.406        | 0.174       | 400.0          | 0.812          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.003 | 58.712        | 0.147       | 400.0          | 0.667          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.004 | 65.055        | 0.163       | 400.0          | 0.711          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.005 | 61.206        | 0.153       | 400.0          | 0.943          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.006 | 38.979        | 0.097       | 400.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 1.009  | 0.00            | 14.11          | 79.702       | 12.609           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 1.010  | 0.00            | 14.64          | 79.622       | 12.681           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 1.011  | 0.00            | 15.17          | 79.542       | 12.681           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 14.000 | 0.00            | 5.54           | 82.075       | 0.116            | 0.0                  | 0.0           | 0.0               | 1.38         | 55.0         | 0.0           |
| 14.001 | 0.00            | 5.95           | 81.575       | 0.178            | 0.0                  | 0.0           | 0.0               | 1.91         | 75.9         | 0.0           |
| 14.002 | 0.00            | 6.08           | 80.575       | 0.178            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 14.003 | 0.00            | 6.57           | 80.531       | 0.178            | 0.0                  | 0.0           | 0.0               | 1.26         | 49.9         | 0.0           |
| 1.012  | 0.00            | 15.66          | 79.462       | 12.900           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 1.013  | 0.00            | 16.32          | 79.388       | 12.984           | 0.0                  | 0.0           | 0.0               | 1.01         | 161.0        | 0.0           |
| 1.014  | 0.00            | 16.97          | 79.288       | 12.984           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.9        | 0.0           |
| 1.015  | 0.00            | 17.23          | 79.188       | 12.984           | 0.0                  | 0.0           | 0.0               | 3.17         | 503.6        | 0.0           |
| 15.000 | 0.00            | 5.32           | 80.600       | 0.225            | 0.0                  | 0.0           | 0.0               | 2.49         | 703.7        | 0.0           |
| 15.001 | 0.00            | 5.62           | 80.100       | 0.335            | 0.0                  | 0.0           | 0.0               | 2.14         | 605.7        | 0.0           |
| 15.002 | 0.00            | 5.88           | 79.800       | 0.443            | 0.0                  | 0.0           | 0.0               | 2.25         | 635.0        | 0.0           |
| 15.003 | 0.00            | 6.07           | 79.500       | 0.443            | 0.0                  | 0.0           | 0.0               | 1.82         | 515.3        | 0.0           |
| 16.000 | 0.00            | 6.04           | 80.341       | 0.645            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 16.001 | 0.00            | 7.16           | 80.184       | 0.645            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.002 | 0.00            | 8.31           | 80.014       | 1.457            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.003 | 0.00            | 9.28           | 79.840       | 2.124            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.004 | 0.00            | 10.35          | 79.693       | 2.835            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.005 | 0.00            | 11.36          | 79.531       | 3.778            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.006 | 0.00            | 12.00          | 79.378       | 3.778            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |

|                                         |                  |                                                                                    |
|-----------------------------------------|------------------|------------------------------------------------------------------------------------|
| Waterman Group                          |                  | Page 5                                                                             |
| Pickfords Wharf                         | MIRA             |  |
| Clink Street                            | LAND SOUTH OF A5 |                                                                                    |
| London, SE1 9DG                         | EED13833         |                                                                                    |
| Date 05/01/2023                         | Designed by AS   |                                                                                    |
| File Surface Water Drainage Schemati... | Checked by HC    |                                                                                    |
| Innovyze                                | Network 2020.1.3 |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 16.007 | 24.009        | 0.060       | 400.0          | 0.248          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 16.008 | 36.804        | 0.092       | 400.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 16.009 | 20.805        | 0.052       | 400.1          | 0.050          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 17.000 | 66.842        | 0.500       | 133.7          | 0.166          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 17.001 | 66.625        | 2.464       | 27.0           | 0.224          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.000 | 66.408        | 0.166       | 400.0          | 0.448          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.001 | 73.759        | 0.184       | 400.9          | 0.504          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.002 | 79.779        | 0.199       | 400.9          | 0.443          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.003 | 65.094        | 0.163       | 399.3          | 0.431          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.004 | 50.512        | 0.126       | 400.9          | 0.232          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 18.005 | 38.188        | 0.246       | 155.3          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 17.002 | 31.460        | 0.185       | 170.1          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 16.010 | 6.892         | 0.017       | 405.4          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 16.011 | 39.332        | 0.098       | 401.3          | 0.213          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.012 | 37.215        | 0.093       | 400.2          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 16.013 | 21.674        | 0.096       | 225.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |  |
| 19.000 | 65.385        | 0.163       | 401.1          | 0.779          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 19.001 | 77.624        | 0.194       | 400.1          | 0.833          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 19.002 | 60.097        | 0.150       | 400.6          | 0.610          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 19.003 | 42.558        | 0.106       | 401.5          | 0.362          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 19.004 | 41.896        | 0.105       | 399.0          | 0.171          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 16.007 | 0.00            | 12.40          | 79.280       | 4.026            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.008 | 0.00            | 13.00          | 79.220       | 4.026            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.009 | 0.00            | 13.35          | 79.128       | 4.076            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 17.000 | 0.00            | 5.63           | 82.075       | 0.166            | 0.0                  | 0.0           | 0.0               | 1.76         | 279.4        | 0.0           |
| 17.001 | 0.00            | 5.92           | 81.575       | 0.390            | 0.0                  | 0.0           | 0.0               | 3.92         | 623.7        | 0.0           |
| 18.000 | 0.00            | 6.10           | 80.195       | 0.448            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 18.001 | 0.00            | 7.31           | 80.029       | 0.952            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 18.002 | 0.00            | 8.63           | 79.845       | 1.395            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 18.003 | 0.00            | 9.70           | 79.646       | 1.826            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.8        | 0.0           |
| 18.004 | 0.00            | 10.54          | 79.483       | 2.058            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 18.005 | 0.00            | 10.93          | 79.357       | 2.058            | 0.0                  | 0.0           | 0.0               | 1.63         | 259.1        | 0.0           |
| 17.002 | 0.00            | 11.27          | 79.111       | 2.448            | 0.0                  | 0.0           | 0.0               | 1.56         | 247.5        | 0.0           |
| 16.010 | 0.00            | 13.46          | 78.926       | 6.524            | 0.0                  | 0.0           | 0.0               | 1.00         | 159.6        | 0.0           |
| 16.011 | 0.00            | 14.11          | 78.909       | 6.737            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.4        | 0.0           |
| 16.012 | 0.00            | 14.73          | 78.811       | 6.737            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 16.013 | 0.00            | 15.07          | 78.718       | 6.737            | 0.0                  | 0.0           | 0.0               | 1.04         | 73.7         | 0.0           |
| 19.000 | 0.00            | 6.08           | 79.200       | 0.779            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 19.001 | 0.00            | 7.36           | 79.037       | 1.612            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 19.002 | 0.00            | 8.35           | 78.843       | 2.222            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 19.003 | 0.00            | 9.06           | 78.693       | 2.584            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.4        | 0.0           |
| 19.004 | 0.00            | 9.75           | 78.587       | 2.755            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.9        | 0.0           |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 20.000 | 44.506        | 0.262       | 169.9          | 0.168          | 5.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 20.001 | 32.865        | 0.193       | 170.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 225         | Pipe/Conduit |    |
| 19.005 | 27.421        | 0.069       | 397.4          | 0.084          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 16.014 | 38.201        | 0.170       | 224.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 1.016  | 95.464        | 0.095       | 1004.9         | 0.486          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 1.017  | 92.883        | 0.093       | 998.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 1.018  | 30.920        | 0.137       | 225.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 21.000 | 40.030        | 0.350       | 114.4          | 0.205          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 21.001 | 25.914        | 0.154       | 168.3          | 0.067          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 21.002 | 27.638        | 0.123       | 224.7          | 0.064          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 21.003 | 21.650        | 0.652       | 33.2           | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 22.000 | 70.021        | 0.175       | 400.1          | 0.507          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 22.001 | 91.226        | 0.228       | 400.1          | 0.628          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 22.002 | 69.611        | 0.174       | 400.1          | 0.490          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 22.003 | 57.350        | 0.143       | 401.0          | 0.550          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 22.004 | 26.674        | 0.067       | 398.1          | 0.367          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 22.005 | 52.489        | 0.131       | 400.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 23.000 | 38.457        | 0.096       | 400.6          | 0.444          | 5.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 20.000 | 0.00            | 5.74           | 79.425       | 0.168            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 20.001 | 0.00            | 6.29           | 79.163       | 0.168            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.8         | 0.0           |
| 19.005 | 0.00            | 10.20          | 78.482       | 3.007            | 0.0                  | 0.0           | 0.0               | 1.01         | 161.2        | 0.0           |
| 16.014 | 0.00            | 15.68          | 78.172       | 9.744            | 0.0                  | 0.0           | 0.0               | 1.04         | 73.8         | 0.0           |
| 1.016  | 0.00            | 20.49          | 78.002       | 23.657           | 0.0                  | 0.0           | 0.0               | 0.49         | 34.5         | 0.0           |
| 1.017  | 0.00            | 23.66          | 77.907       | 23.657           | 0.0                  | 0.0           | 0.0               | 0.49         | 34.6         | 0.0           |
| 1.018  | 0.00            | 24.15          | 77.814       | 23.657           | 0.0                  | 0.0           | 0.0               | 1.04         | 73.7         | 0.0           |
| 21.000 | 0.00            | 5.35           | 79.350       | 0.205            | 0.0                  | 0.0           | 0.0               | 1.90         | 302.2        | 0.0           |
| 21.001 | 0.00            | 5.63           | 79.000       | 0.272            | 0.0                  | 0.0           | 0.0               | 1.56         | 248.8        | 0.0           |
| 21.002 | 0.00            | 5.97           | 78.846       | 0.336            | 0.0                  | 0.0           | 0.0               | 1.35         | 215.0        | 0.0           |
| 21.003 | 0.00            | 6.07           | 78.723       | 0.336            | 0.0                  | 0.0           | 0.0               | 3.54         | 562.7        | 0.0           |
| 22.000 | 0.00            | 6.16           | 79.275       | 0.507            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 22.001 | 0.00            | 7.66           | 79.100       | 1.135            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 22.002 | 0.00            | 8.81           | 78.872       | 1.625            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 22.003 | 0.00            | 9.76           | 78.698       | 2.175            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 22.004 | 0.00            | 10.20          | 78.555       | 2.542            | 0.0                  | 0.0           | 0.0               | 1.01         | 161.1        | 0.0           |
| 22.005 | 0.00            | 11.06          | 78.488       | 2.542            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 23.000 | 0.00            | 5.53           | 79.234       | 0.444            | 0.0                  | 0.0           | 0.0               | 1.21         | 342.3        | 0.0           |

