

# **FLOOD RISK ASSESSMENT & SuDS REPORT FOR CHARTERS, OXFORD ROAD, READING, RG31 6TQ**

**DOCUMENT NUMBER: C3411-R1-REV-B**

**PREPARED BY**



## CONTENTS

|                                                                  |    |
|------------------------------------------------------------------|----|
| 1. INTRODUCTION.....                                             | 3  |
| 2. SITE Details .....                                            | 4  |
| 2.1 Development Proposals .....                                  | 4  |
| 2.2 Geology of The Area .....                                    | 5  |
| 3. PLANNING POLICIES .....                                       | 6  |
| 3.1 National Planning Policy .....                               | 6  |
| 3.2 Local Planning Policy .....                                  | 6  |
| 4. FLOOD RISK ASSESMENT .....                                    | 7  |
| 4.1 Fluvial or Tidal Flooding .....                              | 7  |
| 4.2 Flooding from Land (Overland Flow).....                      | 8  |
| 4.3 Flooding from Groundwater .....                              | 9  |
| 4.4 Flooding from Sewers .....                                   | 10 |
| 4.5 Flooding from Reservoirs, Canals or Artificial Sources ..... | 10 |
| 5. RESIDUAL RISK AND MITIGATION MEASURES .....                   | 12 |
| 6. SAFE ACCESS AND EGRESS.....                                   | 13 |
| 7. SUSTAINABLE URBAN DRAINAGE SYSTEMS .....                      | 14 |
| 8. PROPOSED SOLUTION .....                                       | 18 |
| 9. SuDS PROPOSALS FOR DEVELOPMENT .....                          | 20 |
| 9.1 Discharge Rates .....                                        | 22 |
| 10. TIMESCALE AND MAINTENANCE OF WORKS .....                     | 23 |
| 11. SUMMARY AND CONCLUSIONS .....                                | 26 |

### APPENDIX A – DRAWINGS

### APPENDIX B – SURFACE WATER RUN OFF CALCULATIONS

### APPENDIX C – THAMES WATER ASSET PLANS

## 1. INTRODUCTION

This Flood Risk Assessment (FRA) has been prepared to support a planning application for the development at Charters, Oxford Road, Reading, RG31 6TQ. The proposed development involves the construction of four blocks of eight flats.

A review of the Environment Agency's Flood Map shows that the proposed development site is located within a Flood Zone 1. This report has been produced to demonstrate that the proposed development will not increase risk to life, will not increase flood risk elsewhere and will be safe for the lifetime of the development.

## 2. SITE DETAILS

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| <b>Site Name</b>                | Charters                                    |
| <b>Site Address</b>             | Charters, Oxford Road, Reading,<br>RG31 6TQ |
| <b>Purpose of Development</b>   | Residential                                 |
| <b>Existing Land Use</b>        | Brownfield                                  |
| <b>Country</b>                  | England                                     |
| <b>Local Planning Authority</b> | Reading Borough Council                     |

### 2.1 Development Proposals

The proposed development involves the construction of four blocks of eight flats and the proposed site layout plan can be found in Appendix A.

2.2 Geology of The Area

According to the British Geological Survey, that the superficial deposit is unknown, as seen in Figure 1 below. The bedrock in the area is of the Seaford Chalk Formation, consisting of Chalk, as shown in Figure 2 below.

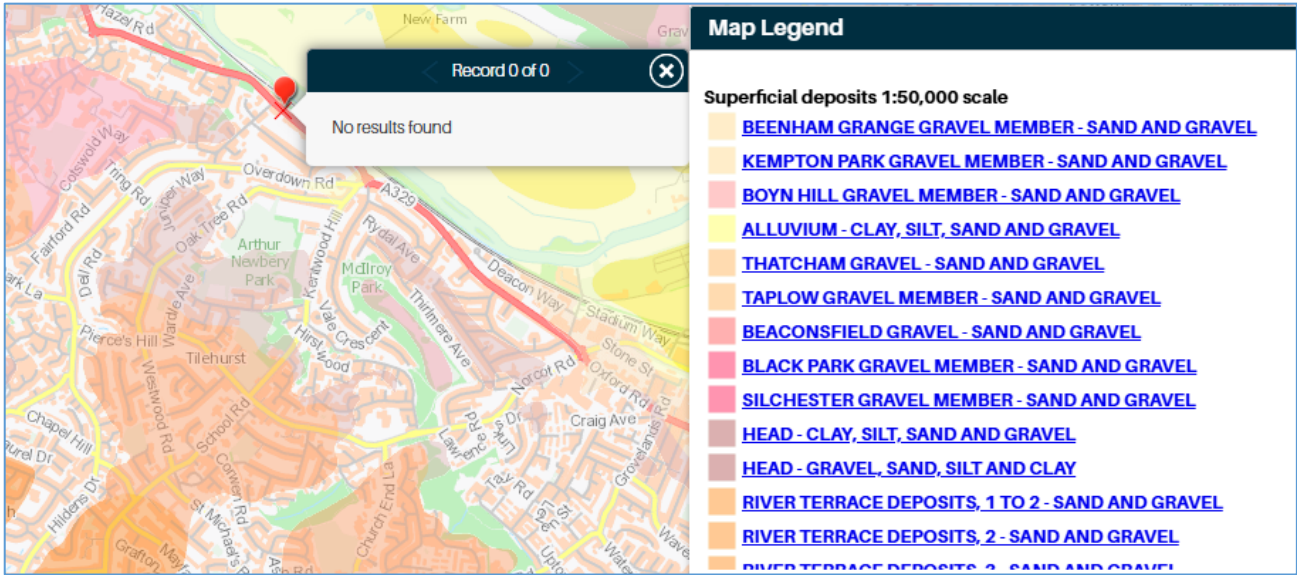


Figure 1- Superficial Deposits at the site. (Source: British Geological Society Website (contains British Geological Survey materials © NERC2024).

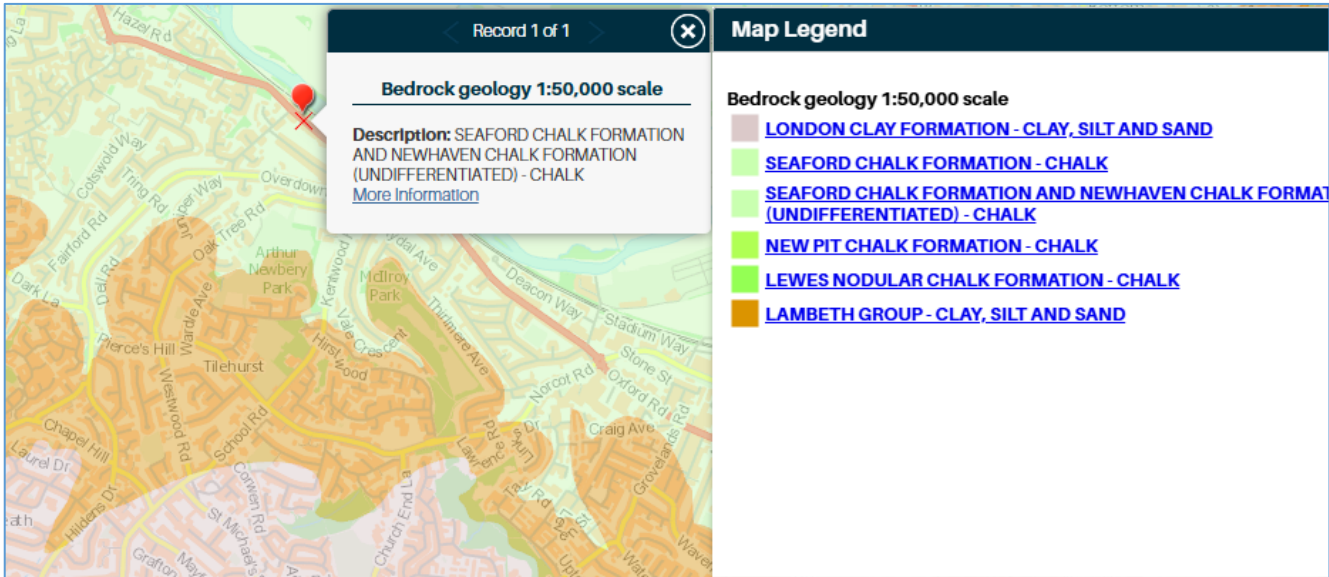


Figure 2- Bedrock at the site. (Source: British Geological Society Website (contains British Geological Survey materials © NERC2024).

## 3. PLANNING POLICIES

### 3.1 National Planning Policy

- NPPF's technical guidance states:

*“The effect of development is generally to reduce the permeability of at least part of the site. This markedly changes the Site’s response to rainfall. Without specific measures, the volume of water that runs off the site and the peak run-off flow rate is likely to increase. Inadequate surface water drainage arrangements in new development can threaten the development itself and increase the risk of flooding others.”*

### 3.2 Local Planning Policy

This report has been written in conjunction with the following local planning policy:

- Reading Borough Council, Level 1 and Level 2 Strategic Flood Risk Assessment reports

## 4. FLOOD RISK ASSESMENT

The possible causes of flooding set out in NPPF's technical guidance are considered in this section in relation to the flood risk to the site itself and the effects of the development of the site on flood risk elsewhere.

### 4.1 Fluvial or Tidal Flooding

The Environment Agency's Flood Map for Planning (Rivers and Sea), shown in Figure 3 below, indicates that the proposed development site is within a Flood Zone 1.

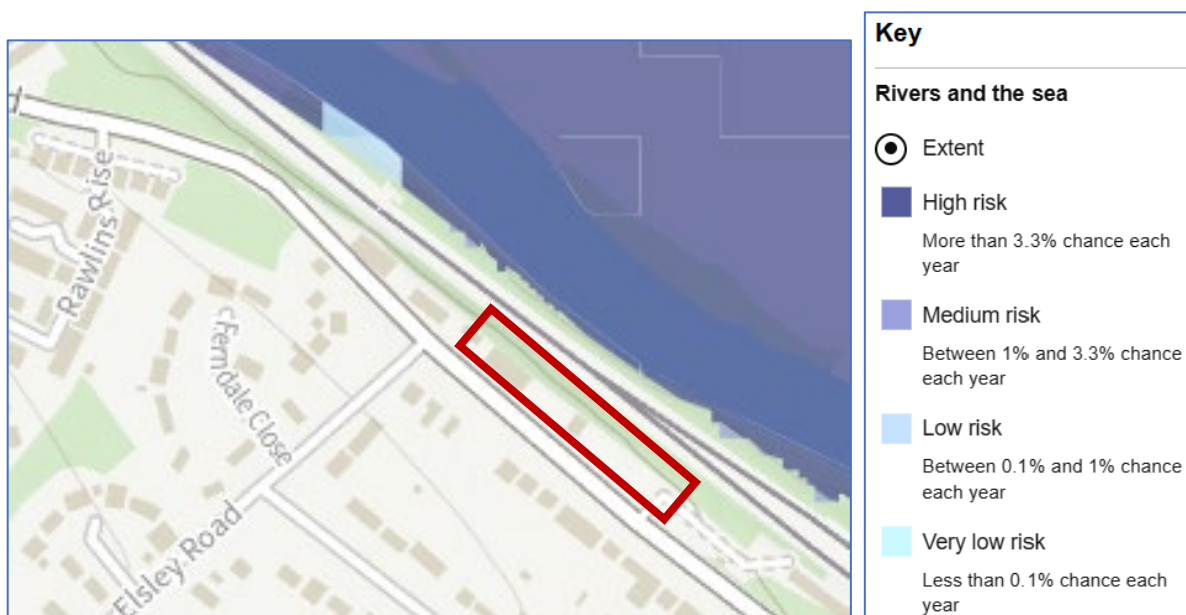


Figure 3 – Environment Agency Flood Map (from Rivers and the Sea) for the proposed development

## 4.2 Flooding from Land (Overland Flow)

The area of this proposed development is not at risk of surface water flooding however, there are areas in the main road, in front of the development's entrance, showing areas with flood depths of less than 300mm. Therefore, the residents must be made aware of these issues during access and egress to their dwellings during extreme events and dangers such as blown manholes.



Figure 4 – Environment Agency Flood Map (from surface water) for the proposed development.

### 4.3 Flooding from Groundwater

The proposed site for this development is at an area designated as a major aquifer with high permeability as per 'Bedrock Groundwater Vulnerability Map', extracted from the SFRA report, and shown below.

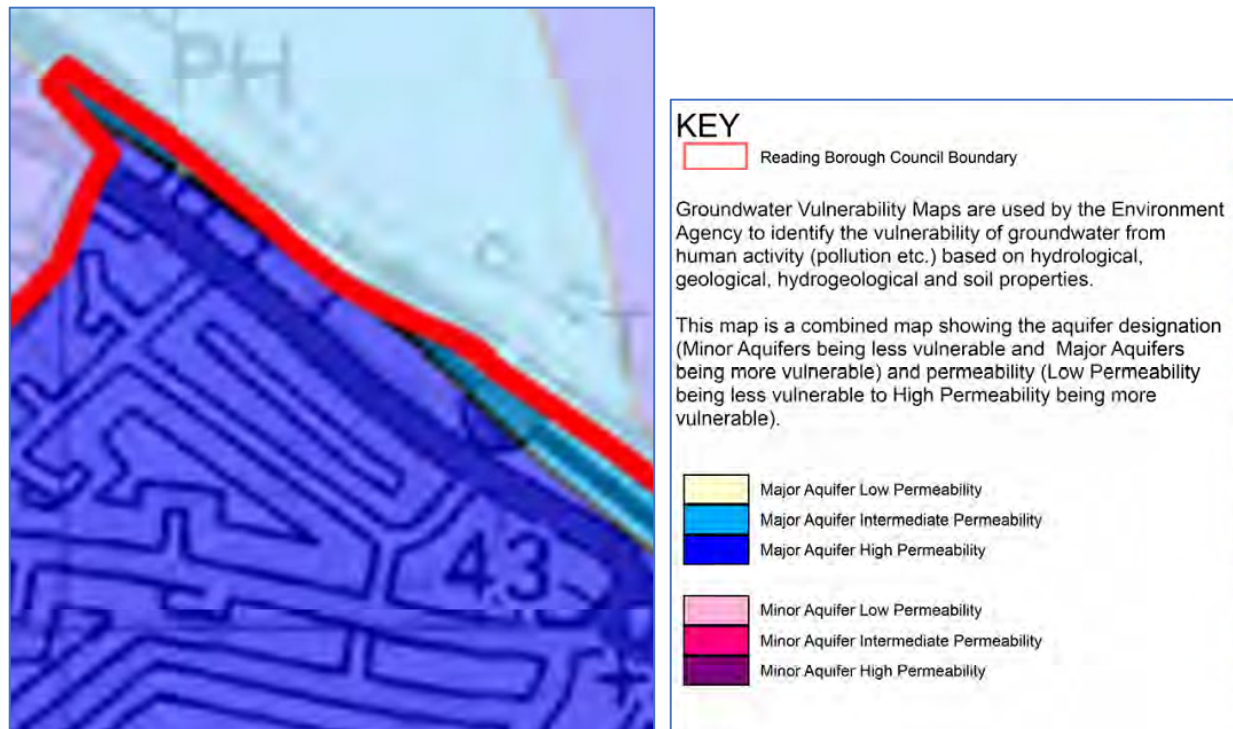


Figure 5 – 'Bedrock Groundwater Vulnerability Map' extracted from Reading Borough Council SFRA

Similarly, the EA's Groundwater Vulnerability Map on Magic Maps shows the area as being a high vulnerability area.

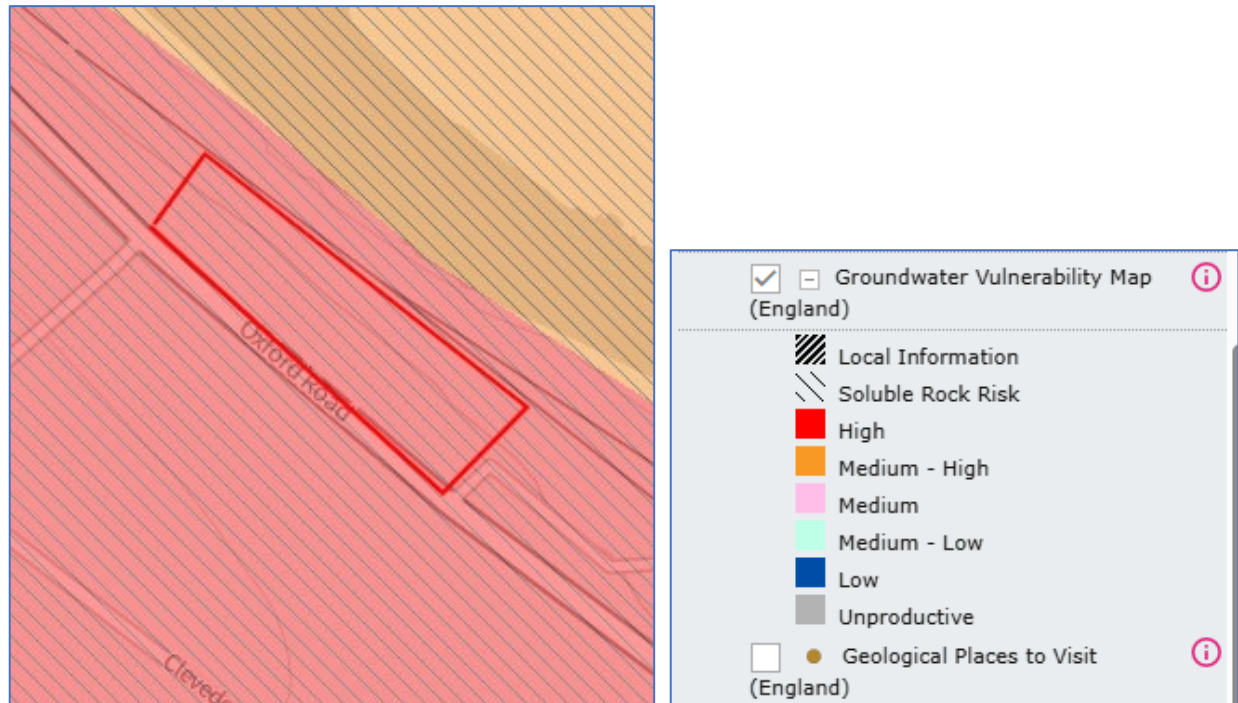


Figure 6 – 'Groundwater Vulnerability Maps' extracted from Magic Maps

#### 4.4 Flooding from Sewers

The proposed development is located in postcode RG31. According to Reading Borough Council's Extraction of the Thames Water DG5 Register from February 2016, there have been over 101 incidents of internal or external sewer flooding in this area.

#### 4.5 Flooding from Reservoirs, Canals or Artificial Sources

The Environment Agency's website confirms flooding from reservoirs is unlikely at this site.



Figure 7 – Environment Agency Flood Map (from reservoirs) for the proposed development.

## 5. RESIDUAL RISK AND MITIGATION MEASURES

There is a very low risk of flooding from all overground sources, therefore there are no residual risks and no mitigation measures are required, the only issues would be access and egress from the site from the main road, during an extreme storm event, where there are areas of surface water ponding of depths of less than 300m.

Therefore, residents need to be aware of hidden dangers such as blown manholes and take care when accessing and egressing their dwellings during an extreme storm event.

## 6. SAFE ACCESS AND EGRESS

Occupants should not attempt to walk through floodwater unless instructed to do so by the emergency services, and they should be aware of hidden dangers such as blown manholes.

## 7. SUSTAINABLE URBAN DRAINAGE SYSTEMS

Surface water arising from a developed site should, as far as is practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing the flood risk to the site itself and elsewhere, taking climate change into account.

Reducing the rate of surface water discharge from urban sites is one of the most effective ways of reducing and managing flood risk.

Traditional piped surface water systems work by removing surface water from our developments as quickly as possible, however this can cause various adverse impacts:

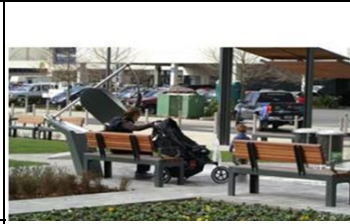
- Increased downstream flooding, and sudden rises in flow rates and water levels in local water courses.
- Reduction in groundwater levels and dry weather flows in watercourses.
- Reduce amenity and adversely affect biodiversity due to the surface water run-off containing contaminants such as oil, organic matter and toxic materials.

SuDS are defined as a sequence of management principles and control structures designed to drain surface water in a more sustainable fashion than conventional piped drainage techniques. SuDS should utilise the natural landscape of an area, which, as well as slowing down the rate of runoff, provides a number of environmental, ecological and social benefits.

These include:

- Protection and enhancement of water quality. As well as providing on-site attenuation, SuDS treat the water, resulting in an improved quality of water leaving the site. This is achieved when the water passes through fine soils and the roots of specially selected plants. Pollutants washed off the hard landscaping by rainfall will be safely removed before the water reaches the natural receiving water course.
- A sympathetic approach to the environmental setting by providing opportunities to create habitats for flora and fauna in urban watercourses and open spaces.
- Meeting the amenity and social needs of the local community and residents in the creation of attractive green spaces.

The various types of SuDS include:

|                                   |                                                                                      |
|-----------------------------------|--------------------------------------------------------------------------------------|
| Permeable paving                  |    |
| Soakaways;                        |    |
| Swales and basins;                |   |
| Bioretention/ rain gardens;       |  |
| Green roofs and rainwater re-use; |  |

Preferably a combination of these techniques should be used as part of the surface water management train, and it is important for all stakeholders, such as developers, architects, landscape architects and engineers to work in order to determine a feasible solution.

The SuDS management train is shown below, and this has been followed when proposing the proposed Sustainable Urban Drainage Systems for this site.

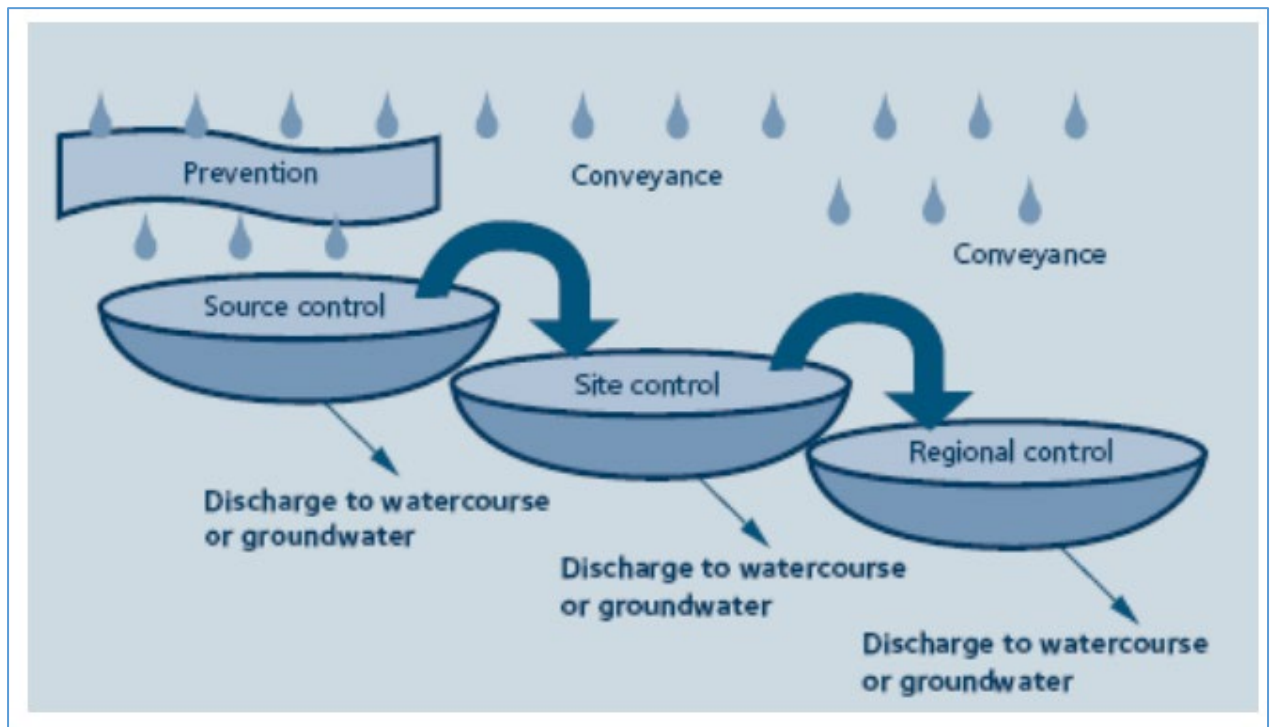


*Figure 8 – SuDS Management Train*

## 8. PROPOSED SOLUTION

The total site area for this proposed development is 3286m<sup>2</sup>, with the existing impermeable areas at the site equating to 2582m<sup>2</sup>, and following the development proposals, the impermeable areas will be reduced to 2356 m<sup>2</sup>.

Green or sedum roofing is proposed on available flat roofs, and in order to follow the SuDS management train, one wall-mounted rainwater harvesting tank per block will be provided.

Due to the site being within an area that is at high vulnerability to groundwater, full infiltration to groundwater is deemed unfeasible.

The proposed hardstanding areas will be formed of porous surfacing where possible, underlain by a hydrocarbon-removing geotextile membrane at the car parking areas.

The remaining surface water runoff will be directed into a crate system attenuation tank designed to handle a 1-in-100-year storm event, with an additional 45% allowance for climate change. The discharge will then be restricted through 15mm orifice in chamber SWC-16, as minimum sized orifice to minimise the likelihood of constant blockages in the system, restricting maximum discharge rate to 0.6l/s for 1 in 100 Year Storm Event+45% Climate Change Allowance. The Discharge will then be conveyed into the nearest Thames Water Surface Water Manhole being TW SW Chamber 2201 approximately 180 meters from the development boundary.

A drainage layout illustrating the attenuation tank can be found in Appendix A, while the hydraulic calculations are detailed in Appendix B. This proposed SuDS solution is proportionate to the nature and scale of the development, and follows the SuDS hierarchy.

## 9. SuDS PROPOSALS FOR DEVELOPMENT

In accordance with the CIRIA SuDS Manual C753, the SuDS hierarchy has been considered in relation to the site-specific constraints and its surroundings. Table 1 below outlines the hierarchical approach considered for the development at Charters, Oxford Road, Reading, RG31 6TQ.

| Sustainable Drainage Proposal                                              | Description                                                                                                                                                                                                                  | Constraints/Comments                                                                                                                                                                                                                                                                      | Appropriate |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Rainwater Use as a Resource                                                | Use of rainwater runoff for reuse, e.g. Rainwater harvesting tanks, Blue Roofs for irrigation                                                                                                                                | One wall-mounted rainwater harvesting tank will be provided per block                                                                                                                                                                                                                     | Yes         |
| Rainwater Full Infiltration to Ground (Source Control)                     | Infiltration devices and/or soakaways. Surface water runoff stored on site and gradually percolating into receiving ground                                                                                                   | The underlying geology is composed of chalk, and the requirement for a 10 metre gap between a soakaway and any structure makes installing a soakaway unfeasible due to the lack of available space. Additionally the area is within an area that is at high vulnerability to groundwater. | No          |
| Rainwater Partial Infiltration to Ground (Source Control)                  | Installation of permeable/porous surfacing                                                                                                                                                                                   | Permeable paving has been proposed in order to deal with surface water runoff in low-rainfall events                                                                                                                                                                                      | Yes         |
| Rainwater attenuation in green infrastructure features for gradual release | The onsite storage of all surface water runoff which can then be gradually conveyed to a nearby watercourse, sewer or infiltration into the ground. Forms of green infrastructure features: Green Roofs, Raingardens, Ponds, | Green/Sedum Roofs will be provided on flat roofs where possible                                                                                                                                                                                                                           | Yes         |

|                                                                  |                                                                                                                                                                                                                         |                                                                                                                                                                                                         |     |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|                                                                  | Swales, Detention basins, Infiltration Trenches and raingarden planters                                                                                                                                                 |                                                                                                                                                                                                         |     |
| Rainwater discharge direct to a watercourse                      | All surface water runoff on site discharged at a restricted rate to a nearby watercourse                                                                                                                                | Although the River Thames is within 50 meters of the development within this area is the rail line, hindering the possibility of a connection                                                           | No  |
| Controlled rainwater discharge to a surface water sewer or drain | All surface water runoff on site discharged at a restricted rate to a nearby surface water sewer or drain, all rainwater runoff stored in below ground attenuation features. E.g. oversized pipes or geo-cellular tanks | Review of Thames Water Asset Plans, shows no nearby surface water drainage.                                                                                                                             | No  |
| Controlled rainwater discharge to a combined sewer               | All surface water runoff on site discharged at a restricted rate to a nearby combined sewer all rainwater runoff stored in below ground attenuation features. E.g. oversized pipes or geo-cellular tanks                | The surface water runoff from the site will be attenuated and restricted to 0.6 l/s before being discharged to the Thames Water Surface Water Chamber approximately 180m from the development Boundary. | Yes |

Table 1: SuDS Control Measures for Development

## 9.1 Discharge Rates

As per the hydraulic calculations in Appendix B, the discharge rates for the site area are presented in the following tables for pre-development, post-development pre-attenuation, and post-development post-attenuation.

| Development Site Discharge Rate Table |                 |                                  |                                   |                          |
|---------------------------------------|-----------------|----------------------------------|-----------------------------------|--------------------------|
| Storm Event                           | Pre Development | Post Development Pre attenuation | Post Development Post Attenuation | Discharge rate Reduction |
| 1 in 1<br>+0%CCA                      | 79.0l/s         | 73.6l/s                          | 0.3l/s                            | 99.62%                   |
|                                       |                 |                                  |                                   | 99.59%                   |
| 1 in 30<br>+0%CCA                     | 191.2l/s        | 247.2l/s                         | 0.4l/s                            | 99.79%                   |
|                                       |                 |                                  |                                   | 99.84%                   |
| 1 in 30<br>+45%CCA                    | N/A             | 258.2l/s                         | 0.5l/s                            | 99.81%                   |
| 1 in 100<br>+0%CCA                    | 247.2l/s        | 230.2l/s                         | 0.5l/s                            | 99.80%                   |
|                                       |                 |                                  |                                   | 99.78%                   |
| 1 in 100<br>+45%CCA                   | N/A             | 333.7l/s                         | 0.6l/s                            | 99.82%                   |

Table 2: Discharge rate table

## 10. TIMESCALE AND MAINTENANCE OF WORKS

All drainage works shall be completed prior to first occupation and there shall be no adoption of any of the drainage works within the site, a management company will be formed and will be responsible to oversee the long-term maintenance of the communal drains. The following outline maintenance strategy sets out recommended timescales for maintenance of the proposed drainage works, in line with CIRIA SuDS Design Guide:

- Regular inspection will comprise the inspection and cleaning of catchment, gutters, filters and tanks to reduce the likelihood of contamination, this is recommended to be carried out every 3 to 6 months.

| Maintenance schedule   | Required action                                                                                                          | Typical Frequency                         |
|------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Regular maintenance    | Inspection of the tank for debris and sediment build-up, inlets/outlets/withdraw devices, overflow areas, pumps, filters | Annually (and following poor performance) |
|                        | Cleaning of tank, inlets, outlets, gutters. Withdrawal devices and roof drain filters of silts and other debris          | Annually (and following poor performance) |
| Occasional maintenance | Cleaning and/ or replacement of any filters                                                                              | Three monthly (or as required)            |
| Remedial actions       | Repair of overflow erosion damage or damage to tank                                                                      | As required                               |
|                        | Pump repairs                                                                                                             | As required                               |

*Table 3: Operation and maintenance requirement for RWH systems.*

The following table outlines the maintenance requirements for the Attenuation Tank:

| Maintenance schedule | Required action                                                                                                                                                                                         | Typical frequency                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Regular maintenance  | Inspect and identify any areas that are not operating correctly. If required, take remedial action                                                                                                      | Monthly for 3 months, then annually |
|                      | Remove debris from the catchment surface (where it may cause risks to performance)                                                                                                                      | Monthly                             |
|                      | For systems where rainfall infiltrates into the tank from above, check surface of filter for blockages by sediment, algae or other matter: remove and replace surface infiltration medium as necessary. | Annually                            |
|                      | Remove sediment from pre-treatment structures and/ or internal forebays                                                                                                                                 | Annually, or as required            |
| Remedial actions     | Repair/ rehabilitate inlets, outlet, overflows and vents                                                                                                                                                | As required                         |
| Monitoring           | Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed                                                                              | Annually                            |
|                      | Survey inside of tank for sediment build-up and remove if necessary                                                                                                                                     | Every 5 years or as required        |

*Table 4: Operation and maintenance requirements for attenuation storage tanks.*

| Maintenance schedule   | Required action                                                                                                                                                                       | Typical frequency                                                                                                                                                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regular maintenance    | Brushing and vacuuming (standard cosmetic sweep over whole surface)                                                                                                                   | Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations or clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this is the most likely to collect the most sediment |
| Occasional maintenance | Stabilise and mow contributing and adjacent areas                                                                                                                                     | As required                                                                                                                                                                                                                                                                                                                 |
|                        | Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying                                                                 | As required                                                                                                                                                                                                                                                                                                                 |
| Remedial Actions       | Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving.                                             | As required                                                                                                                                                                                                                                                                                                                 |
|                        | Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material. | As required                                                                                                                                                                                                                                                                                                                 |
|                        | Rehabilitation of surface and upper substructure by remedial sweeping                                                                                                                 | Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)                                                                                                                                                                                                                    |
| Monitoring             | Initial inspection                                                                                                                                                                    | Monthly for three months after installation                                                                                                                                                                                                                                                                                 |
|                        | Inspect for evidence of poor operation and/or weed growth – if required, take remedial action                                                                                         | Three-monthly, 48hr after large storms in six months                                                                                                                                                                                                                                                                        |
|                        | Inspect slit accumulation rates and establish appropriate brushing frequencies                                                                                                        | Annually                                                                                                                                                                                                                                                                                                                    |
|                        | Monitor inspection chambers                                                                                                                                                           | Annually                                                                                                                                                                                                                                                                                                                    |

Table 5 : Operation and maintenance requirements for pervious pavements

## 11. SUMMARY AND CONCLUSIONS

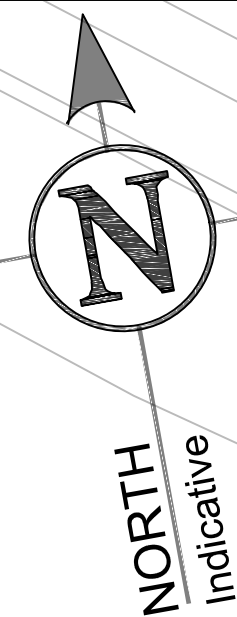
The site is at very low risk of flooding from tidal, river, and reservoir sources. However, there is a risk of surface water flooding on the main road. Additionally, it is located in an area highly vulnerable to groundwater flooding and has a postcode with a significant history of sewer flooding. Consequently, the main concerns arise during access to and egress from the dwelling, where caution is required during severe rain events and in situations such as the presence of blown manholes.

A drainage strategy has been proposed to ensure, as far as practicable, that the surface water is managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development while reducing the flood risk to the site itself and elsewhere while taking climate change into account.

SuDS have been incorporated into this design, in the form of:

1. The majority of uncovered hardstanding surfaces are formed of permeable paving.
2. The installation of 1 wall mounted rainwater harvesting tank per block for rainwater reuse
3. Green/Sedum Roofs to be provided on all flat roofs.
4. An underground crate style attenuation system for 1 in 100 Year storm event +45% climate change allowance.

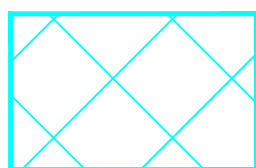
## APPENDIX A – DRAWINGS



- Proposed Red Boundary Total Area is Approx. 3286m<sup>2</sup>
- Existing Impermeable Total Area is Approx. 2582m<sup>2</sup>
- Existing Soft Total Area is Approx. 704m<sup>2</sup>
- Existing Impermeable area represent Approx. 79% from total considered area.

DRAWING TO BE PRINTED IN COLOUR.

KEY:

-  Existing Soft Areas as per topographical survey provided by architect. Soft areas include grass, shrubs and trees but for ease of reference is shown as same hatch
-  Existing impermeable areas as per existing site layout. Impermeable areas are roofs and pavements but for ease of reference is shown as same hatch.
-  Proposed Site Boundary.
-  Existing Exceedance SW routes as per information from Topo Survey.
-  Spot Levels As Per Topo Survey

NOTES:

1. DRAWING WILL NEED TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS FROM ARCHITECT, LANDSCAPE ARCHITECT, STRUCTURAL ENGINEER AND M&E.
2. EXISTING ROUTES FOR UNDERGROUND UTILITIES ARE CURRENTLY UNKNOWN.

NOT FOR CONSTRUCTION

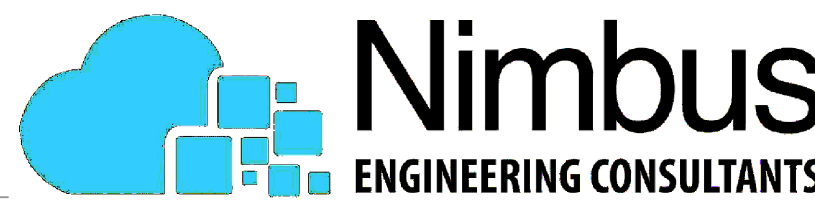
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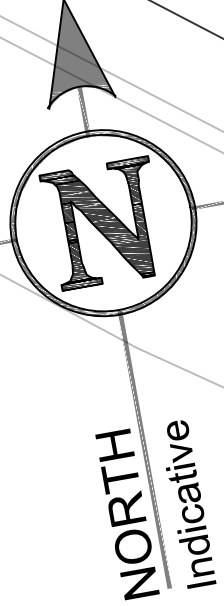
C3411 - Charters, Oxford Road, Reading, RG31 6TQ

Pre-Development Impermeable Areas & Exceedance Routes

Maxika Homes Ltd.



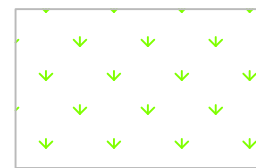
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- Proposed Red Boundary Total Area is Approx. 3286m<sup>2</sup>
- Proposed Impermeable Total Area is Approx. 2356m<sup>2</sup>
- Proposed Soft Total Area is Approx. 930m<sup>2</sup>
- Proposed Impermeable area represent Approx. 72% from total considered area.

DRAWING TO BE PRINTED IN COLOUR.

KEY:

-  Proposed Soft Areas.
-  Proposed Roof & Hardstanding Areas.
-  Proposed Site Boundary.

NOT FOR CONSTRUCTION

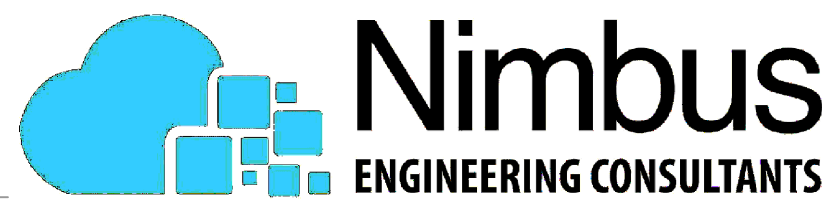
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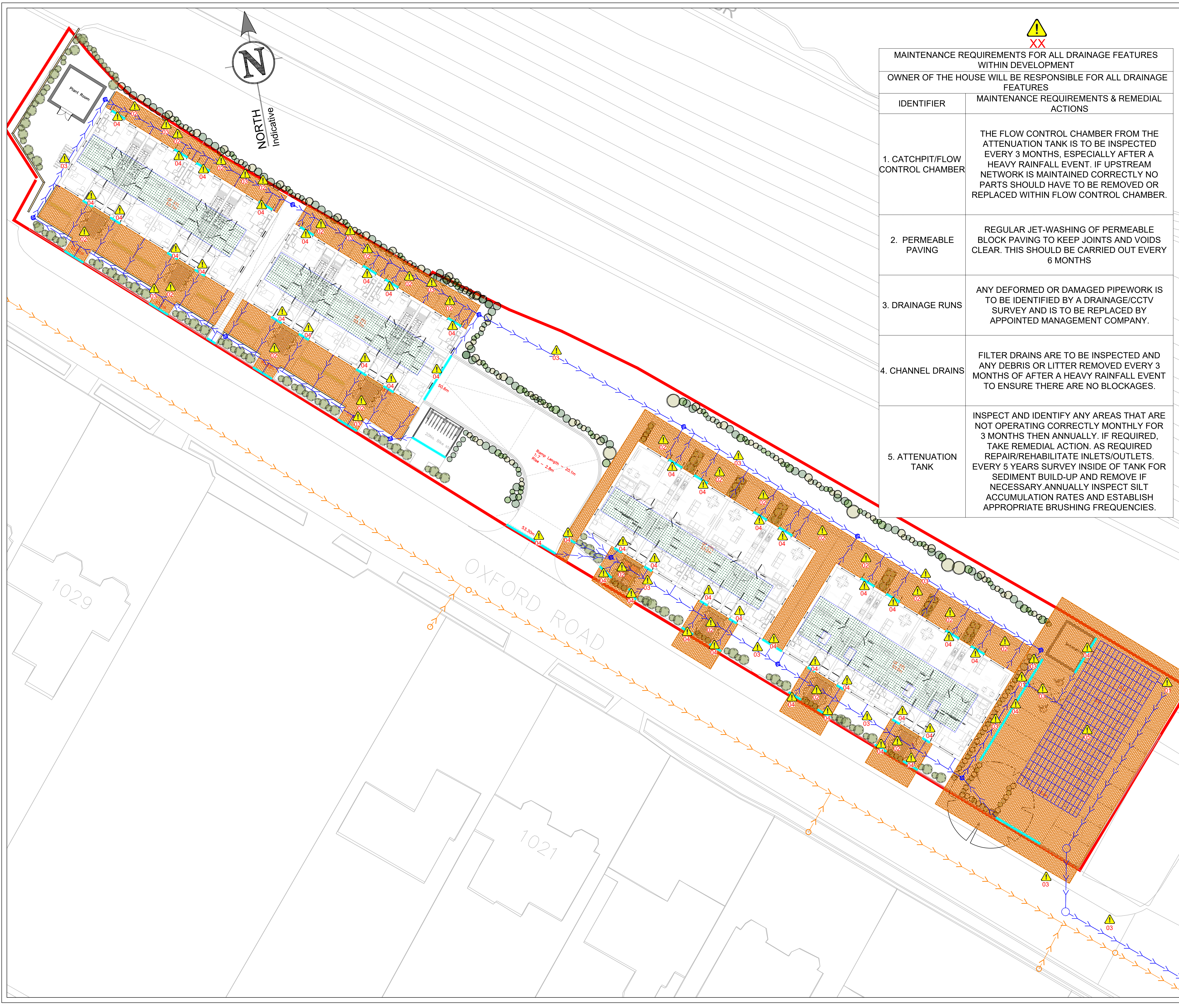
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Post-Development Impermeable Areas & Exceedance Routes

Maxika Homes Ltd.



|          |          |          |          |
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| MAINTENANCE REQUIREMENTS FOR ALL DRAINAGE FEATURES WITHIN DEVELOPMENT |                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER OF THE HOUSE WILL BE RESPONSIBLE FOR ALL DRAINAGE FEATURES      |                                                                                                                                                                                                                                                                                                                                                                     |
| IDENTIFIER                                                            | MAINTENANCE REQUIREMENTS & REMEDIAL ACTIONS                                                                                                                                                                                                                                                                                                                         |
| 1. CATCHPIT/FLOW CONTROL CHAMBER                                      | THE FLOW CONTROL CHAMBER FROM THE ATTENUATION TANK IS TO BE INSPECTED EVERY 3 MONTHS, ESPECIALLY AFTER A HEAVY RAINFALL EVENT. IF UPSTREAM NETWORK IS MAINTAINED CORRECTLY NO PARTS SHOULD HAVE TO BE REMOVED OR REPLACED WITHIN FLOW CONTROL CHAMBER.                                                                                                              |
| 2. PERMEABLE PAVING                                                   | REGULAR JET-WASHING OF PERMEABLE BLOCK PAVING TO KEEP JOINTS AND VOIDS CLEAR. THIS SHOULD BE CARRIED OUT EVERY 6 MONTHS                                                                                                                                                                                                                                             |
| 3. DRAINAGE RUNS                                                      | ANY DEFORMED OR DAMAGED PIPEWORK IS TO BE IDENTIFIED BY A DRAINAGE/CCTV SURVEY AND IS TO BE REPLACED BY APPOINTED MANAGEMENT COMPANY.                                                                                                                                                                                                                               |
| 4. CHANNEL DRAINS                                                     | FILTER DRAINS ARE TO BE INSPECTED AND ANY DEBRIS OR LITTER REMOVED EVERY 3 MONTHS OF AFTER A HEAVY RAINFALL EVENT TO ENSURE THERE ARE NO BLOCKAGES.                                                                                                                                                                                                                 |
| 5. ATTENUATION TANK                                                   | INSPECT AND IDENTIFY ANY AREAS THAT ARE NOT OPERATING CORRECTLY MONTHLY FOR 3 MONTHS THEN ANNUALLY. IF REQUIRED, TAKE REMEDIAL ACTION. AS REQUIRED, REPAIR/REHABILITATE INLETS/OUTLETS. EVERY 5 YEARS SURVEY INSIDE OF TANK FOR SEDIMENT BUILD-UP AND REMOVE IF NECESSARY. ANNUALLY INSPECT SILT ACCUMULATION RATES AND ESTABLISH APPROPRIATE BRUSHING FREQUENCIES. |

DRAWING TO BE PRINTED IN COLOUR.