|                                         |                  |                                                                                    |
|-----------------------------------------|------------------|------------------------------------------------------------------------------------|
| Waterman Group                          |                  | Page 7                                                                             |
| Pickfords Wharf                         | MIRA             |  |
| Clink Street                            | LAND SOUTH OF A5 |                                                                                    |
| London, SE1 9DG                         | EED13833         |                                                                                    |
| Date 05/01/2023                         | Designed by AS   |                                                                                    |
| File Surface Water Drainage Schemati... | Checked by HC    |                                                                                    |
| Innovyze                                | Network 2020.1.3 |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 24.000 | 24.712        | 0.062       | 398.6          | 0.166          | 5.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 23.001 | 39.158        | 0.098       | 399.6          | 0.140          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 23.002 | 25.124        | 0.063       | 398.8          | 0.064          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 23.003 | 17.903        | 0.045       | 397.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 21.004 | 49.967        | 0.125       | 399.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 21.005 | 49.981        | 0.125       | 399.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 21.006 | 15.761        | 0.070       | 225.2          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |    |
| 1.019  | 22.477        | 0.056       | 401.4          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 25.000 | 77.088        | 0.751       | 102.6          | 1.671          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 25.001 | 91.717        | 0.894       | 102.6          | 1.509          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 25.002 | 49.797        | 0.485       | 102.7          | 0.291          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 25.003 | 43.931        | 0.428       | 102.6          | 0.380          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 25.004 | 45.404        | 0.442       | 102.7          | 0.246          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.005 | 48.846        | 0.122       | 400.4          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.006 | 51.699        | 0.129       | 400.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.007 | 30.176        | 0.075       | 402.3          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 26.000 | 94.637        | 0.237       | 399.3          | 1.669          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 26.001 | 93.663        | 0.234       | 400.3          | 1.510          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 26.002 | 97.803        | 0.245       | 399.2          | 0.521          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 26.003 | 100.000       | 0.250       | 400.0          | 0.597          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 26.004 | 68.495        | 0.171       | 400.6          | 0.374          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 24.000 | 0.00            | 5.34           | 79.200       | 0.166            | 0.0                  | 0.0           | 0.0               | 1.21         | 343.1        | 0.0           |
| 23.001 | 0.00            | 6.07           | 79.138       | 0.750            | 0.0                  | 0.0           | 0.0               | 1.21         | 342.7        | 0.0           |
| 23.002 | 0.00            | 6.41           | 79.040       | 0.814            | 0.0                  | 0.0           | 0.0               | 1.21         | 343.0        | 0.0           |
| 23.003 | 0.00            | 6.66           | 78.977       | 0.814            | 0.0                  | 0.0           | 0.0               | 1.21         | 343.4        | 0.0           |
| 21.004 | 0.00            | 11.89          | 78.071       | 3.692            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 21.005 | 0.00            | 12.71          | 77.946       | 3.692            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 21.006 | 0.00            | 12.96          | 77.806       | 3.692            | 0.0                  | 0.0           | 0.0               | 1.04         | 73.8         | 0.0           |
| 1.019  | 0.00            | 24.52          | 77.670       | 27.349           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.4        | 0.0           |
| 25.000 | 0.00            | 5.64           | 83.200       | 1.671            | 0.0                  | 0.0           | 0.0               | 2.01         | 319.2        | 0.0           |
| 25.001 | 0.00            | 6.40           | 82.449       | 3.180            | 0.0                  | 0.0           | 0.0               | 2.01         | 319.2        | 0.0           |
| 25.002 | 0.00            | 6.82           | 81.555       | 3.471            | 0.0                  | 0.0           | 0.0               | 2.01         | 319.1        | 0.0           |
| 25.003 | 0.00            | 7.18           | 81.070       | 3.851            | 0.0                  | 0.0           | 0.0               | 2.01         | 319.2        | 0.0           |
| 25.004 | 0.00            | 7.56           | 80.642       | 4.097            | 0.0                  | 0.0           | 0.0               | 2.01         | 319.0        | 0.0           |
| 25.005 | 0.00            | 8.36           | 80.200       | 4.097            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 25.006 | 0.00            | 9.22           | 80.078       | 4.097            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 25.007 | 0.00            | 9.72           | 79.949       | 4.097            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.2        | 0.0           |
| 26.000 | 0.00            | 6.56           | 83.200       | 1.669            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.8        | 0.0           |
| 26.001 | 0.00            | 8.11           | 82.963       | 3.179            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.6        | 0.0           |
| 26.002 | 0.00            | 9.72           | 82.729       | 3.700            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.8        | 0.0           |
| 26.003 | 0.00            | 11.37          | 82.484       | 4.297            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 26.004 | 0.00            | 12.31          | 82.084       | 4.671            | 0.0                  | 0.0           | 0.0               | 1.21         | 342.3        | 0.0           |

|                                         |                  |                                                                                    |
|-----------------------------------------|------------------|------------------------------------------------------------------------------------|
| Waterman Group                          |                  | Page 8                                                                             |
| Pickfords Wharf                         | MIRA             |  |
| Clink Street                            | LAND SOUTH OF A5 |                                                                                    |
| London, SE1 9DG                         | EED13833         |                                                                                    |
| Date 05/01/2023                         | Designed by AS   |                                                                                    |
| File Surface Water Drainage Schemati... | Checked by HC    |                                                                                    |
| Innovyze                                | Network 2020.1.3 |                                                                                    |

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| 26.005 | 63.429        | 0.759       | 83.6           | 1.255          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 26.006 | 63.826        | 1.129       | 56.5           | 0.436          | 0.00           | 0.0                | 0.600     | o           | 600         | Pipe/Conduit |    |
| 25.008 | 45.298        | 1.818       | 24.9           | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.000 | 22.854        | 0.057       | 400.9          | 0.679          | 5.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.001 | 26.875        | 0.067       | 401.1          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.002 | 35.077        | 0.088       | 398.6          | 0.483          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.003 | 38.260        | 0.096       | 398.5          | 0.280          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.004 | 26.766        | 0.067       | 399.5          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.005 | 25.827        | 1.051       | 24.6           | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.006 | 38.476        | 0.096       | 400.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.007 | 20.122        | 0.050       | 402.4          | 0.085          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.008 | 30.535        | 0.076       | 401.8          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.009 | 46.912        | 0.117       | 401.0          | 0.189          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |    |
| 27.010 | 27.436        | 1.084       | 25.3           | 0.132          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |   |
| 27.011 | 8.510         | 0.022       | 386.8          | 0.150          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.009 | 15.362        | 0.038       | 400.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.010 | 25.956        | 0.065       | 399.3          | 0.174          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.011 | 24.650        | 0.062       | 397.6          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 450         | Pipe/Conduit |  |
| 25.012 | 27.341        | 0.122       | 224.1          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |  |
| 25.013 | 11.199        | 0.050       | 224.0          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 300         | Pipe/Conduit |  |
| 1.020  | 9.176         | 0.023       | 399.0          | 0.000          | 0.00           | 0.0                | 0.600     | \           | -2          | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| 26.005 | 0.00            | 12.71          | 81.913       | 5.926            | 0.0                  | 0.0           | 0.0               | 2.67         | 753.6        | 0.0           |
| 26.006 | 0.00            | 13.03          | 81.154       | 6.362            | 0.0                  | 0.0           | 0.0               | 3.24         | 917.0        | 0.0           |
| 25.008 | 0.00            | 13.22          | 79.873       | 10.459           | 0.0                  | 0.0           | 0.0               | 4.09         | 649.9        | 0.0           |
| 27.000 | 0.00            | 5.38           | 82.200       | 0.679            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 27.001 | 0.00            | 5.82           | 82.143       | 0.679            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 27.002 | 0.00            | 6.40           | 82.076       | 1.162            | 0.0                  | 0.0           | 0.0               | 1.01         | 161.0        | 0.0           |
| 27.003 | 0.00            | 7.03           | 81.988       | 1.442            | 0.0                  | 0.0           | 0.0               | 1.01         | 161.0        | 0.0           |
| 27.004 | 0.00            | 7.47           | 81.892       | 1.442            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.8        | 0.0           |
| 27.005 | 0.00            | 7.57           | 81.825       | 1.442            | 0.0                  | 0.0           | 0.0               | 4.11         | 654.4        | 0.0           |
| 27.006 | 0.00            | 8.21           | 80.774       | 1.442            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 27.007 | 0.00            | 8.54           | 80.678       | 1.527            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.2        | 0.0           |
| 27.008 | 0.00            | 9.05           | 80.628       | 1.527            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.3        | 0.0           |
| 27.009 | 0.00            | 9.82           | 80.552       | 1.716            | 0.0                  | 0.0           | 0.0               | 1.01         | 160.5        | 0.0           |
| 27.010 | 0.00            | 9.94           | 80.435       | 1.848            | 0.0                  | 0.0           | 0.0               | 4.05         | 644.8        | 0.0           |
| 27.011 | 0.00            | 10.07          | 79.351       | 1.998            | 0.0                  | 0.0           | 0.0               | 1.03         | 163.4        | 0.0           |
| 25.009 | 0.00            | 13.47          | 78.055       | 12.457           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.7        | 0.0           |
| 25.010 | 0.00            | 13.90          | 78.017       | 12.631           | 0.0                  | 0.0           | 0.0               | 1.01         | 160.8        | 0.0           |
| 25.011 | 0.00            | 14.31          | 77.952       | 12.631           | 0.0                  | 0.0           | 0.0               | 1.01         | 161.2        | 0.0           |
| 25.012 | 0.00            | 14.74          | 77.890       | 12.631           | 0.0                  | 0.0           | 0.0               | 1.05         | 73.9         | 0.0           |
| 25.013 | 0.00            | 14.92          | 77.768       | 12.631           | 0.0                  | 0.0           | 0.0               | 1.05         | 74.0         | 0.0           |
| 1.020  | 0.00            | 24.59          | 77.600       | 39.980           | 0.0                  | 0.0           | 0.0               | 2.40         | 3594.3       | 0.0           |

|                                                    |                                      |                                                                                    |
|----------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                     |                                      | Page 9                                                                             |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023                                    | Designed by AS                       |                                                                                    |
| File Surface Water Drainage Schemati...            | Checked by HC                        |                                                                                    |
| Innovyze                                           | Network 2020.1.3                     |                                                                                    |

Area Summary for Storm

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 1.000       | -         | -         | 100      | 0.089           | 0.089          | 0.089           |
| 1.001       | -         | -         | 100      | 0.051           | 0.051          | 0.051           |
| 1.002       | -         | -         | 100      | 0.085           | 0.085          | 0.085           |
| 2.000       | -         | -         | 100      | 0.319           | 0.319          | 0.319           |
| 2.001       | -         | -         | 100      | 0.242           | 0.242          | 0.242           |
| 2.002       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 3.000       | -         | -         | 100      | 0.362           | 0.362          | 0.362           |
| 3.001       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 3.002       | -         | -         | 100      | 0.655           | 0.655          | 0.655           |
| 3.003       | -         | -         | 100      | 0.649           | 0.649          | 0.649           |
| 3.004       | -         | -         | 100      | 0.649           | 0.649          | 0.649           |
| 3.005       | -         | -         | 100      | 0.133           | 0.133          | 0.133           |
| 3.006       | -         | -         | 100      | 0.098           | 0.098          | 0.098           |
| 4.000       | -         | -         | 100      | 0.164           | 0.164          | 0.164           |
| 2.003       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 5.000       | -         | -         | 100      | 0.095           | 0.095          | 0.095           |
| 5.001       | -         | -         | 100      | 0.042           | 0.042          | 0.042           |
| 2.004       | -         | -         | 100      | 0.301           | 0.301          | 0.301           |
| 1.003       | -         | -         | 100      | 0.142           | 0.142          | 0.142           |
| 6.000       | -         | -         | 100      | 0.135           | 0.135          | 0.135           |
| 6.001       | -         | -         | 100      | 0.099           | 0.099          | 0.099           |
| 7.000       | -         | -         | 100      | 0.185           | 0.185          | 0.185           |
| 7.001       | -         | -         | 100      | 0.079           | 0.079          | 0.079           |
| 6.002       | -         | -         | 100      | 0.023           | 0.023          | 0.023           |
| 6.003       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.004       | -         | -         | 100      | 0.121           | 0.121          | 0.121           |
| 1.005       | -         | -         | 100      | 0.125           | 0.125          | 0.125           |
| 1.006       | -         | -         | 100      | 0.199           | 0.199          | 0.199           |
| 8.000       | -         | -         | 100      | 0.770           | 0.770          | 0.770           |
| 8.001       | -         | -         | 100      | 0.672           | 0.672          | 0.672           |
| 8.002       | -         | -         | 100      | 0.621           | 0.621          | 0.621           |
| 8.003       | -         | -         | 100      | 0.119           | 0.119          | 0.119           |
| 9.000       | -         | -         | 100      | 0.095           | 0.095          | 0.095           |
| 9.001       | -         | -         | 100      | 0.368           | 0.368          | 0.368           |
| 9.002       | -         | -         | 100      | 0.366           | 0.366          | 0.366           |
| 9.003       | -         | -         | 100      | 0.352           | 0.352          | 0.352           |
| 9.004       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 9.005       | -         | -         | 100      | 0.123           | 0.123          | 0.123           |
| 9.006       | -         | -         | 100      | 0.372           | 0.372          | 0.372           |
| 8.004       | -         | -         | 100      | 0.200           | 0.200          | 0.200           |
| 10.000      | -         | -         | 100      | 0.119           | 0.119          | 0.119           |
| 8.005       | -         | -         | 100      | 0.118           | 0.118          | 0.118           |
| 8.006       | -         | -         | 100      | 0.074           | 0.074          | 0.074           |
| 8.007       | -         | -         | 100      | 0.021           | 0.021          | 0.021           |
| 1.007       | -         | -         | 100      | 0.182           | 0.182          | 0.182           |
| 11.000      | -         | -         | 100      | 0.550           | 0.550          | 0.550           |
| 11.001      | -         | -         | 100      | 0.507           | 0.507          | 0.507           |
| 11.002      | -         | -         | 100      | 0.351           | 0.351          | 0.351           |
| 11.003      | -         | -         | 100      | 0.255           | 0.255          | 0.255           |
| 12.000      | -         | -         | 100      | 0.573           | 0.573          | 0.573           |
| 12.001      | -         | -         | 100      | 0.507           | 0.507          | 0.507           |
| 11.004      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.008       | -         | -         | 100      | 0.048           | 0.048          | 0.048           |
| 13.000      | -         | -         | 100      | 0.070           | 0.070          | 0.070           |
| 13.001      | -         | -         | 100      | 0.084           | 0.084          | 0.084           |
| 1.009       | -         | -         | 100      | 0.050           | 0.050          | 0.050           |
| 1.010       | -         | -         | 100      | 0.072           | 0.072          | 0.072           |
| 1.011       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 14.000      | -         | -         | 100      | 0.116           | 0.116          | 0.116           |
| 14.001      | -         | -         | 100      | 0.062           | 0.062          | 0.062           |
| 14.002      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 14.003      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |

|                                                    |                                      |                                                                                    |
|----------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                     |                                      | Page 10                                                                            |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023                                    | Designed by AS                       |                                                                                    |
| File Surface Water Drainage Schemati...            | Checked by HC                        |                                                                                    |
| Innovyze                                           | Network 2020.1.3                     |                                                                                    |

Area Summary for Storm

| Pipe<br>Number | PIMP<br>Type | PIMP<br>Name | PIMP<br>(%) | Gross<br>Area (ha) | Imp.<br>Area (ha) | Pipe Total<br>(ha) |
|----------------|--------------|--------------|-------------|--------------------|-------------------|--------------------|
| 1.012          | -            | -            | 100         | 0.041              | 0.041             | 0.041              |
| 1.013          | -            | -            | 100         | 0.084              | 0.084             | 0.084              |
| 1.014          | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 1.015          | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 15.000         | -            | -            | 100         | 0.225              | 0.225             | 0.225              |
| 15.001         | -            | -            | 100         | 0.110              | 0.110             | 0.110              |
| 15.002         | -            | -            | 100         | 0.108              | 0.108             | 0.108              |
| 15.003         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.000         | -            | -            | 100         | 0.645              | 0.645             | 0.645              |
| 16.001         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.002         | -            | -            | 100         | 0.812              | 0.812             | 0.812              |
| 16.003         | -            | -            | 100         | 0.667              | 0.667             | 0.667              |
| 16.004         | -            | -            | 100         | 0.711              | 0.711             | 0.711              |
| 16.005         | -            | -            | 100         | 0.943              | 0.943             | 0.943              |
| 16.006         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.007         | -            | -            | 100         | 0.248              | 0.248             | 0.248              |
| 16.008         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.009         | -            | -            | 100         | 0.050              | 0.050             | 0.050              |
| 17.000         | -            | -            | 100         | 0.166              | 0.166             | 0.166              |
| 17.001         | -            | -            | 100         | 0.224              | 0.224             | 0.224              |
| 18.000         | -            | -            | 100         | 0.448              | 0.448             | 0.448              |
| 18.001         | -            | -            | 100         | 0.504              | 0.504             | 0.504              |
| 18.002         | -            | -            | 100         | 0.443              | 0.443             | 0.443              |
| 18.003         | -            | -            | 100         | 0.431              | 0.431             | 0.431              |
| 18.004         | -            | -            | 100         | 0.232              | 0.232             | 0.232              |
| 18.005         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 17.002         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.010         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.011         | -            | -            | 100         | 0.213              | 0.213             | 0.213              |
| 16.012         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 16.013         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 19.000         | -            | -            | 100         | 0.779              | 0.779             | 0.779              |
| 19.001         | -            | -            | 100         | 0.833              | 0.833             | 0.833              |
| 19.002         | -            | -            | 100         | 0.610              | 0.610             | 0.610              |
| 19.003         | -            | -            | 100         | 0.362              | 0.362             | 0.362              |
| 19.004         | -            | -            | 100         | 0.171              | 0.171             | 0.171              |
| 20.000         | -            | -            | 100         | 0.168              | 0.168             | 0.168              |
| 20.001         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 19.005         | -            | -            | 100         | 0.084              | 0.084             | 0.084              |
| 16.014         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 1.016          | -            | -            | 100         | 0.486              | 0.486             | 0.486              |
| 1.017          | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 1.018          | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 21.000         | -            | -            | 100         | 0.205              | 0.205             | 0.205              |
| 21.001         | -            | -            | 100         | 0.067              | 0.067             | 0.067              |
| 21.002         | -            | -            | 100         | 0.064              | 0.064             | 0.064              |
| 21.003         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 22.000         | -            | -            | 100         | 0.507              | 0.507             | 0.507              |
| 22.001         | -            | -            | 100         | 0.628              | 0.628             | 0.628              |
| 22.002         | -            | -            | 100         | 0.490              | 0.490             | 0.490              |
| 22.003         | -            | -            | 100         | 0.550              | 0.550             | 0.550              |
| 22.004         | -            | -            | 100         | 0.367              | 0.367             | 0.367              |
| 22.005         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 23.000         | -            | -            | 100         | 0.444              | 0.444             | 0.444              |
| 24.000         | -            | -            | 100         | 0.166              | 0.166             | 0.166              |
| 23.001         | -            | -            | 100         | 0.140              | 0.140             | 0.140              |
| 23.002         | -            | -            | 100         | 0.064              | 0.064             | 0.064              |
| 23.003         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 21.004         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 21.005         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 21.006         | -            | -            | 100         | 0.000              | 0.000             | 0.000              |
| 1.019          | -            | -            | 100         | 0.000              | 0.000             | 0.000              |

Area Summary for Storm

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 25.000      | -         | -         | 100      | 1.671           | 1.671          | 1.671           |
| 25.001      | -         | -         | 100      | 1.509           | 1.509          | 1.509           |
| 25.002      | -         | -         | 100      | 0.291           | 0.291          | 0.291           |
| 25.003      | -         | -         | 100      | 0.380           | 0.380          | 0.380           |
| 25.004      | -         | -         | 100      | 0.246           | 0.246          | 0.246           |
| 25.005      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 25.006      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 25.007      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 26.000      | -         | -         | 100      | 1.669           | 1.669          | 1.669           |
| 26.001      | -         | -         | 100      | 1.510           | 1.510          | 1.510           |
| 26.002      | -         | -         | 100      | 0.521           | 0.521          | 0.521           |
| 26.003      | -         | -         | 100      | 0.597           | 0.597          | 0.597           |
| 26.004      | -         | -         | 100      | 0.374           | 0.374          | 0.374           |
| 26.005      | -         | -         | 100      | 1.255           | 1.255          | 1.255           |
| 26.006      | -         | -         | 100      | 0.436           | 0.436          | 0.436           |
| 25.008      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.000      | -         | -         | 100      | 0.679           | 0.679          | 0.679           |
| 27.001      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.002      | -         | -         | 100      | 0.483           | 0.483          | 0.483           |
| 27.003      | -         | -         | 100      | 0.280           | 0.280          | 0.280           |
| 27.004      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.005      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.006      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.007      | -         | -         | 100      | 0.085           | 0.085          | 0.085           |
| 27.008      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 27.009      | -         | -         | 100      | 0.189           | 0.189          | 0.189           |
| 27.010      | -         | -         | 100      | 0.132           | 0.132          | 0.132           |
| 27.011      | -         | -         | 100      | 0.150           | 0.150          | 0.150           |
| 25.009      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 25.010      | -         | -         | 100      | 0.174           | 0.174          | 0.174           |
| 25.011      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 25.012      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 25.013      | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.020       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
|             |           |           |          | Total           | Total          | Total           |
|             |           |           |          | 39.980          | 39.980         | 39.980          |

Free Flowing Outfall Details for Storm

| Outfall Pipe Number | Outfall Name | C. Level (m) | I. Level (m) | Min I. Level (m) | D,L (mm) | W (mm) |
|---------------------|--------------|--------------|--------------|------------------|----------|--------|
| 1.020               |              | 78.680       | 77.577       | 0.000            | 0        | 0      |

Online Controls for Storm

Hydro-Brake® Optimum Manhole: 11, DS/PN: 3.004, Volume (m³): 16.1

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0108-8000-2737-8000 |
| Design Head (m)                   | 2.737                      |
| Design Flow (l/s)                 | 8.0                        |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 108                        |
| Invert Level (m)                  | 86.613                     |
| Minimum Outlet Pipe Diameter (mm) | 150                        |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.737    | 8.0        | Kick-Flo®                 | 0.966    | 4.9        |
| Flush-Flo™                | 0.472    | 6.2        | Mean Flow over Head Range | -        | 6.1        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 3.7        | 0.800     | 5.7        | 2.000     | 6.9        | 4.000     | 9.6        | 7.000     | 12.5       |
| 0.200     | 5.5        | 1.000     | 5.0        | 2.200     | 7.2        | 4.500     | 10.1       | 7.500     | 12.9       |
| 0.300     | 6.0        | 1.200     | 5.4        | 2.400     | 7.5        | 5.000     | 10.6       | 8.000     | 13.3       |
| 0.400     | 6.2        | 1.400     | 5.8        | 2.600     | 7.8        | 5.500     | 11.1       | 8.500     | 13.7       |
| 0.500     | 6.2        | 1.600     | 6.2        | 3.000     | 8.3        | 6.000     | 11.6       | 9.000     | 14.1       |
| 0.600     | 6.1        | 1.800     | 6.6        | 3.500     | 9.0        | 6.500     | 12.0       | 9.500     | 14.4       |

Hydro-Brake® Optimum Manhole: 18, DS/PN: 2.004, Volume (m³): 12.3

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0141-1400-2968-1400 |
| Design Head (m)                   | 2.968                      |
| Design Flow (l/s)                 | 14.0                       |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 141                        |
| Invert Level (m)                  | 85.932                     |
| Minimum Outlet Pipe Diameter (mm) | 225                        |
| Suggested Manhole Diameter (mm)   | 1500                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.968    | 14.0       | Kick-Flo®                 | 1.259    | 9.3        |
| Flush-Flo™                | 0.613    | 11.8       | Mean Flow over Head Range | -        | 11.1       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 5.1        | 0.800     | 11.7       | 2.000     | 11.6       | 4.000     | 16.1       | 7.000     | 21.1       |
| 0.200     | 9.7        | 1.000     | 11.1       | 2.200     | 12.1       | 4.500     | 17.0       | 7.500     | 21.8       |
| 0.300     | 10.9       | 1.200     | 9.9        | 2.400     | 12.6       | 5.000     | 17.9       | 8.000     | 22.5       |
| 0.400     | 11.5       | 1.400     | 9.8        | 2.600     | 13.1       | 5.500     | 18.8       | 8.500     | 23.1       |
| 0.500     | 11.7       | 1.600     | 10.4       | 3.000     | 14.1       | 6.000     | 19.6       | 9.000     | 23.8       |
| 0.600     | 11.8       | 1.800     | 11.0       | 3.500     | 15.1       | 6.500     | 20.3       | 9.500     | 24.4       |

**Hydro-Brake® Optimum Manhole: 25, DS/PN: 6.003, Volume (m³): 7.8**

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0062-2300-1858-2300 |
| Design Head (m)                   | 1.858                      |
| Design Flow (l/s)                 | 2.3                        |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 62                         |
| Invert Level (m)                  | 85.842                     |
| Minimum Outlet Pipe Diameter (mm) | 75                         |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.858    | 2.3        | Kick-Flo®                 | 0.555    | 1.3        |
| Flush-Flo™                | 0.270    | 1.6        | Mean Flow over Head Range | -        | 1.7        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 1.4        | 0.800     | 1.6        | 2.000     | 2.4        | 4.000     | 3.3        | 7.000     | 4.3        |
| 0.200     | 1.6        | 1.000     | 1.7        | 2.200     | 2.5        | 4.500     | 3.5        | 7.500     | 4.4        |
| 0.300     | 1.6        | 1.200     | 1.9        | 2.400     | 2.6        | 5.000     | 3.6        | 8.000     | 4.5        |
| 0.400     | 1.6        | 1.400     | 2.0        | 2.600     | 2.7        | 5.500     | 3.8        | 8.500     | 4.7        |
| 0.500     | 1.5        | 1.600     | 2.1        | 3.000     | 2.9        | 6.000     | 4.0        | 9.000     | 4.8        |
| 0.600     | 1.4        | 1.800     | 2.3        | 3.500     | 3.1        | 6.500     | 4.1        | 9.500     | 4.9        |

**Hydro-Brake® Optimum Manhole: 31, DS/PN: 8.002, Volume (m³): 13.3**

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0121-8900-2192-8900 |
| Design Head (m)                   | 2.192                      |
| Design Flow (l/s)                 | 8.9                        |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 121                        |
| Invert Level (m)                  | 83.658                     |
| Minimum Outlet Pipe Diameter (mm) | 150                        |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.192    | 8.9        | Kick-Flo®                 | 1.081    | 6.4        |
| Flush-Flo™                | 0.531    | 8.0        | Mean Flow over Head Range | -        | 7.3        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 4.3        | 0.800     | 7.7        | 2.000     | 8.5        | 4.000     | 11.8       | 7.000     | 15.4       |
| 0.200     | 6.9        | 1.000     | 7.0        | 2.200     | 8.9        | 4.500     | 12.5       | 7.500     | 16.0       |
| 0.300     | 7.6        | 1.200     | 6.7        | 2.400     | 9.3        | 5.000     | 13.2       | 8.000     | 16.5       |
| 0.400     | 7.9        | 1.400     | 7.2        | 2.600     | 9.6        | 5.500     | 13.8       | 8.500     | 17.0       |
| 0.500     | 8.0        | 1.600     | 7.7        | 3.000     | 10.3       | 6.000     | 14.4       | 9.000     | 17.4       |
| 0.600     | 8.0        | 1.800     | 8.1        | 3.500     | 11.1       | 6.500     | 14.9       | 9.500     | 17.9       |