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  - Proposed Site Boundary.
  - Proposed RWP (blue) and SVP (red). Locations TBC by Architect or M&E.
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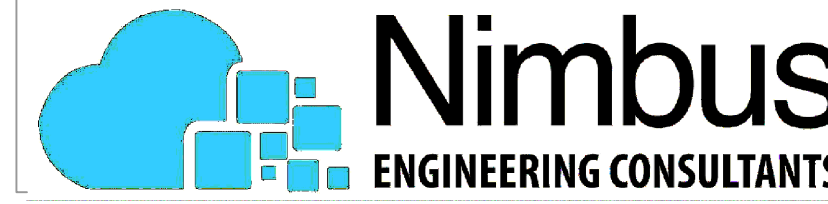
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| A   | 30-10-24 | N.E   | For Information. | S.L   | S.L   |

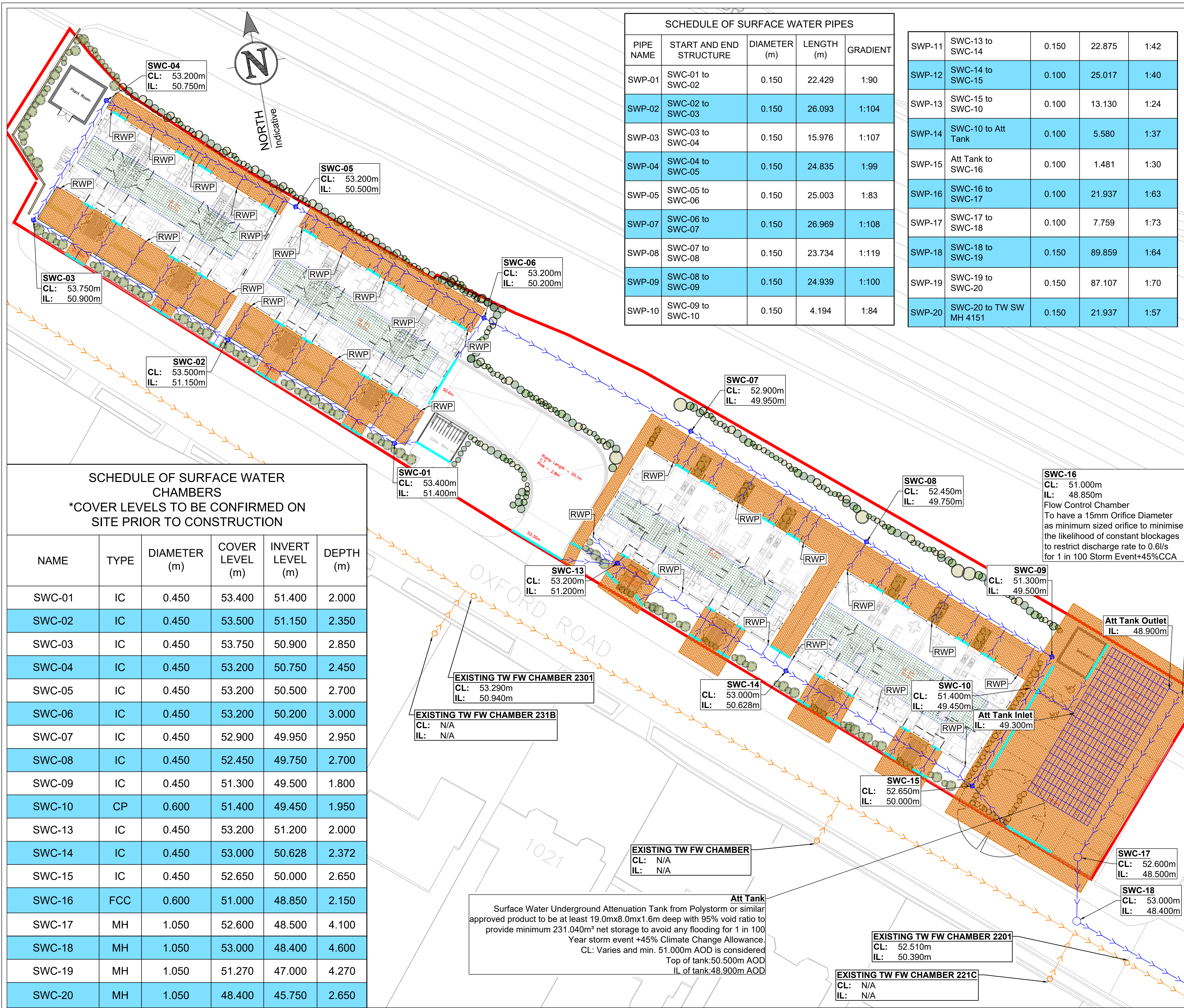
C3411 - Charters, Oxford Road, Reading, RG31 6TQ

Maintenance and Management Layout Plan

Maxika Homes Ltd.



|          |          |          |          |
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| S.L      | 30-10-24 | S.L      | 30-10-24 |
| N.E      | 1:200    | C3411-04 | B        |
| 30-10-24 | A1       |          |          |



| SCHEDULE OF SURFACE WATER PIPES |                         |              |            |          |
|---------------------------------|-------------------------|--------------|------------|----------|
| PIPE NAME                       | START AND END STRUCTURE | DIAMETER (m) | LENGTH (m) | GRADIENT |
| SWP-01                          | SWC-01 to SWC-02        | 0.150        | 22.429     | 1:90     |
| SWP-02                          | SWC-02 to SWC-03        | 0.150        | 26.093     | 1:104    |
| SWP-03                          | SWC-03 to SWC-04        | 0.150        | 15.976     | 1:107    |
| SWP-04                          | SWC-04 to SWC-05        | 0.150        | 24.835     | 1:99     |
| SWP-05                          | SWC-05 to SWC-06        | 0.150        | 25.003     | 1:83     |
| SWP-07                          | SWC-06 to SWC-07        | 0.150        | 26.969     | 1:108    |
| SWP-08                          | SWC-07 to SWC-08        | 0.150        | 23.734     | 1:119    |
| SWP-09                          | SWC-08 to SWC-09        | 0.150        | 24.939     | 1:100    |
| SWP-10                          | SWC-09 to SWC-10        | 0.150        | 4.194      | 1:84     |

|        |                         |       |        |      |
|--------|-------------------------|-------|--------|------|
| SWP-11 | SWC-13 to SWC-14        | 0.150 | 22.875 | 1:42 |
| SWP-12 | SWC-14 to SWC-15        | 0.100 | 25.017 | 1:40 |
| SWP-13 | SWC-15 to SWC-10        | 0.100 | 13.130 | 1:24 |
| SWP-14 | SWC-10 to Att Tank      | 0.100 | 5.580  | 1:37 |
| SWP-15 | Att Tank to SWC-16      | 0.100 | 1.481  | 1:30 |
| SWP-16 | SWC-16 to SWC-17        | 0.100 | 21.937 | 1:63 |
| SWP-17 | SWC-17 to SWC-18        | 0.100 | 7.759  | 1:73 |
| SWP-18 | SWC-18 to SWC-19        | 0.150 | 89.859 | 1:64 |
| SWP-19 | SWC-19 to SWC-20        | 0.150 | 87.107 | 1:70 |
| SWP-20 | SWC-20 to TW SW MH 4151 | 0.150 | 21.937 | 1:57 |

| SCHEDULE OF SURFACE WATER CHAMBERS                          |      |              |                 |                  |           |
|-------------------------------------------------------------|------|--------------|-----------------|------------------|-----------|
| *COVER LEVELS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION |      |              |                 |                  |           |
| NAME                                                        | TYPE | DIAMETER (m) | COVER LEVEL (m) | INVERT LEVEL (m) | DEPTH (m) |
| SWC-01                                                      | IC   | 0.450        | 53.400          | 51.400           | 2.000     |
| SWC-02                                                      | IC   | 0.450        | 53.500          | 51.150           | 2.350     |
| SWC-03                                                      | IC   | 0.450        | 53.750          | 50.900           | 2.850     |
| SWC-04                                                      | IC   | 0.450        | 53.200          | 50.750           | 2.450     |
| SWC-05                                                      | IC   | 0.450        | 53.200          | 50.500           | 2.700     |
| SWC-06                                                      | IC   | 0.450        | 53.200          | 50.200           | 3.000     |
| SWC-07                                                      | IC   | 0.450        | 52.900          | 49.950           | 2.950     |
| SWC-08                                                      | IC   | 0.450        | 52.450          | 49.750           | 2.700     |
| SWC-09                                                      | IC   | 0.450        | 51.300          | 49.500           | 1.800     |
| SWC-10                                                      | CP   | 0.600        | 51.400          | 49.450           | 1.950     |
| SWC-13                                                      | IC   | 0.450        | 53.200          | 51.200           | 2.000     |
| SWC-14                                                      | IC   | 0.450        | 53.000          | 50.628           | 2.372     |
| SWC-15                                                      | IC   | 0.450        | 52.650          | 50.000           | 2.650     |
| SWC-16                                                      | FCC  | 0.600        | 51.000          | 48.850           | 2.150     |
| SWC-17                                                      | MH   | 1.050        | 52.600          | 48.500           | 4.100     |
| SWC-18                                                      | MH   | 1.050        | 53.000          | 48.400           | 4.600     |
| SWC-19                                                      | MH   | 1.050        | 51.270          | 47.000           | 4.270     |
| SWC-20                                                      | MH   | 1.050        | 48.400          | 45.750           | 2.650     |

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  - Existing Thames Water FW Drainage.
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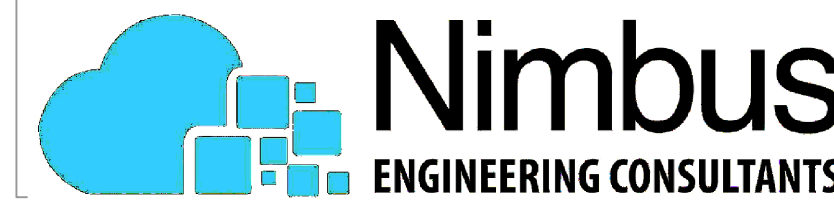
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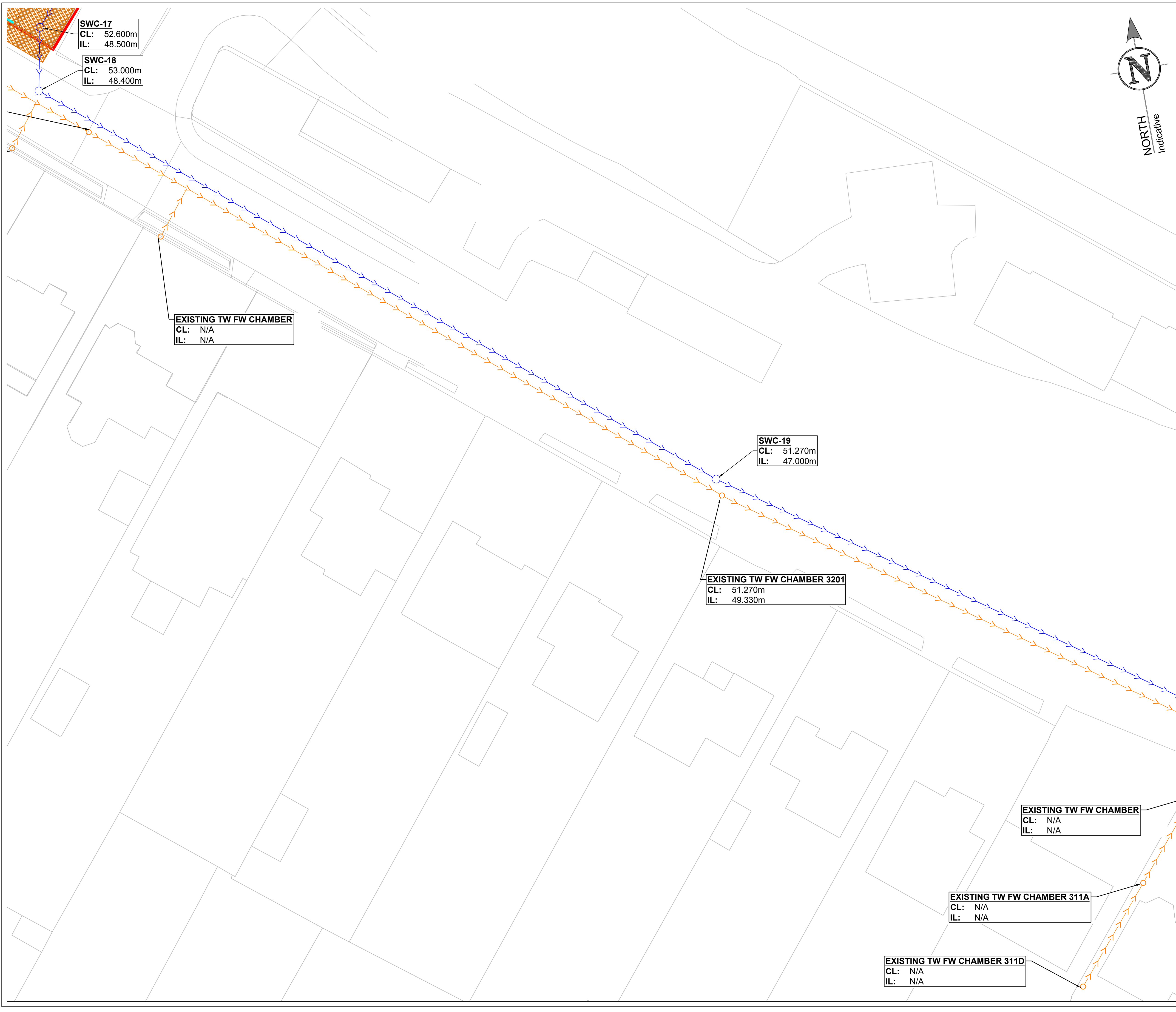
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Proposed Surface Water Drainage & SuDS Layout Plan - Sheet 01 of 03

Maxika Homes Ltd.



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| S.L      | 21-11-24 | S.L      | 21-11-24 |
| N.E      | 1:200    | C3411-05 | A        |
| 21-11-24 | A1       |          |          |



**SWC-17**  
CL: 52.600m  
IL: 48.500m

**SWC-18**  
CL: 53.000m  
IL: 48.400m

**EXISTING TW FW CHAMBER**  
CL: N/A  
IL: N/A

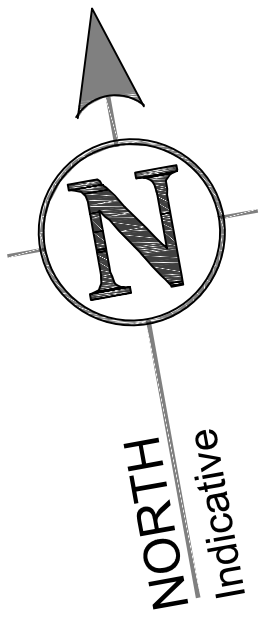
**SWC-19**  
CL: 51.270m  
IL: 47.000m

**EXISTING TW FW CHAMBER 3201**  
CL: 51.270m  
IL: 49.330m

**EXISTING TW FW CHAMBER**  
CL: N/A  
IL: N/A

**EXISTING TW FW CHAMBER 311A**  
CL: N/A  
IL: N/A

**EXISTING TW FW CHAMBER 311D**  
CL: N/A  
IL: N/A



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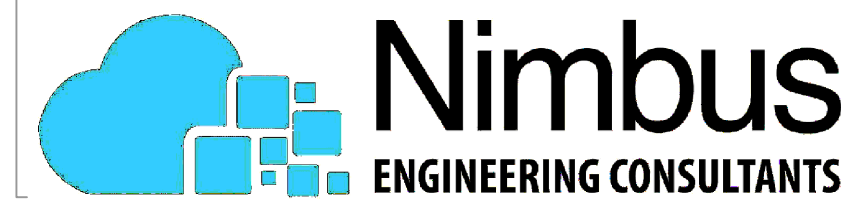
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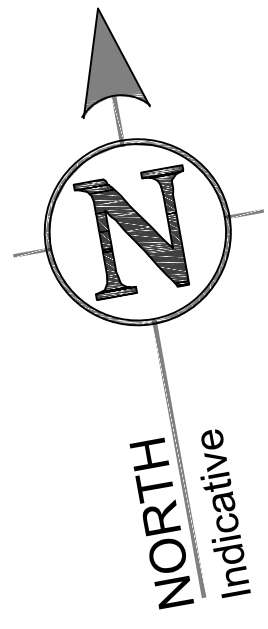
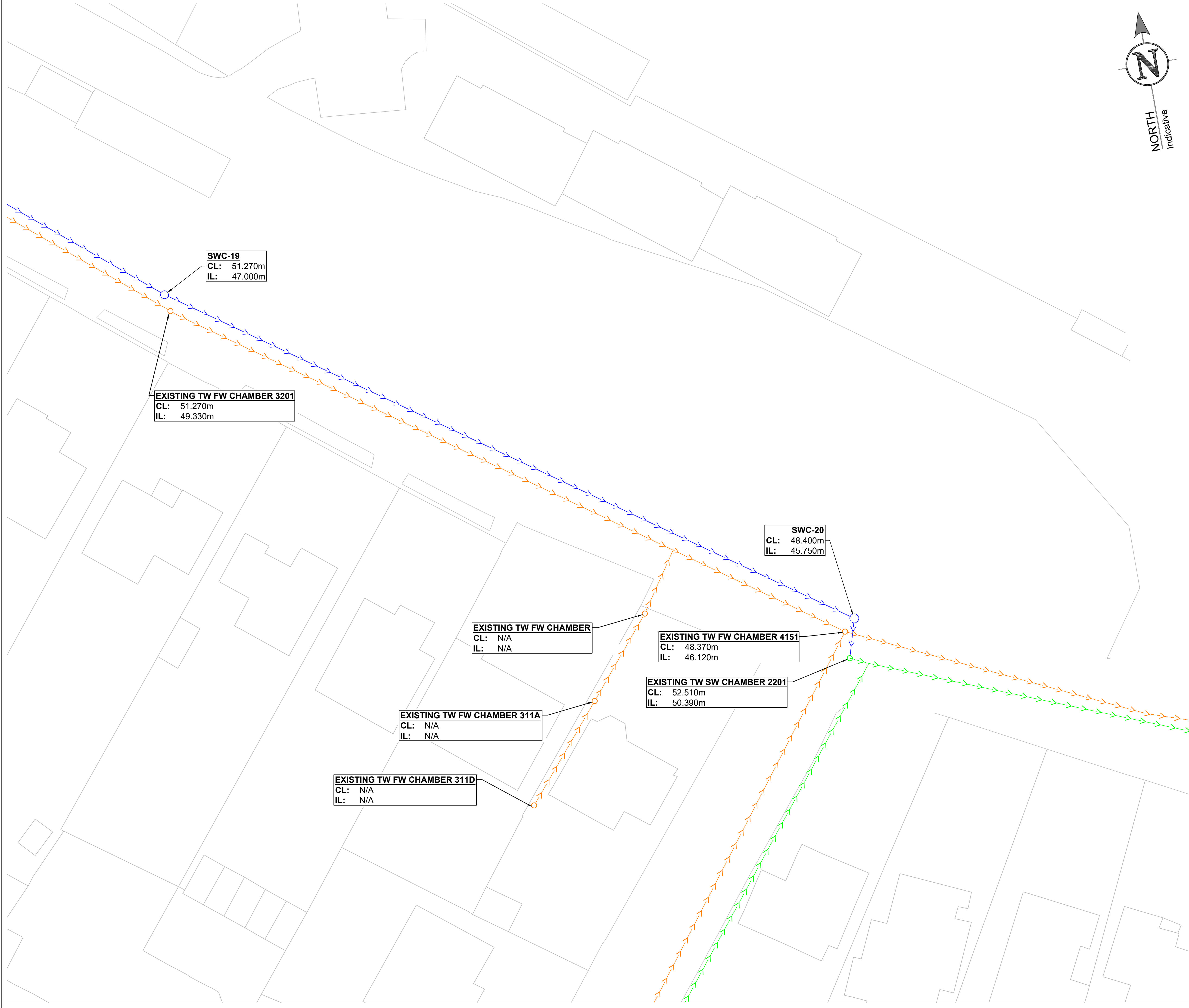
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Proposed Surface Water Drainage & SuDS Layout Plan - Sheet 02 of 03

Maxika Homes Ltd.



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| S.L      | 21-11-24 | S.L      | 21-11-24 |
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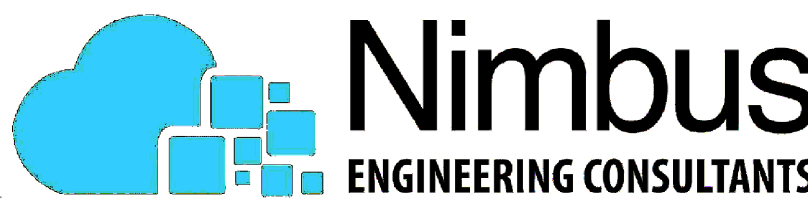
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Proposed Surface Water Drainage & SuDS Layout Plan - Sheet 03 of 03

Maxika Homes Ltd.



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| 21-11-24 | A1       |          |          |

## **APPENDIX B – SURFACE WATER RUNOFF CALCULATIONS**



# Nimbus Engineering Consultants Ltd

www.nimbusengineering.co.uk

Kemp House,  
152 City Road,  
London, EC1V 2NX  
Mob:0772 339 3155  
email: info@nimbusengineering.co.uk

|           |                 |         |          |
|-----------|-----------------|---------|----------|
| Job No.   | <b>C3411</b>    |         |          |
| Sheet no. | <b>1</b>        |         |          |
| Date      | <b>31/10/24</b> |         |          |
| By        | <b>N.E</b>      | Checked | Reviewed |

MasterDrain  
HY 10.01

Project **Charters, Oxford Road, Reading, RG31 6TQ**

Title **Pre and Post Runoff rates**

## Data:-

Hydrology (FSR):-

Location = READING

Long reference = 472172

M5-60 (mm) = 18

r = 0.40

Hyd. area = 7

Hydrograph = Summer

WRAP = 2

Grid reference = SU7272

SAAR (mm/yr) = 650

Soil = 0.30

Hyd. zone = 5

Area = England & Wales

## Site values used in design:-

Total site area = 0.2582 ha

Pre-dev area drained = 0.2582 ha

Imperm runoff factor = 100%

Climate change factor = 45%

Post-dev area drained = 0.2360 ha

Perm runoff factor = 20%

### Pre-development

Area to soakaways = 0.0000 ha

Perv. area to SUDS = 0.0000 ha

Area to other SUDS = 0.0000 ha

Pre-dev flow to drain = 0.00 l/s

### Post-development

Area to soakaways = 0.0000 ha

Perv. area to SUDS = 0.0000 ha

Area to other SUDS = 0.0000 ha

Post-dev flow to drain = 0.00 l/s

## Calculations:-

Revised Post-dev Imperm. area = 0.236 ha

Equiv. Post-dev Imperm. area = 0.236 ha

Equiv. Post-dev Perm. area = 0.004 ha

Total Pre-dev equiv. area ha = 0.258 ha

Total Post-dev equiv. area ha = 0.240 ha

100 yr 6 hour mean intensity = 9.53mm/hr

## Results:-

Pre-dev peakflow runoff (l/s) ( $m^3/s$ )

| R.P. | 15    | 30    | 60    | 120  | 240  | 360  | 480  | 600  | Max   | CCF | Final | R.P. |
|------|-------|-------|-------|------|------|------|------|------|-------|-----|-------|------|
| 1    | 79.0  | 50.8  | 32.4  | 20.2 | 12.4 | 9.2  | 7.6  | 6.4  | 79.0  | N/A | 79.0  | 1    |
| 30   | 191.2 | 124.6 | 77.7  | 47.2 | 28.1 | 20.5 | 16.4 | 13.8 | 191.2 | N/A | 191.2 | 30   |
| 100  | 247.2 | 162.5 | 102.0 | 62.1 | 36.8 | 26.8 | 21.3 | 17.9 | 247.2 | N/A | 247.2 | 100  |

Post-dev peakflow runoff (l/s)

| R.P. | 15    | 30    | 60   | 120  | 240  | 360  | 480  | 600  | Max   | CCF | Final | R.P. |
|------|-------|-------|------|------|------|------|------|------|-------|-----|-------|------|
| 1    | 73.6  | 47.3  | 30.2 | 18.8 | 11.6 | 8.5  | 7.1  | 6.0  | 73.6  | 45  | 106.7 | 1    |
| 30   | 178.0 | 116.0 | 72.4 | 43.9 | 26.1 | 19.1 | 15.3 | 12.9 | 178.0 | 45  | 258.2 | 30   |
| 100  | 230.2 | 151.4 | 95.0 | 57.8 | 34.3 | 24.9 | 19.9 | 16.7 | 230.2 | 45  | 333.7 | 100  |

100 year 6 hour (x Climate Change Factor) storm gives:-

Pre-dev runoff volume  $m^3$  = 147.6  $m^3$

Post-dev rainfall volume = 199.3  $m^3$

Post-dev volume  $m^3$  (excess above SUDS) = 199.3  $m^3$

100 yr 6 hour mean intensity = 9.53mm/hr

Pre-dev volume to drain at 0 l/s = 0.0  $m^3$

Post-dev volume to drain at 0 l/s = 0.0  $m^3$

Post-dev storage volume = 199.3  $m^3$

Post-dev 5mm imperm volume = 11.8  $m^3$

Post-dev 5mm perm volume = 1.1  $m^3$

$Q_{BAR(rural)}$  = 0.431 l/s or 1.671 l/s/ha or 0.000 cumecs - from IoH 124.



MasterDrain  
HY 10.01

## Nimbus Engineering Consultants Ltd

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Mob:0772 339 3155  
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|                         |         |          |
|-------------------------|---------|----------|
| Job No.<br><b>C3411</b> |         |          |
| Sheet no.<br><b>2</b>   |         |          |
| Date<br><b>31/10/24</b> |         |          |
| By<br><b>N.E</b>        | Checked | Reviewed |

Project **Charters, Oxford Road, Reading, RG31 6TQ**

Title **Pre and Post Runoff rates**

Data summary.

Use the data below for the SUR1 form

Site areas:-

|                                   |   |           |                             |
|-----------------------------------|---|-----------|-----------------------------|
| Total site area                   | = | 0.2582 ha | ;2582.0 m <sup>2</sup> [3A] |
| Pre-development impermeable area  | = | 0.2582 ha | [3B]                        |
| Pre-development permeable area    | = | 0.0000 ha |                             |
| Post-development impermeable area | = | 0.2360 ha | [3C]                        |
| Post-development permeable area   | = | 0.0222 ha |                             |

Peak runoff:-

|                                         |   |            |      |
|-----------------------------------------|---|------------|------|
| Pre-development 1 year storm (15min)    | = | 79.0 l/s   | [6A] |
| Pre-development 100 year storm (15min)  | = | 247.2 l/s  | [6C] |
| Post-development 1 year storm (15min)   | = | 73.6 l/s   | [6B] |
| Post-development 100 year storm (15min) | = | 230.15 l/s | [6D] |

Greenfield runoff:-

$Q_{BAR(rural)} = 0.431 \text{ l/s}$  or  $1.671 \text{ l/s/ha}$  or  $0.000 \text{ cumecs}$  - from IoH 124.

Climate change factor:-

CCF = 45%

Volumes:-

|                                                               |        |                       |
|---------------------------------------------------------------|--------|-----------------------|
| Pre-development 100 yr/6hr storm                              | [12A]= | 214.0m <sup>3</sup>   |
| Post-development 100 yr/6hr storm ( add. volume with no SUDS) | [12B]= | 199.3m <sup>3</sup>   |
| Post-development 100 yr/6hr storm ( add. volume with SUDS)    | =      | 199.3m <sup>3</sup>   |
| Post-development add. predicted volume (No SUDS)              | [12C]  | = -14.7m <sup>3</sup> |

You may also require

Data relating to the infiltration test calculations (if applicable)  
Evidence to show runoff reduction (if applicable)  
Information on calculation methods (if applicable see next sheet)

Note

Numbers in square brackets relate to the  
Nov. 2010 v1.1 / issued 11/02/10 copy of SUR1



MasterDrain  
HY 10.01

## Nimbus Engineering Consultants Ltd

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|                         |         |          |
|-------------------------|---------|----------|
| Job No.<br><b>C3411</b> |         |          |
| Sheet no. <b>3</b>      |         |          |
| Date <b>31/10/24</b>    |         |          |
| By<br><b>N.E</b>        | Checked | Reviewed |

Project **Charters, Oxford Road, Reading, RG31 6TQ**

Title **Pre and Post Runoff rates**

### Definitions and methods

#### Hydrology

The hydrological constants are derived from the Wallingford maps. They are used to calculate location specific rainfall figures.

#### Site values and factors

Areas of the site should be entered in hectares (10000 m<sup>2</sup>). If the Pre-development site is a green field, this box is blank.

Climate Change Factor is initially set at 20% - this may be changed as required.

Greenfield runoff is calculated using the method described in IoH 124.

Runoff factors

The impermeable runoff factor is initially set at 98%

The permeable runoff factor is initially set at 20%

Note: the CCF and the runoff factors may be changed by the user to suit the development

The areas draining to soakaways and other SUDS are entered in the appropriate box (in hectares)

#### Calculations

The post-development area is reduced by subtracting the areas that drain to soakaways or other SUDS, to give a revised figure.

All areas are then multiplied by the appropriate runoff factor to give an equivalent area with 100% runoff.

These are then summated.

This gives a total pre-development equivalent area, and a similar figure for the post-development area.

The 'Post-dev volume to drain (no SUDS)' gives the total runoff to drain if no SUDS were used.

#### Results

The pre- and post-development areas are subjected to 1,30 and 100 year return period storms with a duration of 15 to 600 minutes.

The Revised Post-dev Imperm. area is the area (in ha) that is not going to SUDS x impervious runoff factor.

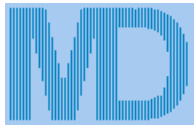
The runoff rates are calculated for the chosen hydrograph (Summer or Winter) as l/s. Figures in red indicate m<sup>3</sup>/s

The peak value is measured, multiplied by the CCF and the total maximum rate is shown.

The pre- and post-development volumes for a 100 year / 6 hour storm are calculated from the area under the hydrograph curve.

Post-dev volume (i.e. excess above SUDS) is that volume produced by the drained area that does not go to SUDS.

Qbar(rural) is calculated in accordance with the procedure laid down in IoH 124



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|                         |                                 |
|-------------------------|---------------------------------|
| Job No.<br><b>C3411</b> |                                 |
| Sheet no.<br><b>1</b>   |                                 |
| Date<br><b>31/10/24</b> |                                 |
| By<br><b>N.E</b>        | Checked<br><br>Reviewed<br><br> |

Project  
**Charters, Oxford Road, Reading, RG31 6TQ**

Title  
**IoH 124 Qbar Runoff calcs**

### Hydrological Data:-

#### FSR Hydrology:-

Location = READING

M5-60 (mm) = 18

Soil runoff = 0.30

WRAP = 2

Hydrological area = 7

Grid reference = SU7272

r = 0.40

SAAR (mm/yr) = 650

Area = England & Wales

Hydrological zone = 5

Soil classification for WRAP type 2

i) Very permeable soils with shallow ground water;

ii) Permeable soils over rock or fragipan, commonly on slopes in western Britain associated with smaller areas of less permeable wet soils; (fragipan - a natural subsurface horizon having a higher bulk density than the solum above. Seemingly cemented when dry but showing moderate to weak brittleness when moist. The layer is low in organic matter, mottled and slowly or very slowly permeable to water. It is found in profiles of either cultivated or virgin soils but not in calcareous material).

iii) Moderately permeable soils, some with slowly permeable subsoils.

### Design data:-

Area = 0.00236 Km<sup>2</sup> - 0.236 Ha - 2360 m<sup>2</sup> % Urbanisation = 100.00%

### Calculation method:-

Runoff is calculated from:-

$$Q_{BAR(urban)} = Q_{BAR(rural)} (1 + URBAN)^{2NC} [1 + URBAN \{ (21/CIND) - 0.3 \}]$$

where:-

NC varies with the value of SAAR:-

for 500<SAAR<1100 mm then NC = 0.92 - 0.00024SAAR

for 1100<SAAR<3000 mm then NC = 0.74 - 0.000082SAAR

CIND = 102.4SOIL + 0.28(CWI - 125)

CWI = Catchment Wetness Index

so

CIND = 14.757

CWI = 67.989

NC = 0.764

For areas less than 50Ha, a modified calculation which multiplies the 50Ha runoff value by the ratio of the site area to 50Ha is used

Reducing factor used for these calculations is 0.005

$$Q_{BAR(rural)} = 0.394 \text{ (l/s)}$$

$$Q_{BAR(urban)} = 2.415 \text{ (l/s)}$$

$Q_{BAR(urban)}$  is then multiplied by a growth factor - GC(T) - for different storm return periods derived from EA publication W5-074/A.



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Calculated data:-

|                                                                                                |  |                                                                                                                              |  |                  |         |          |
|------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------|--|------------------|---------|----------|
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|                                                                                                |  |                                                                                                                              |  | Sheet no. 2      |         |          |
|                                                                                                |  |                                                                                                                              |  | Date 31/10/24    |         |          |
| Project Charters, Oxford Road, Reading, RG31 6TQ                                               |  |                                                                                                                              |  | By<br>N.E        | Checked | Reviewed |
| Title IoH 124 Qbar Runoff calcs                                                                |  |                                                                                                                              |  |                  |         |          |

Mean Annual Peak Flow  $Q_{BAR(urban)} = 2.41 \text{ l/s}$

Values for  $Q_{BAR(urban)}$

| Ret. per. | m <sup>3</sup> /hr | l/s   | l/s/ha | Ret. per.   | m <sup>3</sup> /hr | l/s    | l/s/ha |
|-----------|--------------------|-------|--------|-------------|--------------------|--------|--------|
| 1yr       | 0.002              | 2.052 | 8.697  | 100yr       | 0.008              | 7.606  | 32.229 |
| 2yr       | 0.002              | 2.125 | 9.004  | 100yr+20%   | 0.009              | 9.127  | 38.675 |
| 5yr       | 0.003              | 3.091 | 13.096 | 100yr+30%   | 0.010              | 9.888  | 41.898 |
| 10yr      | 0.004              | 3.912 | 16.575 | 200yr       | 0.009              | 8.934  | 37.856 |
| 30yr      | 0.005              | 5.385 | 22.816 | 200yr + 30% | 0.012              | 11.614 | 49.213 |
| 50yr      | 0.006              | 6.326 | 26.806 | 500yr       | 0.011              | 10.842 | 45.939 |
|           |                    |       |        | 1000yr      | 0.012              | 12.459 | 52.794 |

Growth factors -

| 1yr  | 2yr  | 5yr  | 10yr | 30yr | 50yr | 100yr | 200yr | 500yr | 1000yr |
|------|------|------|------|------|------|-------|-------|-------|--------|
| 0.85 | 0.88 | 1.28 | 1.62 | 2.23 | 2.62 | 3.15  | 3.70  | 4.49  | 5.16   |

The above is based on the Institute of Hydrology Report 124 to which you are referred for further details (see Sect 7). Note that the 200 year growth curve was taken from W5-074/A.

For WRAP type 1 soils, CIND can become negative for lower values of SAAR. In this case the CIND value is multiplied by -1 to return a positive value (CIND is very small at this point).

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                                  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**Att Tank**

Type : Cellular Storage

### Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

### Inlets

#### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

### Outlets

#### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                                |  |  |  |                                     |             |              |
|------------------------------------------------|--|--|--|-------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:      |  |  |  | Date:                               |             |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year |  |  |  | 15/11/2024                          |             |              |
| Storm Event +45% Climate Change, Maximum       |  |  |  | Designed by:                        | Checked by: | Approved By: |
| Discharge Restricted to 0.6l/s                 |  |  |  | N.E                                 | S.L         | S.L          |
| Report Details:                                |  |  |  | Company Address:                    |             |              |
| Type: Inflow Summary                           |  |  |  | Nimbus Engineering Consultants Ltd. |             |              |
| Storm Phase: Phase                             |  |  |  | Kemp House, 124 City Road,          |             |              |
|                                                |  |  |  | EC1V 2NX, London                    |             |              |



| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                           | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

### Rainfall

FSR

Type: FSR

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

### Return Period

|                       |                       |
|-----------------------|-----------------------|
| Return Period (years) | Increase Rainfall (%) |
| 100.0                 | 45.000                |

### Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow**

|                                                                                                                        |  |                                     |             |
|------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------|-------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                               |             |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                          |             |
| Report Details:                                                                                                        |  | Designed by:                        | Checked by: |
| Type: Inflows Summary                                                                                                  |  | N.E                                 | S.L         |
| Storm Phase: Phase                                                                                                     |  | Approved By:                        |             |
|                                                                                                                        |  | S.L                                 |             |
|                                                                                                                        |  | Company Address:                    |             |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd. |             |
|                                                                                                                        |  | Kemp House, 124 City Road,          |             |
|                                                                                                                        |  | EC1V 2NX, London                    |             |



| Inflow                 | Storm Event                            | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|------------------------|----------------------------------------|------------------|-------------------|--------------------------|
| Catchment Area         | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.9               | 4.204                    |
| Catchment Area (1)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.7               | 4.113                    |
| Catchment Area (2)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.9               | 4.192                    |
| Catchment Area (3)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.5               | 4.032                    |
| Catchment Area (1) (1) | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.6               | 4.089                    |
| Catchment Area (4)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 7.5               | 3.571                    |
| Catchment Area (5)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 7.8               | 3.670                    |
| Catchment Area (6)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.4               | 3.951                    |
| Catchment Area (7)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 8.4               | 3.951                    |
| Catchment Area (8)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 6.0               | 2.823                    |
| Catchment Area (9)     | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 6.9               | 3.242                    |
| Catchment Area (10)    | FSR: 100 years: +45 %: 15 mins: Winter | 0.03             | 15.6              | 7.362                    |
| Catchment Area (11)    | FSR: 100 years: +45 %: 15 mins: Winter | 0.03             | 17.9              | 8.465                    |
| Catchment Area (12)    | FSR: 100 years: +45 %: 15 mins: Winter | 0.02             | 10.2              | 4.828                    |
| Catchment Area (13)    | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 3.8               | 1.816                    |
| Catchment Area (14)    | FSR: 100 years: +45 %: 15 mins: Winter | 0.01             | 4.8               | 2.259                    |

|                                                                                                                                                                           |  |                                                                                                           |             |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |             |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Designed by:                                                                                              | Checked by: |                                                                                     |
|                                                                                                                                                                           |  | N.E                                                                                                       | S.L         |                                                                                     |
|                                                                                                                                                                           |  | Approved By:                                                                                              |             |                                                                                     |
|                                                                                                                                                                           |  | S.L                                                                                                       |             |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth**

| Junction      | Storm Event                              | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|---------------|------------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| SWC-13        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.200              | 51.200               | 52.159             | 0.959          | 12.2              | 0.152                     | 0.000                    | 6.2                | 5.731                       | Surcharged |
| SWC-14        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.000              | 50.628               | 51.958             | 1.329          | 14.6              | 0.211                     | 0.000                    | 11.0               | 9.724                       | Surcharged |
| SWC-15        | FSR: 100 years: +45 %: 15 mins: Winter   | 52.650              | 50.000               | 51.299             | 1.299          | 21.6              | 0.207                     | 0.000                    | 17.4               | 15.793                      | Surcharged |
| SWC-09        | FSR: 100 years: +45 %: 15 mins: Winter   | 51.300              | 49.500               | 50.701             | 1.201          | 46.7              | 0.191                     | 0.000                    | 43.1               | 50.464                      | Surcharged |
| SWC-08        | FSR: 100 years: +45 %: 15 mins: Winter   | 52.450              | 49.750               | 51.625             | 1.875          | 38.3              | 0.298                     | 0.000                    | 36.6               | 43.215                      | Surcharged |
| SWC-07        | FSR: 100 years: +45 %: 15 mins: Winter   | 52.900              | 49.950               | 52.137             | 2.187          | 28.1              | 0.348                     | 0.000                    | 28.7               | 34.850                      | Surcharged |
| SWC-01        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.400              | 51.400               | 52.920             | 1.520          | 8.5               | 0.242                     | 0.000                    | 3.8                | 4.046                       | Surcharged |
| SWC-02        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.500              | 51.150               | 52.913             | 1.763          | 9.8               | 0.280                     | 0.000                    | 7.6                | 8.227                       | Surcharged |
| SWC-03        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.750              | 50.900               | 52.884             | 1.984          | 11.1              | 0.316                     | 0.000                    | 11.4               | 12.449                      | Surcharged |
| SWC-04        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.200              | 50.750               | 52.844             | 2.094          | 17.0              | 0.333                     | 0.000                    | 15.3               | 18.803                      | Surcharged |
| SWC-05        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.200              | 50.500               | 52.717             | 2.217          | 18.1              | 0.352                     | 0.000                    | 19.2               | 22.879                      | Surcharged |
| SWC-06        | FSR: 100 years: +45 %: 15 mins: Winter   | 53.200              | 50.200               | 52.518             | 2.318          | 25.7              | 0.369                     | 0.000                    | 23.7               | 30.083                      | Surcharged |
| SWC-16        | FSR: 100 years: +45 %: 2160 mins: Winter | 51.000              | 48.850               | 50.240             | 1.390          | 0.6               | 0.394                     | 0.000                    | 0.6                | 112.479                     | Surcharged |
| SWC-10        | FSR: 100 years: +45 %: 15 mins: Winter   | 51.400              | 49.450               | 50.361             | 0.911          | 60.5              | 0.258                     | 0.000                    | 61.9               | 66.177                      | Surcharged |
| SWC-17        | FSR: 100 years: +45 %: 2160 mins: Winter | 52.600              | 48.500               | 48.520             | 0.020          | 0.6               | 0.017                     | 0.000                    | 0.6                | 112.429                     | OK         |
| SWC-18        | FSR: 100 years: +45 %: 2160 mins: Winter | 53.000              | 48.400               | 48.416             | 0.016          | 0.6               | 0.014                     | 0.000                    | 0.6                | 112.374                     | OK         |
| SWC-19        | FSR: 100 years: +45 %: 2160 mins: Winter | 51.270              | 47.000               | 47.017             | 0.017          | 0.6               | 0.015                     | 0.000                    | 0.6                | 112.278                     | OK         |
| SWC-20        | FSR: 100 years: +45 %: 2160 mins: Winter | 48.400              | 45.750               | 45.766             | 0.016          | 0.6               | 0.018                     | 0.000                    | 0.6                | 112.219                     | OK         |
| TW SW MH 4151 | FSR: 100 years: +45 %: 2160 mins: Winter | 48.360              | 45.670               | 45.686             | 0.016          | 0.6               | 0.000                     | 0.000                    | 0.6                | 112.219                     | OK         |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                                |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:  
Max. Avg. Depth**

| Stormwater Control | Storm Event                                 | Max. US<br>Elevation (m) | Max. DS<br>Elevation (m) | Max. US<br>Depth (m) | Max. DS<br>Depth (m) | Max.<br>Inflow (L/s) | Max.<br>Resident<br>Volume (m³) | Max.<br>Flooded<br>Volume (m³) | Total<br>Lost<br>Volume (m³) | Max.<br>Outflow (L/s) | Total<br>Discharge<br>Volume (m³) | Half<br>Drain<br>Down<br>Time (mins) | Percentage<br>Available (%) |
|--------------------|---------------------------------------------|--------------------------|--------------------------|----------------------|----------------------|----------------------|---------------------------------|--------------------------------|------------------------------|-----------------------|-----------------------------------|--------------------------------------|-----------------------------|
| Att Tank           | FSR: 100 years: +45 %:<br>2160 mins: Winter | 50.241                   | 50.241                   | 1.341                | 1.341                | 4.7                  | 193.593                         | 0.000                          | 0.000                        | 0.6                   | 113.592                           | 3325                                 | 16.389                      |

|                                                                                                                                                                           |                                                                            |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                        |                    |                                                                                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                        | Checked by:<br>S.L | Approved By:<br>S.L                                                                 |
|                                                                                                                                                                           | Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase |                    |                                                                                     |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                            |                    |  |