Orifice Manhole: 39, DS/PN: 9.006, Volume (m³): 6.3

Diameter (m) 0.150 Discharge Coefficient 0.600 Invert Level (m) 83.246

Hydro-Brake® Optimum Manhole: 42, DS/PN: 8.005, Volume (m³): 13.0

|                                           |                           |
|-------------------------------------------|---------------------------|
| Unit Reference MD-SHE-0169-1860-2598-1860 |                           |
| Design Head (m)                           | 2.598                     |
| Design Flow (l/s)                         | 18.6                      |
| Flush-Flo™                                | Calculated                |
| Objective                                 | Minimise upstream storage |
| Application                               | Surface                   |
| Sump Available                            | Yes                       |
| Diameter (mm)                             | 169                       |
| Invert Level (m)                          | 81.902                    |
| Minimum Outlet Pipe Diameter (mm)         | 225                       |
| Suggested Manhole Diameter (mm)           | 1800                      |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.598    | 18.6       | Kick-Flo®                 | 1.508    | 14.4       |
| Flush-Flo™                | 0.736    | 18.3       | Mean Flow over Head Range | -        | 16.1       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 6.0        | 0.800     | 18.2       | 2.000     | 16.4       | 4.000     | 22.8       | 7.000     | 29.9       |
| 0.200     | 14.1       | 1.000     | 17.9       | 2.200     | 17.2       | 4.500     | 24.2       | 7.500     | 30.9       |
| 0.300     | 16.0       | 1.200     | 17.2       | 2.400     | 17.9       | 5.000     | 25.4       | 8.000     | 31.9       |
| 0.400     | 17.1       | 1.400     | 15.7       | 2.600     | 18.6       | 5.500     | 26.6       | 8.500     | 32.8       |
| 0.500     | 17.8       | 1.600     | 14.8       | 3.000     | 19.9       | 6.000     | 27.8       | 9.000     | 33.8       |
| 0.600     | 18.1       | 1.800     | 15.6       | 3.500     | 21.4       | 6.500     | 28.9       | 9.500     | 34.6       |

Hydro-Brake® Optimum Manhole: 52, DS/PN: 11.004, Volume (m³): 30.7

|                                           |                           |
|-------------------------------------------|---------------------------|
| Unit Reference MD-SHE-0130-1180-2923-1180 |                           |
| Design Head (m)                           | 2.923                     |
| Design Flow (l/s)                         | 11.8                      |
| Flush-Flo™                                | Calculated                |
| Objective                                 | Minimise upstream storage |
| Application                               | Surface                   |
| Sump Available                            | Yes                       |
| Diameter (mm)                             | 130                       |
| Invert Level (m)                          | 80.927                    |
| Minimum Outlet Pipe Diameter (mm)         | 150                       |
| Suggested Manhole Diameter (mm)           | 1500                      |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.923    | 11.8       | Kick-Flo®                 | 1.163    | 7.6        |
| Flush-Flo™                | 0.564    | 9.7        | Mean Flow over Head Range | -        | 9.3        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 4.7        | 0.600     | 9.7        | 1.600     | 8.9        | 2.600     | 11.2       | 5.000     | 15.2       |
| 0.200     | 8.2        | 0.800     | 9.5        | 1.800     | 9.4        | 3.000     | 11.9       | 5.500     | 15.9       |
| 0.300     | 9.1        | 1.000     | 8.8        | 2.000     | 9.9        | 3.500     | 12.9       | 6.000     | 16.6       |
| 0.400     | 9.5        | 1.200     | 7.8        | 2.200     | 10.3       | 4.000     | 13.7       | 6.500     | 17.3       |
| 0.500     | 9.7        | 1.400     | 8.3        | 2.400     | 10.7       | 4.500     | 14.5       | 7.000     | 17.9       |

Hydro-Brake® Optimum Manhole: 52, DS/PN: 11.004, Volume (m³): 30.7

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 7.500     | 18.5       | 8.000     | 19.1       | 8.500     | 19.6       | 9.000     | 20.2       | 9.500     | 20.7       |

Hydro-Brake® Optimum Manhole: 62, DS/PN: 14.003, Volume (m³): 1.9

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0038-8000-1469-8000 |
| Design Head (m)                   | 1.469                      |
| Design Flow (l/s)                 | 0.8                        |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 38                         |
| Invert Level (m)                  | 80.531                     |
| Minimum Outlet Pipe Diameter (mm) | 75                         |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.469    | 0.8        | Kick-Flo®                 | 0.336    | 0.4        |
| Flush-Flo™                | 0.166    | 0.5        | Mean Flow over Head Range | -        | 0.6        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 0.5        | 0.800     | 0.6        | 2.000     | 0.9        | 4.000     | 1.3        | 7.000     | 1.6        |
| 0.200     | 0.5        | 1.000     | 0.7        | 2.200     | 1.0        | 4.500     | 1.3        | 7.500     | 1.7        |
| 0.300     | 0.5        | 1.200     | 0.7        | 2.400     | 1.0        | 5.000     | 1.4        | 8.000     | 1.7        |
| 0.400     | 0.5        | 1.400     | 0.8        | 2.600     | 1.0        | 5.500     | 1.4        | 8.500     | 1.8        |
| 0.500     | 0.5        | 1.600     | 0.8        | 3.000     | 1.1        | 6.000     | 1.5        | 9.000     | 1.8        |
| 0.600     | 0.5        | 1.800     | 0.9        | 3.500     | 1.2        | 6.500     | 1.6        | 9.500     | 1.9        |

Hydro-Brake® Optimum Manhole: 63, DS/PN: 1.012, Volume (m³): 10.1

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| Unit Reference                    | MD-SHE-0287-5570-2538-5570                         |
| Design Head (m)                   | 2.538                                              |
| Design Flow (l/s)                 | 55.7                                               |
| Flush-Flo™                        | Calculated                                         |
| Objective                         | Minimise upstream storage                          |
| Application                       | Surface                                            |
| Sump Available                    | Yes                                                |
| Diameter (mm)                     | 287                                                |
| Invert Level (m)                  | 79.462                                             |
| Minimum Outlet Pipe Diameter (mm) | 300                                                |
| Suggested Manhole Diameter (mm)   | Site Specific Design (Contact Hydro International) |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.538    | 55.7       | Kick-Flo®                 | 1.614    | 44.8       |
| Flush-Flo™                | 0.749    | 55.7       | Mean Flow over Head Range | -        | 48.3       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 8.9        | 0.400     | 52.1       | 0.800     | 55.7       | 1.400     | 50.8       | 2.000     | 49.7       |
| 0.200     | 29.6       | 0.500     | 54.2       | 1.000     | 54.9       | 1.600     | 45.4       | 2.200     | 52.0       |
| 0.300     | 48.7       | 0.600     | 55.2       | 1.200     | 53.5       | 1.800     | 47.2       | 2.400     | 54.2       |

Hydro-Brake® Optimum Manhole: 63, DS/PN: 1.012, Volume (m³): 10.1

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 2.600     | 56.4       | 4.000     | 69.4       | 5.500     | 81.0       | 7.000     | 91.1       | 8.500     | 100.1      |
| 3.000     | 60.4       | 4.500     | 73.5       | 6.000     | 84.5       | 7.500     | 94.2       | 9.000     | 103.0      |
| 3.500     | 65.1       | 5.000     | 77.3       | 6.500     | 87.9       | 8.000     | 97.2       | 9.500     | 105.7      |

Hydro-Brake® Optimum Manhole: 66, DS/PN: 1.015, Volume (m³): 6.2

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| Unit Reference                    | MD-SHE-0288-5610-2562-5610                         |
| Design Head (m)                   | 2.562                                              |
| Design Flow (l/s)                 | 56.1                                               |
| Flush-Flo™                        | Calculated                                         |
| Objective                         | Minimise upstream storage                          |
| Application                       | Surface                                            |
| Sump Available                    | Yes                                                |
| Diameter (mm)                     | 288                                                |
| Invert Level (m)                  | 79.188                                             |
| Minimum Outlet Pipe Diameter (mm) | 300                                                |
| Suggested Manhole Diameter (mm)   | Site Specific Design (Contact Hydro International) |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.562    | 56.0       | Kick-Flo®                 | 1.616    | 44.9       |
| Flush-Flo™                | 0.744    | 56.1       | Mean Flow over Head Range | -        | 48.6       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 8.9        | 0.800     | 56.0       | 2.000     | 49.7       | 4.000     | 69.5       | 7.000     | 91.2       |
| 0.200     | 29.6       | 1.000     | 55.2       | 2.200     | 52.1       | 4.500     | 73.6       | 7.500     | 94.3       |
| 0.300     | 49.1       | 1.200     | 53.8       | 2.400     | 54.3       | 5.000     | 77.5       | 8.000     | 97.4       |
| 0.400     | 52.5       | 1.400     | 51.0       | 2.600     | 56.4       | 5.500     | 81.1       | 8.500     | 100.3      |
| 0.500     | 54.6       | 1.600     | 45.6       | 3.000     | 60.5       | 6.000     | 84.6       | 9.000     | 103.1      |
| 0.600     | 55.6       | 1.800     | 47.3       | 3.500     | 65.2       | 6.500     | 88.0       | 9.500     | 105.9      |

Hydro-Brake® Optimum Manhole: 77, DS/PN: 16.006, Volume (m³): 14.5

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| Unit Reference                    | MD-SHE-0227-3800-3400-3800                         |
| Design Head (m)                   | 3.400                                              |
| Design Flow (l/s)                 | 38.0                                               |
| Flush-Flo™                        | Calculated                                         |
| Objective                         | Minimise upstream storage                          |
| Application                       | Surface                                            |
| Sump Available                    | Yes                                                |
| Diameter (mm)                     | 227                                                |
| Invert Level (m)                  | 79.378                                             |
| Minimum Outlet Pipe Diameter (mm) | 300                                                |
| Suggested Manhole Diameter (mm)   | Site Specific Design (Contact Hydro International) |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 3.400    | 37.9       | Kick-Flo®                 | 2.027    | 29.6       |
| Flush-Flo™                | 0.981    | 37.9       | Mean Flow over Head Range | -        | 33.2       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 7.6        | 0.200     | 22.7       | 0.300     | 30.5       | 0.400     | 33.2       | 0.500     | 35.1       |

Hydro-Brake® Optimum Manhole: 77, DS/PN: 16.006, Volume (m³): 14.5

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.600     | 36.3       | 1.600     | 35.6       | 2.600     | 33.3       | 5.000     | 45.6       | 7.500     | 55.5       |
| 0.800     | 37.6       | 1.800     | 33.6       | 3.000     | 35.7       | 5.500     | 47.8       | 8.000     | 57.3       |
| 1.000     | 37.9       | 2.000     | 30.2       | 3.500     | 38.4       | 6.000     | 49.8       | 8.500     | 59.0       |
| 1.200     | 37.6       | 2.200     | 30.7       | 4.000     | 41.0       | 6.500     | 51.8       | 9.000     | 60.7       |
| 1.400     | 36.9       | 2.400     | 32.1       | 4.500     | 43.4       | 7.000     | 53.7       | 9.500     | 62.3       |

Hydro-Brake® Optimum Manhole: 86, DS/PN: 18.003, Volume (m³): 20.6

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| Unit Reference                    | MD-SHE-0359-9500-3000-9500                         |
| Design Head (m)                   | 3.000                                              |
| Design Flow (l/s)                 | 95.0                                               |
| Flush-Flo™                        | Calculated                                         |
| Objective                         | Minimise upstream storage                          |
| Application                       | Surface                                            |
| Sump Available                    | Yes                                                |
| Diameter (mm)                     | 359                                                |
| Invert Level (m)                  | 79.646                                             |
| Minimum Outlet Pipe Diameter (mm) | 375                                                |
| Suggested Manhole Diameter (mm)   | Site Specific Design (Contact Hydro International) |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 3.000    | 94.9       | Kick-Flo®                 | 1.918    | 76.4       |
| Flush-Flo™                | 0.883    | 95.0       | Mean Flow over Head Range | -        | 82.1       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 10.3       | 0.800     | 94.8       | 2.000     | 77.9       | 4.000     | 109.1      | 7.000     | 143.3      |
| 0.200     | 36.1       | 1.000     | 94.7       | 2.200     | 81.6       | 4.500     | 115.6      | 7.500     | 148.3      |
| 0.300     | 67.3       | 1.200     | 93.5       | 2.400     | 85.1       | 5.000     | 121.6      | 8.000     | 153.0      |
| 0.400     | 85.7       | 1.400     | 91.4       | 2.600     | 88.5       | 5.500     | 127.4      | 8.500     | 157.6      |
| 0.500     | 89.9       | 1.600     | 88.1       | 3.000     | 94.9       | 6.000     | 132.9      | 9.000     | 162.1      |
| 0.600     | 92.5       | 1.800     | 82.0       | 3.500     | 102.3      | 6.500     | 138.2      | 9.500     | 166.4      |

Hydro-Brake® Optimum Manhole: 89, DS/PN: 17.002, Volume (m³): 22.6

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0117-1060-3639-1060 |
| Design Head (m)                   | 3.639                      |
| Design Flow (l/s)                 | 10.6                       |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 117                        |
| Invert Level (m)                  | 79.111                     |
| Minimum Outlet Pipe Diameter (mm) | 150                        |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 3.639    | 10.6       | Kick-Flo®                 | 1.045    | 5.9        |
| Flush-Flo™                | 0.509    | 7.4        | Mean Flow over Head Range | -        | 7.9        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Hydro-Brake® Optimum Manhole: 89, DS/PN: 17.002, Volume (m³): 22.6

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 4.1        | 0.800     | 7.1        | 2.000     | 8.0        | 4.000     | 11.1       | 7.000     | 14.5       |
| 0.200     | 6.5        | 1.000     | 6.2        | 2.200     | 8.3        | 4.500     | 11.7       | 7.500     | 14.9       |
| 0.300     | 7.1        | 1.200     | 6.3        | 2.400     | 8.7        | 5.000     | 12.3       | 8.000     | 15.4       |
| 0.400     | 7.4        | 1.400     | 6.8        | 2.600     | 9.0        | 5.500     | 12.9       | 8.500     | 15.9       |
| 0.500     | 7.4        | 1.600     | 7.2        | 3.000     | 9.7        | 6.000     | 13.4       | 9.000     | 16.3       |
| 0.600     | 7.4        | 1.800     | 7.6        | 3.500     | 10.4       | 6.500     | 14.0       | 9.500     | 16.7       |

Orifice Manhole: 93, DS/PN: 16.013, Volume (m³): 10.6

Diameter (m) 0.201 Discharge Coefficient 0.600 Invert Level (m) 78.718

Orifice Manhole: 101, DS/PN: 19.005, Volume (m³): 11.1

Diameter (m) 0.140 Discharge Coefficient 0.600 Invert Level (m) 78.482

Hydro-Brake® Optimum Manhole: 105, DS/PN: 1.018, Volume (m³): 6.6

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0264-4200-1700-4200 |
| Design Head (m)                   | 1.700                      |
| Design Flow (l/s)                 | 42.0                       |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 264                        |
| Invert Level (m)                  | 77.814                     |
| Minimum Outlet Pipe Diameter (mm) | 300                        |
| Suggested Manhole Diameter (mm)   | 2100                       |

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.700    | 42.0       | Kick-Flo®                 | 1.154    | 34.9       |
| Flush-Flo™                | 0.526    | 42.0       | Mean Flow over Head Range | -        | 35.9       |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 8.4        | 0.800     | 40.9       | 2.000     | 45.4       | 4.000     | 63.5       | 7.000     | 83.3       |
| 0.200     | 27.2       | 1.000     | 38.8       | 2.200     | 47.5       | 4.500     | 67.2       | 7.500     | 86.1       |
| 0.300     | 39.8       | 1.200     | 35.5       | 2.400     | 49.6       | 5.000     | 70.7       | 8.000     | 88.9       |
| 0.400     | 41.4       | 1.400     | 38.2       | 2.600     | 51.5       | 5.500     | 74.1       | 8.500     | 91.6       |
| 0.500     | 41.9       | 1.600     | 40.8       | 3.000     | 55.2       | 6.000     | 77.3       | 9.000     | 94.2       |
| 0.600     | 41.8       | 1.800     | 43.2       | 3.500     | 59.5       | 6.500     | 80.3       | 9.500     | 96.7       |

Hydro-Brake® Optimum Manhole: 115, DS/PN: 22.005, Volume (m³): 9.3

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0126-1130-3012-1130 |
| Design Head (m)                   | 3.012                      |
| Design Flow (l/s)                 | 11.3                       |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 126                        |
| Invert Level (m)                  | 78.488                     |
| Minimum Outlet Pipe Diameter (mm) | 150                        |
| Suggested Manhole Diameter (mm)   | 1500                       |

Hydro-Brake® Optimum Manhole: 115, DS/PN: 22.005, Volume (m³): 9.3

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 3.012    | 11.3       | Kick-Flo®                 | 1.129    | 7.1        |
| Flush-Flo™                | 0.552    | 9.0        | Mean Flow over Head Range | -        | 8.8        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 4.5        | 0.800     | 8.7        | 2.000     | 9.3        | 4.000     | 12.9       | 7.000     | 16.9       |
| 0.200     | 7.6        | 1.000     | 8.0        | 2.200     | 9.7        | 4.500     | 13.7       | 7.500     | 17.5       |
| 0.300     | 8.4        | 1.200     | 7.3        | 2.400     | 10.1       | 5.000     | 14.4       | 8.000     | 18.0       |
| 0.400     | 8.8        | 1.400     | 7.9        | 2.600     | 10.5       | 5.500     | 15.0       | 8.500     | 18.5       |
| 0.500     | 9.0        | 1.600     | 8.4        | 3.000     | 11.3       | 6.000     | 15.7       | 9.000     | 19.0       |
| 0.600     | 9.0        | 1.800     | 8.9        | 3.500     | 12.1       | 6.500     | 16.3       | 9.500     | 19.5       |

Hydro-Brake® Optimum Manhole: 123, DS/PN: 21.006, Volume (m³): 7.9

Unit Reference MD-SHE-0041-1000-1694-1000

Design Head (m) 1.694

Design Flow (l/s) 1.0

Flush-Flo™ Calculated

Objective Minimise upstream storage

Application Surface

Sump Available Yes

Diameter (mm) 41

Invert Level (m) 77.806

Minimum Outlet Pipe Diameter (mm) 75

Suggested Manhole Diameter (mm) 1200

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.694    | 1.0        | Kick-Flo®                 | 0.369    | 0.5        |
| Flush-Flo™                | 0.183    | 0.6        | Mean Flow over Head Range | -        | 0.7        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 0.6        | 0.800     | 0.7        | 2.000     | 1.1        | 4.000     | 1.5        | 7.000     | 1.9        |
| 0.200     | 0.6        | 1.000     | 0.8        | 2.200     | 1.1        | 4.500     | 1.6        | 7.500     | 2.0        |
| 0.300     | 0.6        | 1.200     | 0.9        | 2.400     | 1.2        | 5.000     | 1.6        | 8.000     | 2.0        |
| 0.400     | 0.5        | 1.400     | 0.9        | 2.600     | 1.2        | 5.500     | 1.7        | 8.500     | 2.1        |
| 0.500     | 0.6        | 1.600     | 1.0        | 3.000     | 1.3        | 6.000     | 1.8        | 9.000     | 2.1        |
| 0.600     | 0.6        | 1.800     | 1.0        | 3.500     | 1.4        | 6.500     | 1.8        | 9.500     | 2.2        |

Orifice Manhole: 140, DS/PN: 25.008, Volume (m³): 27.5

Diameter (m) 0.280 Discharge Coefficient 0.600 Invert Level (m) 79.873

Hydro-Brake® Optimum Manhole: 145, DS/PN: 27.004, Volume (m³): 9.3

Unit Reference MD-SHE-0040-1000-1958-1000

Design Head (m) 1.958

Design Flow (l/s) 1.0

Flush-Flo™ Calculated

Objective Minimise upstream storage

Application Surface

Sump Available Yes

Hydro-Brake® Optimum Manhole: 145, DS/PN: 27.004, Volume (m³): 9.3

Diameter (mm) 40  
Invert Level (m) 81.892  
Minimum Outlet Pipe Diameter (mm) 75  
Suggested Manhole Diameter (mm) 1200

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.958    | 1.0        | Kick-Flo®                 | 0.355    | 0.5        |
| Flush-Flo™                | 0.176    | 0.6        | Mean Flow over Head Range | -        | 0.7        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 0.5        | 0.800     | 0.7        | 2.000     | 1.0        | 4.000     | 1.4        | 7.000     | 1.8        |
| 0.200     | 0.6        | 1.000     | 0.7        | 2.200     | 1.1        | 4.500     | 1.5        | 7.500     | 1.8        |
| 0.300     | 0.5        | 1.200     | 0.8        | 2.400     | 1.1        | 5.000     | 1.5        | 8.000     | 1.9        |
| 0.400     | 0.5        | 1.400     | 0.9        | 2.600     | 1.1        | 5.500     | 1.6        | 8.500     | 2.0        |
| 0.500     | 0.5        | 1.600     | 0.9        | 3.000     | 1.2        | 6.000     | 1.7        | 9.000     | 2.0        |
| 0.600     | 0.6        | 1.800     | 1.0        | 3.500     | 1.3        | 6.500     | 1.7        | 9.500     | 2.1        |

Orifice Manhole: 152, DS/PN: 27.011, Volume (m³): 7.0

Diameter (m) 0.297 Discharge Coefficient 0.600 Invert Level (m) 79.351

Orifice Manhole: 156, DS/PN: 25.012, Volume (m³): 3.9

Diameter (m) 0.230 Discharge Coefficient 0.600 Invert Level (m) 77.890

Storage Structures for Storm

Tank or Pond Manhole: 6, DS/PN: 2.002

Invert Level (m) 86.814

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 10, DS/PN: 3.003

Invert Level (m) 86.936

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 11, DS/PN: 3.004

Invert Level (m) 86.613

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 15, DS/PN: 2.003

Invert Level (m) 86.582

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 25, DS/PN: 6.003

Invert Level (m) 85.842

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 29, DS/PN: 8.000

Invert Level (m) 84.200

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 31, DS/PN: 8.002

Invert Level (m) 83.658

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 35, DS/PN: 9.002

Invert Level (m) 84.068

Tank or Pond Manhole: 35, DS/PN: 9.002

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 250.0     | 1.000     | 250.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 37, DS/PN: 9.004

Invert Level (m) 83.588

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 250.0     | 1.000     | 250.0     | 1.050     | 0.0       |

Tank or Pond Manhole: 39, DS/PN: 9.006

Invert Level (m) 83.247

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 250.0     | 1.000     | 250.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 42, DS/PN: 8.005

Invert Level (m) 82.352

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 47, DS/PN: 11.001

Invert Level (m) 81.866

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 48, DS/PN: 11.002

Invert Level (m) 81.371

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 51, DS/PN: 12.001

Invert Level (m) 81.939

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 52, DS/PN: 11.004

Invert Level (m) 80.927

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 2500.0    | 1.000     | 2500.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 61, DS/PN: 14.002

Invert Level (m) 80.575

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 622.0     | 0.500     | 622.0     | 0.501     | 0.0       |

Tank or Pond Manhole: 63, DS/PN: 1.012

Invert Level (m) 79.462

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 723.0     | 1.500     | 723.0     | 1.501     | 0.0       |

Tank or Pond Manhole: 66, DS/PN: 1.015

Invert Level (m) 79.188

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 841.0     | 1.500     | 841.0     | 1.501     | 0.0       |

Tank or Pond Manhole: 73, DS/PN: 16.002

Invert Level (m) 80.014

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 750.0     | 1.000     | 750.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 75, DS/PN: 16.004

Invert Level (m) 79.693

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 750.0     | 1.000     | 750.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 77, DS/PN: 16.006

Invert Level (m) 79.378

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 750.0     | 1.000     | 750.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 84, DS/PN: 18.001

Invert Level (m) 80.029

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 85, DS/PN: 18.002

Invert Level (m) 79.845

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 86, DS/PN: 18.003

Invert Level (m) 79.646

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 200.0     | 1.000     | 200.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 88, DS/PN: 18.005

Invert Level (m) 79.357

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1400.0    | 1.000     | 1400.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 89, DS/PN: 17.002

Invert Level (m) 79.111

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1400.0    | 1.000     | 1400.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 93, DS/PN: 16.013

Invert Level (m) 78.718

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 2126.0    | 1.000     | 2126.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 95, DS/PN: 19.001

Invert Level (m) 79.037

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 97, DS/PN: 19.003

Invert Level (m) 78.693

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.101     | 0.0       |

Tank or Pond Manhole: 101, DS/PN: 19.005

Invert Level (m) 78.482

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1500.0    | 1.000     | 1500.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 105, DS/PN: 1.018

Invert Level (m) 77.814

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 4870.0    | 1.000     | 4870.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 111, DS/PN: 22.001

Invert Level (m) 79.100

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 350.0     | 1.000     | 350.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 113, DS/PN: 22.003

Invert Level (m) 78.698

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 350.0     | 1.000     | 350.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 115, DS/PN: 22.005

Invert Level (m) 78.488

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1830.0    | 1.000     | 1830.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 123, DS/PN: 21.006

Invert Level (m) 77.806

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 4450.0    | 1.000     | 4450.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 125, DS/PN: 25.000

Invert Level (m) 83.200

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 350.0     | 1.000     | 350.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 126, DS/PN: 25.001

Invert Level (m) 82.449

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 350.0     | 1.000     | 350.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 127, DS/PN: 25.002

Invert Level (m) 81.555

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 350.0     | 1.000     | 350.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 130, DS/PN: 25.005

Invert Level (m) 80.200

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 2000.0    | 1.200     | 2000.0    | 1.201     | 0.0       |