Status

OK

|                                                                                                                        |  |                                                                                                           |                 |                  |                                                                                     |  |
|------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date: 15/11/2024                                                                                          |                 |                  |  |  |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |                                                                                     |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                     |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |                                                                                     |  |



**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow**

| Connection | Storm Event                            | Connection Type | From     | To       | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------|----------------------------------------|-----------------|----------|----------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| SWP-11     | FSR: 100 years: +45 %: 30 mins: Summer | Pipe            | SWC-13   | SWC-14   | 53.200                       | 51.781                      | 0.100               | 6.713                 | 0.9                 | 0.74            | 7.0             | Surcharged |
| SWP-12     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-14   | SWC-15   | 53.000                       | 51.958                      | 0.100               | 9.724                 | 1.4                 | 1.14            | 11.0            | Surcharged |
| SWP-01     | FSR: 100 years: +45 %: 30 mins: Summer | Pipe            | SWC-01   | SWC-02   | 53.400                       | 52.548                      | 0.150               | 4.696                 | 0.5                 | 0.28            | 5.3             | Surcharged |
| SWP-02     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-02   | SWC-03   | 53.500                       | 52.913                      | 0.150               | 8.227                 | 0.7                 | 0.44            | 7.6             | Surcharged |
| SWP-03     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-03   | SWC-04   | 53.750                       | 52.884                      | 0.150               | 12.449                | 0.7                 | 0.66            | 11.4            | Surcharged |
| SWP-04     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-04   | SWC-05   | 53.200                       | 52.844                      | 0.150               | 18.803                | 0.9                 | 0.86            | 15.3            | Surcharged |
| SWP-05     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-05   | SWC-06   | 53.200                       | 52.717                      | 0.150               | 22.879                | 1.1                 | 0.99            | 19.2            | Surcharged |
| SWP-15     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | Att Tank | SWC-16   | 50.964                       | 49.352                      | 0.100               | 0.960                 | 0.6                 | 0.07            | 0.8             | Surcharged |
| SWP-07     | FSR: 100 years: +45 %: 30 mins: Winter | Pipe            | SWC-06   | SWC-07   | 53.200                       | 52.374                      | 0.150               | 39.439                | 1.4                 | 1.42            | 24.2            | Surcharged |
| SWP-08     | FSR: 100 years: +45 %: 30 mins: Winter | Pipe            | SWC-07   | SWC-08   | 52.900                       | 51.970                      | 0.150               | 45.786                | 1.6                 | 1.77            | 28.8            | Surcharged |
| SWP-09     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-08   | SWC-09   | 52.450                       | 51.625                      | 0.150               | 43.215                | 2.1                 | 2.06            | 36.6            | Surcharged |
| SWP-10     | FSR: 100 years: +45 %: 30 mins: Winter | Pipe            | SWC-09   | SWC-10   | 51.300                       | 50.655                      | 0.150               | 66.536                | 2.5                 | 2.26            | 43.9            | Surcharged |
| SWP-14     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-10   | Att Tank | 51.400                       | 50.361                      | 0.150               | 66.177                | 3.5                 | 2.12            | 61.9            | Surcharged |
| SWP-13     | FSR: 100 years: +45 %: 15 mins: Winter | Pipe            | SWC-15   | SWC-10   | 52.650                       | 51.299                      | 0.100               | 15.793                | 2.2                 | 1.4             | 17.4            | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |             |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |             |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Designed by:                                                                                              | Checked by: |                                                                                     |
|                                                                                                                                                                           |  | N.E                                                                                                       | S.L         |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |

|        |                                                   |      |        |                  |        |        |       |         |     |      |     |            |
|--------|---------------------------------------------------|------|--------|------------------|--------|--------|-------|---------|-----|------|-----|------------|
| SWP-16 | FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-16 | SWC-17           | 51.000 | 50.240 | 0.019 | 112.459 | 0.5 | 0.07 | 0.6 | Surcharged |
| SWP-17 | FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-17 | SWC-18           | 52.600 | 48.520 | 0.018 | 112.429 | 0.6 | 0.08 | 0.6 | OK         |
| SWP-18 | FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-18 | SWC-19           | 53.000 | 48.416 | 0.017 | 112.374 | 0.5 | 0.02 | 0.6 | OK         |
| SWP-19 | FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-19 | SWC-20           | 51.270 | 47.017 | 0.017 | 112.278 | 0.5 | 0.03 | 0.6 | OK         |
| SWP-20 | FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.016 | 112.219 | 0.5 | 0.02 | 0.6 | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |


**Phase**  
**FSR: 100 years: Increase Rainfall (%): +45: 2160 mins: Winter**

|        |
|--------|
| Tables |
|--------|

| Name             | Max. Inflow<br>(L/s) | Total Inflow<br>Volume (m³) | Max. Outflow<br>(L/s) | Total Outflow<br>Volume (m³) |
|------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| TW SW MH<br>4151 |                      |                             | 0.6                   | 112.219                      |
| TOTAL            | 4.8                  | 245.174                     | 0.6                   | 112.219                      |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                                  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                           |                                                                                                           |                 |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                           | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



Att Tank

Type : Cellular Storage

### Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

### Inlets

#### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

### Outlets

#### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                                |  |  |  |                                     |             |              |
|------------------------------------------------|--|--|--|-------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:      |  |  |  | Date:                               |             |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year |  |  |  | 15/11/2024                          |             |              |
| Storm Event +45% Climate Change, Maximum       |  |  |  | Designed by:                        | Checked by: | Approved By: |
| Discharge Restricted to 0.6l/s                 |  |  |  | N.E                                 | S.L         | S.L          |
| Report Details:                                |  |  |  | Company Address:                    |             |              |
| Type: Inflow Summary                           |  |  |  | Nimbus Engineering Consultants Ltd. |             |              |
| Storm Phase: Phase                             |  |  |  | Kemp House, 124 City Road,          |             |              |
|                                                |  |  |  | EC1V 2NX, London                    |             |              |



| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                           | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

### Rainfall

FSR

Type: FSR

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

### Return Period

|                       |                       |
|-----------------------|-----------------------|
| Return Period (years) | Increase Rainfall (%) |
| 100.0                 | 45.000                |

### Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area: Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 8.4               | 3.756                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.9               | 4.204                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.7               | 4.909                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 6.0               | 5.495                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.9               | 6.152                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.4               | 6.884                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.5               | 7.466                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.9               | 8.348                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.8               | 8.246                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.1               | 9.230                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.3               | 8.810                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.7               | 9.866                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.7               | 9.584                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.3               | 10.735                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.4 | 10.183 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 1.0 | 11.449 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.2 | 10.663 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.989 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 1.0 | 11.089 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 12.433 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.778 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.6 | 13.170 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.6 | 12.750 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 14.220 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 13.878 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 15.390 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 14.586 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 16.320 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 15.666 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 17.568 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 16.800 |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 18.378 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 17.118 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 19.356 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 17.526 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 20.430 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 18.150 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 21.060 |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (1): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 8.2               | 3.674                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.7               | 4.113                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.5               | 4.807                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.8               | 5.381                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.8               | 6.020                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.3               | 6.740                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.5               | 7.310                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.8               | 8.180                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.7               | 8.060                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.1               | 9.032                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.2               | 8.624                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.7               | 9.656                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.7               | 9.398                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.2               | 10.519                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.4 | 9.967  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 1.0 | 11.149 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.1 | 10.465 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.695 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 1.0 | 10.873 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 12.175 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.526 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.6 | 12.894 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.6 | 12.486 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 13.938 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 13.530 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 15.108 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 14.334 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 15.954 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 15.336 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 17.256 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 16.524 |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 17.844 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 16.764 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 19.092 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 17.118 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 19.908 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 18.006 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 19.710 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (2): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 8.4               | 3.750                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.9               | 4.192                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.7               | 4.903                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.9               | 5.489                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.9               | 6.134                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.4               | 6.884                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.5               | 7.448                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.9               | 8.348                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.8               | 8.240                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.1               | 9.224                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.3               | 8.804                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.7               | 9.854                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.7               | 9.566                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.3               | 10.735                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.4 | 10.183 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 1.0 | 11.437 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.2 | 10.651 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.953 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 1.0 | 11.065 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 12.421 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.760 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.6 | 13.170 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.6 | 12.738 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 14.196 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 13.836 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 15.366 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 14.556 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 16.314 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 15.660 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 17.526 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 16.800 |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 18.318 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 17.112 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 19.350 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 17.430 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 20.430 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 18.150 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 21.060 |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (3): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 8.1               | 3.602                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.5               | 4.032                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.4               | 4.710                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.7               | 5.279                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.7               | 5.900                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.3               | 6.608                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.4               | 7.166                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.7               | 8.024                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.6               | 7.910                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.0               | 8.894                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.2               | 8.450                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.6               | 9.452                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.6               | 9.194                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.2               | 10.303                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.3 | 9.787  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 1.0 | 10.951 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.1 | 10.273 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.467 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 1.0 | 10.657 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 11.905 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.286 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.6 | 12.654 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.6 | 12.270 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 13.728 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 13.290 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 14.874 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 14.076 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 15.630 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 15.138 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 17.046 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 16.374 |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 17.748 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 16.656 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 18.822 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 17.004 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 19.590 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 17.424 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 19.356 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (1) (1): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 8.2               | 3.656                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.6               | 4.089                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.5               | 4.777                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.8               | 5.351                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.8               | 5.990                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.3               | 6.716                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.5               | 7.262                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.8               | 8.144                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.7               | 8.018                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.1               | 9.002                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.2               | 8.588                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.7               | 9.608                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.6               | 9.350                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.2               | 10.471                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.4 | 9.931  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 1.0 | 11.119 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.1 | 10.399 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.653 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 1.0 | 10.825 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 12.073 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.478 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.6 | 12.846 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.6 | 12.384 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 13.866 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 13.476 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 14.988 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 14.244 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 15.906 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 15.240 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 17.160 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 16.518 |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 17.832 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 16.764 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 18.930 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 17.112 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 19.806 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 17.892 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 19.710 |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (4): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 7.2               | 3.194                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 7.5               | 3.571                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 4.8               | 4.170                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.1               | 4.678                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.2               | 5.221                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 3.8               | 5.858                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.0               | 6.344                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.4               | 7.094                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.3               | 7.010                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 1.8               | 7.850                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 1.9               | 7.490                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.5               | 8.378                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.4               | 8.167                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.1               | 9.139                    |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.2 | 8.689  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.9 | 9.709  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.0 | 9.091  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.7 | 10.171 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.9 | 9.438  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.6 | 10.560 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.7 | 10.020 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.5 | 11.256 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.5 | 10.860 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 12.132 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 11.736 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 13.224 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 12.528 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 14.064 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 13.572 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 15.198 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 14.094 |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 15.756 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 14.436 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 16.854 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 15.234 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 16.692 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 15.594 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 17.064 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (5): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 7.4               | 3.279                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 7.8               | 3.670                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 4.9               | 4.296                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.2               | 4.798                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.3               | 5.372                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 3.9               | 6.020                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.1               | 6.518                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.5               | 7.292                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.4               | 7.208                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 1.9               | 8.072                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.0               | 7.682                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.5               | 8.618                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.5               | 8.377                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.1               | 9.385                    |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.2 | 8.911  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.9 | 9.985  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.0 | 9.343  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.7 | 10.453 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.9 | 9.697  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.6 | 10.836 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.7 | 10.284 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.5 | 11.532 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.5 | 11.154 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 12.444 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 12.012 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 13.572 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 12.786 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 14.394 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 13.800 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 15.612 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 14.706 |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 16.302 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 15.102 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 17.196 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 15.540 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 17.832 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 16.086 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 17.538 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (6): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 7.9               | 3.532                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.4               | 3.951                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.3               | 4.620                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.6               | 5.177                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.6               | 5.792                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.2               | 6.488                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.3               | 7.022                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.7               | 7.856                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.6               | 7.754                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.0               | 8.678                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.2               | 8.294                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.6               | 9.296                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.6               | 9.026                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.2               | 10.123                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.3 | 9.589  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.9 | 10.753 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.1 | 10.039 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.257 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.9 | 10.435 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 11.682 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.082 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.5 | 12.420 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.5 | 12.042 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 13.464 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 12.996 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 14.520 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 13.818 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 15.372 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 14.832 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 16.692 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 15.828 |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 17.478 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 16.062 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 18.396 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 16.686 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 19.188 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 17.064 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 18.882 |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (7): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 7.9               | 3.532                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 8.4               | 3.951                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 5.3               | 4.620                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 5.6               | 5.177                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 4.6               | 5.792                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 4.2               | 6.488                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 3.3               | 7.022                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.7               | 7.856                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.6               | 7.754                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 2.0               | 8.678                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 2.2               | 8.294                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.6               | 9.296                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.6               | 9.026                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.2               | 10.123                   |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.3 | 9.589  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.9 | 10.753 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 1.1 | 10.039 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.8 | 11.257 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.9 | 10.435 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.7 | 11.682 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.8 | 11.082 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.5 | 12.420 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.5 | 12.042 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.4 | 13.464 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.4 | 12.996 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.3 | 14.520 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 13.818 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 15.372 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 14.832 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.2 | 16.692 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 15.828 |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 17.478 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.2 | 16.062 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 18.396 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 16.686 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 19.188 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 17.064 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 18.882 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (8): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 5.7               | 2.521                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 6.0               | 2.823                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 3.8               | 3.298                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 4.0               | 3.693                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 3.3               | 4.129                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 3.0               | 4.633                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 2.4               | 5.018                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 1.9               | 5.617                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 1.9               | 5.545                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 1.4               | 6.211                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 1.5               | 5.929                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.2               | 6.631                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.1               | 6.439                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 0.8               | 7.213                    |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 0.9 | 6.853  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.7 | 7.663  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 0.8 | 7.182  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.6 | 8.034  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.7 | 7.458  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.5 | 8.376  |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.5 | 7.920  |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.4 | 8.874  |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.4 | 8.598  |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.3 | 9.594  |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.3 | 9.330  |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.2 | 10.500 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.2 | 9.810  |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 11.058 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 10.542 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.1 | 11.814 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.1 | 11.118 |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 12.786 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 11.652 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 12.708 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 12.138 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 13.176 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 12.822 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 13.794 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (9): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 6.5               | 2.901                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 6.9               | 3.242                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 4.4               | 3.797                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 4.6               | 4.246                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 3.8               | 4.747                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 3.4               | 5.311                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 2.7               | 5.756                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 2.2               | 6.458                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 2.1               | 6.374                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 1.6               | 7.142                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 1.8               | 6.788                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 1.3               | 7.627                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 1.3               | 7.417                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 1.0               | 8.305                    |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 1.1 | 7.891  |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.8 | 8.815  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 0.9 | 8.269  |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.6 | 9.240  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.8 | 8.580  |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.6 | 9.624  |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.6 | 9.090  |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.4 | 10.200 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.4 | 9.870  |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.3 | 11.076 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.3 | 10.686 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.2 | 11.976 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.3 | 11.172 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.2 | 12.546 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.2 | 12.396 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.1 | 13.386 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.2 | 12.648 |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

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|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 14.574 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 13.134 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 15.300 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 13.776 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.1 | 15.036 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 14.274 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.1 | 15.606 |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (10): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.03             | 14.8              | 6.582                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.03             | 15.6              | 7.362                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.03             | 9.9               | 8.616                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.03             | 10.4              | 9.639                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.03             | 8.6               | 10.791                   |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.03             | 7.8               | 12.087                   |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.03             | 6.2               | 13.084                   |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.03             | 5.0               | 14.650                   |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.03             | 4.8               | 14.464                   |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.03             | 3.7               | 16.198                   |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.03             | 4.0               | 15.442                   |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.03             | 3.0               | 17.289                   |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.03             | 3.0               | 16.809                   |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.03             | 2.2               | 18.848                   |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.03 | 2.4 | 17.882 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.03 | 1.8 | 20.017 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.03 | 2.0 | 18.727 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.03 | 1.5 | 20.971 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.03 | 1.8 | 19.435 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.03 | 1.3 | 21.787 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.03 | 1.4 | 20.611 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.03 | 1.0 | 23.119 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.03 | 1.0 | 22.422 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.03 | 0.7 | 25.050 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.03 | 0.7 | 24.228 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.03 | 0.5 | 27.084 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.03 | 0.6 | 25.608 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.03 | 0.4 | 28.674 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.03 | 0.4 | 27.780 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.03 | 0.3 | 30.810 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.03 | 0.3 | 29.106 |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.03 | 0.2 | 32.634 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.03 | 0.3 | 30.498 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.03 | 0.2 | 34.308 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.03 | 0.2 | 31.320 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.03 | 0.2 | 35.052 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.03 | 0.2 | 32.298 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.03 | 0.2 | 36.516 |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (11): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.03             | 17.0              | 7.566                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.03             | 17.9              | 8.465                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.03             | 11.4              | 9.901                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.03             | 12.0              | 11.086                   |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.03             | 9.9               | 12.400                   |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.03             | 8.9               | 13.888                   |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.03             | 7.1               | 15.041                   |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.03             | 5.8               | 16.852                   |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.03             | 5.6               | 16.624                   |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.03             | 4.3               | 18.634                   |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.03             | 4.6               | 17.758                   |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.03             | 3.5               | 19.888                   |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.03             | 3.4               | 19.341                   |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.03             | 2.5               | 21.644                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.03 | 2.8 | 20.564 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.03 | 2.0 | 23.030 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.03 | 2.3 | 21.523 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.03 | 1.7 | 24.127 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.03 | 2.0 | 22.381 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.03 | 1.5 | 25.051 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.03 | 1.6 | 23.719 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.03 | 1.2 | 26.611 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.03 | 1.2 | 25.729 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.03 | 0.8 | 28.837 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.03 | 0.8 | 27.864 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.03 | 0.6 | 31.284 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.03 | 0.7 | 29.448 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.03 | 0.5 | 32.934 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.03 | 0.5 | 31.830 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.03 | 0.3 | 35.526 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.03 | 0.4 | 33.510 |

|                                                                                                                                                                           |                                                                                                           |                 |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                           | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.03 | 0.3 | 37.608 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.03 | 0.3 | 35.088 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.03 | 0.2 | 39.066 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.03 | 0.3 | 36.192 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.03 | 0.2 | 40.146 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.03 | 0.2 | 36.894 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.03 | 0.2 | 41.496 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (12): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.02             | 9.7               | 4.317                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.02             | 10.2              | 4.828                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.02             | 6.5               | 5.648                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.02             | 6.8               | 6.324                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.02             | 5.7               | 7.070                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.02             | 5.1               | 7.910                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.02             | 4.1               | 8.571                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.02             | 3.3               | 9.608                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.02             | 3.2               | 9.495                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.02             | 2.5               | 10.616                   |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.02             | 2.6               | 10.131                   |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.02             | 2.0               | 11.342                   |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.02             | 1.9               | 11.012                   |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.02             | 1.4               | 12.343                   |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                   |      |     |        |
|---------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.02 | 1.6 | 11.713 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.02 | 1.1 | 13.117 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.02 | 1.3 | 12.277 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.02 | 1.0 | 13.771 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.02 | 1.2 | 12.745 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.02 | 0.8 | 14.293 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.02 | 0.9 | 13.524 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.02 | 0.7 | 15.144 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.02 | 0.7 | 14.694 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.02 | 0.5 | 16.374 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.02 | 0.5 | 15.876 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.02 | 0.3 | 17.754 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.02 | 0.4 | 16.752 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.02 | 0.3 | 18.810 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.02 | 0.3 | 18.144 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.02 | 0.2 | 20.172 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.02 | 0.2 | 19.158 |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.02 | 0.2 | 21.498 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.02 | 0.2 | 20.460 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.02 | 0.1 | 22.194 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.02 | 0.2 | 20.436 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.02 | 0.1 | 23.124 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.02 | 0.1 | 21.042 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.02 | 0.1 | 24.078 |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (13): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 3.6               | 1.627                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 3.8               | 1.816                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 2.5               | 2.127                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 2.6               | 2.372                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 2.1               | 2.665                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 1.9               | 2.983                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 1.5               | 3.229                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 1.2               | 3.607                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 1.2               | 3.571                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 0.9               | 3.997                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 1.0               | 3.817                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 0.7               | 4.255                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 0.7               | 4.159                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 0.5               | 4.656                    |

|                                                                                                                                                                           |                                                                |                    |                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                            |                    |                                                                                                                              |
|                                                                                                                                                                           | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                                                          |
|                                                                                                                                                                           | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                                                              |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                 |                                                                |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |

|                                                   |      |     |       |
|---------------------------------------------------|------|-----|-------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 0.6 | 4.404 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.4 | 4.968 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 0.5 | 4.632 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.4 | 5.166 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.4 | 4.794 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.3 | 5.394 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.3 | 5.076 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.3 | 5.694 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.3 | 5.484 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.2 | 6.144 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.2 | 6.126 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.1 | 6.654 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.1 | 6.252 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.1 | 7.122 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.1 | 6.744 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.1 | 7.458 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.1 | 7.464 |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                                    |      |     |       |
|----------------------------------------------------|------|-----|-------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 8.022 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 8.118 |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.0 | 8.640 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 8.400 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.0 | 8.922 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.0 | 8.106 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.0 | 9.552 |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Catchment Area (14): Rank By: Max. Inflow**

| Storm Event                             | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|-----------------------------------------|------------------|-------------------|--------------------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 0.01             | 4.5               | 2.020                    |
| FSR: 100 years: +45 %: 15 mins: Winter  | 0.01             | 4.8               | 2.259                    |
| FSR: 100 years: +45 %: 30 mins: Summer  | 0.01             | 3.0               | 2.638                    |
| FSR: 100 years: +45 %: 30 mins: Winter  | 0.01             | 3.2               | 2.961                    |
| FSR: 100 years: +45 %: 60 mins: Summer  | 0.01             | 2.6               | 3.295                    |
| FSR: 100 years: +45 %: 60 mins: Winter  | 0.01             | 2.4               | 3.703                    |
| FSR: 100 years: +45 %: 120 mins: Summer | 0.01             | 1.9               | 4.015                    |
| FSR: 100 years: +45 %: 120 mins: Winter | 0.01             | 1.5               | 4.483                    |
| FSR: 100 years: +45 %: 180 mins: Summer | 0.01             | 1.5               | 4.435                    |
| FSR: 100 years: +45 %: 180 mins: Winter | 0.01             | 1.1               | 4.957                    |
| FSR: 100 years: +45 %: 240 mins: Summer | 0.01             | 1.2               | 4.741                    |
| FSR: 100 years: +45 %: 240 mins: Winter | 0.01             | 0.9               | 5.293                    |
| FSR: 100 years: +45 %: 360 mins: Summer | 0.01             | 0.9               | 5.161                    |
| FSR: 100 years: +45 %: 360 mins: Winter | 0.01             | 0.7               | 5.779                    |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |      |     |       |
|---------------------------------------------------|------|-----|-------|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 0.01 | 0.7 | 5.485 |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 0.01 | 0.5 | 6.120 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 0.01 | 0.6 | 5.742 |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 0.01 | 0.4 | 6.438 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 0.01 | 0.5 | 5.964 |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 0.01 | 0.4 | 6.684 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 0.01 | 0.4 | 6.348 |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 0.01 | 0.3 | 7.056 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 0.01 | 0.3 | 6.900 |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 0.01 | 0.2 | 7.674 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 0.01 | 0.2 | 7.404 |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 0.01 | 0.2 | 8.358 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 0.01 | 0.2 | 7.914 |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 0.01 | 0.1 | 8.742 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 0.01 | 0.1 | 8.382 |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 0.01 | 0.1 | 9.696 |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 0.01 | 0.1 | 8.862 |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |      |     |        |
|----------------------------------------------------|------|-----|--------|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 0.01 | 0.1 | 9.756  |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 0.01 | 0.1 | 9.426  |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 0.01 | 0.1 | 10.368 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 0.01 | 0.1 | 10.266 |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 0.01 | 0.0 | 10.788 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 0.01 | 0.1 | 10.656 |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 0.01 | 0.0 | 11.262 |

|                                                                                                                        |  |              |             |
|------------------------------------------------------------------------------------------------------------------------|--|--------------|-------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:        |             |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024   |             |
| Report Details:                                                                                                        |  | Designed by: | Checked by: |
| Type: Junctions Summary                                                                                                |  | N.E          | S.L         |
| Storm Phase: Phase                                                                                                     |  | Approved By: |             |
|                                                                                                                        |  | S.L          |             |
| Company Address:                                                                                                       |  |              |             |
| Nimbus Engineering Consultants Ltd.                                                                                    |  |              |             |
| Kemp House, 124 City Road,                                                                                             |  |              |             |
| EC1V 2NX, London                                                                                                       |  |              |             |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-13: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 53.200              | 51.200               | 51.946             | 0.746          | 11.6              | 0.119                     | 0.000                    | 6.2                | 5.124                       | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 53.200              | 51.200               | 52.159             | 0.959          | 12.2              | 0.152                     | 0.000                    | 6.2                | 5.731                       | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 53.200              | 51.200               | 51.781             | 0.581          | 7.8               | 0.092                     | 0.000                    | 7.0                | 6.713                       | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 53.200              | 51.200               | 51.914             | 0.714          | 8.2               | 0.113                     | 0.000                    | 6.1                | 7.512                       | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 53.200              | 51.200               | 51.549             | 0.349          | 6.8               | 0.056                     | 0.000                    | 6.6                | 8.427                       | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 53.200              | 51.200               | 51.432             | 0.232          | 6.1               | 0.037                     | 0.000                    | 6.0                | 9.445                       | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 53.200              | 51.200               | 51.252             | 0.052          | 4.9               | 0.008                     | 0.000                    | 4.9                | 10.234                      | OK         |
| FSR: 100 years: +45 %: 120 mins: Winter | 53.200              | 51.200               | 51.246             | 0.046          | 3.9               | 0.007                     | 0.000                    | 3.9                | 11.461                      | OK         |
| FSR: 100 years: +45 %: 180 mins: Summer | 53.200              | 51.200               | 51.245             | 0.045          | 3.8               | 0.007                     | 0.000                    | 3.8                | 11.323                      | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter | 53.200              | 51.200               | 51.239             | 0.039          | 2.9               | 0.006                     | 0.000                    | 2.9                | 12.673                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer | 53.200              | 51.200               | 51.241             | 0.041          | 3.1               | 0.006                     | 0.000                    | 3.1                | 12.109                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter | 53.200              | 51.200               | 51.235             | 0.035          | 2.4               | 0.006                     | 0.000                    | 2.4                | 13.549                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer | 53.200              | 51.200               | 51.235             | 0.035          | 2.3               | 0.005                     | 0.000                    | 2.3                | 13.182                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter | 53.200              | 51.200               | 51.229             | 0.029          | 1.7               | 0.005                     | 0.000                    | 1.7                | 14.778                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer | 53.200              | 51.200               | 51.231             | 0.031          | 1.9               | 0.005                     | 0.000                    | 1.9                | 13.992                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter | 53.200              | 51.200               | 51.226             | 0.026          | 1.4               | 0.004                     | 0.000                    | 1.4                | 15.720                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer | 53.200              | 51.200               | 51.228             | 0.028          | 1.6               | 0.004                     | 0.000                    | 1.6                | 14.669                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter | 53.200              | 51.200               | 51.224             | 0.024          | 1.1               | 0.004                     | 0.000                    | 1.1                | 16.421                      | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer | 53.200              | 51.200               | 51.226             | 0.026          | 1.4               | 0.004                     | 0.000                    | 1.4                | 15.227                      | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                                                              |  |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|--|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |                     |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                                                              |  | Approved By:<br>S.L |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                                                              |  |                     |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.20<br>0 | 51.20<br>0 | 51.222 | 0.022 | 1.0 | 0.004 | 0.000 | 1.0 | 17.075 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.20<br>0 | 51.20<br>0 | 51.223 | 0.023 | 1.1 | 0.004 | 0.000 | 1.1 | 16.157 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.20<br>0 | 51.20<br>0 | 51.220 | 0.020 | 0.8 | 0.003 | 0.000 | 0.8 | 18.113 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.220 | 0.020 | 0.8 | 0.003 | 0.000 | 0.8 | 17.525 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.217 | 0.017 | 0.6 | 0.003 | 0.000 | 0.6 | 19.607 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.217 | 0.017 | 0.6 | 0.003 | 0.000 | 0.6 | 19.121 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.214 | 0.014 | 0.4 | 0.002 | 0.000 | 0.4 | 21.173 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.215 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 20.069 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.213 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 22.493 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.213 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 21.575 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.211 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 24.149 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.212 | 0.012 | 0.3 | 0.002 | 0.000 | 0.3 | 23.291 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.210 | 0.010 | 0.2 | 0.002 | 0.000 | 0.2 | 25.499 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.211 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 24.179 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.209 | 0.009 | 0.2 | 0.001 | 0.000 | 0.2 | 27.035 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.20<br>0 | 51.20<br>0 | 51.210 | 0.010 | 0.2 | 0.002 | 0.000 | 0.2 | 25.085 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.20<br>0 | 51.20<br>0 | 51.208 | 0.008 | 0.1 | 0.001 | 0.000 | 0.1 | 28.109 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.20<br>0 | 51.20<br>0 | 51.209 | 0.009 | 0.2 | 0.001 | 0.000 | 0.2 | 25.169 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.20<br>0 | 51.20<br>0 | 51.208 | 0.008 | 0.1 | 0.001 | 0.000 | 0.1 | 28.433 | OK |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |              |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |              |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     | Approved By: |
| Type: Junctions Summary<br>Storm Phase: Phase                                                                          |  | N.E                                                                                   |             | S.L                                                                                 | S.L          |
|                                                                                                                        |  | Company Address:                                                                      |             |                                                                                     |              |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-14: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 53.000              | 50.628               | 51.758             | 1.130          | 14.1              | 0.180                     | 0.000                    | 10.5               | 8.698                       | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 53.000              | 50.628               | 51.958             | 1.329          | 14.6              | 0.211                     | 0.000                    | 11.0               | 9.724                       | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 53.000              | 50.628               | 51.583             | 0.955          | 12.2              | 0.152                     | 0.000                    | 9.7                | 11.348                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 53.000              | 50.628               | 51.708             | 1.080          | 11.7              | 0.172                     | 0.000                    | 10.2               | 12.709                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 53.000              | 50.628               | 51.368             | 0.739          | 11.2              | 0.118                     | 0.000                    | 9.0                | 14.231                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 53.000              | 50.628               | 51.261             | 0.632          | 10.2              | 0.101                     | 0.000                    | 8.8                | 15.939                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 53.000              | 50.628               | 50.890             | 0.262          | 8.2               | 0.042                     | 0.000                    | 7.6                | 17.261                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 53.000              | 50.628               | 50.690             | 0.062          | 6.6               | 0.010                     | 0.000                    | 6.6                | 19.313                      | OK         |
| FSR: 100 years: +45 %: 180 mins: Summer | 53.000              | 50.628               | 50.689             | 0.061          | 6.4               | 0.010                     | 0.000                    | 6.4                | 19.074                      | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter | 53.000              | 50.628               | 50.679             | 0.051          | 4.9               | 0.008                     | 0.000                    | 4.9                | 21.349                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer | 53.000              | 50.628               | 50.681             | 0.053          | 5.3               | 0.008                     | 0.000                    | 5.3                | 20.402                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter | 53.000              | 50.628               | 50.673             | 0.045          | 4.0               | 0.007                     | 0.000                    | 4.0                | 22.843                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer | 53.000              | 50.628               | 50.673             | 0.045          | 3.9               | 0.007                     | 0.000                    | 3.9                | 22.207                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter | 53.000              | 50.628               | 50.666             | 0.038          | 2.9               | 0.006                     | 0.000                    | 2.9                | 24.900                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer | 53.000              | 50.628               | 50.668             | 0.040          | 3.2               | 0.006                     | 0.000                    | 3.2                | 23.579                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter | 53.000              | 50.628               | 50.662             | 0.033          | 2.3               | 0.005                     | 0.000                    | 2.3                | 26.472                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer | 53.000              | 50.628               | 50.664             | 0.036          | 2.7               | 0.006                     | 0.000                    | 2.7                | 24.707                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter | 53.000              | 50.628               | 50.659             | 0.031          | 1.9               | 0.005                     | 0.000                    | 1.9                | 27.678                      | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer | 53.000              | 50.628               | 50.662             | 0.034          | 2.3               | 0.005                     | 0.000                    | 2.3                | 25.661                      | OK         |

|                                                                                                                        |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
|------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  |  |  | Date: 15/11/2024                                                                                          |             |              |  |  |  |  |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                       |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                        |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.00<br>0 | 50.62<br>8 | 50.656 | 0.028 | 1.7 | 0.004 | 0.000 | 1.7 | 28.757 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.00<br>0 | 50.62<br>8 | 50.658 | 0.030 | 1.9 | 0.005 | 0.000 | 1.8 | 27.239 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.00<br>0 | 50.62<br>8 | 50.653 | 0.025 | 1.3 | 0.004 | 0.000 | 1.3 | 30.533 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.653 | 0.025 | 1.3 | 0.004 | 0.000 | 1.3 | 29.567 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.650 | 0.021 | 1.0 | 0.003 | 0.000 | 1.0 | 33.071 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.650 | 0.021 | 1.0 | 0.003 | 0.000 | 1.0 | 32.117 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.646 | 0.018 | 0.7 | 0.003 | 0.000 | 0.7 | 35.693 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.647 | 0.019 | 0.8 | 0.003 | 0.000 | 0.8 | 33.887 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.645 | 0.016 | 0.6 | 0.003 | 0.000 | 0.6 | 37.865 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.644 | 0.016 | 0.5 | 0.003 | 0.000 | 0.5 | 36.406 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.642 | 0.014 | 0.4 | 0.002 | 0.000 | 0.4 | 40.841 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.643 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 39.118 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.641 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 42.977 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.642 | 0.014 | 0.4 | 0.002 | 0.000 | 0.4 | 40.240 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.640 | 0.012 | 0.3 | 0.002 | 0.000 | 0.3 | 45.430 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.00<br>0 | 50.62<br>8 | 50.641 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 41.770 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.00<br>0 | 50.62<br>8 | 50.639 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 47.296 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.00<br>0 | 50.62<br>8 | 50.640 | 0.012 | 0.3 | 0.002 | 0.000 | 0.3 | 42.232 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.00<br>0 | 50.62<br>8 | 50.638 | 0.010 | 0.2 | 0.002 | 0.000 | 0.2 | 47.314 | OK |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |              |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |              |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     | Approved By: |
| Type: Junctions Summary<br>Storm Phase: Phase                                                                          |  | N.E                                                                                   |             | S.L                                                                                 | S.L          |
|                                                                                                                        |  | Company Address:                                                                      |             |                                                                                     |              |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-15: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 52.650              | 50.000               | 51.129             | 1.129          | 20.8              | 0.179                     | 0.000                    | 16.4               | 14.126                      | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 52.650              | 50.000               | 51.299             | 1.299          | 21.6              | 0.207                     | 0.000                    | 17.4               | 15.793                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 52.650              | 50.000               | 51.072             | 1.072          | 17.5              | 0.170                     | 0.000                    | 16.0               | 18.449                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 52.650              | 50.000               | 51.180             | 1.180          | 18.2              | 0.188                     | 0.000                    | 16.6               | 20.650                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 52.650              | 50.000               | 50.890             | 0.890          | 15.9              | 0.142                     | 0.000                    | 14.9               | 23.103                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 52.650              | 50.000               | 50.801             | 0.801          | 15.0              | 0.127                     | 0.000                    | 14.3               | 25.872                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 52.650              | 50.000               | 50.494             | 0.494          | 12.7              | 0.078                     | 0.000                    | 12.3               | 28.023                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 52.650              | 50.000               | 50.275             | 0.275          | 10.7              | 0.044                     | 0.000                    | 10.5               | 31.376                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer | 52.650              | 50.000               | 50.215             | 0.215          | 10.4              | 0.034                     | 0.000                    | 10.2               | 30.981                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter | 52.650              | 50.000               | 50.059             | 0.059          | 8.0               | 0.009                     | 0.000                    | 8.0                | 34.689                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer | 52.650              | 50.000               | 50.062             | 0.062          | 8.6               | 0.010                     | 0.000                    | 8.6                | 33.106                      | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter | 52.650              | 50.000               | 50.052             | 0.052          | 6.5               | 0.008                     | 0.000                    | 6.5                | 37.089                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer | 52.650              | 50.000               | 50.051             | 0.051          | 6.4               | 0.008                     | 0.000                    | 6.4                | 36.051                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter | 52.650              | 50.000               | 50.042             | 0.042          | 4.7               | 0.007                     | 0.000                    | 4.7                | 40.407                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer | 52.650              | 50.000               | 50.045             | 0.045          | 5.2               | 0.007                     | 0.000                    | 5.2                | 38.313                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter | 52.650              | 50.000               | 50.059             | 0.059          | 3.8               | 0.009                     | 0.000                    | 3.8                | 42.938                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer | 52.650              | 50.000               | 50.041             | 0.041          | 4.4               | 0.006                     | 0.000                    | 4.4                | 40.150                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter | 52.650              | 50.000               | 50.099             | 0.099          | 3.2               | 0.016                     | 0.000                    | 3.2                | 44.942                      | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer | 52.650              | 50.000               | 50.038             | 0.038          | 3.8               | 0.006                     | 0.000                    | 3.8                | 41.692                      | OK         |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |        |            |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 52.65<br>0 | 50.00<br>0 | 50.130 | 0.130 | 2.7 | 0.021 | 0.000 | 2.7 | 46.748 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 52.65<br>0 | 50.00<br>0 | 50.034 | 0.034 | 3.0 | 0.005 | 0.000 | 3.0 | 44.242 | OK         |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 52.65<br>0 | 50.00<br>0 | 50.175 | 0.175 | 2.2 | 0.028 | 0.000 | 2.2 | 49.599 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.068 | 0.068 | 2.2 | 0.011 | 0.000 | 2.2 | 48.028 | OK         |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.219 | 0.219 | 1.6 | 0.035 | 0.000 | 1.6 | 53.734 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.078 | 0.078 | 1.6 | 0.012 | 0.000 | 1.6 | 52.127 | OK         |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.241 | 0.241 | 1.1 | 0.038 | 0.000 | 1.1 | 58.163 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.066 | 0.066 | 1.2 | 0.010 | 0.000 | 1.2 | 54.864 | OK         |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.233 | 0.233 | 0.9 | 0.037 | 0.000 | 0.9 | 61.464 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.039 | 0.039 | 0.9 | 0.006 | 0.000 | 0.9 | 59.342 | OK         |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.193 | 0.193 | 0.6 | 0.031 | 0.000 | 0.6 | 66.037 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.016 | 0.016 | 0.7 | 0.003 | 0.000 | 0.7 | 62.883 | OK         |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.152 | 0.152 | 0.5 | 0.024 | 0.000 | 0.5 | 70.333 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.015 | 0.015 | 0.6 | 0.002 | 0.000 | 0.6 | 65.025 | OK         |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.111 | 0.111 | 0.4 | 0.018 | 0.000 | 0.4 | 73.436 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 52.65<br>0 | 50.00<br>0 | 50.014 | 0.014 | 0.5 | 0.002 | 0.000 | 0.5 | 67.683 | OK         |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 52.65<br>0 | 50.00<br>0 | 50.060 | 0.060 | 0.4 | 0.010 | 0.000 | 0.4 | 75.507 | OK         |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 52.65<br>0 | 50.00<br>0 | 50.013 | 0.013 | 0.4 | 0.002 | 0.000 | 0.4 | 69.327 | OK         |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 52.65<br>0 | 50.00<br>0 | 50.011 | 0.011 | 0.3 | 0.002 | 0.000 | 0.3 | 76.714 | OK         |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |              |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |              |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     | Approved By: |
| Type: Junctions Summary<br>Storm Phase: Phase                                                                          |  | N.E                                                                                   |             | S.L                                                                                 | S.L          |
|                                                                                                                        |  | Company Address:                                                                      |             |                                                                                     |              |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-09: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 51.300              | 49.500               | 50.568             | 1.068          | 44.5              | 0.170                     | 0.000                    | 40.4               | 45.360                      | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 51.300              | 49.500               | 50.701             | 1.201          | 46.7              | 0.191                     | 0.000                    | 43.1               | 50.464                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 51.300              | 49.500               | 50.567             | 1.067          | 43.2              | 0.170                     | 0.000                    | 42.0               | 59.446                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 51.300              | 49.500               | 50.655             | 1.155          | 45.2              | 0.184                     | 0.000                    | 43.9               | 66.536                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 51.300              | 49.500               | 50.437             | 0.937          | 40.1              | 0.149                     | 0.000                    | 39.2               | 74.237                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 51.300              | 49.500               | 50.396             | 0.896          | 38.8              | 0.143                     | 0.000                    | 38.1               | 82.973                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 51.300              | 49.500               | 50.166             | 0.666          | 33.4              | 0.106                     | 0.000                    | 33.0               | 89.850                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 51.300              | 49.500               | 50.044             | 0.544          | 30.2              | 0.086                     | 0.000                    | 30.3               | 100.440                     | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer | 51.300              | 49.500               | 49.988             | 0.488          | 28.8              | 0.078                     | 0.000                    | 28.5               | 99.233                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter | 51.300              | 49.500               | 49.871             | 0.371          | 24.8              | 0.059                     | 0.000                    | 24.7               | 110.861                     | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer | 51.300              | 49.500               | 49.866             | 0.366          | 25.5              | 0.058                     | 0.000                    | 25.4               | 105.944                     | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter | 51.300              | 49.500               | 49.929             | 0.429          | 20.3              | 0.068                     | 0.000                    | 20.2               | 118.238                     | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer | 51.300              | 49.500               | 49.886             | 0.386          | 20.3              | 0.061                     | 0.000                    | 20.2               | 115.231                     | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter | 51.300              | 49.500               | 50.006             | 0.506          | 15.1              | 0.080                     | 0.000                    | 15.2               | 128.794                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer | 51.300              | 49.500               | 49.934             | 0.434          | 16.7              | 0.069                     | 0.000                    | 16.7               | 122.493                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter | 51.300              | 49.500               | 50.059             | 0.559          | 12.1              | 0.089                     | 0.000                    | 12.1               | 136.888                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer | 51.300              | 49.500               | 49.969             | 0.469          | 14.1              | 0.075                     | 0.000                    | 14.1               | 128.315                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter | 51.300              | 49.500               | 50.099             | 0.599          | 10.2              | 0.095                     | 0.000                    | 10.1               | 143.426                     | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer | 51.300              | 49.500               | 49.995             | 0.495          | 12.2              | 0.079                     | 0.000                    | 12.2               | 133.322                     | Surcharged |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |         |            |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 51.30<br>0 | 49.50<br>0 | 50.130 | 0.630 | 8.8 | 0.100 | 0.000 | 8.8 | 148.932 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 51.30<br>0 | 49.50<br>0 | 50.032 | 0.532 | 9.7 | 0.085 | 0.000 | 9.6 | 141.536 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 51.30<br>0 | 49.50<br>0 | 50.175 | 0.675 | 7.0 | 0.107 | 0.000 | 6.9 | 158.207 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 50.068 | 0.568 | 7.0 | 0.090 | 0.000 | 7.0 | 153.810 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.219 | 0.719 | 5.1 | 0.114 | 0.000 | 5.0 | 171.413 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 50.078 | 0.578 | 5.1 | 0.092 | 0.000 | 5.1 | 166.784 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.241 | 0.741 | 3.7 | 0.118 | 0.000 | 3.6 | 186.383 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 50.066 | 0.566 | 4.0 | 0.090 | 0.000 | 4.0 | 176.742 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.233 | 0.733 | 2.9 | 0.117 | 0.000 | 2.9 | 197.415 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 50.039 | 0.539 | 2.9 | 0.086 | 0.000 | 2.9 | 190.532 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.193 | 0.693 | 2.1 | 0.110 | 0.000 | 2.1 | 213.553 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 50.012 | 0.512 | 2.3 | 0.081 | 0.000 | 2.3 | 202.439 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.152 | 0.652 | 1.7 | 0.104 | 0.000 | 1.7 | 223.664 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 49.976 | 0.476 | 1.9 | 0.076 | 0.000 | 2.0 | 209.415 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.111 | 0.611 | 1.4 | 0.097 | 0.000 | 1.4 | 235.526 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 51.30<br>0 | 49.50<br>0 | 49.940 | 0.440 | 1.7 | 0.070 | 0.000 | 1.7 | 215.174 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 51.30<br>0 | 49.50<br>0 | 50.060 | 0.560 | 1.2 | 0.089 | 0.000 | 1.2 | 243.785 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 51.30<br>0 | 49.50<br>0 | 49.904 | 0.404 | 1.4 | 0.064 | 0.000 | 1.4 | 222.190 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 51.30<br>0 | 49.50<br>0 | 50.011 | 0.511 | 1.0 | 0.081 | 0.000 | 1.0 | 248.839 | Surcharged |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |              |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |              |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |              |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     | Approved By: |
| Type: Junctions Summary<br>Storm Phase: Phase                                                                          |  | N.E                                                                                   |             | S.L                                                                                 | S.L          |
|                                                                                                                        |  | Company Address:                                                                      |             |                                                                                     |              |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-08: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 52.450              | 49.750               | 51.415             | 1.665          | 36.7              | 0.265                     | 0.000                    | 34.5               | 38.816                      | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 52.450              | 49.750               | 51.625             | 1.875          | 38.3              | 0.298                     | 0.000                    | 36.6               | 43.215                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 52.450              | 49.750               | 51.362             | 1.612          | 35.5              | 0.256                     | 0.000                    | 33.3               | 50.831                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 52.450              | 49.750               | 51.506             | 1.756          | 37.1              | 0.279                     | 0.000                    | 35.4               | 56.899                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 52.450              | 49.750               | 51.165             | 1.415          | 33.1              | 0.225                     | 0.000                    | 32.0               | 63.524                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 52.450              | 49.750               | 51.167             | 1.417          | 32.3              | 0.225                     | 0.000                    | 32.4               | 71.134                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 52.450              | 49.750               | 50.751             | 1.001          | 28.0              | 0.159                     | 0.000                    | 27.8               | 77.077                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 52.450              | 49.750               | 50.575             | 0.825          | 25.7              | 0.131                     | 0.000                    | 25.8               | 86.215                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer | 52.450              | 49.750               | 50.453             | 0.703          | 24.4              | 0.112                     | 0.000                    | 24.4               | 85.157                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter | 52.450              | 49.750               | 50.219             | 0.469          | 21.2              | 0.075                     | 0.000                    | 21.2               | 95.176                      | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer | 52.450              | 49.750               | 50.253             | 0.503          | 21.8              | 0.080                     | 0.000                    | 21.8               | 90.938                      | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter | 52.450              | 49.750               | 49.988             | 0.238          | 17.6              | 0.038                     | 0.000                    | 17.3               | 101.516                     | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer | 52.450              | 49.750               | 49.931             | 0.181          | 17.4              | 0.029                     | 0.000                    | 17.3               | 98.909                      | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter | 52.450              | 49.750               | 50.006             | 0.256          | 13.0              | 0.041                     | 0.000                    | 12.9               | 110.573                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer | 52.450              | 49.750               | 49.935             | 0.185          | 14.3              | 0.029                     | 0.000                    | 14.3               | 105.127                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter | 52.450              | 49.750               | 50.060             | 0.310          | 10.4              | 0.049                     | 0.000                    | 10.4               | 117.532                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer | 52.450              | 49.750               | 49.969             | 0.219          | 12.0              | 0.035                     | 0.000                    | 12.0               | 110.118                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter | 52.450              | 49.750               | 50.099             | 0.349          | 8.7               | 0.055                     | 0.000                    | 8.7                | 123.132                     | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer | 52.450              | 49.750               | 49.996             | 0.246          | 10.4              | 0.039                     | 0.000                    | 10.4               | 114.421                     | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

|                                                 |            |            |        |       |     |       |       |     |         |            |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 52.45<br>0 | 49.75<br>0 | 50.130 | 0.380 | 7.5 | 0.060 | 0.000 | 7.5 | 127.830 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 52.45<br>0 | 49.75<br>0 | 50.033 | 0.283 | 8.3 | 0.045 | 0.000 | 8.3 | 121.449 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 52.45<br>0 | 49.75<br>0 | 50.175 | 0.425 | 6.0 | 0.068 | 0.000 | 6.0 | 135.767 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 50.069 | 0.319 | 6.0 | 0.051 | 0.000 | 6.0 | 131.848 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.219 | 0.469 | 4.3 | 0.075 | 0.000 | 4.3 | 146.982 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 50.078 | 0.328 | 4.3 | 0.052 | 0.000 | 4.3 | 142.883 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.241 | 0.491 | 3.1 | 0.078 | 0.000 | 3.1 | 159.775 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 50.066 | 0.316 | 3.4 | 0.050 | 0.000 | 3.4 | 151.208 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.233 | 0.483 | 2.5 | 0.077 | 0.000 | 2.5 | 169.049 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 50.039 | 0.289 | 2.5 | 0.046 | 0.000 | 2.5 | 162.757 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.193 | 0.443 | 1.8 | 0.070 | 0.000 | 1.8 | 182.748 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 50.012 | 0.262 | 1.9 | 0.042 | 0.000 | 1.9 | 173.338 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.152 | 0.402 | 1.4 | 0.064 | 0.000 | 1.4 | 191.032 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 49.976 | 0.226 | 1.6 | 0.036 | 0.000 | 1.6 | 178.920 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.111 | 0.361 | 1.2 | 0.057 | 0.000 | 1.2 | 201.221 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 52.45<br>0 | 49.75<br>0 | 49.940 | 0.190 | 1.4 | 0.030 | 0.000 | 1.4 | 183.856 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 52.45<br>0 | 49.75<br>0 | 50.060 | 0.310 | 1.0 | 0.049 | 0.000 | 1.0 | 208.741 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 52.45<br>0 | 49.75<br>0 | 49.905 | 0.155 | 1.2 | 0.025 | 0.000 | 1.2 | 189.893 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 52.45<br>0 | 49.75<br>0 | 50.011 | 0.261 | 0.9 | 0.041 | 0.000 | 0.9 | 212.331 | Surcharged |

|                                                                                                                        |  |              |             |
|------------------------------------------------------------------------------------------------------------------------|--|--------------|-------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:        |             |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024   |             |
| Report Details:                                                                                                        |  | Designed by: | Checked by: |
| Type: Junctions Summary                                                                                                |  | N.E          | S.L         |
| Storm Phase: Phase                                                                                                     |  | Approved By: |             |
|                                                                                                                        |  | S.L          |             |
| Company Address:                                                                                                       |  |              |             |
| Nimbus Engineering Consultants Ltd.                                                                                    |  |              |             |
| Kemp House, 124 City Road,                                                                                             |  |              |             |
| EC1V 2NX, London                                                                                                       |  |              |             |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-07: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 52.900              | 49.950               | 51.899             | 1.949          | 27.2              | 0.310                     | 0.000                    | 27.5               | 31.261                      | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 52.900              | 49.950               | 52.137             | 2.187          | 28.1              | 0.348                     | 0.000                    | 28.7               | 34.850                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 52.900              | 49.950               | 51.742             | 1.792          | 26.7              | 0.285                     | 0.000                    | 27.4               | 40.899                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 52.900              | 49.950               | 51.970             | 2.020          | 27.9              | 0.321                     | 0.000                    | 28.8               | 45.786                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 52.900              | 49.950               | 51.572             | 1.622          | 25.2              | 0.258                     | 0.000                    | 25.9               | 51.109                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 52.900              | 49.950               | 51.609             | 1.659          | 25.4              | 0.264                     | 0.000                    | 25.7               | 57.257                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 52.900              | 49.950               | 51.109             | 1.159          | 21.9              | 0.184                     | 0.000                    | 22.3               | 62.047                      | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 52.900              | 49.950               | 50.891             | 0.941          | 20.6              | 0.150                     | 0.000                    | 20.6               | 69.457                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer | 52.900              | 49.950               | 50.746             | 0.796          | 19.5              | 0.127                     | 0.000                    | 19.7               | 68.574                      | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter | 52.900              | 49.950               | 50.453             | 0.503          | 17.2              | 0.080                     | 0.000                    | 17.2               | 76.838                      | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer | 52.900              | 49.950               | 50.488             | 0.538          | 17.5              | 0.085                     | 0.000                    | 17.6               | 73.292                      | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter | 52.900              | 49.950               | 50.131             | 0.181          | 14.3              | 0.029                     | 0.000                    | 14.1               | 82.043                      | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer | 52.900              | 49.950               | 50.088             | 0.138          | 14.1              | 0.022                     | 0.000                    | 14.0               | 79.804                      | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter | 52.900              | 49.950               | 50.041             | 0.091          | 10.4              | 0.014                     | 0.000                    | 10.4               | 89.404                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer | 52.900              | 49.950               | 50.047             | 0.097          | 11.5              | 0.015                     | 0.000                    | 11.5               | 84.850                      | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter | 52.900              | 49.950               | 50.060             | 0.110          | 8.3               | 0.017                     | 0.000                    | 8.3                | 94.999                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer | 52.900              | 49.950               | 50.036             | 0.086          | 9.7               | 0.014                     | 0.000                    | 9.7                | 88.904                      | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter | 52.900              | 49.950               | 50.099             | 0.149          | 7.0               | 0.024                     | 0.000                    | 7.0                | 99.513                      | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer | 52.900              | 49.950               | 50.029             | 0.079          | 8.4               | 0.013                     | 0.000                    | 8.4                | 92.353                      | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

|                                                 |            |            |        |       |     |       |       |     |         |            |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 52.90<br>0 | 49.95<br>0 | 50.130 | 0.180 | 6.1 | 0.029 | 0.000 | 6.1 | 103.288 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 52.90<br>0 | 49.95<br>0 | 50.033 | 0.083 | 6.7 | 0.013 | 0.000 | 6.7 | 98.010  | OK         |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 52.90<br>0 | 49.95<br>0 | 50.175 | 0.225 | 4.8 | 0.036 | 0.000 | 4.8 | 109.653 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 50.069 | 0.119 | 4.8 | 0.019 | 0.000 | 4.8 | 106.241 | OK         |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.219 | 0.269 | 3.5 | 0.043 | 0.000 | 3.5 | 118.568 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 50.078 | 0.128 | 3.5 | 0.020 | 0.000 | 3.5 | 115.042 | OK         |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.241 | 0.291 | 2.5 | 0.046 | 0.000 | 2.5 | 128.632 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 50.066 | 0.116 | 2.8 | 0.018 | 0.000 | 2.8 | 121.780 | OK         |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.234 | 0.284 | 2.0 | 0.045 | 0.000 | 2.0 | 136.133 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 50.039 | 0.089 | 2.0 | 0.014 | 0.000 | 2.0 | 130.942 | OK         |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.193 | 0.243 | 1.4 | 0.039 | 0.000 | 1.4 | 147.236 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 50.012 | 0.062 | 1.6 | 0.010 | 0.000 | 1.6 | 139.841 | OK         |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.152 | 0.202 | 1.1 | 0.032 | 0.000 | 1.1 | 153.435 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 49.979 | 0.029 | 1.3 | 0.005 | 0.000 | 1.3 | 143.841 | OK         |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.111 | 0.161 | 0.9 | 0.026 | 0.000 | 0.9 | 162.166 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 52.90<br>0 | 49.95<br>0 | 49.977 | 0.027 | 1.1 | 0.004 | 0.000 | 1.1 | 147.667 | OK         |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 52.90<br>0 | 49.95<br>0 | 50.060 | 0.110 | 0.8 | 0.018 | 0.000 | 0.8 | 168.604 | OK         |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 52.90<br>0 | 49.95<br>0 | 49.975 | 0.025 | 1.0 | 0.004 | 0.000 | 1.0 | 153.000 | OK         |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 52.90<br>0 | 49.95<br>0 | 50.011 | 0.061 | 0.7 | 0.010 | 0.000 | 0.7 | 170.839 | OK         |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-01: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.40<br>0                    | 51.40<br>0                     | 52.652                    | 1.252                | 8.1                     | 0.199                              | 0.000                             | 3.6                      | 3.617                                | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.40<br>0                    | 51.40<br>0                     | 52.920                    | 1.520                | 8.5                     | 0.242                              | 0.000                             | 3.8                      | 4.046                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.40<br>0                    | 51.40<br>0                     | 52.548                    | 1.148                | 5.4                     | 0.183                              | 0.000                             | 5.3                      | 4.696                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.40<br>0                    | 51.40<br>0                     | 52.833                    | 1.433                | 5.7                     | 0.228                              | 0.000                             | 3.6                      | 5.264                                | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.40<br>0                    | 51.40<br>0                     | 52.331                    | 0.931                | 4.7                     | 0.148                              | 0.000                             | 4.6                      | 5.888                                | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.40<br>0                    | 51.40<br>0                     | 52.343                    | 0.943                | 4.3                     | 0.150                              | 0.000                             | 3.2                      | 6.598                                | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.728                    | 0.328                | 3.4                     | 0.052                              | 0.000                             | 3.3                      | 7.159                                | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.448                    | 0.048                | 2.7                     | 0.008                              | 0.000                             | 2.7                      | 8.021                                | OK         |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.438                    | 0.038                | 2.6                     | 0.006                              | 0.000                             | 2.7                      | 7.909                                | OK         |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.434                    | 0.034                | 2.0                     | 0.005                              | 0.000                             | 2.0                      | 8.893                                | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.435                    | 0.035                | 2.2                     | 0.006                              | 0.000                             | 2.2                      | 8.449                                | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.430                    | 0.030                | 1.6                     | 0.005                              | 0.000                             | 1.6                      | 9.451                                | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.430                    | 0.030                | 1.6                     | 0.005                              | 0.000                             | 1.6                      | 9.193                                | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.426                    | 0.026                | 1.2                     | 0.004                              | 0.000                             | 1.2                      | 10.302                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.427                    | 0.027                | 1.3                     | 0.004                              | 0.000                             | 1.3                      | 9.786                                | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.423                    | 0.023                | 1.0                     | 0.004                              | 0.000                             | 1.0                      | 10.950                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.425                    | 0.025                | 1.1                     | 0.004                              | 0.000                             | 1.1                      | 10.272                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.40<br>0                    | 51.40<br>0                     | 51.421                    | 0.021                | 0.8                     | 0.003                              | 0.000                             | 0.8                      | 11.466                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.40<br>0                    | 51.40<br>0                     | 51.423                    | 0.023                | 1.0                     | 0.004                              | 0.000                             | 1.0                      | 10.656                               | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.40<br>0 | 51.40<br>0 | 51.420 | 0.020 | 0.7 | 0.003 | 0.000 | 0.7 | 11.904 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.40<br>0 | 51.40<br>0 | 51.421 | 0.021 | 0.8 | 0.003 | 0.000 | 0.8 | 11.286 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.40<br>0 | 51.40<br>0 | 51.418 | 0.018 | 0.6 | 0.003 | 0.000 | 0.6 | 12.654 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.418 | 0.018 | 0.6 | 0.003 | 0.000 | 0.6 | 12.270 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.415 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 13.728 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.415 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 13.290 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.413 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 14.874 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.414 | 0.014 | 0.3 | 0.002 | 0.000 | 0.3 | 14.076 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.412 | 0.012 | 0.2 | 0.002 | 0.000 | 0.2 | 15.630 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.412 | 0.012 | 0.2 | 0.002 | 0.000 | 0.2 | 15.138 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.410 | 0.010 | 0.2 | 0.002 | 0.000 | 0.2 | 17.046 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.411 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 16.374 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.409 | 0.009 | 0.1 | 0.001 | 0.000 | 0.1 | 17.748 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.410 | 0.010 | 0.2 | 0.002 | 0.000 | 0.2 | 16.656 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.408 | 0.008 | 0.1 | 0.001 | 0.000 | 0.1 | 18.822 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.40<br>0 | 51.40<br>0 | 51.409 | 0.009 | 0.1 | 0.001 | 0.000 | 0.1 | 17.003 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.40<br>0 | 51.40<br>0 | 51.408 | 0.008 | 0.1 | 0.001 | 0.000 | 0.1 | 19.590 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.40<br>0 | 51.40<br>0 | 51.408 | 0.008 | 0.1 | 0.001 | 0.000 | 0.1 | 17.423 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.40<br>0 | 51.40<br>0 | 51.407 | 0.007 | 0.1 | 0.001 | 0.000 | 0.1 | 19.356 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-02: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.50<br>0                    | 51.15<br>0                     | 52.645                    | 1.495                | 9.3                     | 0.238                              | 0.000                             | 7.2                      | 7.361                                | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.50<br>0                    | 51.15<br>0                     | 52.913                    | 1.763                | 9.8                     | 0.280                              | 0.000                             | 7.6                      | 8.227                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.50<br>0                    | 51.15<br>0                     | 52.540                    | 1.390                | 10.8                    | 0.221                              | 0.000                             | 6.8                      | 9.603                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.50<br>0                    | 51.15<br>0                     | 52.825                    | 1.675                | 9.5                     | 0.266                              | 0.000                             | 7.2                      | 10.744                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.50<br>0                    | 51.15<br>0                     | 52.324                    | 1.174                | 9.5                     | 0.187                              | 0.000                             | 6.5                      | 12.008                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.50<br>0                    | 51.15<br>0                     | 52.337                    | 1.187                | 6.6                     | 0.189                              | 0.000                             | 6.4                      | 13.471                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.723                    | 0.573                | 6.9                     | 0.091                              | 0.000                             | 6.7                      | 14.595                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.442                    | 0.292                | 5.6                     | 0.046                              | 0.000                             | 5.5                      | 16.359                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.263                    | 0.113                | 5.4                     | 0.018                              | 0.000                             | 5.3                      | 16.140                               | OK         |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.200                    | 0.050                | 4.2                     | 0.008                              | 0.000                             | 4.2                      | 18.116                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.202                    | 0.052                | 4.5                     | 0.008                              | 0.000                             | 4.5                      | 17.252                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.195                    | 0.045                | 3.4                     | 0.007                              | 0.000                             | 3.4                      | 19.303                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.195                    | 0.045                | 3.3                     | 0.007                              | 0.000                             | 3.3                      | 18.757                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.188                    | 0.038                | 2.5                     | 0.006                              | 0.000                             | 2.5                      | 21.036                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.190                    | 0.040                | 2.7                     | 0.006                              | 0.000                             | 2.7                      | 19.968                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.184                    | 0.034                | 2.0                     | 0.005                              | 0.000                             | 2.0                      | 22.386                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.187                    | 0.037                | 2.3                     | 0.006                              | 0.000                             | 2.3                      | 20.922                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.50<br>0                    | 51.15<br>0                     | 51.181                    | 0.031                | 1.6                     | 0.005                              | 0.000                             | 1.6                      | 23.418                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.50<br>0                    | 51.15<br>0                     | 51.184                    | 0.034                | 2.0                     | 0.005                              | 0.000                             | 2.0                      | 21.720                               | OK         |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.50<br>0 | 51.15<br>0 | 51.179 | 0.029 | 1.4 | 0.005 | 0.000 | 1.4 | 24.324 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.50<br>0 | 51.15<br>0 | 51.181 | 0.031 | 1.6 | 0.005 | 0.000 | 1.6 | 23.045 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.50<br>0 | 51.15<br>0 | 51.176 | 0.026 | 1.1 | 0.004 | 0.000 | 1.1 | 25.824 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.176 | 0.026 | 1.1 | 0.004 | 0.000 | 1.1 | 25.007 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.172 | 0.022 | 0.8 | 0.004 | 0.000 | 0.8 | 27.923 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.172 | 0.022 | 0.8 | 0.004 | 0.000 | 0.8 | 27.125 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.169 | 0.019 | 0.6 | 0.003 | 0.000 | 0.6 | 30.239 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.170 | 0.020 | 0.7 | 0.003 | 0.000 | 0.6 | 28.631 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.167 | 0.017 | 0.5 | 0.003 | 0.000 | 0.5 | 31.943 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.167 | 0.017 | 0.5 | 0.003 | 0.000 | 0.5 | 30.797 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.165 | 0.015 | 0.3 | 0.002 | 0.000 | 0.3 | 34.571 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.165 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 33.173 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.163 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 36.065 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.164 | 0.014 | 0.3 | 0.002 | 0.000 | 0.3 | 33.767 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.162 | 0.012 | 0.2 | 0.002 | 0.000 | 0.2 | 38.171 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.50<br>0 | 51.15<br>0 | 51.163 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 34.433 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.50<br>0 | 51.15<br>0 | 51.161 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 40.019 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.50<br>0 | 51.15<br>0 | 51.162 | 0.012 | 0.2 | 0.002 | 0.000 | 0.2 | 35.573 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.50<br>0 | 51.15<br>0 | 51.161 | 0.011 | 0.2 | 0.002 | 0.000 | 0.2 | 40.415 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-03: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.75<br>0                    | 50.90<br>0                     | 52.617                    | 1.717                | 10.8                    | 0.273                              | 0.000                             | 10.8                     | 11.138                               | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.75<br>0                    | 50.90<br>0                     | 52.884                    | 1.984                | 11.1                    | 0.316                              | 0.000                             | 11.4                     | 12.449                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.75<br>0                    | 50.90<br>0                     | 52.506                    | 1.606                | 10.0                    | 0.255                              | 0.000                             | 10.2                     | 14.538                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.75<br>0                    | 50.90<br>0                     | 52.791                    | 1.891                | 11.9                    | 0.301                              | 0.000                             | 10.9                     | 16.269                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.75<br>0                    | 50.90<br>0                     | 52.294                    | 1.394                | 9.1                     | 0.222                              | 0.000                             | 9.8                      | 18.168                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.75<br>0                    | 50.90<br>0                     | 52.310                    | 1.410                | 9.4                     | 0.224                              | 0.000                             | 9.7                      | 20.364                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 51.699                    | 0.799                | 10.2                    | 0.127                              | 0.000                             | 8.4                      | 22.067                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 51.421                    | 0.521                | 8.3                     | 0.083                              | 0.000                             | 7.5                      | 24.709                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 51.242                    | 0.342                | 8.0                     | 0.054                              | 0.000                             | 8.0                      | 24.387                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 50.965                    | 0.065                | 6.3                     | 0.010                              | 0.000                             | 6.3                      | 27.345                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 50.967                    | 0.067                | 6.8                     | 0.011                              | 0.000                             | 6.8                      | 26.060                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 50.957                    | 0.057                | 5.1                     | 0.009                              | 0.000                             | 5.1                      | 29.168                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 50.957                    | 0.057                | 5.0                     | 0.009                              | 0.000                             | 5.0                      | 28.339                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 50.948                    | 0.048                | 3.7                     | 0.008                              | 0.000                             | 3.7                      | 31.771                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 50.951                    | 0.051                | 4.1                     | 0.008                              | 0.000                             | 4.1                      | 30.150                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 50.942                    | 0.042                | 3.0                     | 0.007                              | 0.000                             | 3.0                      | 33.834                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 50.946                    | 0.046                | 3.4                     | 0.007                              | 0.000                             | 3.4                      | 31.583                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.75<br>0                    | 50.90<br>0                     | 50.939                    | 0.039                | 2.5                     | 0.006                              | 0.000                             | 2.5                      | 35.406                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.75<br>0                    | 50.90<br>0                     | 50.943                    | 0.043                | 3.0                     | 0.007                              | 0.000                             | 3.0                      | 32.807                               | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                                                              |  |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |                     |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                                                              |  | Approved By:<br>S.L |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                                                              |  |                     |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.75<br>0 | 50.90<br>0 | 50.936 | 0.036 | 2.2 | 0.006 | 0.000 | 2.2 | 36.755 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.75<br>0 | 50.90<br>0 | 50.938 | 0.038 | 2.4 | 0.006 | 0.000 | 2.4 | 34.823 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.75<br>0 | 50.90<br>0 | 50.932 | 0.032 | 1.7 | 0.005 | 0.000 | 1.7 | 38.993 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.932 | 0.032 | 1.7 | 0.005 | 0.000 | 1.7 | 37.757 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.927 | 0.027 | 1.2 | 0.004 | 0.000 | 1.2 | 42.143 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.927 | 0.027 | 1.2 | 0.004 | 0.000 | 1.2 | 41.003 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.923 | 0.023 | 0.9 | 0.004 | 0.000 | 0.9 | 45.629 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.924 | 0.024 | 1.0 | 0.004 | 0.000 | 1.0 | 43.216 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.921 | 0.021 | 0.7 | 0.003 | 0.000 | 0.7 | 48.263 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.921 | 0.021 | 0.7 | 0.003 | 0.000 | 0.7 | 46.462 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.918 | 0.018 | 0.5 | 0.003 | 0.000 | 0.5 | 52.139 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.919 | 0.019 | 0.6 | 0.003 | 0.000 | 0.6 | 49.972 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.916 | 0.016 | 0.4 | 0.003 | 0.000 | 0.4 | 54.442 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.917 | 0.017 | 0.5 | 0.003 | 0.000 | 0.5 | 50.884 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.915 | 0.015 | 0.3 | 0.002 | 0.000 | 0.3 | 57.526 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.75<br>0 | 50.90<br>0 | 50.916 | 0.016 | 0.4 | 0.003 | 0.000 | 0.4 | 51.958 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.75<br>0 | 50.90<br>0 | 50.914 | 0.014 | 0.3 | 0.002 | 0.000 | 0.3 | 60.449 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.75<br>0 | 50.90<br>0 | 50.915 | 0.015 | 0.3 | 0.002 | 0.000 | 0.3 | 53.722 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.75<br>0 | 50.90<br>0 | 50.913 | 0.013 | 0.3 | 0.002 | 0.000 | 0.3 | 61.475 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-04: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevation<br>(m) | Invert<br>Elevation<br>(m) | Max.<br>Elevation<br>(m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|---------------------------|----------------------------|--------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.20<br>0                | 50.75<br>0                 | 52.577                   | 1.827                | 16.7                    | 0.290                              | 0.000                             | 14.5                     | 16.819                               | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.20<br>0                | 50.75<br>0                 | 52.844                   | 2.094                | 17.0                    | 0.333                              | 0.000                             | 15.3                     | 18.803                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.20<br>0                | 50.75<br>0                 | 52.458                   | 1.708                | 14.8                    | 0.272                              | 0.000                             | 14.3                     | 21.973                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.20<br>0                | 50.75<br>0                 | 52.744                   | 1.994                | 15.7                    | 0.317                              | 0.000                             | 15.1                     | 24.597                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.20<br>0                | 50.75<br>0                 | 52.252                   | 1.502                | 13.9                    | 0.239                              | 0.000                             | 13.7                     | 27.455                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.20<br>0                | 50.75<br>0                 | 52.272                   | 1.522                | 13.6                    | 0.242                              | 0.000                             | 13.9                     | 30.782                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 51.665                   | 0.915                | 13.0                    | 0.146                              | 0.000                             | 12.0                     | 33.374                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 51.391                   | 0.641                | 11.4                    | 0.102                              | 0.000                             | 11.0                     | 37.356                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 51.214                   | 0.464                | 12.2                    | 0.074                              | 0.000                             | 10.5                     | 36.868                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 50.829                   | 0.079                | 9.6                     | 0.013                              | 0.000                             | 9.5                      | 41.328                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 50.874                   | 0.124                | 10.2                    | 0.020                              | 0.000                             | 10.0                     | 39.416                               | OK         |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 50.821                   | 0.071                | 7.7                     | 0.011                              | 0.000                             | 7.7                      | 44.116                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 50.820                   | 0.070                | 7.6                     | 0.011                              | 0.000                             | 7.6                      | 42.897                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 50.809                   | 0.059                | 5.6                     | 0.009                              | 0.000                             | 5.6                      | 48.068                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 50.812                   | 0.062                | 6.2                     | 0.010                              | 0.000                             | 6.2                      | 45.600                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 50.802                   | 0.052                | 4.5                     | 0.008                              | 0.000                             | 4.5                      | 51.103                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 50.807                   | 0.057                | 5.2                     | 0.009                              | 0.000                             | 5.2                      | 47.790                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.20<br>0                | 50.75<br>0                 | 50.797                   | 0.047                | 3.8                     | 0.008                              | 0.000                             | 3.8                      | 53.538                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.20<br>0                | 50.75<br>0                 | 50.802                   | 0.052                | 4.5                     | 0.008                              | 0.000                             | 4.5                      | 49.643                               | OK         |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |        |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|--------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.20<br>0 | 50.75<br>0 | 50.794 | 0.044 | 3.3 | 0.007 | 0.000 | 3.3 | 55.614 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.20<br>0 | 50.75<br>0 | 50.796 | 0.046 | 3.6 | 0.007 | 0.000 | 3.6 | 52.697 | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.20<br>0 | 50.75<br>0 | 50.789 | 0.039 | 2.6 | 0.006 | 0.000 | 2.6 | 58.943 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.789 | 0.039 | 2.6 | 0.006 | 0.000 | 2.6 | 57.142 | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.783 | 0.033 | 1.9 | 0.005 | 0.000 | 1.9 | 63.755 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.783 | 0.033 | 1.9 | 0.005 | 0.000 | 1.9 | 61.936 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.778 | 0.028 | 1.4 | 0.004 | 0.000 | 1.4 | 69.095 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.779 | 0.029 | 1.5 | 0.005 | 0.000 | 1.5 | 65.464 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.775 | 0.025 | 1.1 | 0.004 | 0.000 | 1.1 | 72.958 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.775 | 0.025 | 1.1 | 0.004 | 0.000 | 1.1 | 70.180 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.771 | 0.021 | 0.8 | 0.003 | 0.000 | 0.8 | 79.090 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.772 | 0.022 | 0.8 | 0.004 | 0.000 | 0.8 | 75.358 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.769 | 0.019 | 0.6 | 0.003 | 0.000 | 0.6 | 82.042 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.770 | 0.020 | 0.7 | 0.003 | 0.000 | 0.7 | 77.074 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.767 | 0.017 | 0.5 | 0.003 | 0.000 | 0.5 | 86.986 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.20<br>0 | 50.75<br>0 | 50.769 | 0.019 | 0.6 | 0.003 | 0.000 | 0.6 | 79.342 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.20<br>0 | 50.75<br>0 | 50.766 | 0.016 | 0.4 | 0.003 | 0.000 | 0.4 | 91.144 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.20<br>0 | 50.75<br>0 | 50.768 | 0.018 | 0.5 | 0.003 | 0.000 | 0.5 | 82.384 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.20<br>0 | 50.75<br>0 | 50.765 | 0.015 | 0.4 | 0.002 | 0.000 | 0.4 | 92.446 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-05: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.20<br>0                    | 50.50<br>0                     | 52.454                    | 1.954                | 18.0                    | 0.311                              | 0.000                             | 18.1                     | 20.474                               | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.20<br>0                    | 50.50<br>0                     | 52.717                    | 2.217                | 18.1                    | 0.352                              | 0.000                             | 19.2                     | 22.879                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.20<br>0                    | 50.50<br>0                     | 52.318                    | 1.818                | 16.9                    | 0.289                              | 0.000                             | 17.9                     | 26.749                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.20<br>0                    | 50.50<br>0                     | 52.598                    | 2.098                | 17.6                    | 0.334                              | 0.000                             | 18.7                     | 29.954                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.20<br>0                    | 50.50<br>0                     | 52.123                    | 1.623                | 16.0                    | 0.258                              | 0.000                             | 16.9                     | 33.442                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.20<br>0                    | 50.50<br>0                     | 52.146                    | 1.646                | 16.3                    | 0.262                              | 0.000                             | 17.2                     | 37.485                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 51.558                    | 1.058                | 14.1                    | 0.168                              | 0.000                             | 14.8                     | 40.624                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 51.294                    | 0.794                | 13.4                    | 0.126                              | 0.000                             | 13.6                     | 45.487                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 51.122                    | 0.622                | 13.1                    | 0.099                              | 0.000                             | 12.8                     | 44.875                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 50.758                    | 0.258                | 11.6                    | 0.041                              | 0.000                             | 11.3                     | 50.321                               | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 50.803                    | 0.303                | 12.3                    | 0.048                              | 0.000                             | 11.5                     | 47.996                               | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 50.574                    | 0.074                | 9.4                     | 0.012                              | 0.000                             | 9.4                      | 53.722                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 50.573                    | 0.073                | 9.3                     | 0.012                              | 0.000                             | 9.2                      | 52.244                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 50.561                    | 0.061                | 6.8                     | 0.010                              | 0.000                             | 6.8                      | 58.537                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 50.565                    | 0.065                | 7.5                     | 0.010                              | 0.000                             | 7.5                      | 55.529                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 50.554                    | 0.054                | 5.5                     | 0.009                              | 0.000                             | 5.5                      | 62.220                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 50.559                    | 0.059                | 6.3                     | 0.009                              | 0.000                             | 6.3                      | 58.187                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.20<br>0                    | 50.50<br>0                     | 50.550                    | 0.050                | 4.6                     | 0.008                              | 0.000                             | 4.6                      | 65.190                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.20<br>0                    | 50.50<br>0                     | 50.555                    | 0.055                | 5.5                     | 0.009                              | 0.000                             | 5.5                      | 60.466                               | OK         |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                     |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                     |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                     |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.20<br>0 | 50.50<br>0 | 50.546 | 0.046 | 4.0 | 0.007 | 0.000 | 4.0 | 67.685  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.20<br>0 | 50.50<br>0 | 50.548 | 0.048 | 4.4 | 0.008 | 0.000 | 4.4 | 64.174  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.20<br>0 | 50.50<br>0 | 50.541 | 0.041 | 3.2 | 0.007 | 0.000 | 3.2 | 71.789  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.541 | 0.041 | 3.2 | 0.007 | 0.000 | 3.2 | 69.526  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.535 | 0.035 | 2.3 | 0.006 | 0.000 | 2.3 | 77.621  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.535 | 0.035 | 2.3 | 0.006 | 0.000 | 2.3 | 75.412  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.530 | 0.030 | 1.6 | 0.005 | 0.000 | 1.6 | 84.085  | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.531 | 0.031 | 1.8 | 0.005 | 0.000 | 1.8 | 79.708  | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.526 | 0.026 | 1.3 | 0.004 | 0.000 | 1.3 | 88.866  | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.526 | 0.026 | 1.3 | 0.004 | 0.000 | 1.3 | 85.419  | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.523 | 0.023 | 0.9 | 0.004 | 0.000 | 0.9 | 96.250  | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.523 | 0.023 | 1.0 | 0.004 | 0.000 | 1.0 | 91.875  | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.520 | 0.020 | 0.7 | 0.003 | 0.000 | 0.7 | 99.874  | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.521 | 0.021 | 0.9 | 0.003 | 0.000 | 0.9 | 93.837  | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.518 | 0.018 | 0.6 | 0.003 | 0.000 | 0.6 | 105.915 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.20<br>0 | 50.50<br>0 | 50.520 | 0.020 | 0.7 | 0.003 | 0.000 | 0.7 | 96.453  | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.20<br>0 | 50.50<br>0 | 50.517 | 0.017 | 0.5 | 0.003 | 0.000 | 0.5 | 110.950 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.20<br>0 | 50.50<br>0 | 50.519 | 0.019 | 0.6 | 0.003 | 0.000 | 0.6 | 100.275 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.20<br>0 | 50.50<br>0 | 50.516 | 0.016 | 0.5 | 0.003 | 0.000 | 0.5 | 112.156 | OK |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-06: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.20<br>0                    | 50.20<br>0                     | 52.260                    | 2.060                | 25.3                    | 0.328                              | 0.000                             | 22.6                     | 26.940                               | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.20<br>0                    | 50.20<br>0                     | 52.518                    | 2.318                | 25.7                    | 0.369                              | 0.000                             | 23.7                     | 30.083                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.20<br>0                    | 50.20<br>0                     | 52.101                    | 1.901                | 23.3                    | 0.302                              | 0.000                             | 23.0                     | 35.221                               | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.20<br>0                    | 50.20<br>0                     | 52.374                    | 2.174                | 24.3                    | 0.346                              | 0.000                             | 24.2                     | 39.439                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.20<br>0                    | 50.20<br>0                     | 51.927                    | 1.727                | 21.9                    | 0.275                              | 0.000                             | 21.9                     | 44.029                               | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.20<br>0                    | 50.20<br>0                     | 51.960                    | 1.760                | 21.6                    | 0.280                              | 0.000                             | 21.9                     | 49.350                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 51.399                    | 1.199                | 19.0                    | 0.191                              | 0.000                             | 19.1                     | 53.475                               | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 51.152                    | 0.952                | 17.7                    | 0.151                              | 0.000                             | 17.7                     | 59.858                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.988                    | 0.788                | 17.1                    | 0.125                              | 0.000                             | 16.9                     | 59.084                               | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 50.650                    | 0.450                | 15.0                    | 0.071                              | 0.000                             | 14.8                     | 66.231                               | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.689                    | 0.489                | 15.3                    | 0.078                              | 0.000                             | 15.1                     | 63.161                               | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 50.296                    | 0.096                | 12.3                    | 0.015                              | 0.000                             | 12.4                     | 70.712                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.295                    | 0.095                | 12.2                    | 0.015                              | 0.000                             | 12.2                     | 68.787                               | OK         |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 50.279                    | 0.079                | 9.0                     | 0.013                              | 0.000                             | 9.0                      | 77.068                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.284                    | 0.084                | 9.9                     | 0.013                              | 0.000                             | 9.9                      | 73.129                               | OK         |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 50.269                    | 0.069                | 7.2                     | 0.011                              | 0.000                             | 7.2                      | 81.925                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.275                    | 0.075                | 8.3                     | 0.012                              | 0.000                             | 8.3                      | 76.621                               | OK         |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.20<br>0                    | 50.20<br>0                     | 50.262                    | 0.062                | 6.0                     | 0.010                              | 0.000                             | 6.0                      | 85.824                               | OK         |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.20<br>0                    | 50.20<br>0                     | 50.269                    | 0.069                | 7.2                     | 0.011                              | 0.000                             | 7.2                      | 79.606                               | OK         |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.20<br>0 | 50.20<br>0 | 50.257 | 0.057 | 5.2 | 0.009 | 0.000 | 5.2 | 89.094  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.20<br>0 | 50.20<br>0 | 50.260 | 0.060 | 5.7 | 0.010 | 0.000 | 5.7 | 84.486  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.20<br>0 | 50.20<br>0 | 50.251 | 0.051 | 4.2 | 0.008 | 0.000 | 4.2 | 94.587  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.251 | 0.051 | 4.2 | 0.008 | 0.000 | 4.2 | 91.548  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.243 | 0.043 | 3.0 | 0.007 | 0.000 | 3.0 | 102.202 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.243 | 0.043 | 3.0 | 0.007 | 0.000 | 3.0 | 99.168  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.241 | 0.041 | 2.2 | 0.007 | 0.000 | 2.2 | 110.883 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.238 | 0.038 | 2.4 | 0.006 | 0.000 | 2.4 | 105.030 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.234 | 0.034 | 1.7 | 0.005 | 0.000 | 1.7 | 117.326 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.232 | 0.032 | 1.7 | 0.005 | 0.000 | 1.7 | 112.796 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.227 | 0.027 | 1.2 | 0.004 | 0.000 | 1.2 | 127.067 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.229 | 0.029 | 1.3 | 0.005 | 0.000 | 1.3 | 120.677 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.224 | 0.024 | 1.0 | 0.004 | 0.000 | 1.0 | 131.940 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.226 | 0.026 | 1.1 | 0.004 | 0.000 | 1.1 | 123.375 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.222 | 0.022 | 0.8 | 0.004 | 0.000 | 0.8 | 139.971 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.20<br>0 | 50.20<br>0 | 50.224 | 0.024 | 1.0 | 0.004 | 0.000 | 1.0 | 127.227 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.20<br>0 | 50.20<br>0 | 50.221 | 0.021 | 0.7 | 0.003 | 0.000 | 0.7 | 145.476 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.20<br>0 | 50.20<br>0 | 50.223 | 0.023 | 0.9 | 0.004 | 0.000 | 0.9 | 131.955 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.20<br>0 | 50.20<br>0 | 50.220 | 0.020 | 0.6 | 0.003 | 0.000 | 0.6 | 146.758 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-16: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 51.00<br>0                    | 48.85<br>0                     | 49.306                    | 0.456                | 0.7                     | 0.129                              | 0.000                             | 0.3                      | 0.362                                | Surcharged |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 51.00<br>0                    | 48.85<br>0                     | 49.352                    | 0.502                | 0.8                     | 0.142                              | 0.000                             | 0.3                      | 0.378                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 51.00<br>0                    | 48.85<br>0                     | 49.430                    | 0.580                | 0.7                     | 0.164                              | 0.000                             | 0.4                      | 0.931                                | Surcharged |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 51.00<br>0                    | 48.85<br>0                     | 49.493                    | 0.643                | 0.8                     | 0.182                              | 0.000                             | 0.4                      | 0.976                                | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 51.00<br>0                    | 48.85<br>0                     | 49.559                    | 0.709                | 0.7                     | 0.201                              | 0.000                             | 0.4                      | 2.202                                | Surcharged |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 51.00<br>0                    | 48.85<br>0                     | 49.637                    | 0.787                | 0.7                     | 0.223                              | 0.000                             | 0.4                      | 2.317                                | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.691                    | 0.841                | 0.7                     | 0.238                              | 0.000                             | 0.4                      | 4.950                                | Surcharged |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 49.786                    | 0.936                | 0.7                     | 0.265                              | 0.000                             | 0.5                      | 5.217                                | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.768                    | 0.918                | 0.6                     | 0.260                              | 0.000                             | 0.4                      | 7.821                                | Surcharged |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 49.871                    | 1.021                | 0.6                     | 0.289                              | 0.000                             | 0.5                      | 8.244                                | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.819                    | 0.969                | 0.6                     | 0.274                              | 0.000                             | 0.5                      | 10.754                               | Surcharged |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 49.929                    | 1.079                | 0.6                     | 0.305                              | 0.000                             | 0.5                      | 11.334                               | Surcharged |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.886                    | 1.036                | 0.6                     | 0.293                              | 0.000                             | 0.5                      | 16.702                               | Surcharged |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 50.006                    | 1.156                | 0.5                     | 0.327                              | 0.000                             | 0.5                      | 17.619                               | Surcharged |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.934                    | 1.084                | 0.5                     | 0.307                              | 0.000                             | 0.5                      | 22.762                               | Surcharged |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 50.059                    | 1.209                | 0.5                     | 0.342                              | 0.000                             | 0.5                      | 24.021                               | Surcharged |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.969                    | 1.119                | 0.5                     | 0.317                              | 0.000                             | 0.5                      | 28.867                               | Surcharged |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 50.098                    | 1.248                | 0.5                     | 0.353                              | 0.000                             | 0.5                      | 30.478                               | Surcharged |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 51.00<br>0                    | 48.85<br>0                     | 49.995                    | 1.145                | 0.5                     | 0.324                              | 0.000                             | 0.5                      | 34.997                               | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