Tank or Pond Manhole: 133, DS/PN: 26.000

Invert Level (m) 83.200

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 134, DS/PN: 26.001

Invert Level (m) 82.963

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 135, DS/PN: 26.002

Invert Level (m) 82.729

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 500.0     | 1.000     | 500.0     | 1.001     | 0.0       |

Tank or Pond Manhole: 140, DS/PN: 25.008

Invert Level (m) 79.873

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 2000.0    | 1.200     | 2000.0    | 1.201     | 0.0       |

Tank or Pond Manhole: 143, DS/PN: 27.002

Invert Level (m) 82.076

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 145, DS/PN: 27.004

Invert Level (m) 81.892

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1000.0    | 1.000     | 1000.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 152, DS/PN: 27.011

Invert Level (m) 79.351

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1500.0    | 1.000     | 1500.0    | 1.001     | 0.0       |

Tank or Pond Manhole: 156, DS/PN: 25.012

Invert Level (m) 77.890

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.000     | 1738.0    | 1.000     | 1738.0    | 1.001     | 0.0       |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000      Additional Flow - % of Total Flow 0.000  
Hot Start (mins) 0      MADD Factor \* 10m³/ha Storage 2.000  
Hot Start Level (mm) 0      Inlet Coeffiecient 0.800  
Manhole Headloss Coeff (Global) 0.500      Flow per Person per Day (l/per/day) 0.000  
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0      Number of Offline Controls 0      Number of Time/Area Diagrams 0  
Number of Online Controls 22      Number of Storage Structures 47      Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model      FSR M5-60 (mm) 20.000      Cv (Summer) 0.750  
Region England and Wales      Ratio R 0.400      Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)      300.0  
Analysis Timestep 2.5 Second Increment (Extended)  
DTS Status      ON  
DVD Status      ON  
Inertia Status      ON

Profile(s)      Summer and Winter  
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440  
Return Period(s) (years) 100  
Climate Change (%) 40

|       |       |             |        |        |         |           |           |           | Water    | Surcharged | Flooded |        |
|-------|-------|-------------|--------|--------|---------|-----------|-----------|-----------|----------|------------|---------|--------|
| PN    | US/MH |             |        | Return | Climate | First (X) | First (Y) | First (Z) | Overflow | Level      | Depth   | Volume |
|       | Name  | Storm       | Period | Change |         | Surcharge | Flood     | Overflow  | Act.     | (m)        | (m)     | (m³)   |
| 1.000 | 1     | 15 Winter   | 100    | +40%   |         |           |           |           |          | 88.524     | -0.326  | 0.000  |
| 1.001 | 2     | 15 Winter   | 100    | +40%   |         |           |           |           |          | 88.185     | -0.247  | 0.000  |
| 1.002 | 3     | 15 Winter   | 100    | +40%   |         |           |           |           |          | 87.988     | -0.275  | 0.000  |
| 2.000 | 4     | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 88.145     | 0.419   | 0.000  |
| 2.001 | 5     | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 87.928     | 0.430   | 0.000  |
| 2.002 | 6     | 960 Winter  | 100    | +40%   | 100/960 | Winter    |           |           |          | 87.272     | 0.008   | 0.000  |
| 3.000 | 7     | 15 Winter   | 100    | +40%   | 100/15  | Summer    | 100/15    | Winter    |          | 89.354     | 1.204   | 3.859  |
| 3.001 | 8     | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 89.251     | 1.325   | 0.000  |
| 3.002 | 9     | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 89.100     | 1.398   | 0.000  |
| 3.003 | 10    | 1440 Winter | 100    | +40%   | 100/60  | Winter    |           |           |          | 87.730     | 0.344   | 0.000  |
| 3.004 | 11    | 1440 Winter | 100    | +40%   | 100/15  | Winter    |           |           |          | 87.733     | 0.670   | 0.000  |
| 3.005 | 12    | 960 Winter  | 100    | +40%   | 100/15  | Summer    |           |           |          | 87.277     | 0.403   | 0.000  |
| 3.006 | 13    | 960 Winter  | 100    | +40%   | 100/15  | Summer    |           |           |          | 87.274     | 0.526   | 0.000  |
| 4.000 | 14    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 88.820     | 0.670   | 0.000  |
| 2.003 | 15    | 960 Winter  | 100    | +40%   | 100/15  | Summer    |           |           |          | 87.272     | 0.740   | 0.000  |
| 5.000 | 16    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 89.232     | 0.482   | 0.000  |
| 5.001 | 17    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 88.606     | 0.306   | 0.000  |
| 2.004 | 18    | 60 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 87.408     | 1.026   | 0.000  |
| 1.003 | 19    | 15 Winter   | 100    | +40%   |         |           |           |           |          | 85.913     | -0.257  | 0.000  |
| 6.000 | 20    | 15 Winter   | 100    | +40%   |         |           |           |           |          | 86.725     | -0.225  | 0.000  |
| 6.001 | 21    | 15 Winter   | 100    | +40%   |         |           |           |           |          | 86.652     | -0.161  | 0.000  |
| 7.000 | 22    | 15 Winter   | 100    | +40%   |         |           |           |           |          | 86.778     | -0.172  | 0.000  |
| 7.001 | 23    | 15 Winter   | 100    | +40%   |         |           |           |           |          | 86.708     | -0.069  | 0.000  |
| 6.002 | 24    | 1440 Winter | 100    | +40%   | 100/15  | Summer    |           |           |          | 86.596     | 0.181   | 0.000  |
| 6.003 | 25    | 1440 Winter | 100    | +40%   | 100/30  | Summer    |           |           |          | 86.595     | 0.453   | 0.000  |
| 1.004 | 26    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 85.540     | 2.405   | 0.000  |
| 1.005 | 27    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 85.300     | 2.765   | 0.000  |
| 1.006 | 28    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 84.921     | 3.286   | 0.000  |
| 8.000 | 29    | 960 Winter  | 100    | +40%   | 100/600 | Winter    |           |           |          | 84.673     | 0.023   | 0.000  |
| 8.001 | 30    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 84.692     | 0.313   | 0.000  |
| 8.002 | 31    | 960 Winter  | 100    | +40%   | 100/15  | Winter    |           |           |          | 84.674     | 0.566   | 0.000  |
| 8.003 | 32    | 720 Winter  | 100    | +40%   | 100/360 | Winter    |           |           |          | 84.116     | 0.279   | 0.000  |
| 9.000 | 33    | 15 Winter   | 100    | +40%   | 100/15  | Summer    |           |           |          | 85.117     | 0.117   | 0.000  |

|                                                    |                                      |                                                                                    |
|----------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                     |                                      | Page 28                                                                            |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023                                    | Designed by AS                       |                                                                                    |
| File Surface Water Drainage Schemati...            | Checked by HC                        |                                                                                    |
| Innovyze                                           | Network 2020.1.3                     |                                                                                    |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN    | US/MH Name | Flow / Cap. | Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) | Status     | Level Exceeded |
|-------|------------|-------------|----------------|------------------------|-----------------|------------|----------------|
| 1.000 | 1          | 0.17        |                |                        | 55.3            | OK         |                |
| 1.001 | 2          | 0.41        |                |                        | 87.5            | OK         |                |
| 1.002 | 3          | 0.31        |                |                        | 141.5           | OK         |                |
| 2.000 | 4          | 0.96        |                |                        | 187.3           | SURCHARGED |                |
| 2.001 | 5          | 1.63        |                |                        | 318.8           | SURCHARGED |                |
| 2.002 | 6          | 0.09        |                |                        | 17.0            | SURCHARGED |                |
| 3.000 | 7          | 0.88        |                |                        | 172.2           | FLOOD      | 1              |
| 3.001 | 8          | 0.87        |                |                        | 169.0           | FLOOD RISK |                |
| 3.002 | 9          | 2.28        |                |                        | 457.6           | FLOOD RISK |                |
| 3.003 | 10         | 0.17        |                |                        | 34.0            | SURCHARGED |                |
| 3.004 | 11         | 0.03        |                |                        | 6.2             | SURCHARGED |                |
| 3.005 | 12         | 0.06        |                |                        | 10.9            | SURCHARGED |                |
| 3.006 | 13         | 0.06        |                |                        | 14.7            | SURCHARGED |                |
| 4.000 | 14         | 2.75        |                |                        | 97.8            | SURCHARGED |                |
| 2.003 | 15         | 0.08        |                |                        | 15.3            | SURCHARGED |                |
| 5.000 | 16         | 1.17        |                |                        | 51.2            | SURCHARGED |                |
| 5.001 | 17         | 1.23        |                |                        | 67.6            | SURCHARGED |                |
| 2.004 | 18         | 0.06        |                |                        | 11.8            | SURCHARGED |                |
| 1.003 | 19         | 0.38        |                |                        | 244.5           | OK         |                |
| 6.000 | 20         | 0.45        |                |                        | 81.4            | OK         |                |
| 6.001 | 21         | 0.43        |                |                        | 133.1           | OK         |                |
| 7.000 | 22         | 0.60        |                |                        | 111.0           | OK         |                |
| 7.001 | 23         | 0.59        |                |                        | 144.1           | OK         |                |
| 6.002 | 24         | 0.08        |                |                        | 14.3            | SURCHARGED |                |
| 6.003 | 25         | 0.03        |                |                        | 1.6             | SURCHARGED |                |
| 1.004 | 26         | 0.78        |                |                        | 260.7           | SURCHARGED |                |
| 1.005 | 27         | 0.69        |                |                        | 281.0           | SURCHARGED |                |
| 1.006 | 28         | 0.93        |                |                        | 349.8           | SURCHARGED |                |
| 8.000 | 29         | 0.12        |                |                        | 22.9            | SURCHARGED |                |
| 8.001 | 30         | 1.43        |                |                        | 283.1           | SURCHARGED |                |
| 8.002 | 31         | 0.04        |                |                        | 8.0             | SURCHARGED |                |
| 8.003 | 32         | 0.07        |                |                        | 13.9            | SURCHARGED |                |
| 9.000 | 33         | 0.28        |                |                        | 54.2            | SURCHARGED |                |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH<br>Name | Storm       | Return<br>Period | Climate<br>Change | First (X)<br>Surcharge | First (Y)<br>Flood | First (Z)<br>Overflow | Overflow<br>Act. | Water<br>Level<br>(m) | Surcharged<br>Depth<br>(m) |
|--------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|-----------------------|----------------------------|
| 9.001  | 34            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 85.008                | 0.249                      |
| 9.002  | 35            | 120 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.863                | 0.345                      |
| 9.003  | 36            | 120 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.855                | 0.577                      |
| 9.004  | 37            | 180 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.788                | 0.750                      |
| 9.005  | 38            | 180 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.776                | 1.051                      |
| 9.006  | 39            | 180 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.615                | 1.144                      |
| 8.004  | 40            | 720 Winter  | 100              | +40%              | 100/180 Summer         |                    |                       |                  | 84.111                | 0.995                      |
| 10.000 | 41            | 720 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.106                | 0.806                      |
| 8.005  | 42            | 720 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.103                | 1.751                      |
| 8.006  | 43            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.046                | 1.992                      |
| 8.007  | 44            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.044                | 2.124                      |
| 1.007  | 45            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.039                | 3.504                      |
| 11.000 | 46            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.372                | 0.647                      |
| 11.001 | 47            | 30 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.640                | 0.324                      |
| 11.002 | 48            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.066                | 0.245                      |
| 11.003 | 49            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.760                | 0.163                      |
| 12.000 | 50            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.530                | 0.730                      |
| 12.001 | 51            | 30 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.697                | 0.308                      |
| 11.004 | 52            | 1440 Winter | 100              | +40%              | 100/60 Winter          |                    |                       |                  | 81.718                | 0.341                      |
| 1.008  | 53            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.643                | 2.327                      |
| 13.000 | 54            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.537                | 0.737                      |
| 13.001 | 55            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.370                | 0.819                      |
| 1.009  | 56            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.983                | 1.831                      |
| 1.010  | 57            | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 80.072                | 0.000                      |
| 1.011  | 58            | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 79.992                | 0.000                      |
| 14.000 | 59            | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 82.300                | 0.000                      |
| 14.001 | 60            | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 81.800                | 0.000                      |
| 14.002 | 61            | 1440 Winter | 100              | +40%              |                        |                    |                       |                  | 80.796                | -0.004                     |
| 14.003 | 62            | 1440 Winter | 100              | +40%              | 100/240 Winter         |                    |                       |                  | 80.796                | 0.040                      |
| 1.012  | 63            | 360 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.667                | 0.755                      |
| 1.013  | 64            | 1440 Summer | 100              | +40%              |                        |                    |                       |                  | 79.838                | 0.000                      |
| 1.014  | 65            | 1440 Winter | 100              | +40%              | 100/720 Winter         |                    |                       |                  | 79.912                | 0.174                      |
| 1.015  | 66            | 1440 Winter | 100              | +40%              | 100/480 Winter         |                    |                       |                  | 79.890                | 0.252                      |
| 15.000 | 67            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.882                | 0.682                      |
| 15.001 | 68            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.670                | 0.970                      |
| 15.002 | 69            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.488                | 1.088                      |
| 15.003 | 70            | 15 Winter   | 100              | +40%              | 100/15 Summer          | 100/15 Winter      |                       |                  | 81.300                | 1.200                      |
| 16.000 | 71            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.316                | 1.525                      |
| 16.001 | 72            | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.364                | 0.730                      |
| 16.002 | 73            | 360 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.861                | 0.397                      |
| 16.003 | 74            | 360 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.886                | 0.596                      |
| 16.004 | 75            | 240 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.913                | 0.769                      |
| 16.005 | 76            | 180 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.157                | 1.177                      |
| 16.006 | 77            | 180 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.199                | 1.372                      |
| 16.007 | 78            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.948                | 0.217                      |
| 16.008 | 79            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.935                | 0.265                      |
| 16.009 | 80            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.920                | 0.341                      |
| 17.000 | 81            | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 82.273                | -0.252                     |
| 17.001 | 82            | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 81.781                | -0.244                     |
| 18.000 | 83            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.071                | 0.426                      |
| 18.001 | 84            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.056                | 0.577                      |
| 18.002 | 85            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.019                | 0.724                      |
| 18.003 | 86            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.995                | 0.899                      |
| 18.004 | 87            | 1440 Winter | 100              | +40%              |                        |                    |                       |                  | 79.933                | 0.000                      |
| 18.005 | 88            | 1440 Winter | 100              | +40%              | 100/480 Winter         |                    |                       |                  | 79.920                | 0.113                      |
| 17.002 | 89            | 1440 Winter | 100              | +40%              | 100/120 Summer         |                    |                       |                  | 79.918                | 0.357                      |
| 16.010 | 90            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.907                | 0.531                      |
| 16.011 | 91            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.901                | 0.542                      |
| 16.012 | 92            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.885                | 0.624                      |
| 16.013 | 93            | 1440 Winter | 100              | +40%              | 100/120 Summer         |                    |                       |                  | 79.870                | 0.852                      |