|                                                 |            |            |        |       |     |       |       |     |         |            |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 51.00<br>0 | 48.85<br>0 | 50.130 | 1.280 | 0.5 | 0.362 | 0.000 | 0.5 | 36.970  | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 51.00<br>0 | 48.85<br>0 | 50.032 | 1.182 | 0.5 | 0.334 | 0.000 | 0.5 | 47.235  | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 51.00<br>0 | 48.85<br>0 | 50.175 | 1.325 | 0.5 | 0.375 | 0.000 | 0.5 | 49.966  | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 50.068 | 1.218 | 0.5 | 0.345 | 0.000 | 0.5 | 71.315  | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.218 | 1.368 | 0.5 | 0.387 | 0.000 | 0.5 | 75.506  | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 50.078 | 1.228 | 0.5 | 0.347 | 0.000 | 0.5 | 105.849 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.240 | 1.390 | 0.6 | 0.394 | 0.000 | 0.6 | 112.479 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 50.065 | 1.215 | 0.5 | 0.344 | 0.000 | 0.5 | 137.915 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.233 | 1.383 | 0.5 | 0.391 | 0.000 | 0.5 | 147.120 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 50.039 | 1.189 | 0.5 | 0.336 | 0.000 | 0.5 | 193.591 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.193 | 1.343 | 0.5 | 0.380 | 0.000 | 0.5 | 208.105 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 50.012 | 1.162 | 0.5 | 0.329 | 0.000 | 0.5 | 238.620 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.152 | 1.302 | 0.5 | 0.368 | 0.000 | 0.5 | 256.809 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 49.976 | 1.126 | 0.5 | 0.319 | 0.000 | 0.5 | 269.007 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.110 | 1.260 | 0.5 | 0.357 | 0.000 | 0.5 | 295.894 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 51.00<br>0 | 48.85<br>0 | 49.940 | 1.090 | 0.5 | 0.308 | 0.000 | 0.5 | 282.709 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 51.00<br>0 | 48.85<br>0 | 50.060 | 1.210 | 0.5 | 0.342 | 0.000 | 0.5 | 319.052 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 51.00<br>0 | 48.85<br>0 | 49.904 | 1.054 | 0.5 | 0.298 | 0.000 | 0.5 | 291.425 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 51.00<br>0 | 48.85<br>0 | 50.010 | 1.160 | 0.5 | 0.328 | 0.000 | 0.5 | 325.452 | Surcharged |

|                                                                                                                        |  |              |             |
|------------------------------------------------------------------------------------------------------------------------|--|--------------|-------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:        |             |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024   |             |
| Report Details:                                                                                                        |  | Designed by: | Checked by: |
| Type: Junctions Summary                                                                                                |  | N.E          | S.L         |
| Storm Phase: Phase                                                                                                     |  | Approved By: |             |
|                                                                                                                        |  | S.L          |             |
| Company Address:                                                                                                       |  |              |             |
| Nimbus Engineering Consultants Ltd.                                                                                    |  |              |             |
| Kemp House, 124 City Road,                                                                                             |  |              |             |
| EC1V 2NX, London                                                                                                       |  |              |             |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-10: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status     |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 51.400              | 49.450               | 50.265             | 0.815          | 56.8              | 0.231                     | 0.000                    | 58.3               | 59.464                      | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter  | 51.400              | 49.450               | 50.361             | 0.911          | 60.5              | 0.258                     | 0.000                    | 61.9               | 66.177                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer  | 51.400              | 49.450               | 50.237             | 0.787          | 58.0              | 0.223                     | 0.000                    | 57.1               | 77.856                      | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter  | 51.400              | 49.450               | 50.300             | 0.850          | 60.5              | 0.240                     | 0.000                    | 59.5               | 87.088                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer  | 51.400              | 49.450               | 50.145             | 0.695          | 54.1              | 0.197                     | 0.000                    | 53.4               | 97.154                      | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter  | 51.400              | 49.450               | 50.118             | 0.668          | 52.4              | 0.189                     | 0.000                    | 52.4               | 108.565                     | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer | 51.400              | 49.450               | 49.951             | 0.501          | 45.2              | 0.142                     | 0.000                    | 44.9               | 117.540                     | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter | 51.400              | 49.450               | 49.858             | 0.408          | 40.4              | 0.115                     | 0.000                    | 40.3               | 131.374                     | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer | 51.400              | 49.450               | 49.822             | 0.372          | 38.7              | 0.105                     | 0.000                    | 38.5               | 129.806                     | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter | 51.400              | 49.450               | 49.871             | 0.421          | 32.7              | 0.119                     | 0.000                    | 32.7               | 145.023                     | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer | 51.400              | 49.450               | 49.819             | 0.369          | 34.0              | 0.105                     | 0.000                    | 33.9               | 138.594                     | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter | 51.400              | 49.450               | 49.929             | 0.479          | 26.7              | 0.136                     | 0.000                    | 26.7               | 154.746                     | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer | 51.400              | 49.450               | 49.886             | 0.436          | 26.6              | 0.123                     | 0.000                    | 26.5               | 150.775                     | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter | 51.400              | 49.450               | 50.006             | 0.556          | 19.9              | 0.157                     | 0.000                    | 19.9               | 168.568                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer | 51.400              | 49.450               | 49.934             | 0.484          | 21.9              | 0.137                     | 0.000                    | 21.8               | 160.277                     | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter | 51.400              | 49.450               | 50.059             | 0.609          | 15.8              | 0.172                     | 0.000                    | 15.8               | 179.169                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer | 51.400              | 49.450               | 49.969             | 0.519          | 18.4              | 0.147                     | 0.000                    | 18.5               | 167.932                     | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter | 51.400              | 49.450               | 50.099             | 0.649          | 13.3              | 0.184                     | 0.000                    | 13.2               | 187.700                     | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer | 51.400              | 49.450               | 49.995             | 0.545          | 16.0              | 0.154                     | 0.000                    | 16.0               | 174.484                     | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

|                                                 |            |            |        |       |      |       |       |      |         |            |
|-------------------------------------------------|------------|------------|--------|-------|------|-------|-------|------|---------|------------|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 51.40<br>0 | 49.45<br>0 | 50.130 | 0.680 | 11.5 | 0.192 | 0.000 | 11.4 | 195.009 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 51.40<br>0 | 49.45<br>0 | 50.032 | 0.582 | 12.7 | 0.165 | 0.000 | 12.7 | 185.268 | Surcharged |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 51.40<br>0 | 49.45<br>0 | 50.175 | 0.725 | 9.1  | 0.205 | 0.000 | 9.0  | 207.147 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 50.068 | 0.618 | 9.2  | 0.175 | 0.000 | 9.1  | 201.398 | Surcharged |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.219 | 0.769 | 6.6  | 0.218 | 0.000 | 6.5  | 224.563 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 50.078 | 0.628 | 6.6  | 0.178 | 0.000 | 6.6  | 218.619 | Surcharged |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.241 | 0.791 | 4.7  | 0.224 | 0.000 | 4.7  | 244.101 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 50.066 | 0.616 | 5.2  | 0.174 | 0.000 | 5.2  | 231.460 | Surcharged |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.233 | 0.783 | 3.8  | 0.222 | 0.000 | 3.7  | 258.594 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 50.039 | 0.589 | 3.7  | 0.167 | 0.000 | 3.7  | 249.863 | Surcharged |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.193 | 0.743 | 2.7  | 0.210 | 0.000 | 2.7  | 279.579 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 50.012 | 0.562 | 3.0  | 0.159 | 0.000 | 3.0  | 265.311 | Surcharged |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.152 | 0.702 | 2.2  | 0.199 | 0.000 | 2.2  | 293.983 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 49.976 | 0.526 | 2.6  | 0.149 | 0.000 | 2.5  | 274.428 | Surcharged |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.111 | 0.661 | 1.8  | 0.187 | 0.000 | 1.8  | 308.952 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 51.40<br>0 | 49.45<br>0 | 49.940 | 0.490 | 2.2  | 0.139 | 0.000 | 2.1  | 282.845 | Surcharged |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 51.40<br>0 | 49.45<br>0 | 50.060 | 0.610 | 1.6  | 0.173 | 0.000 | 1.5  | 319.287 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 51.40<br>0 | 49.45<br>0 | 49.904 | 0.454 | 1.9  | 0.129 | 0.000 | 1.9  | 291.504 | Surcharged |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 51.40<br>0 | 49.45<br>0 | 50.010 | 0.560 | 1.4  | 0.159 | 0.000 | 1.4  | 325.548 | Surcharged |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     |
| Type: Junctions Summary<br>Storm Phase: Phase                                                                          |  | N.E                                                                                   | S.L         | S.L                                                                                 |
|                                                                                                                        |  | Company Address:                                                                      |             |                                                                                     |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-17: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 52.600              | 48.500               | 48.515             | 0.015          | 0.3               | 0.013                     | 0.000                    | 0.3                | 0.318                       | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter  | 52.600              | 48.500               | 48.515             | 0.015          | 0.3               | 0.013                     | 0.000                    | 0.3                | 0.333                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer  | 52.600              | 48.500               | 48.516             | 0.016          | 0.4               | 0.014                     | 0.000                    | 0.4                | 0.886                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter  | 52.600              | 48.500               | 48.516             | 0.016          | 0.4               | 0.014                     | 0.000                    | 0.4                | 0.930                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer  | 52.600              | 48.500               | 48.517             | 0.017          | 0.4               | 0.014                     | 0.000                    | 0.4                | 2.156                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter  | 52.600              | 48.500               | 48.517             | 0.017          | 0.4               | 0.015                     | 0.000                    | 0.4                | 2.270                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer | 52.600              | 48.500               | 48.517             | 0.017          | 0.4               | 0.015                     | 0.000                    | 0.4                | 4.903                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter | 52.600              | 48.500               | 48.518             | 0.018          | 0.5               | 0.015                     | 0.000                    | 0.5                | 5.168                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer | 52.600              | 48.500               | 48.518             | 0.018          | 0.4               | 0.015                     | 0.000                    | 0.4                | 7.773                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter | 52.600              | 48.500               | 48.518             | 0.018          | 0.5               | 0.016                     | 0.000                    | 0.5                | 8.194                       | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer | 52.600              | 48.500               | 48.518             | 0.018          | 0.5               | 0.016                     | 0.000                    | 0.5                | 10.705                      | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.016                     | 0.000                    | 0.5                | 11.283                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer | 52.600              | 48.500               | 48.518             | 0.018          | 0.5               | 0.016                     | 0.000                    | 0.5                | 16.652                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.016                     | 0.000                    | 0.5                | 17.568                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.016                     | 0.000                    | 0.5                | 22.712                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.017                     | 0.000                    | 0.5                | 23.969                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.016                     | 0.000                    | 0.5                | 28.817                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.017                     | 0.000                    | 0.5                | 30.427                      | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer | 52.600              | 48.500               | 48.519             | 0.019          | 0.5               | 0.016                     | 0.000                    | 0.5                | 34.947                      | OK     |

|                                                                                                                                                                           |  |  |  |                                                                                                           |             |              |                                                                                                                              |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                                                              |  |  |  |
|                                                                                                                                                                           |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                                                              |  |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                                                              |  |  |  |

|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 36.918  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 47.185  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 52.60<br>0 | 48.50<br>0 | 48.520 | 0.020 | 0.5 | 0.017 | 0.000 | 0.5 | 49.915  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 71.266  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.520 | 0.020 | 0.5 | 0.017 | 0.000 | 0.5 | 75.455  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 105.801 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.520 | 0.020 | 0.6 | 0.017 | 0.000 | 0.6 | 112.429 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 137.870 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.520 | 0.020 | 0.5 | 0.017 | 0.000 | 0.5 | 147.073 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 193.552 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.520 | 0.020 | 0.5 | 0.017 | 0.000 | 0.5 | 208.063 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 238.586 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 256.773 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 268.981 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 295.865 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 282.706 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.017 | 0.000 | 0.5 | 319.047 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 52.60<br>0 | 48.50<br>0 | 48.518 | 0.018 | 0.5 | 0.016 | 0.000 | 0.5 | 291.422 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 52.60<br>0 | 48.50<br>0 | 48.519 | 0.019 | 0.5 | 0.016 | 0.000 | 0.5 | 325.450 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-18: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevation<br>(m) | Invert<br>Elevation<br>(m) | Max.<br>Elevation<br>(m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status |
|-----------------------------------------------|---------------------------|----------------------------|--------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|--------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 53.00<br>0                | 48.40<br>0                 | 48.413                   | 0.013                | 0.3                     | 0.011                              | 0.000                             | 0.3                      | 0.277                                | OK     |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 53.00<br>0                | 48.40<br>0                 | 48.413                   | 0.013                | 0.3                     | 0.011                              | 0.000                             | 0.3                      | 0.291                                | OK     |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 53.00<br>0                | 48.40<br>0                 | 48.413                   | 0.013                | 0.4                     | 0.012                              | 0.000                             | 0.4                      | 0.841                                | OK     |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 53.00<br>0                | 48.40<br>0                 | 48.414                   | 0.014                | 0.4                     | 0.012                              | 0.000                             | 0.4                      | 0.884                                | OK     |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 53.00<br>0                | 48.40<br>0                 | 48.414                   | 0.014                | 0.4                     | 0.012                              | 0.000                             | 0.4                      | 2.108                                | OK     |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 53.00<br>0                | 48.40<br>0                 | 48.414                   | 0.014                | 0.4                     | 0.012                              | 0.000                             | 0.4                      | 2.220                                | OK     |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.4                     | 0.013                              | 0.000                             | 0.4                      | 4.851                                | OK     |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 5.115                                | OK     |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.4                     | 0.013                              | 0.000                             | 0.4                      | 7.720                                | OK     |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 8.139                                | OK     |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 10.652                               | OK     |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 11.227                               | OK     |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 16.598                               | OK     |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.416                   | 0.016                | 0.5                     | 0.014                              | 0.000                             | 0.5                      | 17.511                               | OK     |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.415                   | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 22.657                               | OK     |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.416                   | 0.016                | 0.5                     | 0.014                              | 0.000                             | 0.5                      | 23.912                               | OK     |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.416                   | 0.016                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 28.762                               | OK     |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 53.00<br>0                | 48.40<br>0                 | 48.416                   | 0.016                | 0.5                     | 0.014                              | 0.000                             | 0.5                      | 30.369                               | OK     |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 53.00<br>0                | 48.40<br>0                 | 48.416                   | 0.016                | 0.5                     | 0.014                              | 0.000                             | 0.5                      | 34.891                               | OK     |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 36.860  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 47.130  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 49.857  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 71.211  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 75.398  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 105.749 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.6 | 0.014 | 0.000 | 0.6 | 112.374 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 137.820 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 147.020 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 193.509 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 208.017 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 238.552 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 256.735 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.013 | 0.000 | 0.5 | 268.956 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 295.835 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 53.00<br>0 | 48.40<br>0 | 48.415 | 0.015 | 0.5 | 0.013 | 0.000 | 0.5 | 282.705 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 319.045 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 53.00<br>0 | 48.40<br>0 | 48.415 | 0.015 | 0.5 | 0.013 | 0.000 | 0.5 | 291.422 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 53.00<br>0 | 48.40<br>0 | 48.416 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 325.450 | OK |

|                                                                                                                        |  |              |             |
|------------------------------------------------------------------------------------------------------------------------|--|--------------|-------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:        |             |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024   |             |
| Report Details:                                                                                                        |  | Designed by: | Checked by: |
| Type: Junctions Summary                                                                                                |  | N.E          | S.L         |
| Storm Phase: Phase                                                                                                     |  | Approved By: |             |
|                                                                                                                        |  | S.L          |             |
| Company Address:                                                                                                       |  |              |             |
| Nimbus Engineering Consultants Ltd.                                                                                    |  |              |             |
| Kemp House, 124 City Road,                                                                                             |  |              |             |
| EC1V 2NX, London                                                                                                       |  |              |             |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-19: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 51.270              | 47.000               | 47.013             | 0.013          | 0.3               | 0.011                     | 0.000                    | 0.3                | 0.203                       | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter  | 51.270              | 47.000               | 47.013             | 0.013          | 0.3               | 0.011                     | 0.000                    | 0.3                | 0.215                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer  | 51.270              | 47.000               | 47.014             | 0.014          | 0.4               | 0.012                     | 0.000                    | 0.4                | 0.760                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter  | 51.270              | 47.000               | 47.014             | 0.014          | 0.4               | 0.012                     | 0.000                    | 0.4                | 0.799                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer  | 51.270              | 47.000               | 47.014             | 0.014          | 0.4               | 0.012                     | 0.000                    | 0.4                | 2.021                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter  | 51.270              | 47.000               | 47.015             | 0.015          | 0.4               | 0.013                     | 0.000                    | 0.4                | 2.130                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer | 51.270              | 47.000               | 47.015             | 0.015          | 0.4               | 0.013                     | 0.000                    | 0.4                | 4.760                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter | 51.270              | 47.000               | 47.015             | 0.015          | 0.5               | 0.013                     | 0.000                    | 0.5                | 5.020                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer | 51.270              | 47.000               | 47.015             | 0.015          | 0.4               | 0.013                     | 0.000                    | 0.4                | 7.626                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 8.041                       | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer | 51.270              | 47.000               | 47.015             | 0.015          | 0.5               | 0.013                     | 0.000                    | 0.5                | 10.556                      | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 11.128                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 16.501                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 17.410                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 22.559                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 23.810                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 28.664                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 30.267                      | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer | 51.270              | 47.000               | 47.016             | 0.016          | 0.5               | 0.014                     | 0.000                    | 0.5                | 34.793                      | OK     |

|                                                                                                                                                                           |  |  |  |                                                                                                           |                    |                     |                                                                                                                              |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                                                              |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                                                              |  |  |

|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 36.758  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 47.032  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.5 | 0.014 | 0.000 | 0.5 | 49.755  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 71.115  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.5 | 0.014 | 0.000 | 0.5 | 75.298  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 105.657 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.6 | 0.015 | 0.000 | 0.6 | 112.278 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 137.734 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.5 | 0.015 | 0.000 | 0.5 | 146.929 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 193.435 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.5 | 0.014 | 0.000 | 0.5 | 207.938 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 238.492 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.017 | 0.017 | 0.5 | 0.014 | 0.000 | 0.5 | 256.669 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 268.914 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 295.785 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 282.703 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 319.042 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 291.422 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 51.27<br>0 | 47.00<br>0 | 47.016 | 0.016 | 0.5 | 0.014 | 0.000 | 0.5 | 325.449 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWC-20: Rank By: Max. Depth**

| Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status |
|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|--------|
| FSR: 100 years:<br>+45 %: 15 mins:<br>Summer  | 48.40<br>0                    | 45.75<br>0                     | 45.762                    | 0.012                | 0.3                     | 0.014                              | 0.000                             | 0.3                      | 0.156                                | OK     |
| FSR: 100 years:<br>+45 %: 15 mins:<br>Winter  | 48.40<br>0                    | 45.75<br>0                     | 45.762                    | 0.012                | 0.3                     | 0.014                              | 0.000                             | 0.3                      | 0.168                                | OK     |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Summer  | 48.40<br>0                    | 45.75<br>0                     | 45.763                    | 0.013                | 0.4                     | 0.015                              | 0.000                             | 0.4                      | 0.708                                | OK     |
| FSR: 100 years:<br>+45 %: 30 mins:<br>Winter  | 48.40<br>0                    | 45.75<br>0                     | 45.764                    | 0.014                | 0.4                     | 0.015                              | 0.000                             | 0.4                      | 0.746                                | OK     |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Summer  | 48.40<br>0                    | 45.75<br>0                     | 45.764                    | 0.014                | 0.4                     | 0.016                              | 0.000                             | 0.4                      | 1.966                                | OK     |
| FSR: 100 years:<br>+45 %: 60 mins:<br>Winter  | 48.40<br>0                    | 45.75<br>0                     | 45.764                    | 0.014                | 0.4                     | 0.016                              | 0.000                             | 0.4                      | 2.073                                | OK     |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.764                    | 0.014                | 0.4                     | 0.016                              | 0.000                             | 0.4                      | 4.702                                | OK     |
| FSR: 100 years:<br>+45 %: 120 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 4.961                                | OK     |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.4                     | 0.017                              | 0.000                             | 0.4                      | 7.568                                | OK     |
| FSR: 100 years:<br>+45 %: 180 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 7.981                                | OK     |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 10.497                               | OK     |
| FSR: 100 years:<br>+45 %: 240 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 11.067                               | OK     |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 16.441                               | OK     |
| FSR: 100 years:<br>+45 %: 360 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.766                    | 0.016                | 0.5                     | 0.018                              | 0.000                             | 0.5                      | 17.348                               | OK     |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 22.499                               | OK     |
| FSR: 100 years:<br>+45 %: 480 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.766                    | 0.016                | 0.5                     | 0.018                              | 0.000                             | 0.5                      | 23.748                               | OK     |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.766                    | 0.016                | 0.5                     | 0.018                              | 0.000                             | 0.5                      | 28.603                               | OK     |
| FSR: 100 years:<br>+45 %: 600 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.766                    | 0.016                | 0.5                     | 0.018                              | 0.000                             | 0.5                      | 30.204                               | OK     |
| FSR: 100 years:<br>+45 %: 720 mins:<br>Summer | 48.40<br>0                    | 45.75<br>0                     | 45.766                    | 0.016                | 0.5                     | 0.018                              | 0.000                             | 0.5                      | 34.732                               | OK     |

|                                                                                                                                                                           |  |  |  |                                                                                                           |                    |                     |                                                                                     |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|-------------------------------------------------------------------------------------|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  |  |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                     |  |  |
|                                                                                                                                                                           |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                     |  |  |

|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 36.695  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 46.971  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 49.692  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 71.056  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 75.236  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 105.601 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.6 | 0.018 | 0.000 | 0.6 | 112.219 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 137.681 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 146.873 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 193.389 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 207.889 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 238.455 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 256.629 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 268.887 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 295.754 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 48.40<br>0 | 45.75<br>0 | 45.765 | 0.015 | 0.5 | 0.017 | 0.000 | 0.5 | 282.701 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 319.038 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 48.40<br>0 | 45.75<br>0 | 45.765 | 0.015 | 0.5 | 0.017 | 0.000 | 0.5 | 291.420 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 48.40<br>0 | 45.75<br>0 | 45.766 | 0.016 | 0.5 | 0.018 | 0.000 | 0.5 | 325.447 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for TW SW MH 4151: Rank By: Max. Depth**

| Storm Event                             | Cover Elevation (m) | Invert Elevation (m) | Max. Elevation (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|-----------------------------------------|---------------------|----------------------|--------------------|----------------|-------------------|---------------------------|--------------------------|--------------------|-----------------------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer  | 48.360              | 45.670               | 45.682             | 0.012          | 0.3               | 0.000                     | 0.000                    | 0.3                | 0.156                       | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter  | 48.360              | 45.670               | 45.682             | 0.012          | 0.3               | 0.000                     | 0.000                    | 0.3                | 0.168                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer  | 48.360              | 45.670               | 45.683             | 0.013          | 0.4               | 0.000                     | 0.000                    | 0.4                | 0.708                       | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter  | 48.360              | 45.670               | 45.683             | 0.013          | 0.4               | 0.000                     | 0.000                    | 0.4                | 0.746                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer  | 48.360              | 45.670               | 45.683             | 0.013          | 0.4               | 0.000                     | 0.000                    | 0.4                | 1.966                       | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter  | 48.360              | 45.670               | 45.684             | 0.014          | 0.4               | 0.000                     | 0.000                    | 0.4                | 2.073                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer | 48.360              | 45.670               | 45.684             | 0.014          | 0.4               | 0.000                     | 0.000                    | 0.4                | 4.702                       | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter | 48.360              | 45.670               | 45.684             | 0.014          | 0.5               | 0.000                     | 0.000                    | 0.5                | 4.961                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer | 48.360              | 45.670               | 45.684             | 0.014          | 0.4               | 0.000                     | 0.000                    | 0.4                | 7.568                       | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter | 48.360              | 45.670               | 45.684             | 0.014          | 0.5               | 0.000                     | 0.000                    | 0.5                | 7.981                       | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer | 48.360              | 45.670               | 45.684             | 0.014          | 0.5               | 0.000                     | 0.000                    | 0.5                | 10.497                      | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 11.067                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 16.441                      | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 17.348                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 22.499                      | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 23.748                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 28.603                      | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 30.204                      | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer | 48.360              | 45.670               | 45.685             | 0.015          | 0.5               | 0.000                     | 0.000                    | 0.5                | 34.732                      | OK     |

|                                                                                                                                                                           |  |  |  |  |                                                                                                           |                    |                     |                                                                                                                              |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                          |  |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                                                              |  |
|                                                                                                                                                                           |  |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                                                              |  |

|                                                 |            |            |        |       |     |       |       |     |         |    |
|-------------------------------------------------|------------|------------|--------|-------|-----|-------|-------|-----|---------|----|
| FSR: 100 years:<br>+45 %: 720 mins:<br>Winter   | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 36.695  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Summer   | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 46.971  | OK |
| FSR: 100 years:<br>+45 %: 960 mins:<br>Winter   | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 49.692  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 71.056  | OK |
| FSR: 100 years:<br>+45 %: 1440 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.686 | 0.016 | 0.5 | 0.000 | 0.000 | 0.5 | 75.236  | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 105.601 | OK |
| FSR: 100 years:<br>+45 %: 2160 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.686 | 0.016 | 0.6 | 0.000 | 0.000 | 0.6 | 112.219 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 137.681 | OK |
| FSR: 100 years:<br>+45 %: 2880 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.686 | 0.016 | 0.5 | 0.000 | 0.000 | 0.5 | 146.873 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 193.389 | OK |
| FSR: 100 years:<br>+45 %: 4320 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.686 | 0.016 | 0.5 | 0.000 | 0.000 | 0.5 | 207.889 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 238.455 | OK |
| FSR: 100 years:<br>+45 %: 5760 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 256.629 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 268.887 | OK |
| FSR: 100 years:<br>+45 %: 7200 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 295.754 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Summer  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 282.701 | OK |
| FSR: 100 years:<br>+45 %: 8640 mins:<br>Winter  | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 319.038 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Summer | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 291.420 | OK |
| FSR: 100 years:<br>+45 %: 10080 mins:<br>Winter | 48.36<br>0 | 45.67<br>0 | 45.685 | 0.015 | 0.5 | 0.000 | 0.000 | 0.5 | 325.447 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                                | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for Att Tank: Rank  
By: Max. Avg. Depth**

| Storm Event                                      | Max.<br>US<br>Elevati<br>on (m) | Max.<br>DS<br>Elevati<br>on (m) | Max.<br>US<br>Depth<br>(m) | Max.<br>DS<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Reside<br>nt<br>Volume<br>(m³) | Max.<br>Flood<br>ed<br>Volu<br>me<br>(m³) | Total<br>Lost<br>Volume<br>(m³) | Max.<br>Outflo<br>w<br>(L/s) | Total<br>Dischar<br>ge<br>Volume<br>(m³) | Half<br>Drain<br>Down<br>Time<br>(mins<br>) | Percentag<br>e<br>Available<br>(%) | Status |
|--------------------------------------------------|---------------------------------|---------------------------------|----------------------------|----------------------------|-------------------------|----------------------------------------|-------------------------------------------|---------------------------------|------------------------------|------------------------------------------|---------------------------------------------|------------------------------------|--------|
| FSR: 100<br>years: +45 %:<br>15 mins:<br>Summer  | 49.306                          | 49.306                          | 0.406                      | 0.406                      | 58.3                    | 58.620                                 | 0.000                                     | 0.000                           | 0.7                          | 0.894                                    | 1180                                        | 74.682                             | OK     |
| FSR: 100<br>years: +45 %:<br>15 mins:<br>Winter  | 49.352                          | 49.352                          | 0.452                      | 0.452                      | 61.9                    | 65.241                                 | 0.000                                     | 0.000                           | 0.8                          | 0.964                                    | 1225                                        | 71.823                             | OK     |
| FSR: 100<br>years: +45 %:<br>30 mins:<br>Summer  | 49.430                          | 49.430                          | 0.530                      | 0.530                      | 57.1                    | 76.492                                 | 0.000                                     | 0.000                           | 0.7                          | 1.606                                    | 1092                                        | 66.964                             | OK     |
| FSR: 100<br>years: +45 %:<br>30 mins:<br>Winter  | 49.493                          | 49.493                          | 0.593                      | 0.593                      | 59.5                    | 85.599                                 | 0.000                                     | 0.000                           | 0.8                          | 1.725                                    | 1180                                        | 63.030                             | OK     |
| FSR: 100<br>years: +45 %:<br>60 mins:<br>Summer  | 49.559                          | 49.559                          | 0.659                      | 0.659                      | 53.4                    | 95.188                                 | 0.000                                     | 0.000                           | 0.7                          | 3.021                                    | 1267                                        | 58.889                             | OK     |
| FSR: 100<br>years: +45 %:<br>60 mins:<br>Winter  | 49.637                          | 49.637                          | 0.737                      | 0.737                      | 52.4                    | 106.473                                | 0.000                                     | 0.000                           | 0.7                          | 3.226                                    | 1383                                        | 54.015                             | OK     |
| FSR: 100<br>years: +45 %:<br>120 mins:<br>Summer | 49.692                          | 49.692                          | 0.792                      | 0.792                      | 44.9                    | 114.311                                | 0.000                                     | 0.000                           | 0.7                          | 5.911                                    | 1474                                        | 50.630                             | OK     |
| FSR: 100<br>years: +45 %:<br>120 mins:<br>Winter | 49.786                          | 49.786                          | 0.886                      | 0.886                      | 40.3                    | 127.912                                | 0.000                                     | 0.000                           | 0.7                          | 6.287                                    | 1649                                        | 44.756                             | OK     |
| FSR: 100<br>years: +45 %:<br>180 mins:<br>Summer | 49.768                          | 49.768                          | 0.868                      | 0.868                      | 38.5                    | 125.295                                | 0.000                                     | 0.000                           | 0.6                          | 8.858                                    | 2003                                        | 45.886                             | OK     |
| FSR: 100<br>years: +45 %:<br>180 mins:<br>Winter | 49.871                          | 49.871                          | 0.971                      | 0.971                      | 32.7                    | 140.226                                | 0.000                                     | 0.000                           | 0.6                          | 9.398                                    | 2179                                        | 39.438                             | OK     |
| FSR: 100<br>years: +45 %:<br>240 mins:<br>Summer | 49.819                          | 49.819                          | 0.919                      | 0.919                      | 33.9                    | 132.742                                | 0.000                                     | 0.000                           | 0.6                          | 11.837                                   | 2102                                        | 42.670                             | OK     |
| FSR: 100<br>years: +45 %:<br>240 mins:<br>Winter | 49.929                          | 49.929                          | 1.029                      | 1.029                      | 26.7                    | 148.657                                | 0.000                                     | 0.000                           | 0.6                          | 12.541                                   | 2339                                        | 35.797                             | OK     |
| FSR: 100<br>years: +45 %:<br>360 mins:<br>Summer | 49.886                          | 49.886                          | 0.986                      | 0.986                      | 26.5                    | 142.347                                | 0.000                                     | 0.000                           | 0.6                          | 17.835                                   | 2299                                        | 38.521                             | OK     |
| FSR: 100<br>years: +45 %:<br>360 mins:<br>Winter | 50.006                          | 50.006                          | 1.106                      | 1.106                      | 19.9                    | 159.695                                | 0.000                                     | 0.000                           | 0.5                          | 18.887                                   | 2600                                        | 31.029                             | OK     |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                                | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                                   |        |        |       |       |      |             |       |       |     |         |      |        |    |
|---------------------------------------------------|--------|--------|-------|-------|------|-------------|-------|-------|-----|---------|------|--------|----|
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Summer  | 49.934 | 49.934 | 1.034 | 1.034 | 21.8 | 149.27<br>4 | 0.000 | 0.000 | 0.5 | 23.923  | 2470 | 35.530 | OK |
| FSR: 100<br>years: +45 %:<br>480 mins:<br>Winter  | 50.059 | 50.059 | 1.159 | 1.159 | 15.8 | 167.42<br>2 | 0.000 | 0.000 | 0.5 | 25.323  | 2755 | 27.692 | OK |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Summer  | 49.969 | 49.969 | 1.069 | 1.069 | 18.5 | 154.32<br>2 | 0.000 | 0.000 | 0.5 | 30.040  | 2603 | 33.350 | OK |
| FSR: 100<br>years: +45 %:<br>600 mins:<br>Winter  | 50.099 | 50.099 | 1.199 | 1.199 | 13.2 | 173.09<br>0 | 0.000 | 0.000 | 0.5 | 31.797  | 2994 | 25.244 | OK |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Summer  | 49.995 | 49.995 | 1.095 | 1.095 | 16.0 | 158.15<br>9 | 0.000 | 0.000 | 0.5 | 36.173  | 2671 | 31.693 | OK |
| FSR: 100<br>years: +45 %:<br>720 mins:<br>Winter  | 50.130 | 50.130 | 1.230 | 1.230 | 11.4 | 177.60<br>2 | 0.000 | 0.000 | 0.5 | 38.295  | 3024 | 23.296 | OK |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Summer  | 50.032 | 50.032 | 1.132 | 1.132 | 12.7 | 163.46<br>9 | 0.000 | 0.000 | 0.5 | 48.400  | 2873 | 29.399 | OK |
| FSR: 100<br>years: +45 %:<br>960 mins:<br>Winter  | 50.175 | 50.175 | 1.275 | 1.275 | 9.0  | 184.08<br>8 | 0.000 | 0.000 | 0.5 | 51.284  | 3159 | 20.494 | OK |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Summer | 50.068 | 50.068 | 1.168 | 1.168 | 9.1  | 168.69<br>1 | 0.000 | 0.000 | 0.5 | 72.416  | 2949 | 27.144 | OK |
| FSR: 100<br>years: +45 %:<br>1440 mins:<br>Winter | 50.219 | 50.219 | 1.319 | 1.319 | 6.5  | 190.41<br>0 | 0.000 | 0.000 | 0.5 | 76.759  | 3264 | 17.764 | OK |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Summer | 50.078 | 50.078 | 1.178 | 1.178 | 6.6  | 170.08<br>5 | 0.000 | 0.000 | 0.5 | 106.811 | 3107 | 26.542 | OK |
| FSR: 100<br>years: +45 %:<br>2160 mins:<br>Winter | 50.241 | 50.241 | 1.341 | 1.341 | 4.7  | 193.59<br>3 | 0.000 | 0.000 | 0.6 | 113.592 | 3325 | 16.389 | OK |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Summer | 50.066 | 50.066 | 1.166 | 1.166 | 5.2  | 168.30<br>3 | 0.000 | 0.000 | 0.5 | 138.723 | 3065 | 27.312 | OK |
| FSR: 100<br>years: +45 %:<br>2880 mins:<br>Winter | 50.233 | 50.233 | 1.333 | 1.333 | 3.7  | 192.51<br>7 | 0.000 | 0.000 | 0.5 | 148.071 | 3325 | 16.854 | OK |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Summer | 50.039 | 50.039 | 1.139 | 1.139 | 3.7  | 164.43<br>1 | 0.000 | 0.000 | 0.5 | 194.100 | 3056 | 28.984 | OK |
| FSR: 100<br>years: +45 %:<br>4320 mins:<br>Winter | 50.193 | 50.193 | 1.293 | 1.293 | 2.7  | 186.68<br>5 | 0.000 | 0.000 | 0.5 | 208.736 | 3289 | 19.373 | OK |
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Summer | 50.012 | 50.012 | 1.112 | 1.112 | 3.0  | 160.56<br>0 | 0.000 | 0.000 | 0.5 | 238.892 | 3060 | 30.656 | OK |

|                                                                                                                                                                           |                                                                                                           |             |              |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                                | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|                                                    |        |        |       |       |     |             |       |       |     |         |      |        |    |
|----------------------------------------------------|--------|--------|-------|-------|-----|-------------|-------|-------|-----|---------|------|--------|----|
| FSR: 100<br>years: +45 %:<br>5760 mins:<br>Winter  | 50.152 | 50.152 | 1.252 | 1.252 | 2.2 | 180.75<br>7 | 0.000 | 0.000 | 0.5 | 257.165 | 3254 | 21.933 | OK |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Summer  | 49.976 | 49.976 | 1.076 | 1.076 | 2.5 | 155.34<br>7 | 0.000 | 0.000 | 0.5 | 269.108 | 3010 | 32.907 | OK |
| FSR: 100<br>years: +45 %:<br>7200 mins:<br>Winter  | 50.111 | 50.111 | 1.211 | 1.211 | 1.8 | 174.81<br>8 | 0.000 | 0.000 | 0.5 | 296.056 | 3200 | 24.498 | OK |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Summer  | 49.940 | 49.940 | 1.040 | 1.040 | 2.1 | 150.14<br>1 | 0.000 | 0.000 | 0.5 | 282.711 | 2957 | 35.155 | OK |
| FSR: 100<br>years: +45 %:<br>8640 mins:<br>Winter  | 50.060 | 50.060 | 1.160 | 1.160 | 1.5 | 167.52<br>7 | 0.000 | 0.000 | 0.5 | 319.056 | 3149 | 27.646 | OK |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Summer | 49.904 | 49.904 | 1.004 | 1.004 | 1.9 | 145.02<br>0 | 0.000 | 0.000 | 0.5 | 291.425 | 2907 | 37.367 | OK |
| FSR: 100<br>years: +45 %:<br>10080 mins:<br>Winter | 50.010 | 50.010 | 1.110 | 1.110 | 1.4 | 160.34<br>2 | 0.000 | 0.000 | 0.5 | 325.454 | 3072 | 30.750 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-11: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.946                      | 0.100               | 5.124                 | 1.0                 | 0.66            | 6.2             | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 52.159                      | 0.100               | 5.731                 | 1.1                 | 0.66            | 6.2             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.781                      | 0.100               | 6.713                 | 0.9                 | 0.74            | 7.0             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.914                      | 0.100               | 7.512                 | 1.0                 | 0.65            | 6.1             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.549                      | 0.100               | 8.427                 | 1.0                 | 0.7             | 6.6             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.432                      | 0.100               | 9.445                 | 1.1                 | 0.64            | 6.0             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.252                      | 0.100               | 10.234                | 1.2                 | 0.52            | 4.9             | OK         |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.246                      | 0.045               | 11.461                | 1.1                 | 0.42            | 3.9             | OK         |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.245                      | 0.045               | 11.323                | 1.1                 | 0.4             | 3.8             | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.239                      | 0.039               | 12.673                | 1.0                 | 0.31            | 2.9             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.241                      | 0.040               | 12.109                | 1.1                 | 0.33            | 3.1             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.235                      | 0.034               | 13.549                | 1.0                 | 0.25            | 2.4             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.235                      | 0.034               | 13.182                | 1.0                 | 0.25            | 2.3             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.229                      | 0.029               | 14.778                | 0.9                 | 0.18            | 1.7             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.231                      | 0.031               | 13.992                | 0.9                 | 0.2             | 1.9             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.226                      | 0.026               | 15.720                | 0.8                 | 0.15            | 1.4             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.228                      | 0.028               | 14.669                | 0.9                 | 0.17            | 1.6             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.224                      | 0.024               | 16.421                | 0.8                 | 0.12            | 1.1             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.226                      | 0.026               | 15.227                | 0.9                 | 0.15            | 1.4             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.222                      | 0.022               | 17.075                | 0.8                 | 0.11            | 1.0             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.223                      | 0.023               | 16.157                | 0.8                 | 0.12            | 1.1             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.220                      | 0.020               | 18.113                | 0.7                 | 0.08            | 0.8             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.220                      | 0.020               | 17.525                | 0.7                 | 0.08            | 0.8             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.217                      | 0.017               | 19.607                | 0.7                 | 0.06            | 0.6             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.217                      | 0.017               | 19.121                | 0.7                 | 0.06            | 0.6             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.214                      | 0.014               | 21.173                | 0.6                 | 0.04            | 0.4             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.215                      | 0.015               | 20.069                | 0.6                 | 0.05            | 0.4             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-13 | SWC-14 | 53.200                       | 51.213                      | 0.013               | 22.493                | 0.6                 | 0.04            | 0.3             | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.213 | 0.013 | 21.575 | 0.6 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.211 | 0.011 | 24.149 | 0.5 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.212 | 0.012 | 23.291 | 0.5 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.210 | 0.010 | 25.499 | 0.5 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.211 | 0.011 | 24.179 | 0.5 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.209 | 0.009 | 27.035 | 0.4 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.210 | 0.010 | 25.085 | 0.5 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-13 | SWC-14 | 53.200 | 51.208 | 0.008 | 28.109 | 0.4 | 0.01 | 0.1 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-13 | SWC-14 | 53.200 | 51.209 | 0.009 | 25.169 | 0.4 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-13 | SWC-14 | 53.200 | 51.208 | 0.008 | 28.433 | 0.4 | 0.01 | 0.1 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-12: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.758                      | 0.100               | 8.698                 | 1.3                 | 1.1             | 10.5            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.958                      | 0.100               | 9.724                 | 1.4                 | 1.14            | 11.0            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.583                      | 0.100               | 11.348                | 1.2                 | 1.01            | 9.7             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.708                      | 0.100               | 12.709                | 1.3                 | 1.06            | 10.2            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.368                      | 0.100               | 14.231                | 1.2                 | 0.94            | 9.0             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-14 | SWC-15 | 53.000                       | 51.261                      | 0.100               | 15.939                | 1.1                 | 0.91            | 8.8             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.890                      | 0.100               | 17.261                | 1.1                 | 0.79            | 7.6             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.690                      | 0.100               | 19.313                | 1.1                 | 0.68            | 6.6             | OK         |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.689                      | 0.100               | 19.074                | 1.1                 | 0.66            | 6.4             | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.679                      | 0.055               | 21.349                | 1.1                 | 0.51            | 4.9             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.681                      | 0.058               | 20.402                | 1.1                 | 0.55            | 5.3             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.673                      | 0.048               | 22.843                | 1.1                 | 0.41            | 4.0             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.673                      | 0.048               | 22.207                | 1.1                 | 0.41            | 3.9             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.666                      | 0.040               | 24.900                | 1.0                 | 0.3             | 2.9             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.668                      | 0.042               | 23.579                | 1.0                 | 0.33            | 3.2             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.662                      | 0.036               | 26.472                | 0.9                 | 0.24            | 2.3             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.664                      | 0.038               | 24.707                | 1.0                 | 0.28            | 2.7             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.659                      | 0.053               | 27.678                | 0.9                 | 0.2             | 1.9             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.662                      | 0.036               | 25.661                | 0.9                 | 0.24            | 2.3             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.656                      | 0.069               | 28.757                | 0.9                 | 0.17            | 1.7             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.658                      | 0.032               | 27.239                | 0.9                 | 0.19            | 1.8             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.653                      | 0.091               | 30.533                | 0.8                 | 0.14            | 1.3             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.653                      | 0.037               | 29.567                | 0.8                 | 0.14            | 1.3             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.650                      | 0.100               | 33.071                | 0.7                 | 0.1             | 1.0             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.650                      | 0.042               | 32.117                | 0.7                 | 0.1             | 1.0             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.646                      | 0.100               | 35.693                | 0.7                 | 0.07            | 0.7             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.647                      | 0.036               | 33.887                | 0.7                 | 0.08            | 0.8             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-14 | SWC-15 | 53.000                       | 50.645                      | 0.100               | 37.865                | 0.6                 | 0.06            | 0.6             | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.644 | 0.022 | 36.406 | 0.6 | 0.06 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.642 | 0.100 | 40.841 | 0.6 | 0.04 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.643 | 0.015 | 39.118 | 0.6 | 0.05 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.641 | 0.079 | 42.977 | 0.5 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.642 | 0.014 | 40.240 | 0.6 | 0.04 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.640 | 0.058 | 45.430 | 0.5 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.641 | 0.013 | 41.770 | 0.5 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-14 | SWC-15 | 53.000 | 50.639 | 0.033 | 47.296 | 0.5 | 0.02 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-14 | SWC-15 | 53.000 | 50.640 | 0.012 | 42.232 | 0.5 | 0.03 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-14 | SWC-15 | 53.000 | 50.638 | 0.011 | 47.314 | 0.5 | 0.02 | 0.2 | OK |

|                                                                                                                                                                     |  |                                                                                                           |                    |                                                                                     |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
|                                                                                                                                                                     |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |
|                                                                                                                                                                     |  |                                                                                                           |                    |                                                                                     |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-01: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.652                      | 0.150               | 3.617                 | 0.5                 | 0.19            | 3.6             | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.920                      | 0.150               | 4.046                 | 0.5                 | 0.2             | 3.8             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.548                      | 0.150               | 4.696                 | 0.5                 | 0.28            | 5.3             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.833                      | 0.150               | 5.264                 | 0.5                 | 0.19            | 3.6             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.331                      | 0.150               | 5.888                 | 0.5                 | 0.25            | 4.6             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-01 | SWC-02 | 53.400                       | 52.343                      | 0.150               | 6.598                 | 0.6                 | 0.17            | 3.2             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.728                      | 0.150               | 7.159                 | 0.6                 | 0.18            | 3.3             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.448                      | 0.150               | 8.021                 | 0.6                 | 0.15            | 2.7             | OK         |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.438                      | 0.073               | 7.909                 | 0.5                 | 0.14            | 2.7             | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.434                      | 0.042               | 8.893                 | 0.5                 | 0.11            | 2.0             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.435                      | 0.043               | 8.449                 | 0.5                 | 0.12            | 2.2             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.430                      | 0.038               | 9.451                 | 0.5                 | 0.09            | 1.6             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.430                      | 0.037               | 9.193                 | 0.5                 | 0.09            | 1.6             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.426                      | 0.032               | 10.302                | 0.4                 | 0.06            | 1.2             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.427                      | 0.034               | 9.786                 | 0.4                 | 0.07            | 1.3             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.423                      | 0.029               | 10.950                | 0.4                 | 0.05            | 1.0             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.425                      | 0.031               | 10.272                | 0.4                 | 0.06            | 1.1             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.421                      | 0.026               | 11.466                | 0.4                 | 0.04            | 0.8             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.423                      | 0.029               | 10.656                | 0.4                 | 0.05            | 1.0             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.420                      | 0.025               | 11.904                | 0.4                 | 0.04            | 0.7             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.421                      | 0.026               | 11.286                | 0.4                 | 0.04            | 0.8             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.418                      | 0.022               | 12.654                | 0.3                 | 0.03            | 0.6             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.418                      | 0.022               | 12.270                | 0.3                 | 0.03            | 0.6             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.415                      | 0.019               | 13.728                | 0.3                 | 0.02            | 0.4             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.415                      | 0.019               | 13.290                | 0.3                 | 0.02            | 0.4             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.413                      | 0.016               | 14.874                | 0.3                 | 0.02            | 0.3             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.414                      | 0.017               | 14.076                | 0.3                 | 0.02            | 0.3             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-01 | SWC-02 | 53.400                       | 51.412                      | 0.014               | 15.630                | 0.3                 | 0.01            | 0.2             | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.412 | 0.014 | 15.138 | 0.3 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.410 | 0.013 | 17.046 | 0.2 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.411 | 0.013 | 16.374 | 0.2 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.409 | 0.011 | 17.748 | 0.2 | 0.01 | 0.1 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.410 | 0.012 | 16.656 | 0.2 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.408 | 0.010 | 18.822 | 0.2 | 0.01 | 0.1 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.409 | 0.011 | 17.003 | 0.2 | 0.01 | 0.1 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-01 | SWC-02 | 53.400 | 51.408 | 0.009 | 19.590 | 0.2 | 0    | 0.1 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-01 | SWC-02 | 53.400 | 51.408 | 0.010 | 17.423 | 0.2 | 0.01 | 0.1 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-01 | SWC-02 | 53.400 | 51.407 | 0.009 | 19.356 | 0.2 | 0    | 0.1 | OK |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-02: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.645                      | 0.150               | 7.361                 | 0.6                 | 0.41            | 7.2             | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.913                      | 0.150               | 8.227                 | 0.7                 | 0.44            | 7.6             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.540                      | 0.150               | 9.603                 | 0.6                 | 0.39            | 6.8             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.825                      | 0.150               | 10.744                | 0.7                 | 0.42            | 7.2             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.324                      | 0.150               | 12.008                | 0.7                 | 0.37            | 6.5             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-02 | SWC-03 | 53.500                       | 52.337                      | 0.150               | 13.471                | 0.7                 | 0.37            | 6.4             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.723                      | 0.150               | 14.595                | 0.7                 | 0.38            | 6.7             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.442                      | 0.150               | 16.359                | 0.7                 | 0.32            | 5.5             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.263                      | 0.150               | 16.140                | 0.7                 | 0.3             | 5.3             | OK         |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.200                      | 0.058               | 18.116                | 0.7                 | 0.24            | 4.2             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.202                      | 0.059               | 17.252                | 0.7                 | 0.26            | 4.5             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.195                      | 0.051               | 19.303                | 0.6                 | 0.19            | 3.4             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.195                      | 0.051               | 18.757                | 0.6                 | 0.19            | 3.3             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.188                      | 0.043               | 21.036                | 0.6                 | 0.14            | 2.5             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.190                      | 0.045               | 19.968                | 0.6                 | 0.16            | 2.7             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.184                      | 0.038               | 22.386                | 0.6                 | 0.11            | 2.0             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.187                      | 0.041               | 20.922                | 0.6                 | 0.13            | 2.3             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.181                      | 0.035               | 23.418                | 0.5                 | 0.09            | 1.6             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.184                      | 0.038               | 21.720                | 0.6                 | 0.11            | 2.0             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.179                      | 0.033               | 24.324                | 0.5                 | 0.08            | 1.4             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.181                      | 0.034               | 23.045                | 0.5                 | 0.09            | 1.6             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.176                      | 0.029               | 25.824                | 0.5                 | 0.07            | 1.1             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.176                      | 0.029               | 25.007                | 0.5                 | 0.07            | 1.1             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.172                      | 0.025               | 27.923                | 0.4                 | 0.05            | 0.8             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.172                      | 0.025               | 27.125                | 0.4                 | 0.05            | 0.8             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.169                      | 0.021               | 30.239                | 0.4                 | 0.03            | 0.6             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.170                      | 0.022               | 28.631                | 0.4                 | 0.04            | 0.6             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-02 | SWC-03 | 53.500                       | 51.167                      | 0.019               | 31.943                | 0.4                 | 0.03            | 0.5             | OK         |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.167 | 0.019 | 30.797 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.165 | 0.016 | 34.571 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.165 | 0.017 | 33.173 | 0.3 | 0.02 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.163 | 0.015 | 36.065 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.164 | 0.016 | 33.767 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.162 | 0.013 | 38.171 | 0.3 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.163 | 0.015 | 34.433 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-02 | SWC-03 | 53.500 | 51.161 | 0.012 | 40.019 | 0.3 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-02 | SWC-03 | 53.500 | 51.162 | 0.014 | 35.573 | 0.3 | 0.01 | 0.2 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-02 | SWC-03 | 53.500 | 51.161 | 0.012 | 40.415 | 0.3 | 0.01 | 0.2 | OK |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-03: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.617                      | 0.150               | 11.138                | 0.7                 | 0.63            | 10.8            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.884                      | 0.150               | 12.449                | 0.7                 | 0.66            | 11.4            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.506                      | 0.150               | 14.538                | 0.7                 | 0.6             | 10.2            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.791                      | 0.150               | 16.269                | 0.7                 | 0.63            | 10.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.294                      | 0.150               | 18.168                | 0.7                 | 0.57            | 9.8             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-03 | SWC-04 | 53.750                       | 52.310                      | 0.150               | 20.364                | 0.8                 | 0.56            | 9.7             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 51.699                      | 0.150               | 22.067                | 0.8                 | 0.49            | 8.4             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 51.421                      | 0.150               | 24.709                | 0.8                 | 0.43            | 7.5             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 51.242                      | 0.150               | 24.387                | 0.7                 | 0.47            | 8.0             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.965                      | 0.072               | 27.345                | 0.8                 | 0.37            | 6.3             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.967                      | 0.093               | 26.060                | 0.8                 | 0.39            | 6.8             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.957                      | 0.064               | 29.168                | 0.7                 | 0.3             | 5.1             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.957                      | 0.064               | 28.339                | 0.7                 | 0.29            | 5.0             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.948                      | 0.053               | 31.771                | 0.7                 | 0.22            | 3.7             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.951                      | 0.056               | 30.150                | 0.7                 | 0.24            | 4.1             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.942                      | 0.047               | 33.834                | 0.6                 | 0.17            | 3.0             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.946                      | 0.051               | 31.583                | 0.6                 | 0.2             | 3.4             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.939                      | 0.043               | 35.406                | 0.6                 | 0.14            | 2.5             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.943                      | 0.047               | 32.807                | 0.6                 | 0.17            | 3.0             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.936                      | 0.040               | 36.755                | 0.6                 | 0.13            | 2.2             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.938                      | 0.042               | 34.823                | 0.6                 | 0.14            | 2.4             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.932                      | 0.036               | 38.993                | 0.5                 | 0.1             | 1.7             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.932                      | 0.036               | 37.757                | 0.5                 | 0.1             | 1.7             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.927                      | 0.030               | 42.143                | 0.5                 | 0.07            | 1.2             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.927                      | 0.030               | 41.003                | 0.5                 | 0.07            | 1.2             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.923                      | 0.026               | 45.629                | 0.4                 | 0.05            | 0.9             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.924                      | 0.027               | 43.216                | 0.5                 | 0.06            | 1.0             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-03 | SWC-04 | 53.750                       | 50.921                      | 0.023               | 48.263                | 0.4                 | 0.04            | 0.7             | OK         |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.921 | 0.023 | 46.462 | 0.4 | 0.04 | 0.7 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.918 | 0.020 | 52.139 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.919 | 0.020 | 49.972 | 0.4 | 0.03 | 0.6 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.916 | 0.018 | 54.442 | 0.4 | 0.02 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.917 | 0.019 | 50.884 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.915 | 0.016 | 57.526 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.916 | 0.018 | 51.958 | 0.4 | 0.02 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-03 | SWC-04 | 53.750 | 50.914 | 0.015 | 60.449 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-03 | SWC-04 | 53.750 | 50.915 | 0.016 | 53.722 | 0.3 | 0.02 | 0.3 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-03 | SWC-04 | 53.750 | 50.913 | 0.014 | 61.475 | 0.3 | 0.02 | 0.3 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br><b>15/11/2024</b>                                                                                |                    |  |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-04: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.577                      | 0.150               | 16.819                | 0.9                 | 0.81            | 14.5            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.844                      | 0.150               | 18.803                | 0.9                 | 0.86            | 15.3            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.458                      | 0.150               | 21.973                | 0.9                 | 0.8             | 14.3            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.744                      | 0.150               | 24.597                | 0.9                 | 0.85            | 15.1            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.252                      | 0.150               | 27.455                | 0.9                 | 0.77            | 13.7            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-04 | SWC-05 | 53.200                       | 52.272                      | 0.150               | 30.782                | 0.9                 | 0.78            | 13.9            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 51.665                      | 0.150               | 33.374                | 1.0                 | 0.68            | 12.0            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 51.391                      | 0.150               | 37.356                | 0.9                 | 0.62            | 11.0            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 51.214                      | 0.150               | 36.868                | 1.0                 | 0.59            | 10.5            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.829                      | 0.150               | 41.328                | 0.9                 | 0.54            | 9.5             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.874                      | 0.150               | 39.416                | 0.9                 | 0.56            | 10.0            | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.821                      | 0.072               | 44.116                | 0.9                 | 0.43            | 7.7             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.820                      | 0.072               | 42.897                | 0.9                 | 0.43            | 7.6             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.809                      | 0.060               | 48.068                | 0.8                 | 0.31            | 5.6             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.812                      | 0.064               | 45.600                | 0.9                 | 0.35            | 6.2             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.802                      | 0.053               | 51.103                | 0.8                 | 0.25            | 4.5             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.807                      | 0.058               | 47.790                | 0.8                 | 0.29            | 5.2             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.797                      | 0.048               | 53.538                | 0.8                 | 0.21            | 3.8             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.802                      | 0.053               | 49.643                | 0.8                 | 0.25            | 4.5             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.794                      | 0.045               | 55.614                | 0.7                 | 0.18            | 3.3             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.796                      | 0.047               | 52.697                | 0.8                 | 0.2             | 3.6             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.789                      | 0.040               | 58.943                | 0.7                 | 0.15            | 2.6             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.789                      | 0.040               | 57.142                | 0.7                 | 0.15            | 2.6             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.783                      | 0.034               | 63.755                | 0.6                 | 0.1             | 1.9             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.783                      | 0.034               | 61.936                | 0.6                 | 0.1             | 1.9             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.778                      | 0.029               | 69.095                | 0.6                 | 0.08            | 1.4             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.779                      | 0.030               | 65.464                | 0.6                 | 0.08            | 1.5             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-04 | SWC-05 | 53.200                       | 50.775                      | 0.026               | 72.958                | 0.5                 | 0.06            | 1.1             | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.775 | 0.026 | 70.180 | 0.5 | 0.06 | 1.1 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.771 | 0.022 | 79.090 | 0.5 | 0.04 | 0.8 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.772 | 0.023 | 75.358 | 0.5 | 0.05 | 0.8 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.769 | 0.020 | 82.042 | 0.4 | 0.03 | 0.6 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.770 | 0.021 | 77.074 | 0.5 | 0.04 | 0.7 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.767 | 0.018 | 86.986 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.769 | 0.020 | 79.342 | 0.4 | 0.03 | 0.6 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-04 | SWC-05 | 53.200 | 50.766 | 0.017 | 91.144 | 0.4 | 0.02 | 0.4 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-04 | SWC-05 | 53.200 | 50.768 | 0.018 | 82.384 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-04 | SWC-05 | 53.200 | 50.765 | 0.016 | 92.446 | 0.4 | 0.02 | 0.4 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-05: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.454                      | 0.150               | 20.474                | 1.0                 | 0.93            | 18.1            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.717                      | 0.150               | 22.879                | 1.1                 | 0.99            | 19.2            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.318                      | 0.150               | 26.749                | 1.0                 | 0.92            | 17.9            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.598                      | 0.150               | 29.954                | 1.1                 | 0.96            | 18.7            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.123                      | 0.150               | 33.442                | 1.0                 | 0.87            | 16.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-05 | SWC-06 | 53.200                       | 52.146                      | 0.150               | 37.485                | 1.0                 | 0.88            | 17.2            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 51.558                      | 0.150               | 40.624                | 0.9                 | 0.76            | 14.8            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 51.294                      | 0.150               | 45.487                | 0.9                 | 0.7             | 13.6            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 51.122                      | 0.150               | 44.875                | 0.9                 | 0.66            | 12.8            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.758                      | 0.150               | 50.321                | 0.9                 | 0.58            | 11.3            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.803                      | 0.150               | 47.996                | 0.9                 | 0.59            | 11.5            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.574                      | 0.085               | 53.722                | 0.9                 | 0.48            | 9.4             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.573                      | 0.084               | 52.244                | 0.9                 | 0.48            | 9.2             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.561                      | 0.070               | 58.537                | 0.8                 | 0.35            | 6.8             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.565                      | 0.075               | 55.529                | 0.9                 | 0.39            | 7.5             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.554                      | 0.062               | 62.220                | 0.8                 | 0.28            | 5.5             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.559                      | 0.067               | 58.187                | 0.8                 | 0.33            | 6.3             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.550                      | 0.056               | 65.190                | 0.8                 | 0.24            | 4.6             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.555                      | 0.062               | 60.466                | 0.8                 | 0.28            | 5.5             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.546                      | 0.052               | 67.685                | 0.7                 | 0.2             | 4.0             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.548                      | 0.054               | 64.174                | 0.8                 | 0.22            | 4.4             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.541                      | 0.046               | 71.789                | 0.7                 | 0.16            | 3.2             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.541                      | 0.046               | 69.526                | 0.7                 | 0.16            | 3.2             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.535                      | 0.039               | 77.621                | 0.6                 | 0.12            | 2.3             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.535                      | 0.039               | 75.412                | 0.6                 | 0.12            | 2.3             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.530                      | 0.033               | 84.085                | 0.6                 | 0.08            | 1.6             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.531                      | 0.034               | 79.708                | 0.6                 | 0.09            | 1.8             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-05 | SWC-06 | 53.200                       | 50.526                      | 0.029               | 88.866                | 0.5                 | 0.07            | 1.3             | OK         |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.526 | 0.029 | 85.419  | 0.5 | 0.07 | 1.3 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.523 | 0.025 | 96.250  | 0.5 | 0.05 | 0.9 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.523 | 0.026 | 91.875  | 0.5 | 0.05 | 1.0 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.520 | 0.022 | 99.874  | 0.5 | 0.04 | 0.7 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.521 | 0.024 | 93.837  | 0.5 | 0.04 | 0.9 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.518 | 0.020 | 105.915 | 0.4 | 0.03 | 0.6 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.520 | 0.022 | 96.453  | 0.5 | 0.04 | 0.7 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-05 | SWC-06 | 53.200 | 50.517 | 0.019 | 110.950 | 0.4 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-05 | SWC-06 | 53.200 | 50.519 | 0.021 | 100.275 | 0.4 | 0.03 | 0.6 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-05 | SWC-06 | 53.200 | 50.516 | 0.018 | 112.156 | 0.4 | 0.02 | 0.5 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |  |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |  |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |  |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |  |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-15: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From     | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|----------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.306                      | 0.100               | 0.890                 | 0.7                 | 0.06            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.352                      | 0.100               | 0.960                 | 0.6                 | 0.07            | 0.8             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.430                      | 0.100               | 1.604                 | 0.6                 | 0.06            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.493                      | 0.100               | 1.723                 | 0.6                 | 0.07            | 0.8             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.559                      | 0.100               | 3.021                 | 0.1                 | 0.06            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.637                      | 0.100               | 3.226                 | 0.2                 | 0.07            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.692                      | 0.100               | 5.911                 | 0.4                 | 0.06            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.786                      | 0.100               | 6.287                 | 0.5                 | 0.06            | 0.7             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.768                      | 0.100               | 8.858                 | 0.4                 | 0.06            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.871                      | 0.100               | 9.398                 | 0.3                 | 0.06            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.819                      | 0.100               | 11.837                | 0.4                 | 0.06            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.929                      | 0.100               | 12.541                | 0.4                 | 0.05            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.886                      | 0.100               | 17.835                | 0.3                 | 0.05            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.006                      | 0.100               | 18.887                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.934                      | 0.100               | 23.923                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.059                      | 0.100               | 25.323                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.969                      | 0.100               | 30.040                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.099                      | 0.100               | 31.797                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 49.995                      | 0.100               | 36.173                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.130                      | 0.100               | 38.295                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.032                      | 0.100               | 48.400                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.175                      | 0.100               | 51.284                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.068                      | 0.100               | 72.416                | 0.3                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.219                      | 0.100               | 76.759                | 0.2                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.078                      | 0.100               | 106.811               | 0.2                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.241                      | 0.100               | 113.592               | 0.2                 | 0.05            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.066                      | 0.100               | 138.723               | 0.2                 | 0.05            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | Att Tank | SWC-16 | 50.964                       | 50.233                      | 0.100               | 148.071               | 0.2                 | 0.05            | 0.5             | Surcharged |

|                                                                                                                                                                           |  |  |                                                                                                           |                    |                     |                                                                                     |  |  |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  |  |  |
|                                                                                                                                                                           |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                     |  |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                     |  |  |

|                                              |      |          |        |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|----------|--------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | Att Tank | SWC-16 | 50.964 | 50.039 | 0.100 | 194.100 | 0.2 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | Att Tank | SWC-16 | 50.964 | 50.193 | 0.100 | 208.736 | 0.1 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | Att Tank | SWC-16 | 50.964 | 50.012 | 0.100 | 238.892 | 0.2 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | Att Tank | SWC-16 | 50.964 | 50.152 | 0.100 | 257.165 | 0.1 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | Att Tank | SWC-16 | 50.964 | 49.976 | 0.100 | 269.108 | 0.2 | 0.04 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | Att Tank | SWC-16 | 50.964 | 50.111 | 0.100 | 296.056 | 0.1 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | Att Tank | SWC-16 | 50.964 | 49.940 | 0.100 | 282.711 | 0.2 | 0.04 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | Att Tank | SWC-16 | 50.964 | 50.060 | 0.100 | 319.056 | 0.1 | 0.05 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | Att Tank | SWC-16 | 50.964 | 49.904 | 0.100 | 291.425 | 0.2 | 0.04 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | Att Tank | SWC-16 | 50.964 | 50.010 | 0.100 | 325.454 | 0.1 | 0.04 | 0.5 | Surcharged |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-07: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 52.260                      | 0.150               | 26.940                | 1.3                 | 1.32            | 22.6            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 52.518                      | 0.150               | 30.083                | 1.3                 | 1.39            | 23.7            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 52.101                      | 0.150               | 35.221                | 1.3                 | 1.35            | 23.0            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 52.374                      | 0.150               | 39.439                | 1.4                 | 1.42            | 24.2            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 51.927                      | 0.150               | 44.029                | 1.2                 | 1.28            | 21.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-06 | SWC-07 | 53.200                       | 51.960                      | 0.150               | 49.350                | 1.2                 | 1.28            | 21.9            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 51.399                      | 0.150               | 53.475                | 1.1                 | 1.12            | 19.1            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 51.152                      | 0.150               | 59.858                | 1.0                 | 1.04            | 17.7            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.988                      | 0.150               | 59.084                | 1.0                 | 0.99            | 16.9            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.650                      | 0.150               | 66.231                | 0.9                 | 0.87            | 14.8            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.689                      | 0.150               | 63.161                | 0.9                 | 0.88            | 15.1            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.296                      | 0.137               | 70.712                | 0.9                 | 0.72            | 12.4            | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.295                      | 0.116               | 68.787                | 0.9                 | 0.71            | 12.2            | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.279                      | 0.085               | 77.068                | 0.9                 | 0.53            | 9.0             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.284                      | 0.091               | 73.129                | 0.9                 | 0.58            | 9.9             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.269                      | 0.074               | 81.925                | 0.8                 | 0.42            | 7.2             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.275                      | 0.081               | 76.621                | 0.9                 | 0.49            | 8.3             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.262                      | 0.084               | 85.824                | 0.8                 | 0.35            | 6.0             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.269                      | 0.074               | 79.606                | 0.8                 | 0.42            | 7.2             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.257                      | 0.099               | 89.094                | 0.8                 | 0.31            | 5.2             | OK         |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.260                      | 0.064               | 84.486                | 0.8                 | 0.34            | 5.7             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.251                      | 0.120               | 94.587                | 0.7                 | 0.24            | 4.2             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.251                      | 0.067               | 91.548                | 0.7                 | 0.24            | 4.2             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.243                      | 0.144               | 102.202               | 0.7                 | 0.18            | 3.0             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.243                      | 0.070               | 99.168                | 0.7                 | 0.18            | 3.0             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.241                      | 0.150               | 110.883               | 0.6                 | 0.13            | 2.2             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.238                      | 0.064               | 105.030               | 0.6                 | 0.14            | 2.4             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-06 | SWC-07 | 53.200                       | 50.234                      | 0.150               | 117.326               | 0.6                 | 0.1             | 1.7             | OK         |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.232 | 0.050 | 112.796 | 0.6 | 0.1  | 1.7 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.227 | 0.128 | 127.067 | 0.5 | 0.07 | 1.2 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.229 | 0.037 | 120.677 | 0.5 | 0.08 | 1.3 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.224 | 0.107 | 131.940 | 0.5 | 0.06 | 1.0 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.226 | 0.028 | 123.375 | 0.5 | 0.07 | 1.1 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.222 | 0.087 | 139.971 | 0.5 | 0.05 | 0.8 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.224 | 0.026 | 127.227 | 0.5 | 0.06 | 1.0 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-06 | SWC-07 | 53.200 | 50.221 | 0.062 | 145.476 | 0.4 | 0.04 | 0.7 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-06 | SWC-07 | 53.200 | 50.223 | 0.024 | 131.955 | 0.5 | 0.05 | 0.9 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-06 | SWC-07 | 53.200 | 50.220 | 0.036 | 146.758 | 0.4 | 0.04 | 0.6 | OK |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-08: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.899                      | 0.150               | 31.261                | 1.6                 | 1.69            | 27.5            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 52.137                      | 0.150               | 34.850                | 1.6                 | 1.77            | 28.7            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.742                      | 0.150               | 40.899                | 1.5                 | 1.68            | 27.4            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.970                      | 0.150               | 45.786                | 1.6                 | 1.77            | 28.8            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.572                      | 0.150               | 51.109                | 1.5                 | 1.59            | 25.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.609                      | 0.150               | 57.257                | 1.5                 | 1.58            | 25.7            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 51.109                      | 0.150               | 62.047                | 1.3                 | 1.37            | 22.3            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.891                      | 0.150               | 69.457                | 1.2                 | 1.27            | 20.6            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.746                      | 0.150               | 68.574                | 1.1                 | 1.21            | 19.7            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.453                      | 0.150               | 76.838                | 1.0                 | 1.05            | 17.2            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.488                      | 0.150               | 73.292                | 1.0                 | 1.08            | 17.6            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.131                      | 0.150               | 82.043                | 0.9                 | 0.87            | 14.1            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.088                      | 0.150               | 79.804                | 0.9                 | 0.86            | 14.0            | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.041                      | 0.150               | 89.404                | 0.9                 | 0.64            | 10.4            | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.047                      | 0.104               | 84.850                | 0.9                 | 0.71            | 11.5            | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.060                      | 0.150               | 94.999                | 0.9                 | 0.51            | 8.3             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.036                      | 0.121               | 88.904                | 0.9                 | 0.6             | 9.7             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.099                      | 0.150               | 99.513                | 0.8                 | 0.43            | 7.0             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.029                      | 0.146               | 92.353                | 0.9                 | 0.52            | 8.4             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.130                      | 0.150               | 103.288               | 0.8                 | 0.37            | 6.1             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.033                      | 0.150               | 98.010                | 0.8                 | 0.41            | 6.7             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.175                      | 0.150               | 109.653               | 0.8                 | 0.3             | 4.8             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.069                      | 0.150               | 106.241               | 0.8                 | 0.3             | 4.8             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.219                      | 0.150               | 118.568               | 0.7                 | 0.21            | 3.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.078                      | 0.150               | 115.042               | 0.7                 | 0.21            | 3.5             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.241                      | 0.150               | 128.632               | 0.6                 | 0.15            | 2.5             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.066                      | 0.150               | 121.780               | 0.7                 | 0.17            | 2.8             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-07 | SWC-08 | 52.900                       | 50.234                      | 0.150               | 136.133               | 0.6                 | 0.12            | 2.0             | Surcharged |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.039 | 0.150 | 130.942 | 0.6 | 0.12 | 2.0 | OK         |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.193 | 0.150 | 147.236 | 0.6 | 0.09 | 1.4 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.012 | 0.150 | 139.841 | 0.6 | 0.1  | 1.6 | OK         |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.152 | 0.150 | 153.435 | 0.5 | 0.07 | 1.1 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-07 | SWC-08 | 52.900 | 49.979 | 0.126 | 143.841 | 0.5 | 0.08 | 1.3 | OK         |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.111 | 0.150 | 162.166 | 0.5 | 0.06 | 0.9 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-07 | SWC-08 | 52.900 | 49.977 | 0.101 | 147.667 | 0.5 | 0.07 | 1.1 | OK         |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-07 | SWC-08 | 52.900 | 50.060 | 0.150 | 168.604 | 0.5 | 0.05 | 0.8 | OK         |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-07 | SWC-08 | 52.900 | 49.975 | 0.084 | 153.000 | 0.5 | 0.06 | 1.0 | OK         |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-07 | SWC-08 | 52.900 | 50.011 | 0.150 | 170.839 | 0.5 | 0.04 | 0.7 | OK         |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-09: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.415                      | 0.150               | 38.816                | 2.0                 | 1.94            | 34.5            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.625                      | 0.150               | 43.215                | 2.1                 | 2.06            | 36.6            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.362                      | 0.150               | 50.831                | 1.9                 | 1.87            | 33.3            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.506                      | 0.150               | 56.899                | 2.0                 | 1.99            | 35.4            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.165                      | 0.150               | 63.524                | 1.8                 | 1.8             | 32.0            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-08 | SWC-09 | 52.450                       | 51.167                      | 0.150               | 71.134                | 1.8                 | 1.82            | 32.4            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.751                      | 0.150               | 77.077                | 1.6                 | 1.57            | 27.8            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.575                      | 0.150               | 86.215                | 1.5                 | 1.45            | 25.8            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.453                      | 0.150               | 85.157                | 1.4                 | 1.37            | 24.4            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.219                      | 0.150               | 95.176                | 1.2                 | 1.19            | 21.2            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.253                      | 0.150               | 90.938                | 1.2                 | 1.22            | 21.8            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 49.988                      | 0.150               | 101.516               | 1.0                 | 0.98            | 17.3            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 49.931                      | 0.150               | 98.909                | 1.0                 | 0.97            | 17.3            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.006                      | 0.150               | 110.573               | 0.9                 | 0.73            | 12.9            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 49.935                      | 0.150               | 105.127               | 1.0                 | 0.81            | 14.3            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.060                      | 0.150               | 117.532               | 0.9                 | 0.58            | 10.4            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 49.969                      | 0.150               | 110.118               | 0.9                 | 0.68            | 12.0            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.099                      | 0.150               | 123.132               | 0.9                 | 0.49            | 8.7             | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 49.996                      | 0.150               | 114.421               | 0.9                 | 0.59            | 10.4            | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.130                      | 0.150               | 127.830               | 0.9                 | 0.42            | 7.5             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.033                      | 0.150               | 121.449               | 0.9                 | 0.47            | 8.3             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.175                      | 0.150               | 135.767               | 0.8                 | 0.34            | 6.0             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.069                      | 0.150               | 131.848               | 0.8                 | 0.34            | 6.0             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.219                      | 0.150               | 146.982               | 0.8                 | 0.24            | 4.3             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.078                      | 0.150               | 142.883               | 0.7                 | 0.24            | 4.3             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.241                      | 0.150               | 159.775               | 0.7                 | 0.18            | 3.1             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.066                      | 0.150               | 151.208               | 0.7                 | 0.19            | 3.4             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-08 | SWC-09 | 52.450                       | 50.233                      | 0.150               | 169.049               | 0.7                 | 0.14            | 2.5             | Surcharged |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.039 | 0.150 | 162.757 | 0.7 | 0.14 | 2.5 | Surcharged |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.193 | 0.150 | 182.748 | 0.6 | 0.1  | 1.8 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.012 | 0.150 | 173.338 | 0.6 | 0.11 | 1.9 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.152 | 0.150 | 191.032 | 0.6 | 0.08 | 1.4 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-08 | SWC-09 | 52.450 | 49.976 | 0.150 | 178.920 | 0.6 | 0.09 | 1.6 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.111 | 0.150 | 201.221 | 0.6 | 0.07 | 1.2 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-08 | SWC-09 | 52.450 | 49.940 | 0.150 | 183.856 | 0.6 | 0.08 | 1.4 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-08 | SWC-09 | 52.450 | 50.060 | 0.150 | 208.741 | 0.5 | 0.06 | 1.0 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-08 | SWC-09 | 52.450 | 49.905 | 0.150 | 189.893 | 0.6 | 0.07 | 1.2 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-08 | SWC-09 | 52.450 | 50.011 | 0.150 | 212.331 | 0.5 | 0.05 | 0.9 | Surcharged |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-10: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.568                      | 0.150               | 45.360                | 2.3                 | 2.08            | 40.4            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.701                      | 0.150               | 50.464                | 2.4                 | 2.22            | 43.1            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.567                      | 0.150               | 59.446                | 2.4                 | 2.16            | 42.0            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.655                      | 0.150               | 66.536                | 2.5                 | 2.26            | 43.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.437                      | 0.150               | 74.237                | 2.2                 | 2.02            | 39.2            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.396                      | 0.150               | 82.973                | 2.2                 | 1.97            | 38.1            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.166                      | 0.150               | 89.850                | 1.9                 | 1.7             | 33.0            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.044                      | 0.150               | 100.440               | 1.7                 | 1.56            | 30.3            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.988                      | 0.150               | 99.233                | 1.6                 | 1.47            | 28.5            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.871                      | 0.150               | 110.861               | 1.4                 | 1.27            | 24.7            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.866                      | 0.150               | 105.944               | 1.4                 | 1.31            | 25.4            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.929                      | 0.150               | 118.238               | 1.1                 | 1.04            | 20.2            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.886                      | 0.150               | 115.231               | 1.1                 | 1.04            | 20.2            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.006                      | 0.150               | 128.794               | 1.1                 | 0.78            | 15.2            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.934                      | 0.150               | 122.493               | 1.1                 | 0.86            | 16.7            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.059                      | 0.150               | 136.888               | 1.0                 | 0.62            | 12.1            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.969                      | 0.150               | 128.315               | 1.0                 | 0.73            | 14.1            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.099                      | 0.150               | 143.426               | 1.0                 | 0.52            | 10.1            | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 49.995                      | 0.150               | 133.322               | 1.0                 | 0.63            | 12.2            | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.130                      | 0.150               | 148.932               | 1.1                 | 0.45            | 8.8             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.032                      | 0.150               | 141.536               | 1.0                 | 0.5             | 9.6             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.175                      | 0.150               | 158.207               | 1.0                 | 0.36            | 6.9             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.068                      | 0.150               | 153.810               | 1.0                 | 0.36            | 7.0             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.219                      | 0.150               | 171.413               | 0.9                 | 0.26            | 5.0             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.078                      | 0.150               | 166.784               | 0.9                 | 0.26            | 5.1             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.241                      | 0.150               | 186.383               | 0.8                 | 0.19            | 3.6             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.066                      | 0.150               | 176.742               | 0.9                 | 0.21            | 4.0             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-09 | SWC-10 | 51.300                       | 50.233                      | 0.150               | 197.415               | 0.8                 | 0.15            | 2.9             | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.039 | 0.150 | 190.532 | 0.8 | 0.15 | 2.9 | Surcharged |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.193 | 0.150 | 213.553 | 0.7 | 0.11 | 2.1 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.012 | 0.150 | 202.439 | 0.7 | 0.12 | 2.3 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.152 | 0.150 | 223.664 | 0.7 | 0.09 | 1.7 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-09 | SWC-10 | 51.300 | 49.976 | 0.150 | 209.415 | 0.7 | 0.1  | 2.0 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.111 | 0.150 | 235.526 | 0.6 | 0.07 | 1.4 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-09 | SWC-10 | 51.300 | 49.940 | 0.150 | 215.174 | 0.7 | 0.09 | 1.7 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-09 | SWC-10 | 51.300 | 50.060 | 0.150 | 243.785 | 0.6 | 0.06 | 1.2 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-09 | SWC-10 | 51.300 | 49.904 | 0.150 | 222.190 | 0.7 | 0.07 | 1.4 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-09 | SWC-10 | 51.300 | 50.011 | 0.150 | 248.839 | 0.6 | 0.05 | 1.0 | Surcharged |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-14: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To       | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|----------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.265                      | 0.150               | 59.464                | 3.3                 | 1.99            | 58.3            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.361                      | 0.150               | 66.177                | 3.5                 | 2.12            | 61.9            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.237                      | 0.150               | 77.856                | 3.2                 | 1.95            | 57.1            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.300                      | 0.150               | 87.088                | 3.4                 | 2.04            | 59.5            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.145                      | 0.150               | 97.154                | 3.0                 | 1.83            | 53.4            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.118                      | 0.150               | 108.565               | 3.0                 | 1.79            | 52.4            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.951                      | 0.150               | 117.540               | 2.5                 | 1.54            | 44.9            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.858                      | 0.150               | 131.374               | 2.3                 | 1.38            | 40.3            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.822                      | 0.150               | 129.806               | 2.2                 | 1.32            | 38.5            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.871                      | 0.150               | 145.023               | 1.8                 | 1.12            | 32.7            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.819                      | 0.150               | 138.594               | 1.9                 | 1.16            | 33.9            | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.929                      | 0.150               | 154.746               | 1.7                 | 0.91            | 26.7            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.886                      | 0.150               | 150.775               | 1.7                 | 0.91            | 26.5            | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.006                      | 0.150               | 168.568               | 1.6                 | 0.68            | 19.9            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.934                      | 0.150               | 160.277               | 1.6                 | 0.75            | 21.8            | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.059                      | 0.150               | 179.169               | 1.5                 | 0.54            | 15.8            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.969                      | 0.150               | 167.932               | 1.6                 | 0.63            | 18.5            | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.099                      | 0.150               | 187.700               | 1.5                 | 0.45            | 13.2            | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 49.995                      | 0.150               | 174.484               | 1.5                 | 0.55            | 16.0            | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.130                      | 0.150               | 195.009               | 1.4                 | 0.39            | 11.4            | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.032                      | 0.150               | 185.268               | 1.4                 | 0.43            | 12.7            | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.175                      | 0.150               | 207.147               | 1.3                 | 0.31            | 9.0             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.068                      | 0.150               | 201.398               | 1.3                 | 0.31            | 9.1             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.219                      | 0.150               | 224.563               | 1.2                 | 0.22            | 6.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.078                      | 0.150               | 218.619               | 1.2                 | 0.22            | 6.6             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.241                      | 0.150               | 244.101               | 1.1                 | 0.16            | 4.7             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.066                      | 0.150               | 231.460               | 1.1                 | 0.18            | 5.2             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-10 | Att Tank | 51.400                       | 50.233                      | 0.150               | 258.594               | 1.0                 | 0.13            | 3.7             | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |          |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|--------|----------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-10 | Att Tank | 51.400 | 50.039 | 0.150 | 249.863 | 1.0 | 0.13 | 3.7 | Surcharged |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-10 | Att Tank | 51.400 | 50.193 | 0.150 | 279.579 | 0.9 | 0.09 | 2.7 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-10 | Att Tank | 51.400 | 50.012 | 0.150 | 265.311 | 0.9 | 0.1  | 3.0 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-10 | Att Tank | 51.400 | 50.152 | 0.150 | 293.983 | 0.9 | 0.07 | 2.2 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-10 | Att Tank | 51.400 | 49.976 | 0.150 | 274.428 | 0.9 | 0.08 | 2.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-10 | Att Tank | 51.400 | 50.111 | 0.150 | 308.952 | 0.8 | 0.06 | 1.8 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-10 | Att Tank | 51.400 | 49.940 | 0.150 | 282.845 | 0.8 | 0.07 | 2.1 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-10 | Att Tank | 51.400 | 50.060 | 0.150 | 319.287 | 0.8 | 0.05 | 1.5 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-10 | Att Tank | 51.400 | 49.904 | 0.150 | 291.504 | 0.8 | 0.06 | 1.9 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-10 | Att Tank | 51.400 | 50.010 | 0.150 | 325.548 | 0.8 | 0.05 | 1.4 | Surcharged |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-13: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 51.129                      | 0.100               | 14.126                | 2.1                 | 1.32            | 16.4            | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 51.299                      | 0.100               | 15.793                | 2.2                 | 1.4             | 17.4            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 51.072                      | 0.100               | 18.449                | 2.0                 | 1.29            | 16.0            | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 51.180                      | 0.100               | 20.650                | 2.1                 | 1.34            | 16.6            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.890                      | 0.100               | 23.103                | 1.9                 | 1.2             | 14.9            | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.801                      | 0.100               | 25.872                | 1.8                 | 1.14            | 14.3            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.494                      | 0.100               | 28.023                | 1.6                 | 0.98            | 12.3            | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.275                      | 0.100               | 31.376                | 1.3                 | 0.85            | 10.5            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.215                      | 0.100               | 30.981                | 1.3                 | 0.82            | 10.2            | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.059                      | 0.100               | 34.689                | 1.0                 | 0.64            | 8.0             | OK         |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.062                      | 0.100               | 33.106                | 1.1                 | 0.69            | 8.6             | OK         |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.052                      | 0.100               | 37.089                | 0.8                 | 0.52            | 6.5             | OK         |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.051                      | 0.100               | 36.051                | 0.8                 | 0.51            | 6.4             | OK         |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.042                      | 0.100               | 40.407                | 0.7                 | 0.38            | 4.7             | OK         |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.045                      | 0.100               | 38.313                | 0.8                 | 0.42            | 5.2             | OK         |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.059                      | 0.100               | 42.938                | 0.7                 | 0.3             | 3.8             | OK         |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.041                      | 0.100               | 40.150                | 0.7                 | 0.35            | 4.4             | OK         |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.099                      | 0.100               | 44.942                | 0.7                 | 0.25            | 3.2             | OK         |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.038                      | 0.100               | 41.692                | 0.7                 | 0.3             | 3.8             | OK         |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.130                      | 0.100               | 46.748                | 0.7                 | 0.22            | 2.7             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.034                      | 0.100               | 44.242                | 0.7                 | 0.24            | 3.0             | OK         |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.175                      | 0.100               | 49.599                | 0.7                 | 0.17            | 2.2             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.068                      | 0.100               | 48.028                | 0.7                 | 0.17            | 2.2             | OK         |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.219                      | 0.100               | 53.734                | 0.6                 | 0.13            | 1.6             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.078                      | 0.100               | 52.127                | 0.6                 | 0.13            | 1.6             | OK         |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.241                      | 0.100               | 58.163                | 0.6                 | 0.09            | 1.1             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.066                      | 0.100               | 54.864                | 0.6                 | 0.1             | 1.2             | OK         |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-15 | SWC-10 | 52.650                       | 50.233                      | 0.100               | 61.464                | 0.5                 | 0.07            | 0.9             | Surcharged |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |        |     |      |     |            |
|----------------------------------------------|------|--------|--------|--------|--------|-------|--------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.039 | 0.100 | 59.342 | 0.5 | 0.07 | 0.9 | OK         |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.193 | 0.100 | 66.037 | 0.5 | 0.05 | 0.6 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.016 | 0.100 | 62.883 | 0.5 | 0.06 | 0.7 | OK         |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.152 | 0.100 | 70.333 | 0.4 | 0.04 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.015 | 0.100 | 65.025 | 0.5 | 0.05 | 0.6 | OK         |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.111 | 0.100 | 73.436 | 0.4 | 0.04 | 0.4 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.014 | 0.100 | 67.683 | 0.4 | 0.04 | 0.5 | OK         |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-15 | SWC-10 | 52.650 | 50.060 | 0.100 | 75.507 | 0.4 | 0.03 | 0.4 | OK         |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-15 | SWC-10 | 52.650 | 50.013 | 0.100 | 69.327 | 0.4 | 0.04 | 0.4 | OK         |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-15 | SWC-10 | 52.650 | 50.011 | 0.100 | 76.714 | 0.4 | 0.03 | 0.3 | OK         |

|                                                                                                                        |  |                                                                                       |             |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                              |  | Date:                                                                                 |             |  |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +45% Climate Change, Maximum Discharge Restricted to 0.6l/s |  | 15/11/2024                                                                            |             |                                                                                     |
| Report Details:                                                                                                        |  | Designed by:                                                                          | Checked by: |                                                                                     |
| Type: Connections Summary<br>Storm Phase: Phase                                                                        |  | Company Address:                                                                      |             |                                                                                     |
|                                                                                                                        |  | Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-16: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.306                      | 0.014               | 0.341                 | 0.4                 | 0.04            | 0.3             | Surcharged |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.352                      | 0.015               | 0.358                 | 0.5                 | 0.04            | 0.3             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.430                      | 0.015               | 0.912                 | 0.5                 | 0.05            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.493                      | 0.016               | 0.957                 | 0.5                 | 0.05            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.559                      | 0.016               | 2.184                 | 0.5                 | 0.05            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.637                      | 0.017               | 2.298                 | 0.5                 | 0.05            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.691                      | 0.017               | 4.931                 | 0.5                 | 0.06            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.786                      | 0.017               | 5.198                 | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.768                      | 0.017               | 7.802                 | 0.5                 | 0.06            | 0.4             | Surcharged |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.871                      | 0.018               | 8.224                 | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.819                      | 0.017               | 10.735                | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.929                      | 0.018               | 11.314                | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.886                      | 0.018               | 16.682                | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.006                      | 0.018               | 17.599                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.934                      | 0.018               | 22.742                | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.059                      | 0.018               | 24.000                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.969                      | 0.018               | 28.848                | 0.5                 | 0.06            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.098                      | 0.019               | 30.458                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 49.995                      | 0.018               | 34.977                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.130                      | 0.019               | 36.949                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.032                      | 0.018               | 47.215                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.175                      | 0.019               | 49.946                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.068                      | 0.018               | 71.295                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.218                      | 0.019               | 75.486                | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.078                      | 0.018               | 105.830               | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.240                      | 0.019               | 112.459               | 0.5                 | 0.07            | 0.6             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.065                      | 0.018               | 137.897               | 0.5                 | 0.07            | 0.5             | Surcharged |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-16 | SWC-17 | 51.000                       | 50.233                      | 0.019               | 147.101               | 0.5                 | 0.07            | 0.5             | Surcharged |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |            |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|------------|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.039 | 0.018 | 193.575 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.193 | 0.019 | 208.088 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.012 | 0.018 | 238.606 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.152 | 0.019 | 256.794 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-16 | SWC-17 | 51.000 | 49.976 | 0.018 | 268.996 | 0.5 | 0.06 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.110 | 0.019 | 295.881 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-16 | SWC-17 | 51.000 | 49.940 | 0.018 | 282.707 | 0.5 | 0.06 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-16 | SWC-17 | 51.000 | 50.060 | 0.018 | 319.050 | 0.5 | 0.07 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-16 | SWC-17 | 51.000 | 49.904 | 0.018 | 291.423 | 0.5 | 0.06 | 0.5 | Surcharged |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-16 | SWC-17 | 51.000 | 50.010 | 0.018 | 325.451 | 0.5 | 0.07 | 0.5 | Surcharged |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-17: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.515                      | 0.014               | 0.318                 | 0.5                 | 0.04            | 0.3             | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.515                      | 0.014               | 0.333                 | 0.5                 | 0.05            | 0.3             | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.516                      | 0.015               | 0.886                 | 0.5                 | 0.05            | 0.4             | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.516                      | 0.015               | 0.930                 | 0.5                 | 0.05            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.517                      | 0.015               | 2.156                 | 0.5                 | 0.06            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.517                      | 0.016               | 2.270                 | 0.5                 | 0.06            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.517                      | 0.016               | 4.903                 | 0.5                 | 0.06            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.518                      | 0.016               | 5.168                 | 0.5                 | 0.06            | 0.5             | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.518                      | 0.016               | 7.773                 | 0.5                 | 0.06            | 0.4             | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.518                      | 0.017               | 8.194                 | 0.5                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.518                      | 0.017               | 10.705                | 0.5                 | 0.06            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 11.283                | 0.5                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.518                      | 0.017               | 16.652                | 0.5                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 17.568                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 22.712                | 0.5                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 23.969                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 28.817                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.018               | 30.427                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 34.947                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.018               | 36.918                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 47.185                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.520                      | 0.018               | 49.915                | 0.6                 | 0.08            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 71.266                | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.520                      | 0.018               | 75.455                | 0.6                 | 0.08            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.018               | 105.801               | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.520                      | 0.018               | 112.429               | 0.6                 | 0.08            | 0.6             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.519                      | 0.017               | 137.870               | 0.6                 | 0.07            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-17 | SWC-18 | 52.600                       | 48.520                      | 0.018               | 147.073               | 0.6                 | 0.08            | 0.5             | OK     |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 193.552 | 0.6 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.520 | 0.018 | 208.063 | 0.6 | 0.08 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 238.586 | 0.6 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.018 | 256.773 | 0.6 | 0.08 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 268.981 | 0.6 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.018 | 295.865 | 0.6 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 282.706 | 0.5 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 319.047 | 0.6 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-17 | SWC-18 | 52.600 | 48.518 | 0.017 | 291.422 | 0.5 | 0.07 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-17 | SWC-18 | 52.600 | 48.519 | 0.017 | 325.450 | 0.6 | 0.07 | 0.5 | OK |

|                                                                                                                                                                           |  |                                                                                                           |                    |                                                                                     |
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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-18: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.413                      | 0.013               | 0.277                 | 0.5                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.413                      | 0.013               | 0.291                 | 0.5                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.413                      | 0.013               | 0.841                 | 0.4                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.414                      | 0.014               | 0.884                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.414                      | 0.014               | 2.108                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.414                      | 0.014               | 2.220                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 4.851                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 5.115                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 7.720                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 8.139                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 10.652                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.016               | 11.227                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.015               | 16.598                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 17.511                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.415                      | 0.016               | 22.657                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 23.912                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 28.762                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 30.369                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 34.891                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 36.860                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 47.130                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 49.857                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 71.211                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.017               | 75.398                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 105.749               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.017               | 112.374               | 0.5                 | 0.02            | 0.6             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.016               | 137.820               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-18 | SWC-19 | 53.000                       | 48.416                      | 0.017               | 147.020               | 0.5                 | 0.02            | 0.5             | OK     |