|                                                    |                                      |                                                                                    |
|----------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                     |                                      | Page 30                                                                            |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023                                    | Designed by AS                       |                                                                                    |
| File Surface Water Drainage Schemati...            | Checked by HC                        |                                                                                    |
| Innovyze                                           | Network 2020.1.3                     |                                                                                    |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH<br>Name | Flooded<br>Volume<br>(m <sup>3</sup> ) | Flow /<br>Cap. | Overflow<br>(l/s) | Half Drain<br>Time<br>(mins) | Pipe<br>Flow<br>(l/s) | Status      | Level<br>Exceeded |
|--------|---------------|----------------------------------------|----------------|-------------------|------------------------------|-----------------------|-------------|-------------------|
| 9.001  | 34            | 0.000                                  | 1.37           |                   |                              | 268.6                 | SURCHARGED  |                   |
| 9.002  | 35            | 0.000                                  | 0.58           |                   |                              | 114.4                 | SURCHARGED  |                   |
| 9.003  | 36            | 0.000                                  | 0.83           |                   |                              | 163.1                 | SURCHARGED  |                   |
| 9.004  | 37            | 0.000                                  | 0.30           |                   |                              | 41.4                  | SURCHARGED  |                   |
| 9.005  | 38            | 0.000                                  | 1.22           |                   |                              | 46.3                  | SURCHARGED  |                   |
| 9.006  | 39            | 0.000                                  | 1.18           |                   |                              | 48.3                  | SURCHARGED  |                   |
| 8.004  | 40            | 0.000                                  | 0.16           |                   |                              | 61.2                  | SURCHARGED  |                   |
| 10.000 | 41            | 0.000                                  | 0.16           |                   |                              | 5.9                   | SURCHARGED  |                   |
| 8.005  | 42            | 0.000                                  | 0.09           |                   |                              | 18.2                  | SURCHARGED  |                   |
| 8.006  | 43            | 0.000                                  | 0.50           |                   |                              | 92.9                  | SURCHARGED  |                   |
| 8.007  | 44            | 0.000                                  | 0.45           |                   |                              | 84.2                  | SURCHARGED  |                   |
| 1.007  | 45            | 0.000                                  | 2.49           |                   |                              | 378.1                 | SURCHARGED  |                   |
| 11.000 | 46            | 0.000                                  | 1.50           |                   |                              | 305.7                 | SURCHARGED  |                   |
| 11.001 | 47            | 0.000                                  | 1.11           |                   |                              | 229.0                 | SURCHARGED  |                   |
| 11.002 | 48            | 0.000                                  | 1.20           |                   |                              | 235.1                 | SURCHARGED  |                   |
| 11.003 | 49            | 0.000                                  | 1.35           |                   |                              | 263.4                 | SURCHARGED  |                   |
| 12.000 | 50            | 0.000                                  | 1.55           |                   |                              | 315.9                 | SURCHARGED  |                   |
| 12.001 | 51            | 0.000                                  | 1.28           |                   |                              | 264.0                 | SURCHARGED  |                   |
| 11.004 | 52            | 0.000                                  | 0.05           |                   |                              | 9.7                   | SURCHARGED  |                   |
| 1.008  | 53            | 0.000                                  | 1.99           |                   |                              | 377.1                 | SURCHARGED  |                   |
| 13.000 | 54            | 0.000                                  | 0.97           |                   |                              | 36.9                  | SURCHARGED  |                   |
| 13.001 | 55            | 0.000                                  | 2.25           |                   |                              | 83.2                  | SURCHARGED  |                   |
| 1.009  | 56            | 0.000                                  | 3.16           |                   |                              | 439.6                 | SURCHARGED  |                   |
| 1.010  | 57            | 0.000                                  | 2.62           |                   |                              | 420.3                 | SURCHARGED* |                   |
| 1.011  | 58            | 0.000                                  | 2.61           |                   |                              | 419.2                 | SURCHARGED* |                   |
| 14.000 | 59            | 0.000                                  | 1.11           |                   |                              | 60.9                  | SURCHARGED* |                   |
| 14.001 | 60            | 0.000                                  | 1.16           |                   |                              | 88.2                  | SURCHARGED* |                   |
| 14.002 | 61            | 0.000                                  | 0.02           |                   |                              | 0.6                   | OK*         |                   |
| 14.003 | 62            | 0.000                                  | 0.01           |                   |                              | 0.5                   | SURCHARGED  |                   |
| 1.012  | 63            | 0.000                                  | 0.40           |                   |                              | 55.6                  | SURCHARGED  |                   |
| 1.013  | 64            | 0.000                                  | 0.36           |                   |                              | 58.3                  | SURCHARGED* |                   |
| 1.014  | 65            | 0.000                                  | 0.40           |                   |                              | 57.4                  | SURCHARGED  |                   |
| 1.015  | 66            | 0.000                                  | 0.10           |                   |                              | 51.2                  | SURCHARGED* |                   |
| 15.000 | 67            | 0.000                                  | 0.20           |                   |                              | 123.2                 | SURCHARGED  |                   |
| 15.001 | 68            | 0.000                                  | 0.27           |                   |                              | 138.2                 | FLOOD RISK  |                   |
| 15.002 | 69            | 0.000                                  | 0.34           |                   |                              | 180.1                 | FLOOD RISK  |                   |
| 15.003 | 70            | 0.274                                  | 0.60           |                   |                              | 208.9                 | FLOOD       | 1                 |
| 16.000 | 71            | 0.000                                  | 2.35           |                   |                              | 349.5                 | SURCHARGED  |                   |
| 16.001 | 72            | 0.000                                  | 2.23           |                   |                              | 333.3                 | SURCHARGED  |                   |
| 16.002 | 73            | 0.000                                  | 0.49           |                   |                              | 73.4                  | SURCHARGED  |                   |
| 16.003 | 74            | 0.000                                  | 0.81           |                   |                              | 120.2                 | SURCHARGED  |                   |
| 16.004 | 75            | 0.000                                  | 0.58           |                   |                              | 85.9                  | SURCHARGED  |                   |
| 16.005 | 76            | 0.000                                  | 1.43           |                   |                              | 212.5                 | SURCHARGED  |                   |
| 16.006 | 77            | 0.000                                  | 0.27           |                   |                              | 37.9                  | SURCHARGED  |                   |
| 16.007 | 78            | 0.000                                  | 0.33           |                   |                              | 43.8                  | SURCHARGED  |                   |
| 16.008 | 79            | 0.000                                  | 0.31           |                   |                              | 43.8                  | SURCHARGED  |                   |
| 16.009 | 80            | 0.000                                  | 0.35           |                   |                              | 45.1                  | SURCHARGED  |                   |
| 17.000 | 81            | 0.000                                  | 0.39           |                   |                              | 100.6                 | OK          |                   |
| 17.001 | 82            | 0.000                                  | 0.42           |                   |                              | 242.8                 | OK          |                   |
| 18.000 | 83            | 0.000                                  | 0.93           |                   |                              | 139.2                 | SURCHARGED  |                   |
| 18.001 | 84            | 0.000                                  | 0.95           |                   |                              | 142.6                 | SURCHARGED  |                   |
| 18.002 | 85            | 0.000                                  | 0.78           |                   |                              | 117.1                 | SURCHARGED  |                   |
| 18.003 | 86            | 0.000                                  | 0.64           |                   |                              | 94.9                  | SURCHARGED  |                   |
| 18.004 | 87            | 0.000                                  | 0.38           |                   |                              | 56.1                  | OK          |                   |
| 18.005 | 88            | 0.000                                  | 0.15           |                   |                              | 34.4                  | SURCHARGED  |                   |
| 17.002 | 89            | 0.000                                  | 0.03           |                   |                              | 7.1                   | SURCHARGED  |                   |
| 16.010 | 90            | 0.000                                  | 0.51           |                   |                              | 51.9                  | SURCHARGED  |                   |
| 16.011 | 91            | 0.000                                  | 0.40           |                   |                              | 57.6                  | SURCHARGED  |                   |
| 16.012 | 92            | 0.000                                  | 0.41           |                   |                              | 57.6                  | SURCHARGED  |                   |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH<br>Name | Flooded        |                | Half Drain        |                | Pipe          | Status     | Level<br>Exceeded |
|--------|---------------|----------------|----------------|-------------------|----------------|---------------|------------|-------------------|
|        |               | Volume<br>(m³) | Flow /<br>Cap. | Overflow<br>(l/s) | Time<br>(mins) | Flow<br>(l/s) |            |                   |
| 16.013 | 93            | 0.000          | 0.52           |                   |                | 33.9          | SURCHARGED |                   |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH<br>Name | Storm       | Return<br>Period | Climate<br>Change | First (X)<br>Surcharge | First (Y)<br>Flood | First (Z)<br>Overflow | Overflow<br>Act. | Water<br>Level<br>(m) | Surcharged<br>Depth<br>(m) |
|--------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|-----------------------|----------------------------|
| 19.000 | 94            | 15 Winter   | 100              | +40%              | 100/15 Summer          | 100/15 Summer      |                       |                  | 80.853                | 1.203                      |
| 19.001 | 95            | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.984                | 0.497                      |
| 19.002 | 96            | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.773                | 0.480                      |
| 19.003 | 97            | 1440 Winter | 100              | +40%              | 100/30 Summer          |                    |                       |                  | 79.770                | 0.627                      |
| 19.004 | 98            | 1440 Winter | 100              | +40%              | 100/30 Summer          |                    |                       |                  | 79.766                | 0.729                      |
| 20.000 | 99            | 15 Winter   | 100              | +40%              | 100/15 Summer          | 100/15 Summer      |                       |                  | 80.853                | 1.203                      |
| 20.001 | 100           | 15 Summer   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.910                | 0.522                      |
| 19.005 | 101           | 1440 Winter | 100              | +40%              | 100/60 Summer          |                    |                       |                  | 79.763                | 0.831                      |
| 16.014 | 102           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.354                | 1.882                      |
| 1.016  | 103           | 15 Summer   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.988                | 1.686                      |
| 1.017  | 104           | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 78.207                | 0.000                      |
| 1.018  | 105           | 1440 Summer | 100              | +40%              | 100/240 Winter         |                    |                       |                  | 78.815                | 0.701                      |
| 21.000 | 106           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.797                | 0.997                      |
| 21.001 | 107           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.635                | 1.185                      |
| 21.002 | 108           | 15 Winter   | 100              | +40%              | 100/15 Summer          | 100/15 Winter      |                       |                  | 80.500                | 1.204                      |
| 21.003 | 109           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.383                | 1.210                      |
| 22.000 | 110           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.279                | 0.554                      |
| 22.001 | 111           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.960                | 0.410                      |
| 22.002 | 112           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.787                | 0.465                      |
| 22.003 | 113           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.526                | 0.378                      |
| 22.004 | 114           | 1440 Winter | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.345                | 0.340                      |
| 22.005 | 115           | 1440 Winter | 100              | +40%              | 100/60 Summer          |                    |                       |                  | 79.341                | 0.403                      |
| 23.000 | 116           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.516                | 0.682                      |
| 24.000 | 117           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.483                | 0.683                      |
| 23.001 | 118           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.472                | 0.734                      |
| 23.002 | 119           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.348                | 0.708                      |
| 23.003 | 120           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 80.225                | 0.648                      |
| 21.004 | 121           | 15 Summer   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 79.532                | 1.011                      |
| 21.005 | 122           | 15 Summer   | 100              | +40%              |                        |                    |                       |                  | 78.396                | 0.000                      |
| 21.006 | 123           | 1440 Winter | 100              | +40%              | 100/600 Winter         |                    |                       |                  | 78.331                | 0.225                      |
| 1.019  | 124           | 1440 Winter | 100              | +40%              |                        |                    |                       |                  | 77.857                | -0.263                     |
| 25.000 | 125           | 30 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.353                | 0.703                      |
| 25.001 | 126           | 30 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.240                | 1.341                      |
| 25.002 | 127           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.535                | 0.530                      |
| 25.003 | 128           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.946                | 0.426                      |
| 25.004 | 129           | 480 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.680                | 0.589                      |
| 25.005 | 130           | 480 Winter  | 100              | +40%              | 100/60 Summer          |                    |                       |                  | 81.573                | 0.923                      |
| 25.006 | 131           | 480 Winter  | 100              | +40%              | 100/30 Summer          |                    |                       |                  | 81.553                | 1.026                      |
| 25.007 | 132           | 480 Winter  | 100              | +40%              | 100/15 Winter          |                    |                       |                  | 81.533                | 1.135                      |
| 26.000 | 133           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.145                | 0.495                      |
| 26.001 | 134           | 60 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 84.099                | 0.686                      |
| 26.002 | 135           | 120 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.627                | 0.448                      |
| 26.003 | 136           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.870                | 0.936                      |
| 26.004 | 137           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.787                | 1.103                      |
| 26.005 | 138           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.654                | 1.141                      |
| 26.006 | 139           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 82.392                | 0.638                      |
| 25.008 | 140           | 480 Winter  | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 81.517                | 1.194                      |
| 27.000 | 141           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.590                | 0.940                      |
| 27.001 | 142           | 15 Winter   | 100              | +40%              | 100/15 Summer          |                    |                       |                  | 83.075                | 0.482                      |
| 27.002 | 143           | 1440 Winter | 100              | +40%              | 100/480 Winter         |                    |                       |                  | 82.650                | 0.124                      |
| 27.003 | 144           | 1440 Winter | 100              | +40%              | 100/240 Winter         |                    |                       |                  | 82.650                | 0.212                      |
| 27.004 | 145           | 1440 Winter | 100              | +40%              | 100/120 Summer         |                    |                       |                  | 82.650                | 0.308                      |
| 27.005 | 146           | 1440 Winter | 100              | +40%              |                        |                    |                       |                  | 81.828                | -0.447                     |
| 27.006 | 147           | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 81.025                | -0.199                     |
| 27.007 | 148           | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 81.025                | -0.103                     |
| 27.008 | 149           | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 80.986                | -0.092                     |
| 27.009 | 150           | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 80.940                | -0.062                     |
| 27.010 | 151           | 15 Winter   | 100              | +40%              |                        |                    |                       |                  | 80.636                | -0.249                     |
| 27.011 | 152           | 960 Winter  | 100              | +40%              | 100/360 Winter         |                    |                       |                  | 80.062                | 0.261                      |
| 25.009 | 153           | 960 Winter  | 100              | +40%              | 100/120 Summer         |                    |                       |                  | 80.247                | 1.742                      |