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| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                           |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



|                                              |      |        |        |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 193.509 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 208.017 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 238.552 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 256.735 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 268.956 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 295.835 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.415 | 0.016 | 282.705 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 319.045 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-18 | SWC-19 | 53.000 | 48.415 | 0.016 | 291.422 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-18 | SWC-19 | 53.000 | 48.416 | 0.016 | 325.450 | 0.5 | 0.02 | 0.5 | OK |

|                                                                                                                                                                           |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date: 15/11/2024                                                                                          |             |              |
|                                                                                                                                                                           | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-19: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To     | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|------------------------------------------|-----------------|--------|--------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.013                      | 0.012               | 0.203                 | 0.4                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.013                      | 0.013               | 0.215                 | 0.4                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.014                      | 0.013               | 0.760                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.014                      | 0.014               | 0.799                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.014                      | 0.014               | 2.021                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.015                      | 0.014               | 2.130                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.015                      | 0.015               | 4.760                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.015                      | 0.015               | 5.020                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.015                      | 0.015               | 7.626                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.015               | 8.041                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.015                      | 0.015               | 10.556                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 11.128                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.015               | 16.501                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 17.410                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 22.559                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 23.810                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 28.664                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 30.267                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 34.793                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 36.758                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 47.032                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.017                      | 0.016               | 49.755                | 0.5                 | 0.03            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 71.115                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.017                      | 0.017               | 75.298                | 0.5                 | 0.03            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 105.657               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.017                      | 0.017               | 112.278               | 0.5                 | 0.03            | 0.6             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.016                      | 0.016               | 137.734               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-19 | SWC-20 | 51.270                       | 47.017                      | 0.017               | 146.929               | 0.5                 | 0.03            | 0.5             | OK     |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |        |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|--------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 193.435 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.017 | 0.016 | 207.938 | 0.5 | 0.03 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 238.492 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.017 | 0.016 | 256.669 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 268.914 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 295.785 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 282.703 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 319.042 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 291.422 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-19 | SWC-20 | 51.270 | 47.016 | 0.016 | 325.449 | 0.5 | 0.02 | 0.5 | OK |

|                                                                                                                                                                           |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**FSR: 100 years: Increase Rainfall (%): +45: Summary Results for SWP-20: Rank By: Max. Flow**

| Storm Event                              | Connection Type | From   | To            | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|------------------------------------------|-----------------|--------|---------------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|--------|
| FSR: 100 years: +45 %: 15 mins: Summer   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.762                      | 0.012               | 0.156                 | 0.4                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 15 mins: Winter   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.762                      | 0.012               | 0.168                 | 0.5                 | 0.01            | 0.3             | OK     |
| FSR: 100 years: +45 %: 30 mins: Summer   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.763                      | 0.013               | 0.708                 | 0.5                 | 0.01            | 0.4             | OK     |
| FSR: 100 years: +45 %: 30 mins: Winter   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.764                      | 0.013               | 0.746                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Summer   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.764                      | 0.014               | 1.966                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 60 mins: Winter   | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.764                      | 0.014               | 2.073                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.764                      | 0.014               | 4.702                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 120 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 4.961                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 180 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.014               | 7.568                 | 0.5                 | 0.02            | 0.4             | OK     |
| FSR: 100 years: +45 %: 180 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 7.981                 | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 10.497                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 240 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 11.067                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 16.441                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 360 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 17.348                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.765                      | 0.015               | 22.499                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 480 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 23.748                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 28.603                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 600 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 30.204                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 34.732                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 720 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 36.695                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Summer  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 46.971                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 960 mins: Winter  | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 49.692                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Summer | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 71.056                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 1440 mins: Winter | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 75.236                | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Summer | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 105.601               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2160 mins: Winter | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 112.219               | 0.5                 | 0.02            | 0.6             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Summer | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.015               | 137.681               | 0.5                 | 0.02            | 0.5             | OK     |
| FSR: 100 years: +45 %: 2880 mins: Winter | Pipe            | SWC-20 | TW SW MH 4151 | 48.400                       | 45.766                      | 0.016               | 146.873               | 0.5                 | 0.02            | 0.5             | OK     |

|                                                                                                                                                                           |  |                                                                                                           |                    |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                              |      |        |                  |        |        |       |         |     |      |     |    |
|----------------------------------------------|------|--------|------------------|--------|--------|-------|---------|-----|------|-----|----|
| FSR: 100 years: +45 %:<br>4320 mins: Summer  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.015 | 193.389 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>4320 mins: Winter  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.016 | 207.889 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Summer  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.015 | 238.455 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>5760 mins: Winter  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.016 | 256.629 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Summer  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.015 | 268.887 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>7200 mins: Winter  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.016 | 295.754 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Summer  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.765 | 0.015 | 282.701 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>8640 mins: Winter  | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.015 | 319.038 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Summer | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.765 | 0.015 | 291.420 | 0.5 | 0.02 | 0.5 | OK |
| FSR: 100 years: +45 %:<br>10080 mins: Winter | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.766 | 0.015 | 325.447 | 0.5 | 0.02 | 0.5 | OK |

|                                                                                                                                                                           |  |                                                                                                           |             |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.6l/s |  | Date:<br>15/11/2024                                                                                       |             |              |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                           |  | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                           |  | N.E                                                                                                       | S.L         | S.L          |
|                                                                                                                                                                           |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



**Phase**  
**FSR: 100 years: Increase Rainfall (%): +45: 2160 mins: Winter**

**Tables**

| Name             | Max. Inflow<br>(L/s) | Total Inflow<br>Volume (m³) | Max. Outflow<br>(L/s) | Total Outflow<br>Volume (m³) |
|------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| TW SW MH<br>4151 |                      |                             | 0.6                   | 112.219                      |
| TOTAL            | 4.8                  | 245.174                     | 0.6                   | 112.219                      |

|                                                                                                                                                                          |                                                                                                           |                    |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                                 | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                          |                                                                                                           |                    |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                       | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**Att Tank**

Type : Cellular Storage

### Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

### Inlets

#### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

### Outlets

#### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflow Summary<br>Storm Phase: Phase                                                                                                            |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                          |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |

| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                          |                                                                                                           |                 |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                          | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

### Rainfall

|     |           |
|-----|-----------|
| FSR | Type: FSR |
|-----|-----------|

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

### Return Period

|                       |                       |
|-----------------------|-----------------------|
| Return Period (years) | Increase Rainfall (%) |
| 100.0                 | 0.000                 |

### Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                          |                                                                                                           |                    |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                           | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**Critical Storm Per Item: Rank By: Max. Inflow**

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                          |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |

| Inflow                 | Storm Event                                    | Inflow Area<br>(ha) | Max.<br>Inflow<br>(L/s) | Total<br>Inflow<br>Volume<br>(m³) |
|------------------------|------------------------------------------------|---------------------|-------------------------|-----------------------------------|
| Catchment Area         | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 6.1                     | 2.902                             |
| Catchment Area (1)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 6.0                     | 2.835                             |
| Catchment Area (2)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 6.1                     | 2.899                             |
| Catchment Area (3)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 5.9                     | 2.781                             |
| Catchment Area (1) (1) | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 6.0                     | 2.826                             |
| Catchment Area (4)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 5.2                     | 2.467                             |
| Catchment Area (5)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 5.4                     | 2.533                             |
| Catchment Area (6)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 5.8                     | 2.726                             |
| Catchment Area (7)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 5.8                     | 2.726                             |
| Catchment Area (8)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 4.1                     | 1.950                             |
| Catchment Area (9)     | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 4.7                     | 2.240                             |
| Catchment Area (10)    | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.03                | 10.8                    | 5.087                             |
| Catchment Area (11)    | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.03                | 12.4                    | 5.848                             |
| Catchment Area (12)    | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.02                | 7.1                     | 3.333                             |
| Catchment Area (13)    | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 2.7                     | 1.256                             |
| Catchment Area (14)    | FSR: 100<br>years: +0 %:<br>15 mins:<br>Winter | 0.01                | 3.3                     | 1.558                             |

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**Critical Storm Per Item: Rank By: Max. Depth**

| Junction         | Storm Event                                   | Cover Elevat<br>ion<br>(m) | Invert Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|------------------|-----------------------------------------------|----------------------------|-----------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| SWC-13           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                 | 51.20<br>0                  | 51.358                    | 0.158                | 8.4                     | 0.025                              | 0.000                             | 6.2                      | 3.949                                | Surcharged |
| SWC-14           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.00<br>0                 | 50.62<br>8                  | 51.201                    | 0.573                | 11.9                    | 0.091                              | 0.000                             | 9.0                      | 6.702                                | Surcharged |
| SWC-15           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 52.65<br>0                 | 50.00<br>0                  | 50.690                    | 0.690                | 17.3                    | 0.110                              | 0.000                             | 13.8                     | 10.897                               | Surcharged |
| SWC-09           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 51.30<br>0                 | 49.50<br>0                  | 50.258                    | 0.758                | 36.7                    | 0.121                              | 0.000                             | 34.0                     | 35.115                               | Surcharged |
| SWC-08           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 52.45<br>0                 | 49.75<br>0                  | 50.909                    | 1.159                | 30.7                    | 0.184                              | 0.000                             | 29.3                     | 30.040                               | Surcharged |
| SWC-07           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 52.90<br>0                 | 49.95<br>0                  | 51.298                    | 1.348                | 23.6                    | 0.214                              | 0.000                             | 23.6                     | 24.171                               | Surcharged |
| SWC-01           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.40<br>0                 | 51.40<br>0                  | 51.938                    | 0.538                | 5.9                     | 0.086                              | 0.000                             | 5.0                      | 2.766                                | Surcharged |
| SWC-02           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.50<br>0                 | 51.15<br>0                  | 51.932                    | 0.782                | 11.1                    | 0.124                              | 0.000                             | 6.2                      | 5.675                                | Surcharged |
| SWC-03           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.75<br>0                 | 50.90<br>0                  | 51.907                    | 1.007                | 12.3                    | 0.160                              | 0.000                             | 9.2                      | 8.604                                | Surcharged |
| SWC-04           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                 | 50.75<br>0                  | 51.872                    | 1.122                | 15.8                    | 0.178                              | 0.000                             | 12.4                     | 12.989                               | Surcharged |
| SWC-05           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                 | 50.50<br>0                  | 51.764                    | 1.264                | 16.3                    | 0.201                              | 0.000                             | 15.6                     | 15.813                               | Surcharged |
| SWC-06           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                 | 50.20<br>0                  | 51.599                    | 1.399                | 21.9                    | 0.222                              | 0.000                             | 19.7                     | 20.814                               | Surcharged |
| SWC-16           | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 51.00<br>0                 | 48.85<br>0                  | 49.793                    | 0.943                | 0.5                     | 0.267                              | 0.000                             | 0.5                      | 91.626                               | Surcharged |
| SWC-10           | FSR: 100 years: +0<br>%: 15 mins: Winter      | 51.40<br>0                 | 49.45<br>0                  | 50.033                    | 0.583                | 47.7                    | 0.165                              | 0.000                             | 48.8                     | 46.007                               | Surcharged |
| SWC-17           | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 52.60<br>0                 | 48.50<br>0                  | 48.518                    | 0.018                | 0.5                     | 0.016                              | 0.000                             | 0.5                      | 91.584                               | OK         |
| SWC-18           | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 53.00<br>0                 | 48.40<br>0                  | 48.415                    | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 91.537                               | OK         |
| SWC-19           | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 51.27<br>0                 | 47.00<br>0                  | 47.015                    | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 91.455                               | OK         |
| SWC-20           | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 48.40<br>0                 | 45.75<br>0                  | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 91.405                               | OK         |
| TW SW MH<br>4151 | FSR: 100 years: +0<br>%: 2160 mins:<br>Winter | 48.36<br>0                 | 45.67<br>0                  | 45.684                    | 0.014                | 0.5                     | 0.000                              | 0.000                             | 0.5                      | 91.405                               | OK         |

|                                                                                                                                                                          |  |                                                                                                           |                    |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                               |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**Critical Storm Per Item: Rank By: Max. Avg. Depth**

| Stormwater Control | Storm Event                                | Max. US Elevation (m) | Max. DS Elevation (m) | Max. US Depth (m) | Max. DS Depth (m) | Max. Inflow (L/s) | Max. Residual Volume (m³) | Max. Flooded Volume (m³) | Total Lost Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Half Drain Down Time (mins) | Percentage Available (%) |
|--------------------|--------------------------------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|---------------------------|--------------------------|------------------------|--------------------|-----------------------------|-----------------------------|--------------------------|
| Att Tank           | FSR: 100 years: +0 %:<br>2160 mins: Winter | 49.793                | 49.793                | 0.893             | 0.893             | 3.3               | 128.901                   | 0.000                    | 0.000                  | 0.5                | 92.307                      | 2684                        | 44.329                   |

|                                                                                                                                                                          |                                                                            |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                        |                    |                                                                                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                        | Checked by:<br>S.L | Approved By:<br>S.L                                                                 |
|                                                                                                                                                                          | Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase |                    |                                                                                     |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                |                                                                            |                    |  |

Status

OK

|                                                                                                                       |  |  |  |                                                                                                           |                 |                  |                                                                                     |  |
|-----------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                             |  |  |  | Date: 15/11/2024                                                                                          |                 |                  |  |  |
| Erection of 4 blocks of 8 flats. 1 in 100 Year Storm Event +0% Climate Change, Maximum Discharge Restricted to 0.5l/s |  |  |  | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |                                                                                     |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                    |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |                                                                                     |  |



#### Critical Storm Per Item: Rank By: Max. Flow

| Connection | Storm Event                           | Connection Type | From     | To       | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------|---------------------------------------|-----------------|----------|----------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| SWP-11     | FSR: 100 years: +0 %: 15 mins: Summer | Pipe            | SWC-13   | SWC-14   | 53.200                       | 51.286                      | 0.100               | 3.523                 | 0.9                 | 0.71            | 6.7             | OK         |
| SWP-12     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-14   | SWC-15   | 53.000                       | 51.201                      | 0.100               | 6.702                 | 1.1                 | 0.93            | 9.0             | Surcharged |
| SWP-01     | FSR: 100 years: +0 %: 15 mins: Summer | Pipe            | SWC-01   | SWC-02   | 53.400                       | 51.766                      | 0.150               | 2.473                 | 0.4                 | 0.3             | 5.6             | Surcharged |
| SWP-02     | FSR: 100 years: +0 %: 30 mins: Winter | Pipe            | SWC-02   | SWC-03   | 53.500                       | 51.763                      | 0.150               | 7.412                 | 0.6                 | 0.44            | 7.6             | Surcharged |
| SWP-03     | FSR: 100 years: +0 %: 30 mins: Summer | Pipe            | SWC-03   | SWC-04   | 53.750                       | 51.560                      | 0.150               | 10.039                | 0.6                 | 0.63            | 10.8            | Surcharged |
| SWP-04     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-04   | SWC-05   | 53.200                       | 51.872                      | 0.150               | 12.989                | 0.9                 | 0.7             | 12.4            | Surcharged |
| SWP-05     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-05   | SWC-06   | 53.200                       | 51.764                      | 0.150               | 15.813                | 0.9                 | 0.8             | 15.6            | Surcharged |
| SWP-15     | FSR: 100 years: +0 %: 30 mins: Winter | Pipe            | Att Tank | SWC-16   | 50.964                       | 49.309                      | 0.100               | 1.373                 | 0.1                 | 0.06            | 0.6             | Surcharged |
| SWP-07     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-06   | SWC-07   | 53.200                       | 51.599                      | 0.150               | 20.814                | 1.1                 | 1.15            | 19.7            | Surcharged |
| SWP-08     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-07   | SWC-08   | 52.900                       | 51.298                      | 0.150               | 24.171                | 1.3                 | 1.45            | 23.6            | Surcharged |
| SWP-09     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-08   | SWC-09   | 52.450                       | 50.909                      | 0.150               | 30.040                | 1.7                 | 1.65            | 29.3            | Surcharged |
| SWP-10     | FSR: 100 years: +0 %: 30 mins: Winter | Pipe            | SWC-09   | SWC-10   | 51.300                       | 50.241                      | 0.150               | 45.930                | 2.0                 | 1.78            | 34.5            | Surcharged |
| SWP-14     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-10   | Att Tank | 51.400                       | 50.033                      | 0.150               | 46.007                | 2.8                 | 1.67            | 48.8            | Surcharged |
| SWP-13     | FSR: 100 years: +0 %: 15 mins: Winter | Pipe            | SWC-15   | SWC-10   | 52.650                       | 50.690                      | 0.100               | 10.897                | 1.8                 | 1.1             | 13.8            | Surcharged |

|                                                                                                                                                                          |  |                                                                                                           |             |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |             |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                       |  | Designed by:                                                                                              | Checked by: |                                                                                     |
|                                                                                                                                                                          |  | N.E                                                                                                       | S.L         |                                                                                     |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |

|        |                                                  |      |        |                  |        |        |       |        |     |      |     |            |
|--------|--------------------------------------------------|------|--------|------------------|--------|--------|-------|--------|-----|------|-----|------------|
| SWP-16 | FSR: 100<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-16 | SWC-17           | 51.000 | 49.793 | 0.017 | 91.609 | 0.5 | 0.06 | 0.5 | Surcharged |
| SWP-17 | FSR: 100<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-17 | SWC-18           | 52.600 | 48.518 | 0.016 | 91.584 | 0.5 | 0.06 | 0.5 | OK         |
| SWP-18 | FSR: 100<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-18 | SWC-19           | 53.000 | 48.415 | 0.015 | 91.537 | 0.5 | 0.02 | 0.5 | OK         |
| SWP-19 | FSR: 100<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-19 | SWC-20           | 51.270 | 47.015 | 0.015 | 91.455 | 0.5 | 0.02 | 0.5 | OK         |
| SWP-20 | FSR: 100<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.765 | 0.015 | 91.405 | 0.5 | 0.02 | 0.5 | OK         |

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 100 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |


**Phase**  
**FSR: 100 years: Increase Rainfall (%): +0: 2160 mins: Winter**

|        |
|--------|
| Tables |
|--------|

| Name             | Max. Inflow<br>(L/s) | Total Inflow<br>Volume (m³) | Max. Outflow<br>(L/s) | Total Outflow<br>Volume (m³) |
|------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| TW SW MH<br>4151 |                      |                             | 0.5                   | 91.405                       |
| TOTAL            | 3.3                  | 169.357                     | 0.5                   | 91.405                       |

|                                                                                                                                                                          |                                                                                                           |                    |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                                 | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                          |                                                                                                           |                 |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                          | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                       | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



Att Tank

Type : Cellular Storage

## Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

## Inlets

### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

## Outlets

### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                               |  |  |  |                                     |             |              |
|-----------------------------------------------|--|--|--|-------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:     |  |  |  | Date:                               |             |              |
| Erection of 4 blocks of 8 flats. 1 in 30 Year |  |  |  | 15/11/2024                          |             |              |
| Storm Event +45% Climate Change, Maximum      |  |  |  | Designed by:                        | Checked by: | Approved By: |
| Discharge Restricted to 0.5l/s                |  |  |  | N.E                                 | S.L         | S.L          |
| Report Details:                               |  |  |  | Company Address:                    |             |              |
| Type: Inflow Summary                          |  |  |  | Nimbus Engineering Consultants Ltd. |             |              |
| Storm Phase: Phase                            |  |  |  | Kemp House, 124 City Road,          |             |              |
|                                               |  |  |  | EC1V 2NX, London                    |             |              |



| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                          |                                                                                                           |                 |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                          | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                          | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

### Rainfall

FSR

Type: FSR

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

### Return Period

|                       |                       |
|-----------------------|-----------------------|
| Return Period (years) | Increase Rainfall (%) |
| 30.0                  | 45.000                |

### Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                          |                                                                |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                            |                    |                                                                                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                 |
|                                                                                                                                                                          | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                     |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                |                                                                |                    |  |



**Critical Storm Per Item: Rank By: Max. Inflow**

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                          |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |

| Inflow                 | Storm Event                                    | Inflow Area<br>(ha) | Max.<br>Inflow<br>(L/s) | Total<br>Inflow<br>Volume<br>(m³) |
|------------------------|------------------------------------------------|---------------------|-------------------------|-----------------------------------|
| Catchment Area         | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.8                     | 3.245                             |
| Catchment Area (1)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.7                     | 3.175                             |
| Catchment Area (2)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.8                     | 3.242                             |
| Catchment Area (3)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.6                     | 3.118                             |
| Catchment Area (1) (1) | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.7                     | 3.160                             |
| Catchment Area (4)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 5.8                     | 2.762                             |
| Catchment Area (5)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.0                     | 2.834                             |
| Catchment Area (6)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.4                     | 3.055                             |
| Catchment Area (7)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 6.4                     | 3.055                             |
| Catchment Area (8)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 4.6                     | 2.179                             |
| Catchment Area (9)     | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 5.3                     | 2.505                             |
| Catchment Area (10)    | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.03                | 12.0                    | 5.693                             |
| Catchment Area (11)    | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.03                | 13.8                    | 6.541                             |
| Catchment Area (12)    | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.02                | 7.9                     | 3.731                             |
| Catchment Area (13)    | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 3.0                     | 1.404                             |
| Catchment Area (14)    | FSR: 30<br>years: +45 %:<br>15 mins:<br>Winter | 0.01                | 3.7                     | 1.745                             |

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



### Critical Storm Per Item: Rank By: Max. Depth

| Junction         | Storm Event                                   | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|------------------|-----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| SWC-13           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.20<br>0                    | 51.20<br>0                     | 51.565                    | 0.365                | 9.4                     | 0.058                              | 0.000                             | 6.0                      | 4.423                                | Surcharged |
| SWC-14           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.00<br>0                    | 50.62<br>8                     | 51.397                    | 0.768                | 12.4                    | 0.122                              | 0.000                             | 9.5                      | 7.508                                | Surcharged |
| SWC-15           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 52.65<br>0                    | 50.00<br>0                     | 50.845                    | 0.845                | 18.4                    | 0.134                              | 0.000                             | 14.7                     | 12.198                               | Surcharged |
| SWC-09           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 51.30<br>0                    | 49.50<br>0                     | 50.370                    | 0.870                | 39.4                    | 0.138                              | 0.000                             | 36.4                     | 39.272                               | Surcharged |
| SWC-08           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 52.45<br>0                    | 49.75<br>0                     | 51.093                    | 1.343                | 32.7                    | 0.213                              | 0.000                             | 31.3                     | 33.597                               | Surcharged |
| SWC-07           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 52.90<br>0                    | 49.95<br>0                     | 51.515                    | 1.565                | 24.7                    | 0.249                              | 0.000                             | 25.0                     | 27.043                               | Surcharged |
| SWC-01           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.40<br>0                    | 51.40<br>0                     | 52.195                    | 0.795                | 6.6                     | 0.126                              | 0.000                             | 3.3                      | 3.112                                | Surcharged |
| SWC-02           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.50<br>0                    | 51.15<br>0                     | 52.188                    | 1.038                | 8.4                     | 0.165                              | 0.000                             | 6.5                      | 6.353                                | Surcharged |
| SWC-03           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.75<br>0                    | 50.90<br>0                     | 52.162                    | 1.262                | 11.1                    | 0.201                              | 0.000                             | 9.8                      | 9.626                                | Surcharged |
| SWC-04           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.75<br>0                     | 52.125                    | 1.375                | 16.6                    | 0.219                              | 0.000                             | 13.2                     | 14.538                               | Surcharged |
| SWC-05           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.50<br>0                     | 52.012                    | 1.512                | 17.5                    | 0.240                              | 0.000                             | 16.5                     | 17.698                               | Surcharged |
| SWC-06           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.20<br>0                     | 51.838                    | 1.638                | 23.0                    | 0.260                              | 0.000                             | 20.7                     | 23.293                               | Surcharged |
| SWC-16           | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 49.936                    | 1.086                | 0.5                     | 0.307                              | 0.000                             | 0.5                      | 98.730                               | Surcharged |
| SWC-10           | FSR: 30 years: +45<br>%: 15 mins: Winter      | 51.40<br>0                    | 49.45<br>0                     | 50.115                    | 0.665                | 51.2                    | 0.188                              | 0.000                             | 52.3                     | 51.462                               | Surcharged |
| SWC-17           | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 52.60<br>0                    | 48.50<br>0                     | 48.519                    | 0.019                | 0.5                     | 0.016                              | 0.000                             | 0.5                      | 98.685                               | OK         |
| SWC-18           | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 53.00<br>0                    | 48.40<br>0                     | 48.415                    | 0.015                | 0.5                     | 0.013                              | 0.000                             | 0.5                      | 98.635                               | OK         |
| SWC-19           | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 51.27<br>0                    | 47.00<br>0                     | 47.016                    | 0.016                | 0.5                     | 0.014                              | 0.000                             | 0.5                      | 98.549                               | OK         |
| SWC-20           | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.765                    | 0.015                | 0.5                     | 0.017                              | 0.000                             | 0.5                      | 98.495                               | OK         |
| TW SW MH<br>4151 | FSR: 30 years: +45<br>%: 2160 mins:<br>Winter | 48.36<br>0                    | 45.67<br>0                     | 45.685                    | 0.015                | 0.5                     | 0.000                              | 0.000                             | 0.5                      | 98.495                               | OK         |

|                                                                                                                                                                          |  |  |  |                                                                                                           |                    |                     |                                                                                     |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  |  |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                               |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                     |  |
|                                                                                                                                                                          |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                     |  |



**Critical Storm Per Item: Rank By: Max. Avg. Depth**

| Stormwater Control | Storm Event                             | Max. US Elevation (m) | Max. DS Elevation (m) | Max. US Depth (m) | Max. DS Depth (m) | Max. Inflow (L/s) | Max. Residual Volume (m³) | Max. Flooded Volume (m³) | Total Lost Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Half Drain Down Time (mins) | Percentage Available (%) |
|--------------------|-----------------------------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|---------------------------|--------------------------|------------------------|--------------------|-----------------------------|-----------------------------|--------------------------|
| Att Tank           | FSR: 30 years: +45 %: 2160 mins: Winter | 49.936                | 49.936                | 1.036             | 1.036             | 3.8               | 149.616                   | 0.000                    | 0.000                  | 0.5                | 99.547                      | 2904                        | 35.382                   |

|                                                                                                                                                                          |                                                                            |                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s | Date:<br>15/11/2024                                                        |                    |                                                                                     |
|                                                                                                                                                                          | Designed by:<br>N.E                                                        | Checked by:<br>S.L | Approved By:<br>S.L                                                                 |
|                                                                                                                                                                          | Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase |                    |                                                                                     |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                                |                                                                            |                    |  |

Status

OK

|                                                                                                                                                                          |  |  |  |                                                                                                           |                    |                     |                                                                                     |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                       |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                     |  |
|                                                                                                                                                                          |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                     |  |



#### Critical Storm Per Item: Rank By: Max. Flow

| Connection | Storm Event                              | Connection Type | From     | To       | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------|------------------------------------------|-----------------|----------|----------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| SWP-11     | FSR: 30 years: +45 %:<br>15 mins: Summer | Pipe            | SWC-13   | SWC-14   | 53.200                       | 51.412                      | 0.100               | 3.956                 | 0.9                 | 0.65            | 6.1             | Surcharged |
| SWP-12     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-14   | SWC-15   | 53.000                       | 51.397                      | 0.100               | 7.508                 | 1.2                 | 0.99            | 9.5             | Surcharged |
| SWP-01     | FSR: 30 years: +45 %:<br>30 mins: Winter | Pipe            | SWC-01   | SWC-02   | 53.400                       | 52.022                      | 0.150               | 4.026                 | 0.6                 | 0.22            | 4.2             | Surcharged |
| SWP-02     | FSR: 30 years: +45 %:<br>30 mins: Winter | Pipe            | SWC-02   | SWC-03   | 53.500                       | 52.015                      | 0.150               | 8.225                 | 0.6                 | 0.47            | 8.2             | Surcharged |
| SWP-03     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-03   | SWC-04   | 53.750                       | 52.162                      | 0.150               | 9.626                 | 0.7                 | 0.57            | 9.8             | Surcharged |
| SWP-04     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-04   | SWC-05   | 53.200                       | 52.125                      | 0.150               | 14.538                | 0.9                 | 0.74            | 13.2            | Surcharged |
| SWP-05     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-05   | SWC-06   | 53.200                       | 52.012                      | 0.150               | 17.698                | 0.9                 | 0.85            | 16.5            | Surcharged |
| SWP-15     | FSR: 30 years: +45 %:<br>30 mins: Winter | Pipe            | Att Tank | SWC-16   | 50.964                       | 49.354                      | 0.100               | 1.462                 | 0.5                 | 0.06            | 0.7             | Surcharged |
| SWP-07     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-06   | SWC-07   | 53.200                       | 51.838                      | 0.150               | 23.293                | 1.2                 | 1.21            | 20.7            | Surcharged |
| SWP-08     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-07   | SWC-08   | 52.900                       | 51.515                      | 0.150               | 27.043                | 1.4                 | 1.53            | 25.0            | Surcharged |
| SWP-09     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-08   | SWC-09   | 52.450                       | 51.093                      | 0.150               | 33.597                | 1.8                 | 1.76            | 31.3            | Surcharged |
| SWP-10     | FSR: 30 years: +45 %:<br>30 mins: Winter | Pipe            | SWC-09   | SWC-10   | 51.300                       | 50.338                      | 0.150               | 50.966                | 2.1                 | 1.9             | 36.9            | Surcharged |
| SWP-14     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-10   | Att Tank | 51.400                       | 50.115                      | 0.150               | 51.462                | 3.0                 | 1.79            | 52.3            | Surcharged |
| SWP-13     | FSR: 30 years: +45 %:<br>15 mins: Winter | Pipe            | SWC-15   | SWC-10   | 52.650                       | 50.845                      | 0.100               | 12.198                | 1.9                 | 1.18            | 14.7            | Surcharged |

|                                                                                                                                                                          |  |                                                                                                           |             |                                                                                     |  |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|--|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |             |  |  |              |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                       |  | Designed by:                                                                                              | Checked by: |                                                                                     |  | Approved By: |
|                                                                                                                                                                          |  | N.E                                                                                                       | S.L         |                                                                                     |  | S.L          |
|                                                                                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |                                                                                     |  |              |

|        |                                                  |      |        |                  |        |        |       |        |     |      |     |            |
|--------|--------------------------------------------------|------|--------|------------------|--------|--------|-------|--------|-----|------|-----|------------|
| SWP-16 | FSR: 30<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-16 | SWC-17           | 51.000 | 49.936 | 0.018 | 98.712 | 0.5 | 0.06 | 0.5 | Surcharged |
| SWP-17 | FSR: 30<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-17 | SWC-18           | 52.600 | 48.519 | 0.017 | 98.685 | 0.5 | 0.07 | 0.5 | OK         |
| SWP-18 | FSR: 30<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-18 | SWC-19           | 53.000 | 48.415 | 0.016 | 98.635 | 0.5 | 0.02 | 0.5 | OK         |
| SWP-19 | FSR: 30<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-19 | SWC-20           | 51.270 | 47.016 | 0.016 | 98.549 | 0.5 | 0.02 | 0.5 | OK         |
| SWP-20 | FSR: 30<br>years: +45 %:<br>2160 mins:<br>Winter | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.765 | 0.015 | 98.495 | 0.5 | 0.02 | 0.5 | OK         |

|                                                                                                                                                                          |  |                                                                                                           |                    |                                                                                     |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +45% Climate Change, Maximum<br>Discharge Restricted to 0.5l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                          |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                          |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |


**Phase**  
**FSR: 30 years: Increase Rainfall (%): +45: 2160 mins: Winter**

|        |
|--------|
| Tables |
|--------|

| Name             | Max. Inflow<br>(L/s) | Total Inflow<br>Volume (m³) | Max. Outflow<br>(L/s) | Total Outflow<br>Volume (m³) |
|------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| TW SW MH<br>4151 |                      |                             | 0.5                   | 98.495                       |
| TOTAL            | 3.8                  | 193.573                     | 0.5                   | 98.495                       |

|                                                                                                                                                                         |  |                                                                                                           |                    |                                                                                     |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                         |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                                |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |

| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                         |                                                                                                           |                 |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                         | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                      | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



Att Tank

Type : Cellular Storage

### Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

### Inlets

#### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

### Outlets

#### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                                                                                                                                                         |  |                                                                                                           |                    |                                                                                     |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |  |
| Report Details:<br>Type: Inflow Summary<br>Storm Phase: Phase                                                                                                           |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |  |
|                                                                                                                                                                         |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |  |
|                                                                                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |  |

| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                         |                                                                                                           |                    |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                         | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                         | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

## Rainfall

FSR

Type: FSR

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

## Return Period

|                       |                       |
|-----------------------|-----------------------|
| Return Period (years) | Increase Rainfall (%) |
| 30.0                  | 0.000                 |

## Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                         |                                                                |                    |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s | Date:<br>15/11/2024                                            |                    |                                                                                     |
|                                                                                                                                                                         | Designed by:<br>N.E                                            | Checked by:<br>S.L | Approved By:<br>S.L                                                                 |
|                                                                                                                                                                         | Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase |                    |                                                                                     |
| Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London                                                               |                                                                |                    |  |



**Critical Storm Per Item: Rank By: Max. Inflow**

|                                                                                                                      |  |                                                                                                           |                 |                  |
|----------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                            |  | Date: 15/11/2024                                                                                          |                 |                  |
| Erection of 4 blocks of 8 flats. 1 in 30 Year Storm Event +0% Climate Change, Maximum Discharge Restricted to 0.4l/s |  | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                       |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



| Inflow                 | Storm Event                          | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|------------------------|--------------------------------------|------------------|-------------------|--------------------------|
| Catchment Area         | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.8               | 2.238                    |
| Catchment Area (1)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.7               | 2.190                    |
| Catchment Area (2)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.8               | 2.238                    |
| Catchment Area (3)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.6               | 2.150                    |
| Catchment Area (1) (1) | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.7               | 2.178                    |
| Catchment Area (4)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.1               | 1.900                    |
| Catchment Area (5)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.2               | 1.951                    |
| Catchment Area (6)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.5               | 2.105                    |
| Catchment Area (7)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 4.5               | 2.105                    |
| Catchment Area (8)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 3.2               | 1.502                    |
| Catchment Area (9)     | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 3.7               | 1.728                    |
| Catchment Area (10)    | FSR: 30 years: +0 %: 15 mins: Winter | 0.03             | 8.4               | 3.924                    |
| Catchment Area (11)    | FSR: 30 years: +0 %: 15 mins: Winter | 0.03             | 9.7               | 4.512                    |
| Catchment Area (12)    | FSR: 30 years: +0 %: 15 mins: Winter | 0.02             | 5.5               | 2.570                    |
| Catchment Area (13)    | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 2.1               | 0.968                    |
| Catchment Area (14)    | FSR: 30 years: +0 %: 15 mins: Winter | 0.01             | 2.6               | 1.203                    |

|                                                                                                                                                                         |  |                                                                                                           |                    |                                                                                     |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                         |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



**Critical Storm Per Item: Rank By: Max. Depth**

| Junction         | Storm Event                                  | Cover<br>Elevat<br>ion<br>(m) | Invert<br>Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|------------------|----------------------------------------------|-------------------------------|--------------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| SWC-13           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                    | 51.20<br>0                     | 51.262                    | 0.062                | 6.6                     | 0.010                              | 0.000                             | 6.5                      | 3.038                                | OK         |
| SWC-14           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.00<br>0                    | 50.62<br>8                     | 50.824                    | 0.196                | 11.0                    | 0.031                              | 0.000                             | 7.9                      | 5.154                                | Surcharged |
| SWC-15           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 52.65<br>0                    | 50.00<br>0                     | 50.385                    | 0.385                | 14.9                    | 0.061                              | 0.000                             | 12.1                     | 8.381                                | Surcharged |
| SWC-09           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 51.30<br>0                    | 49.50<br>0                     | 50.052                    | 0.552                | 31.4                    | 0.088                              | 0.000                             | 29.2                     | 27.066                               | Surcharged |
| SWC-08           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 52.45<br>0                    | 49.75<br>0                     | 50.569                    | 0.819                | 26.8                    | 0.130                              | 0.000                             | 25.5                     | 23.156                               | Surcharged |
| SWC-07           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 52.90<br>0                    | 49.95<br>0                     | 50.894                    | 0.944                | 21.2                    | 0.150                              | 0.000                             | 20.9                     | 18.626                               | Surcharged |
| SWC-01           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.40<br>0                    | 51.40<br>0                     | 51.462                    | 0.062                | 4.6                     | 0.010                              | 0.000                             | 4.5                      | 2.139                                | OK         |
| SWC-02           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.50<br>0                    | 51.15<br>0                     | 51.455                    | 0.305                | 9.3                     | 0.049                              | 0.000                             | 8.8                      | 4.379                                | Surcharged |
| SWC-03           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.75<br>0                    | 50.90<br>0                     | 51.432                    | 0.532                | 13.6                    | 0.085                              | 0.000                             | 8.9                      | 6.646                                | Surcharged |
| SWC-04           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.75<br>0                     | 51.399                    | 0.649                | 16.2                    | 0.103                              | 0.000                             | 11.1                     | 10.016                               | Surcharged |
| SWC-05           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.50<br>0                     | 51.301                    | 0.801                | 15.8                    | 0.127                              | 0.000                             | 13.7                     | 12.191                               | Surcharged |
| SWC-06           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 53.20<br>0                    | 50.20<br>0                     | 51.153                    | 0.953                | 19.8                    | 0.152                              | 0.000                             | 17.7                     | 16.038                               | Surcharged |
| SWC-16           | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 51.00<br>0                    | 48.85<br>0                     | 49.584                    | 0.734                | 0.4                     | 0.208                              | 0.000                             | 0.4                      | 80.218                               | Surcharged |
| SWC-10           | FSR: 30 years: +0<br>%: 15 mins: Winter      | 51.40<br>0                    | 49.45<br>0                     | 49.880                    | 0.430                | 41.1                    | 0.122                              | 0.000                             | 41.6                     | 35.445                               | Surcharged |
| SWC-17           | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 52.60<br>0                    | 48.50<br>0                     | 48.517                    | 0.017                | 0.4                     | 0.015                              | 0.000                             | 0.4                      | 80.179                               | OK         |
| SWC-18           | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 53.00<br>0                    | 48.40<br>0                     | 48.414                    | 0.014                | 0.4                     | 0.012                              | 0.000                             | 0.4                      | 80.136                               | OK         |
| SWC-19           | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 51.27<br>0                    | 47.00<br>0                     | 47.014                    | 0.014                | 0.4                     | 0.013                              | 0.000                             | 0.4                      | 80.064                               | OK         |
| SWC-20           | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 48.40<br>0                    | 45.75<br>0                     | 45.764                    | 0.014                | 0.4                     | 0.016                              | 0.000                             | 0.4                      | 80.018                               | OK         |
| TW SW MH<br>4151 | FSR: 30 years: +0<br>%: 2160 mins:<br>Winter | 48.36<br>0                    | 45.67<br>0                     | 45.683                    | 0.013                | 0.4                     | 0.000                              | 0.000                             | 0.4                      | 80.018                               | OK         |

|                                                                                                                                                                         |  |                                                                                                           |                    |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  | Date:<br>15/11/2024                                                                                       |                    |                     |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                              |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
|                                                                                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



**Critical Storm Per Item: Rank By: Max. Avg. Depth**

| Stormwater Control | Storm Event                               | Max. US Elevation (m) | Max. DS Elevation (m) | Max. US Depth (m) | Max. DS Depth (m) | Max. Inflow (L/s) | Max. Residual Volume (m³) | Max. Flooded Volume (m³) | Total Lost Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Half Drain Down Time (mins) | Percentage Available (%) |
|--------------------|-------------------------------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|---------------------------|--------------------------|------------------------|--------------------|-----------------------------|-----------------------------|--------------------------|
| Att Tank           | FSR: 30 years: +0 %:<br>2160 mins: Winter | 49.584                | 49.584                | 0.684             | 0.684             | 2.6               | 98.802                    | 0.000                    | 0.000                  | 0.4                | 80.707                      | 2357                        | 57.328                   |

|                                                                                                                                                                         |                                                                            |                                                                                                           |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s | Date:<br>15/11/2024                                                        |                                                                                                           |                     |
|                                                                                                                                                                         | Designed by:<br>N.E                                                        | Checked by:<br>S.L                                                                                        | Approved By:<br>S.L |
|                                                                                                                                                                         | Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase |                                                                                                           |                     |
|                                                                                                                                                                         |                                                                            | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                     |



Status

OK

|                                                                                                                      |  |                                                                                                           |                 |                  |                                                                                     |  |
|----------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:                                                                            |  | Date: 15/11/2024                                                                                          |                 |                  |  |  |
| Erection of 4 blocks of 8 flats. 1 in 30 Year Storm Event +0% Climate Change, Maximum Discharge Restricted to 0.4l/s |  | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |                                                                                     |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                   |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |                                                                                     |  |