|                                                    |                                      |                                                                                    |
|----------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|
| Waterman Group                                     |                                      | Page 33                                                                            |
| Pickfords Wharf<br>Clink Street<br>London, SE1 9DG | MIRA<br>LAND SOUTH OF A5<br>EED13833 |  |
| Date 05/01/2023                                    | Designed by AS                       |                                                                                    |
| File Surface Water Drainage Schemati...            | Checked by HC                        |                                                                                    |
| Innovyze                                           | Network 2020.1.3                     |                                                                                    |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH Name | Flooded Volume (m³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) | Status      | Level Exceeded |
|--------|------------|---------------------|----------------------------|------------------------|-----------------|-------------|----------------|
| 19.000 | 94         | 3.206               | 2.80                       |                        | 416.5           | FLOOD       | 2              |
| 19.001 | 95         | 0.000               | 1.17                       |                        | 176.3           | SURCHARGED  |                |
| 19.002 | 96         | 0.000               | 0.38                       |                        | 56.8            | SURCHARGED  |                |
| 19.003 | 97         | 0.000               | 0.43                       |                        | 62.3            | SURCHARGED  |                |
| 19.004 | 98         | 0.000               | 0.46                       |                        | 66.6            | SURCHARGED  |                |
| 20.000 | 99         | 3.200               | 1.91                       |                        | 72.5            | FLOOD       | 3              |
| 20.001 | 100        | 0.000               | 1.93                       |                        | 72.2            | SURCHARGED  |                |
| 19.005 | 101        | 0.000               | 0.11                       |                        | 14.7            | SURCHARGED  |                |
| 16.014 | 102        | 0.000               | 0.38                       |                        | 26.3            | SURCHARGED  |                |
| 1.016  | 103        | 0.000               | 3.73                       |                        | 129.0           | SURCHARGED* |                |
| 1.017  | 104        | 0.000               | 3.73                       |                        | 129.2           | SURCHARGED* |                |
| 1.018  | 105        | 0.000               | 0.58                       |                        | 42.7            | SURCHARGED* |                |
| 21.000 | 106        | 0.000               | 0.47                       |                        | 125.3           | FLOOD RISK  |                |
| 21.001 | 107        | 0.000               | 0.72                       |                        | 151.8           | FLOOD RISK  |                |
| 21.002 | 108        | 0.013               | 0.96                       |                        | 176.3           | FLOOD       | 1              |
| 21.003 | 109        | 0.000               | 0.32                       |                        | 143.9           | SURCHARGED  |                |
| 22.000 | 110        | 0.000               | 1.90                       |                        | 284.5           | SURCHARGED  |                |
| 22.001 | 111        | 0.000               | 0.90                       |                        | 137.6           | SURCHARGED  |                |
| 22.002 | 112        | 0.000               | 1.40                       |                        | 209.1           | SURCHARGED  |                |
| 22.003 | 113        | 0.000               | 1.59                       |                        | 235.1           | SURCHARGED  |                |
| 22.004 | 114        | 0.000               | 0.52                       |                        | 70.9            | SURCHARGED  |                |
| 22.005 | 115        | 0.000               | 0.06                       |                        | 9.0             | SURCHARGED  |                |
| 23.000 | 116        | 0.000               | 0.87                       |                        | 251.1           | SURCHARGED  |                |
| 24.000 | 117        | 0.000               | 0.32                       |                        | 87.6            | SURCHARGED  |                |
| 23.001 | 118        | 0.000               | 1.38                       |                        | 400.5           | SURCHARGED  |                |
| 23.002 | 119        | 0.000               | 1.51                       |                        | 407.8           | SURCHARGED  |                |
| 23.003 | 120        | 0.000               | 1.61                       |                        | 384.9           | SURCHARGED  |                |
| 21.004 | 121        | 0.000               | 2.53                       |                        | 406.0           | SURCHARGED* |                |
| 21.005 | 122        | 0.000               | 2.54                       |                        | 408.0           | SURCHARGED* |                |
| 21.006 | 123        | 0.000               | 0.01                       |                        | 0.6             | SURCHARGED* |                |
| 1.019  | 124        | 0.000               | 0.34                       |                        | 44.4            | OK          |                |
| 25.000 | 125        | 0.000               | 0.96                       |                        | 287.4           | SURCHARGED  |                |
| 25.001 | 126        | 0.000               | 1.47                       |                        | 445.5           | SURCHARGED  |                |
| 25.002 | 127        | 0.000               | 1.16                       |                        | 336.8           | SURCHARGED  |                |
| 25.003 | 128        | 0.000               | 1.20                       |                        | 344.3           | SURCHARGED  |                |
| 25.004 | 129        | 0.000               | 0.94                       |                        | 269.9           | SURCHARGED  |                |
| 25.005 | 130        | 0.000               | 0.55                       |                        | 80.5            | SURCHARGED  |                |
| 25.006 | 131        | 0.000               | 0.55                       |                        | 80.4            | SURCHARGED  |                |
| 25.007 | 132        | 0.000               | 0.58                       |                        | 80.3            | SURCHARGED  |                |
| 26.000 | 133        | 0.000               | 0.95                       |                        | 145.6           | SURCHARGED  |                |
| 26.001 | 134        | 0.000               | 1.57                       |                        | 239.1           | SURCHARGED  |                |
| 26.002 | 135        | 0.000               | 1.34                       |                        | 204.2           | SURCHARGED  |                |
| 26.003 | 136        | 0.000               | 1.11                       |                        | 169.6           | SURCHARGED  |                |
| 26.004 | 137        | 0.000               | 1.02                       |                        | 315.6           | SURCHARGED  |                |
| 26.005 | 138        | 0.000               | 1.28                       |                        | 869.2           | FLOOD RISK  |                |
| 26.006 | 139        | 0.000               | 1.25                       |                        | 1028.5          | SURCHARGED  |                |
| 25.008 | 140        | 0.000               | 0.34                       |                        | 198.4           | SURCHARGED  |                |
| 27.000 | 141        | 0.000               | 2.98                       |                        | 394.8           | FLOOD RISK  |                |
| 27.001 | 142        | 0.000               | 2.88                       |                        | 391.2           | SURCHARGED  |                |
| 27.002 | 143        | 0.000               | 0.14                       |                        | 19.2            | SURCHARGED  |                |
| 27.003 | 144        | 0.000               | 0.17                       |                        | 23.7            | SURCHARGED  |                |
| 27.004 | 145        | 0.000               | 0.00                       |                        | 0.7             | SURCHARGED  |                |
| 27.005 | 146        | 0.000               | 0.00                       |                        | 0.7             | OK          |                |
| 27.006 | 147        | 0.000               | 0.02                       |                        | 2.9             | OK          |                |
| 27.007 | 148        | 0.000               | 0.35                       |                        | 45.2            | OK          |                |
| 27.008 | 149        | 0.000               | 0.38                       |                        | 52.9            | OK          |                |
| 27.009 | 150        | 0.000               | 0.98                       |                        | 141.8           | OK          |                |
| 27.010 | 151        | 0.000               | 0.40                       |                        | 219.3           | OK          |                |
| 27.011 | 152        | 0.000               | 0.82                       |                        | 78.3            | SURCHARGED  |                |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN     | US/MH<br>Name | Flooded        |                | Flow /<br>Cap. | Overflow<br>(l/s) | Half Drain<br>Time<br>(mins) | Pipe<br>Flow<br>(l/s) | Status     | Level<br>Exceeded |
|--------|---------------|----------------|----------------|----------------|-------------------|------------------------------|-----------------------|------------|-------------------|
|        |               | Volume<br>(m³) | Flow /<br>Cap. |                |                   |                              |                       |            |                   |
| 25.009 | 153           | 0.000          | 1.81           |                |                   |                              | 195.8                 | SURCHARGED |                   |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

|        |            |             |               |                |                    |                 |                    |               |  | Water     | Surcharged | Flooded     |
|--------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|--|-----------|------------|-------------|
| PN     | US/MH Name | Storm       | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. |  | Level (m) | Depth (m)  | Volume (m³) |
| 25.010 | 154        | 1440 Summer | 100           | +40%           |                    |                 |                    |               |  | 78.467    | 0.000      | 0.000       |
| 25.011 | 155        | 1440 Summer | 100           | +40%           |                    |                 |                    |               |  | 78.402    | 0.000      | 0.000       |
| 25.012 | 156        | 1440 Summer | 100           | +40%           | 100/60 Summer      |                 |                    |               |  | 78.891    | 0.701      | 0.000       |
| 25.013 | 157        | 960 Winter  | 100           | +40%           | 100/120 Summer     |                 |                    |               |  | 78.293    | 0.225      | 0.000       |
| 1.020  | 158        | 960 Winter  | 100           | +40%           |                    |                 |                    |               |  | 77.800    | -0.800     | 0.000       |

|        |       |        |          | Half Drain | Pipe  |             |          |
|--------|-------|--------|----------|------------|-------|-------------|----------|
|        | US/MH | Flow / | Overflow | Time       | Flow  |             | Level    |
| PN     | Name  | Cap.   | (l/s)    | (mins)     | (l/s) | Status      | Exceeded |
| 25.010 | 154   | 1.07   |          |            | 171.9 | SURCHARGED* |          |
| 25.011 | 155   | 1.07   |          |            | 171.9 | SURCHARGED* |          |
| 25.012 | 156   | 1.67   |          |            | 123.8 | SURCHARGED* |          |
| 25.013 | 157   | 2.23   |          |            | 131.5 | SURCHARGED  |          |
| 1.020  | 158   | 0.06   |          |            | 172.1 | OK          |          |