#### Critical Storm Per Item: Rank By: Max. Flow

| Connection | Storm Event                             | Connection Type | From     | To       | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------|-----------------------------------------|-----------------|----------|----------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| SWP-11     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-13   | SWC-14   | 53.200                       | 51.262                      | 0.100               | 3.038                 | 0.9                 | 0.69            | 6.5             | OK         |
| SWP-12     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-14   | SWC-15   | 53.000                       | 50.824                      | 0.100               | 5.154                 | 1.0                 | 0.83            | 7.9             | Surcharged |
| SWP-01     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-01   | SWC-02   | 53.400                       | 51.462                      | 0.150               | 2.139                 | 0.6                 | 0.24            | 4.5             | OK         |
| SWP-02     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-02   | SWC-03   | 53.500                       | 51.455                      | 0.150               | 4.379                 | 0.6                 | 0.51            | 8.8             | Surcharged |
| SWP-03     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-03   | SWC-04   | 53.750                       | 51.432                      | 0.150               | 6.646                 | 0.6                 | 0.52            | 8.9             | Surcharged |
| SWP-04     | FSR: 30 years: +0 %:<br>30 mins: Winter | Pipe            | SWC-04   | SWC-05   | 53.200                       | 51.214                      | 0.150               | 12.975                | 0.9                 | 0.75            | 13.3            | Surcharged |
| SWP-05     | FSR: 30 years: +0 %:<br>30 mins: Summer | Pipe            | SWC-05   | SWC-06   | 53.200                       | 51.048                      | 0.150               | 14.103                | 0.8                 | 0.71            | 13.9            | Surcharged |
| SWP-15     | FSR: 30 years: +0 %:<br>30 mins: Summer | Pipe            | Att Tank | SWC-16   | 50.964                       | 49.179                      | 0.100               | 1.097                 | 0.2                 | 0.07            | 0.8             | Surcharged |
| SWP-07     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-06   | SWC-07   | 53.200                       | 51.153                      | 0.150               | 16.038                | 1.0                 | 1.03            | 17.7            | Surcharged |
| SWP-08     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-07   | SWC-08   | 52.900                       | 50.894                      | 0.150               | 18.626                | 1.2                 | 1.29            | 20.9            | Surcharged |
| SWP-09     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-08   | SWC-09   | 52.450                       | 50.569                      | 0.150               | 23.156                | 1.4                 | 1.44            | 25.5            | Surcharged |
| SWP-10     | FSR: 30 years: +0 %:<br>30 mins: Winter | Pipe            | SWC-09   | SWC-10   | 51.300                       | 50.035                      | 0.150               | 35.138                | 1.7                 | 1.51            | 29.4            | Surcharged |
| SWP-14     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-10   | Att Tank | 51.400                       | 49.880                      | 0.150               | 35.445                | 2.4                 | 1.42            | 41.6            | Surcharged |
| SWP-13     | FSR: 30 years: +0 %:<br>15 mins: Winter | Pipe            | SWC-15   | SWC-10   | 52.650                       | 50.385                      | 0.100               | 8.381                 | 1.5                 | 0.97            | 12.1            | Surcharged |

|                                                                                                                                                                         |  |  |  |                                                                                                           |             |              |                                                                                                                              |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  |  |  | Date:<br>15/11/2024                                                                                       |             |              |  <b>Nimbus</b><br>ENGINEERING CONSULTANTS |  |  |  |  |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                      |  |  |  | Designed by:                                                                                              | Checked by: | Approved By: |                                                                                                                              |  |  |  |  |  |
|                                                                                                                                                                         |  |  |  | N.E                                                                                                       | S.L         | S.L          |                                                                                                                              |  |  |  |  |  |
|                                                                                                                                                                         |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |                                                                                                                              |  |  |  |  |  |

|        |                                                 |      |        |                  |        |        |       |        |     |      |     |            |
|--------|-------------------------------------------------|------|--------|------------------|--------|--------|-------|--------|-----|------|-----|------------|
| SWP-16 | FSR: 30<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-16 | SWC-17           | 51.000 | 49.584 | 0.016 | 80.202 | 0.5 | 0.05 | 0.4 | Surcharged |
| SWP-17 | FSR: 30<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-17 | SWC-18           | 52.600 | 48.517 | 0.015 | 80.179 | 0.5 | 0.06 | 0.4 | OK         |
| SWP-18 | FSR: 30<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-18 | SWC-19           | 53.000 | 48.414 | 0.014 | 80.136 | 0.5 | 0.02 | 0.4 | OK         |
| SWP-19 | FSR: 30<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-19 | SWC-20           | 51.270 | 47.014 | 0.014 | 80.064 | 0.5 | 0.02 | 0.4 | OK         |
| SWP-20 | FSR: 30<br>years: +0 %:<br>2160 mins:<br>Winter | Pipe | SWC-20 | TW SW<br>MH 4151 | 48.400 | 45.764 | 0.014 | 80.018 | 0.5 | 0.02 | 0.4 | OK         |

|                                                                                                                                                                         |  |                                                                                                           |                    |                                                                                     |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 30 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.4l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                         |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |


**Phase**  
**FSR: 30 years: Increase Rainfall (%): +0: 2160 mins: Winter**

|        |
|--------|
| Tables |
|--------|

| Name          | Max. Inflow (L/s) | Total Inflow Volume (m³) | Max. Outflow (L/s) | Total Outflow Volume (m³) |
|---------------|-------------------|--------------------------|--------------------|---------------------------|
| TW SW MH 4151 |                   |                          | 0.4                | 80.018                    |
| TOTAL         | 2.6               | 133.985                  | 0.4                | 80.018                    |

|                                                                                                                                                                        |                                                                                                           |                    |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                        | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase                                                                                                               | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



| Outlets  |                          |                     |                |
|----------|--------------------------|---------------------|----------------|
| Junction | Outlet Name              | Outgoing Connection | Outlet Type    |
| SWC-13   | Outlet                   | SWP-11              | Free Discharge |
| SWC-14   | Outlet                   | SWP-12              | Free Discharge |
| SWC-15   | Outlet                   | SWP-13              | Free Discharge |
| SWC-09   | Outlet                   | SWP-10              | Free Discharge |
| SWC-08   | Outlet                   | SWP-09              | Free Discharge |
| SWC-07   | Outlet                   | SWP-08              | Free Discharge |
| SWC-01   | Outlet                   | SWP-01              | Free Discharge |
| SWC-02   | Outlet                   | SWP-02              | Free Discharge |
| SWC-03   | Outlet                   | SWP-03              | Free Discharge |
| SWC-04   | Outlet                   | SWP-04              | Free Discharge |
| SWC-05   | Outlet                   | SWP-05              | Free Discharge |
| SWC-06   | Outlet                   | SWP-07              | Free Discharge |
| SWC-16   | Outlet                   | SWP-16              | Orifice        |
|          | Diameter (m)             | 0.015               |                |
|          | Coefficient of Discharge | 0.600               |                |
|          | Invert Elevation (m)     | 48.850              |                |
| SWC-10   | Outlet                   | SWP-14              | Free Discharge |
| SWC-17   | Outlet                   | SWP-17              | Free Discharge |
| SWC-18   | Outlet                   | SWP-18              | Free Discharge |
| SWC-19   | Outlet                   | SWP-19              | Free Discharge |
| SWC-20   | Outlet                   | SWP-20              | Free Discharge |

|                                                                                                                                                                        |                                                                                                           |                 |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s | Date: 15/11/2024                                                                                          |                 |                  |
|                                                                                                                                                                        | Designed by: N.E                                                                                          | Checked by: S.L | Approved By: S.L |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase                                                                                                     | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                 |                  |



Att Tank

Type : Cellular Storage

## Dimensions

|                          |         |
|--------------------------|---------|
| Exceedance Elevation (m) | 51.000  |
| Depth (m)                | 1.600   |
| Base Elevation (m)       | 48.900  |
| Number of Crates Long    | 19      |
| Number of Crates Wide    | 16      |
| Number of Crates High    | 4       |
| Porosity (%)             | 95      |
| Crate Length (m)         | 1       |
| Crate Width (m)          | 0.5     |
| Crate Height (m)         | 0.4     |
| Total Volume (m³)        | 231.540 |

## Inlets

### Inlet (2)

|                    |                |
|--------------------|----------------|
| Inlet Type         | Point Inflow   |
| Incoming Item(s)   | SWP-14         |
| Bypass Destination | (None)         |
| Capacity Type      | No Restriction |

## Outlets

### Outlet

|                     |                |
|---------------------|----------------|
| Outgoing Connection | SWP-15         |
| Outlet Type         | Free Discharge |

|                                                                        |  |                                                |             |              |
|------------------------------------------------------------------------|--|------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:                              |  | Date: 15/11/2024                               |             |              |
| Erection of 4 blocks of 8 flats. 1 in 1 Year                           |  | Designed by:                                   | Checked by: | Approved By: |
| Storm Event +0% Climate Change, Maximum Discharge Restricted to 0.3l/s |  | N.E                                            | S.L         | S.L          |
| Report Details:                                                        |  | Company Address:                               |             |              |
| Type: Inflow Summary                                                   |  | Nimbus Engineering Consultants Ltd.            |             |              |
| Storm Phase: Phase                                                     |  | Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



| Inflow Label           | Connected To | Flow (L/s) | Runoff Method         | Area (ha)    | Percentage Impervious (%) | Urban Creep (%) | Adjusted Percentage Impervious (%) | Area Analyzed (ha) |
|------------------------|--------------|------------|-----------------------|--------------|---------------------------|-----------------|------------------------------------|--------------------|
| Catchment Area         | SWC-03       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1)     | SWC-04       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (1) (1) | SWC-05       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (2)     | SWC-02       |            | Time of Concentration | 0.015        | 100                       | 0               | 100                                | 0.015              |
| Catchment Area (3)     | SWC-01       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (4)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (5)     | SWC-06       |            | Time of Concentration | 0.013        | 100                       | 0               | 100                                | 0.013              |
| Catchment Area (6)     | SWC-13       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (7)     | SWC-14       |            | Time of Concentration | 0.014        | 100                       | 0               | 100                                | 0.014              |
| Catchment Area (8)     | SWC-15       |            | Time of Concentration | 0.010        | 100                       | 0               | 100                                | 0.010              |
| Catchment Area (9)     | SWC-15       |            | Time of Concentration | 0.011        | 100                       | 0               | 100                                | 0.011              |
| Catchment Area (10)    | SWC-09       |            | Time of Concentration | 0.026        | 100                       | 0               | 100                                | 0.026              |
| Catchment Area (11)    | SWC-08       |            | Time of Concentration | 0.030        | 100                       | 0               | 100                                | 0.030              |
| Catchment Area (12)    | SWC-07       |            | Time of Concentration | 0.017        | 100                       | 0               | 100                                | 0.017              |
| Catchment Area (13)    | SWC-13       |            | Time of Concentration | 0.006        | 100                       | 0               | 100                                | 0.006              |
| Catchment Area (14)    | SWC-04       |            | Time of Concentration | 0.008        | 100                       | 0               | 100                                | 0.008              |
| <b>TOTAL</b>           |              | <b>0.0</b> |                       | <b>0.236</b> |                           |                 |                                    | <b>0.236</b>       |

|                                                                                                                                                                        |                                                                                                           |                    |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s | Date:<br>15/11/2024                                                                                       |                    |                     |
|                                                                                                                                                                        | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |
| Report Title:<br><br>Rainfall Analysis Criteria                                                                                                                        | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |



|                                 |                          |
|---------------------------------|--------------------------|
| Runoff Type                     | Dynamic                  |
| Output Interval (mins)          | 5                        |
| Time Step                       | Default                  |
| Urban Creep                     | Apply Global Value       |
| Urban Creep Global Value (%)    | 0                        |
| Junction Flood Risk Margin (mm) | 300                      |
| Perform No Discharge Analysis   | <input type="checkbox"/> |

## Rainfall

FSR

Type: FSR

|            |                                     |
|------------|-------------------------------------|
| Region     | England and Wales                   |
| M5-60 (mm) | 18.8                                |
| Ratio R    | 0.400                               |
| Summer     | <input checked="" type="checkbox"/> |
| Winter     | <input checked="" type="checkbox"/> |

## Return Period

| Return Period (years) | Increase Rainfall (%) |
|-----------------------|-----------------------|
| 1.0                   | 0.000                 |

## Storm Durations

| Duration (mins) | Run Time (mins) |
|-----------------|-----------------|
| 15              | 30              |
| 30              | 60              |
| 60              | 120             |
| 120             | 240             |
| 180             | 360             |
| 240             | 480             |
| 360             | 720             |
| 480             | 960             |
| 600             | 1200            |
| 720             | 1440            |
| 960             | 1920            |
| 1440            | 2880            |
| 2160            | 4320            |
| 2880            | 5760            |
| 4320            | 8640            |
| 5760            | 11520           |
| 7200            | 14400           |
| 8640            | 17280           |
| 10080           | 20160           |

|                                                                                                                                                                        |  |                                                                                                           |                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s |  | Date:<br>15/11/2024                                                                                       |                    |
|                                                                                                                                                                        |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |
|                                                                                                                                                                        |  | Approved By:<br>S.L                                                                                       |                    |
| Report Details:<br>Type: Inflows Summary<br>Storm Phase: Phase                                                                                                         |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |



**Critical Storm Per Item: Rank By: Max. Inflow**

| Inflow                 | Storm Event                            | Inflow Area (ha) | Max. Inflow (L/s) | Total Inflow Volume (m³) |
|------------------------|----------------------------------------|------------------|-------------------|--------------------------|
| Catchment Area         | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 2.0               | 0.908                    |
| Catchment Area (1)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.9               | 0.890                    |
| Catchment Area (2)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 2.0               | 0.908                    |
| Catchment Area (3)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.9               | 0.872                    |
| Catchment Area (1) (1) | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.9               | 0.887                    |
| Catchment Area (4)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.7               | 0.770                    |
| Catchment Area (5)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.7               | 0.791                    |
| Catchment Area (6)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.8               | 0.854                    |
| Catchment Area (7)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.8               | 0.854                    |
| Catchment Area (8)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.3               | 0.611                    |
| Catchment Area (9)     | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.5               | 0.701                    |
| Catchment Area (10)    | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.03             | 3.4               | 1.591                    |
| Catchment Area (11)    | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.03             | 4.0               | 1.831                    |
| Catchment Area (12)    | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.02             | 2.3               | 1.043                    |
| Catchment Area (13)    | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 0.8               | 0.393                    |
| Catchment Area (14)    | FSR: 1 years:<br>+0 %: 15 mins: Winter | 0.01             | 1.1               | 0.485                    |

|                                                                                                                                                                       |  |                                                                                                           |                    |                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3/s |  | Date:<br>15/11/2024                                                                                       |                    |  |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase                                                                                                      |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     |
|                                                                                                                                                                       |  | Approved By:<br>S.L                                                                                       |                    |                                                                                     |
|                                                                                                                                                                       |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |



### Critical Storm Per Item: Rank By: Max. Depth

| Junction         | Storm Event                              | Cover Elevat<br>ion<br>(m) | Invert Elevat<br>ion<br>(m) | Max.<br>Elevati<br>on (m) | Max.<br>Depth<br>(m) | Max.<br>Inflow<br>(L/s) | Max.<br>Resident<br>Volume<br>(m³) | Max.<br>Flooded<br>Volume<br>(m³) | Max.<br>Outflow<br>(L/s) | Total<br>Discharge<br>Volume<br>(m³) | Status     |
|------------------|------------------------------------------|----------------------------|-----------------------------|---------------------------|----------------------|-------------------------|------------------------------------|-----------------------------------|--------------------------|--------------------------------------|------------|
| SWC-13           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.20<br>0                 | 51.20<br>0                  | 51.237                    | 0.037                | 2.7                     | 0.006                              | 0.000                             | 2.6                      | 1.245                                | OK         |
| SWC-14           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.00<br>0                 | 50.62<br>8                  | 50.675                    | 0.047                | 4.4                     | 0.007                              | 0.000                             | 4.3                      | 2.097                                | OK         |
| SWC-15           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 52.65<br>0                 | 50.00<br>0                  | 50.054                    | 0.054                | 7.2                     | 0.009                              | 0.000                             | 7.0                      | 3.406                                | OK         |
| SWC-09           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 51.30<br>0                 | 49.50<br>0                  | 49.659                    | 0.159                | 19.7                    | 0.025                              | 0.000                             | 18.6                     | 10.919                               | Surcharged |
| SWC-08           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 52.45<br>0                 | 49.75<br>0                  | 49.866                    | 0.116                | 17.1                    | 0.018                              | 0.000                             | 16.3                     | 9.337                                | OK         |
| SWC-07           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 52.90<br>0                 | 49.95<br>0                  | 50.059                    | 0.109                | 14.1                    | 0.017                              | 0.000                             | 13.1                     | 7.509                                | OK         |
| SWC-01           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.40<br>0                 | 51.40<br>0                  | 51.432                    | 0.032                | 1.9                     | 0.005                              | 0.000                             | 1.8                      | 0.870                                | OK         |
| SWC-02           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.50<br>0                 | 51.15<br>0                  | 51.196                    | 0.046                | 3.8                     | 0.007                              | 0.000                             | 3.6                      | 1.775                                | OK         |
| SWC-03           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.75<br>0                 | 50.90<br>0                  | 50.959                    | 0.059                | 5.5                     | 0.009                              | 0.000                             | 5.2                      | 2.678                                | OK         |
| SWC-04           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.20<br>0                 | 50.75<br>0                  | 50.822                    | 0.072                | 8.2                     | 0.011                              | 0.000                             | 7.8                      | 4.050                                | OK         |
| SWC-05           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.20<br>0                 | 50.50<br>0                  | 50.574                    | 0.074                | 9.7                     | 0.012                              | 0.000                             | 9.2                      | 4.930                                | OK         |
| SWC-06           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 53.20<br>0                 | 50.20<br>0                  | 50.296                    | 0.096                | 12.6                    | 0.015                              | 0.000                             | 11.8                     | 6.482                                | OK         |
| SWC-16           | FSR: 1 years: +0 %:<br>1440 mins: Winter | 51.00<br>0                 | 48.85<br>0                  | 49.195                    | 0.345                | 0.3                     | 0.098                              | 0.000                             | 0.3                      | 36.877                               | Surcharged |
| SWC-10           | FSR: 1 years: +0 %:<br>15 mins: Winter   | 51.40<br>0                 | 49.45<br>0                  | 49.580                    | 0.130                | 25.6                    | 0.037                              | 0.000                             | 25.0                     | 14.315                               | OK         |
| SWC-17           | FSR: 1 years: +0 %:<br>1440 mins: Winter | 52.60<br>0                 | 48.50<br>0                  | 48.514                    | 0.014                | 0.3                     | 0.012                              | 0.000                             | 0.3                      | 36.845                               | OK         |
| SWC-18           | FSR: 1 years: +0 %:<br>1440 mins: Winter | 53.00<br>0                 | 48.40<br>0                  | 48.412                    | 0.012                | 0.3                     | 0.010                              | 0.000                             | 0.3                      | 36.812                               | OK         |
| SWC-19           | FSR: 1 years: +0 %:<br>1440 mins: Winter | 51.27<br>0                 | 47.00<br>0                  | 47.012                    | 0.012                | 0.3                     | 0.010                              | 0.000                             | 0.3                      | 36.755                               | OK         |
| SWC-20           | FSR: 1 years: +0 %:<br>1440 mins: Winter | 48.40<br>0                 | 45.75<br>0                  | 45.762                    | 0.012                | 0.3                     | 0.013                              | 0.000                             | 0.3                      | 36.720                               | OK         |
| TW SW MH<br>4151 | FSR: 1 years: +0 %:<br>1440 mins: Winter | 48.36<br>0                 | 45.67<br>0                  | 45.681                    | 0.011                | 0.3                     | 0.000                              | 0.000                             | 0.3                      | 36.720                               | OK         |

|                                                                                                                                                                        |  |                                                                                                           |                    |                                                                                     |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                        |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                             |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |



Critical Storm Per Item: Rank By: Max. Avg. Depth

| Stormwater Control | Storm Event                              | Max. US Elevation (m) | Max. DS Elevation (m) | Max. US Depth (m) | Max. DS Depth (m) | Max. Inflow (L/s) | Max. Residual Volume (m³) | Max. Flooded Volume (m³) | Total Lost Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Half Drain Down Time (mins) | Percentage Available (%) |
|--------------------|------------------------------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|---------------------------|--------------------------|------------------------|--------------------|-----------------------------|-----------------------------|--------------------------|
| Att Tank           | FSR: 1 years:<br>+0 %: 1440 mins: Winter | 49.195                | 49.195                | 0.295             | 0.295             | 1.7               | 42.628                    | 0.000                    | 0.000                  | 0.3                | 37.112                      | 1474                        | 81.589                   |

|                                                                                                                                                                        |                                                                                                           |             |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s | Date:<br>15/11/2024                                                                                       |             |              |
|                                                                                                                                                                        | Designed by:                                                                                              | Checked by: | Approved By: |
|                                                                                                                                                                        | N.E                                                                                                       | S.L         | S.L          |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase                                                                                             | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |             |              |



|        |
|--------|
| Status |
| OK     |

|                                                                                                                                                                        |  |  |  |                                                                                                           |                    |                     |                                                                                     |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------|-------------------------------------------------------------------------------------|--|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s |  |  |  | Date:<br>15/11/2024                                                                                       |                    |                     |  |  |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase                                                                                                     |  |  |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L | Approved By:<br>S.L |                                                                                     |  |
|                                                                                                                                                                        |  |  |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                     |                                                                                     |  |



### Critical Storm Per Item: Rank By: Max. Flow

| Connection | Storm Event                              | Connection Type | From     | To            | Upstream Cover Elevation (m) | Max. US Water Elevation (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status     |
|------------|------------------------------------------|-----------------|----------|---------------|------------------------------|-----------------------------|---------------------|-----------------------|---------------------|-----------------|-----------------|------------|
| SWP-11     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-13   | SWC-14        | 53.200                       | 51.237                      | 0.036               | 1.245                 | 1.0                 | 0.27            | 2.6             | OK         |
| SWP-12     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-14   | SWC-15        | 53.000                       | 50.675                      | 0.050               | 2.097                 | 1.1                 | 0.45            | 4.3             | OK         |
| SWP-01     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-01   | SWC-02        | 53.400                       | 51.432                      | 0.039               | 0.870                 | 0.5                 | 0.1             | 1.8             | OK         |
| SWP-02     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-02   | SWC-03        | 53.500                       | 51.196                      | 0.052               | 1.775                 | 0.6                 | 0.2             | 3.6             | OK         |
| SWP-03     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-03   | SWC-04        | 53.750                       | 50.959                      | 0.065               | 2.678                 | 0.7                 | 0.3             | 5.2             | OK         |
| SWP-04     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-04   | SWC-05        | 53.200                       | 50.822                      | 0.073               | 4.050                 | 0.9                 | 0.44            | 7.8             | OK         |
| SWP-05     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-05   | SWC-06        | 53.200                       | 50.574                      | 0.085               | 4.930                 | 0.9                 | 0.47            | 9.2             | OK         |
| SWP-15     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | Att Tank | SWC-16        | 50.964                       | 48.996                      | 0.100               | 0.383                 | 0.1                 | 0.05            | 0.6             | OK         |
| SWP-07     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-06   | SWC-07        | 53.200                       | 50.296                      | 0.102               | 6.482                 | 0.9                 | 0.69            | 11.8            | OK         |
| SWP-08     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-07   | SWC-08        | 52.900                       | 50.059                      | 0.112               | 7.509                 | 0.9                 | 0.81            | 13.1            | OK         |
| SWP-09     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-08   | SWC-09        | 52.450                       | 49.866                      | 0.137               | 9.337                 | 1.0                 | 0.91            | 16.3            | OK         |
| SWP-10     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-09   | SWC-10        | 51.300                       | 49.659                      | 0.145               | 10.919                | 1.1                 | 0.96            | 18.6            | Surcharged |
| SWP-14     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-10   | Att Tank      | 51.400                       | 49.580                      | 0.118               | 14.315                | 1.7                 | 0.85            | 25.0            | OK         |
| SWP-13     | FSR: 1 years:<br>+0 %: 15 mins: Winter   | Pipe            | SWC-15   | SWC-10        | 52.650                       | 50.054                      | 0.092               | 3.406                 | 0.9                 | 0.56            | 7.0             | OK         |
| SWP-16     | FSR: 1 years:<br>+0 %: 1440 mins: Winter | Pipe            | SWC-16   | SWC-17        | 51.000                       | 49.195                      | 0.014               | 36.864                | 0.4                 | 0.04            | 0.3             | Surcharged |
| SWP-17     | FSR: 1 years:<br>+0 %: 1440 mins: Winter | Pipe            | SWC-17   | SWC-18        | 52.600                       | 48.514                      | 0.013               | 36.845                | 0.5                 | 0.04            | 0.3             | OK         |
| SWP-18     | FSR: 1 years:<br>+0 %: 1440 mins: Winter | Pipe            | SWC-18   | SWC-19        | 53.000                       | 48.412                      | 0.012               | 36.812                | 0.4                 | 0.01            | 0.3             | OK         |
| SWP-19     | FSR: 1 years:<br>+0 %: 1440 mins: Winter | Pipe            | SWC-19   | SWC-20        | 51.270                       | 47.012                      | 0.012               | 36.755                | 0.4                 | 0.01            | 0.3             | OK         |
| SWP-20     | FSR: 1 years:<br>+0 %: 1440 mins: Winter | Pipe            | SWC-20   | TW SW MH 4151 | 48.400                       | 45.762                      | 0.011               | 36.720                | 0.4                 | 0.01            | 0.3             | OK         |

|                                                                                                                                                                        |  |                                                                                                           |                    |                                                                                     |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|---------------------|
| Charters, Oxford Road, Reading, RG31 6TQ:<br>Erection of 4 blocks of 8 flats. 1 in 1 Year<br>Storm Event +0% Climate Change, Maximum<br>Discharge Restricted to 0.3l/s |  | Date:<br>15/11/2024                                                                                       |                    |  |                     |
|                                                                                                                                                                        |  | Designed by:<br>N.E                                                                                       | Checked by:<br>S.L |                                                                                     | Approved By:<br>S.L |
| Report Details:<br>Type: Phase Management<br>Storm Phase: Phase                                                                                                        |  | Company Address:<br>Nimbus Engineering Consultants Ltd.<br>Kemp House, 124 City Road,<br>EC1V 2NX, London |                    |                                                                                     |                     |


**Phase**  
**FSR: 1 years: Increase Rainfall (%): +0: 1440 mins: Winter**

|        |
|--------|
| Tables |
|--------|

| Name             | Max. Inflow<br>(L/s) | Total Inflow<br>Volume (m³) | Max. Outflow<br>(L/s) | Total Outflow<br>Volume (m³) |
|------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| TW SW MH<br>4151 |                      |                             | 0.3                   | 36.720                       |
| TOTAL            | 1.7                  | 58.963                      | 0.3                   | 36.720                       |

## APPENDIX C – THAMES WATER ASSET PLANS

Nimbus Engineering Consultants LTD  
Michealson Square, Office 8 Michealson Square

LIVINGSTON  
EH54 7DP

**Search address supplied** Charters Garage  
Oxford Road  
Tilehurst  
Reading  
RG31 6TQ

**Your reference** C3411

**Our reference** ALS/ALS Standard/2024\_5071565

**Search date** 28 October 2024

## Notification of Price Changes

From 1<sup>st</sup> April 2024 Thames Water Property Searches will be increasing the prices of its CON29DW Residential and Commercial searches along with the Asset Location Search. Costs will rise in line with RPI as per previous years, which is sat at 6%.

Customers will be emailed with the new prices by February 28<sup>th</sup> 2024.

Any orders received with a higher payment prior to the 1<sup>st</sup> April 2024 will be non-refundable. For further details on the price increase please visit our website at [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk).



Thames Water Utilities Ltd  
Property Searches, PO Box 3189, Slough SL1 4WW



[searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
[www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)



0800 009 4540

**Search address supplied:** Charters Garage, Oxford Road, Tilehurst, Reading, RG31 6TQ

Dear Sir / Madam

**An Asset Location Search is recommended when undertaking a site development.** It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

### Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the address below:

Thames Water Utilities Ltd  
Property Searches  
PO Box 3189  
Slough  
SL1 4WW

Email: [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)

Web: [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)

### Waste Water Services

**Please provide a copy extract from the public sewer map.**

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

### Clean Water Services

**Please provide a copy extract from the public water main map.**

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.



For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

## **Payment for this Search**

A charge will be added to your suppliers account.

### Further contacts:

#### Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

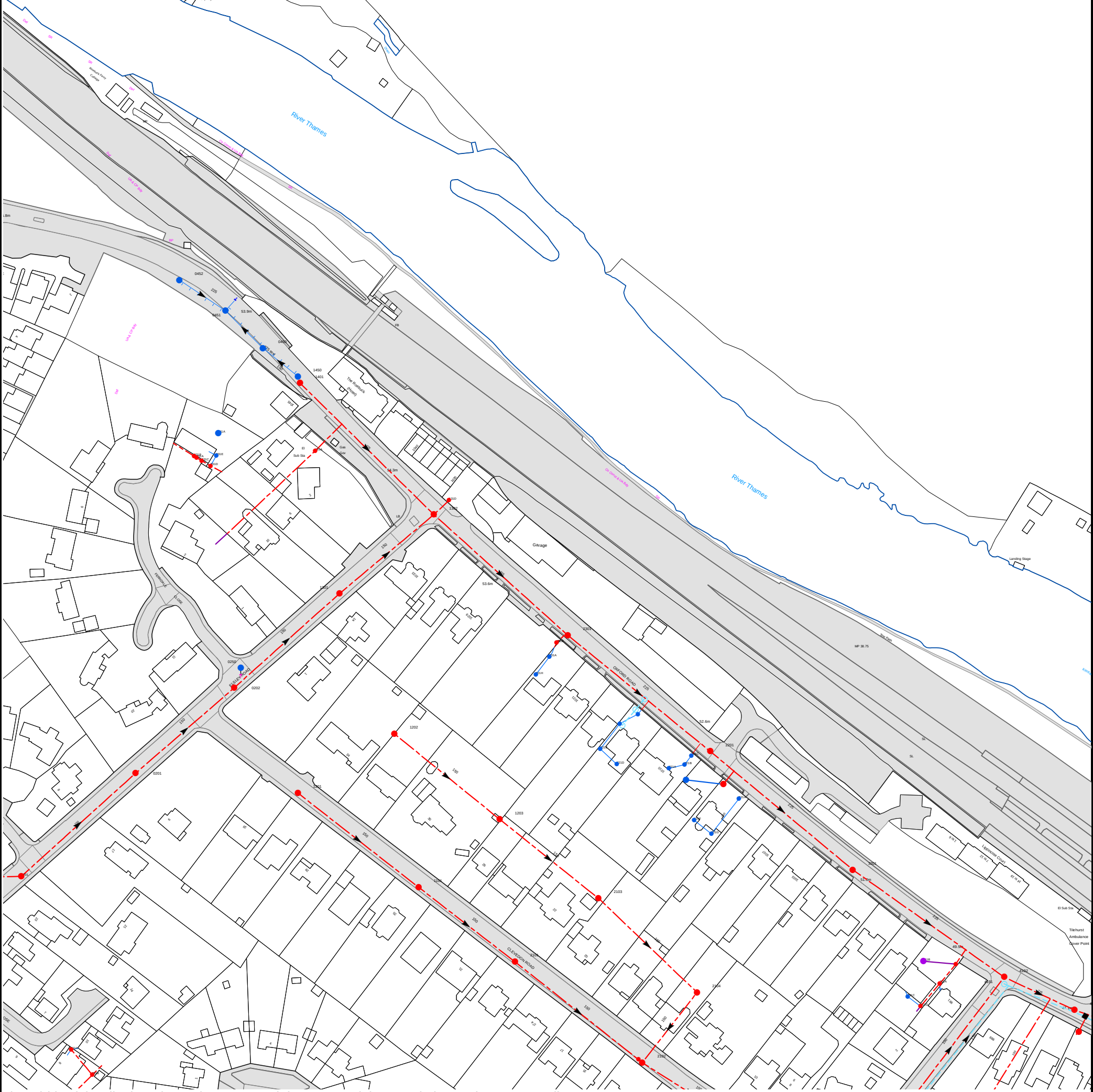
Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

#### Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 467221,175355  
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map (2020) with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

| Manhole Reference                                                                                                                                                                                                                                                                                                                                                                                                      | Manhole Cover Level | Manhole Invert Level |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|
| 0451                                                                                                                                                                                                                                                                                                                                                                                                                   | 53.81               | 52.94                |
| 0452                                                                                                                                                                                                                                                                                                                                                                                                                   | 54                  | 53.18                |
| 131D                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 031D                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 031C                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 031A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 031B                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 031E                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 131A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 041A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 1401                                                                                                                                                                                                                                                                                                                                                                                                                   | 54.21               | 51.88                |
| 1450                                                                                                                                                                                                                                                                                                                                                                                                                   | 54.18               | n/a                  |
| 0450                                                                                                                                                                                                                                                                                                                                                                                                                   | 53.87               | 53.17                |
| 9201                                                                                                                                                                                                                                                                                                                                                                                                                   | 68.45               | 66.84                |
| 011A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 011B                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 0201                                                                                                                                                                                                                                                                                                                                                                                                                   | 68.06               | 66.39                |
| 0202                                                                                                                                                                                                                                                                                                                                                                                                                   | 64.26               | 62.81                |
| 0250                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 1201                                                                                                                                                                                                                                                                                                                                                                                                                   | 64.84               | 63.42                |
| 1301                                                                                                                                                                                                                                                                                                                                                                                                                   | 58.86               | 57.41                |
| 1202                                                                                                                                                                                                                                                                                                                                                                                                                   | 61.42               | 60.16                |
| 1101                                                                                                                                                                                                                                                                                                                                                                                                                   | 63.48               | 61.84                |
| 1302                                                                                                                                                                                                                                                                                                                                                                                                                   | 54.11               | 51.46                |
| 1203                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 2101                                                                                                                                                                                                                                                                                                                                                                                                                   | 61.74               | 60.26                |
| 221H                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 231A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 231B                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 2301                                                                                                                                                                                                                                                                                                                                                                                                                   | 53.29               | 50.94                |
| 2103                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221E                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221D                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22NK                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22ND                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22NC                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22NF                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22MN                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221B                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 22NH                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221C                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 221F                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 2104                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 2201                                                                                                                                                                                                                                                                                                                                                                                                                   | 52.51               | 50.39                |
| 221G                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 311D                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 311C                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 4151                                                                                                                                                                                                                                                                                                                                                                                                                   | 48.36               | 45.67                |
| 311A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 4102                                                                                                                                                                                                                                                                                                                                                                                                                   | 48.37               | 46.12                |
| 41MN                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 311B                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 3201                                                                                                                                                                                                                                                                                                                                                                                                                   | 51.27               | 49.33                |
| 321A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 32NJ                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 41ND                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 4101                                                                                                                                                                                                                                                                                                                                                                                                                   | 46.9                | n/a                  |
| 2102                                                                                                                                                                                                                                                                                                                                                                                                                   | 59.16               | 56.46                |
| The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken. |                     |                      |



# Asset Location Search - Sewer Key

## Public Sewer Types (Operated and maintained by Thames Water)

|  |                                                                                                                                                   |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Foul Sewer:</b> A sewer designed to convey waste water from domestic and industrial sources to a treatment works.                              |
|  | <b>Surface Water Sewer:</b> A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses. |
|  | <b>Combined Sewer:</b> A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.   |
|  | <b>Storm Sewer</b>                                                                                                                                |
|  | <b>Sludge Sewer</b>                                                                                                                               |
|  | <b>Foul Trunk Sewer</b>                                                                                                                           |
|  | <b>Surface Trunk Sewer</b>                                                                                                                        |
|  | <b>Combined Trunk Sewer</b>                                                                                                                       |
|  | <b>Foul Rising Main</b>                                                                                                                           |
|  | <b>Surface Water Rising Main</b>                                                                                                                  |
|  | <b>Combined Rising Main</b>                                                                                                                       |
|  | <b>Vacuum</b>                                                                                                                                     |
|  | <b>Thames Water Proposed</b>                                                                                                                      |
|  | <b>Vent Pipe</b>                                                                                                                                  |
|  | <b>Gallery</b>                                                                                                                                    |

## Other Sewer Types (Not operated and maintained by Thames Water)

|  |                                                              |  |                                                                |
|--|--------------------------------------------------------------|--|----------------------------------------------------------------|
|  | <b>Sewer</b>                                                 |  | <b>Culverted Watercourse</b>                                   |
|  | <b>Proposed</b>                                              |  | <b>Decommissioned Sewer</b>                                    |
|  | <b>Content of this drainage network is currently unknown</b> |  | <b>Ownership of this drainage network is currently unknown</b> |

### Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plan are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

## Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

|  |                  |  |              |
|--|------------------|--|--------------|
|  | <b>Air Valve</b> |  | <b>Meter</b> |
|  | <b>Dam Chase</b> |  | <b>Vent</b>  |
|  | <b>Fitting</b>   |  |              |

## Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

|  |                      |  |                  |
|--|----------------------|--|------------------|
|  | <b>Ancillary</b>     |  | <b>Drop Pipe</b> |
|  | <b>Control Valve</b> |  | <b>Weir</b>      |

## End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

|  |                      |  |                |
|--|----------------------|--|----------------|
|  | <b>Inlet</b>         |  | <b>Outfall</b> |
|  | <b>Undefined End</b> |  |                |

## Other Symbols

Symbols used on maps which do not fall under other general categories.

|  |                                           |  |                                         |
|--|-------------------------------------------|--|-----------------------------------------|
|  | <b>Change of Characteristic Indicator</b> |  | <b>Public / Private Pumping Station</b> |
|  | <b>Invert Level</b>                       |  | <b>Summit</b>                           |

## Areas

Lines denoting areas of underground surveys, etc.

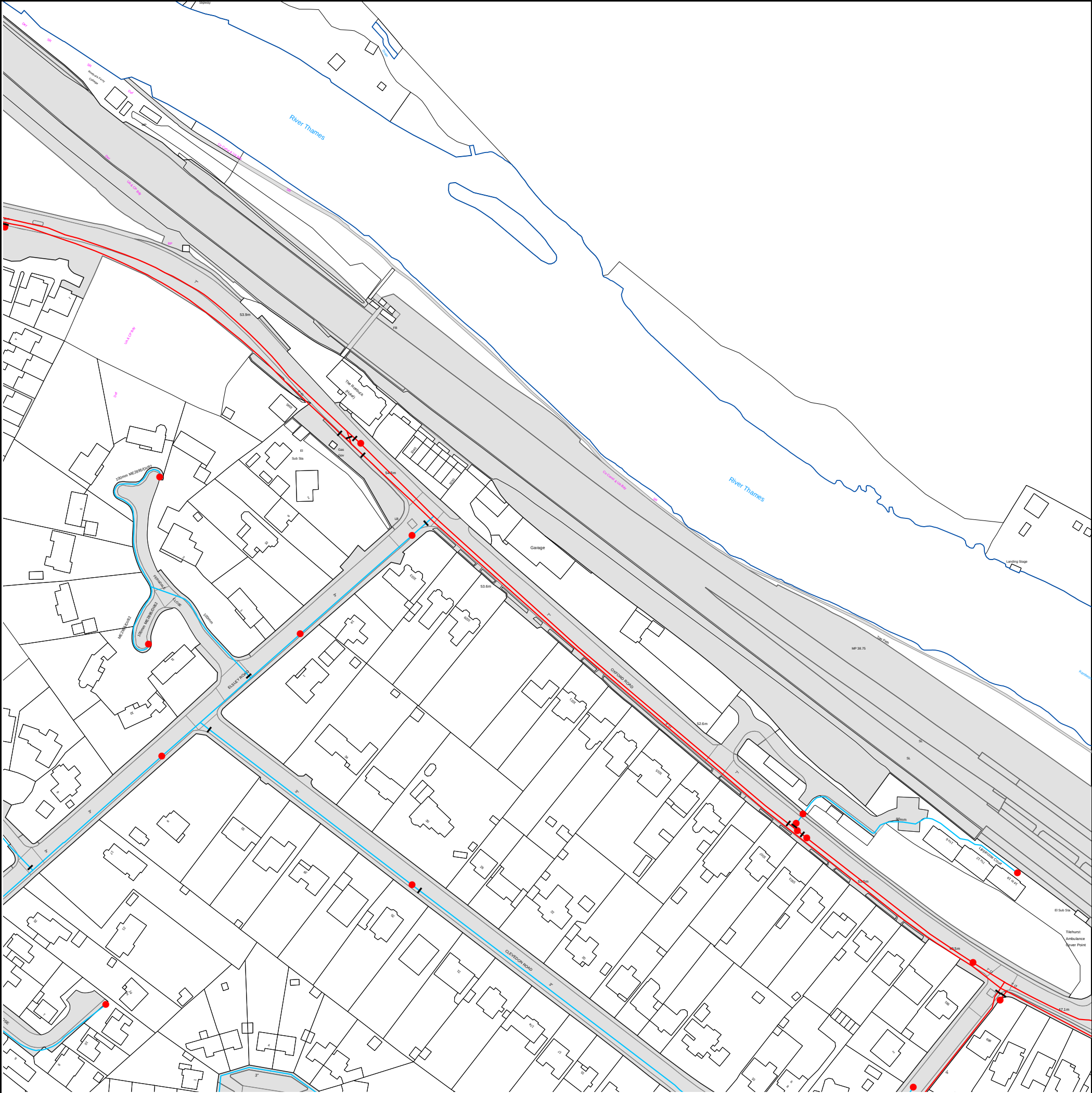
|  |                         |
|--|-------------------------|
|  | <b>Agreement</b>        |
|  | <b>Chamber</b>          |
|  | <b>Operational Site</b> |

## Ducts or Crossings

|  |                       |                                                                        |
|--|-----------------------|------------------------------------------------------------------------|
|  | <b>Casement</b>       | Ducts may contain high voltage cables. Please check with Thames Water. |
|  | <b>Conduit Bridge</b> |                                                                        |
|  | <b>Subway</b>         |                                                                        |
|  | <b>Tunnel</b>         |                                                                        |

5) 'na' or '0' on a manhole indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology, please contact Property Searches on 0800 009 4540.



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 467221, 175355.

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# Asset Location Search - Water Key

## Water Pipes (Operated & Maintained by Thames Water)

- 4"** **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 16"** **Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- 3" SUPPLY** **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 3" FIRE** **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 3" METERED** **Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

| PIPE DIAMETER               | DEPTH BELOW GROUND |
|-----------------------------|--------------------|
| Up to 300mm (12")           | 900mm (3')         |
| 300mm - 600mm (12" - 24")   | 1100mm (3' 8")     |
| 600mm and bigger (24" plus) | 1200mm (4')        |

## Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

## Hydrants

- Single Hydrant

## Meters

- Meter

## End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

## Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

## Other Symbols

- Data Logger
- Casement:** Ducts may contain high voltage cables. Please check with Thames Water.

## Other Water Pipes (Not Operated or Maintained by Thames Water)

- Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
- Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

## Payment Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment within 14 days of the date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service or will be held to be invalid.
4. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
5. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
6. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 980 8800.

If you are unhappy with our service, you can speak to your original goods or customer service provider. If you are still not satisfied with the outcome provided, we will refer the matter to a Senior Manager for resolution who will provide you with a response.

If you are still dissatisfied with our final response, and in certain circumstances such as you are buying a residential property or commercial property within certain parameters, The Property Ombudsman will investigate your case and give an independent view. The Ombudsman can award compensation of up to £25,000 to you if he finds that you have suffered actual financial loss and/or aggravation, distress, or inconvenience because of your search not keeping to the Code. Further information can be obtained by visiting [www.tpos.co.uk](http://www.tpos.co.uk) or by sending an email to [admin@tpos.co.uk](mailto:admin@tpos.co.uk).

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0300 034 2222 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

### Ways to pay your bill

| Credit Card                                                                      | BACS Payment                                                                                                                                                                                                                                                          | Telephone Banking                                                                                                           |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Please Call <b>0800 009 4540</b> quoting your invoice number starting CBA or ADS | Account number <b>90478703</b><br>Sort code <b>60-00-01</b><br>A remittance advice must be sent to:<br><b>Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.</b><br>or email<br><a href="mailto:ps.billing@thameswater.co.uk">ps.billing@thameswater.co.uk</a> | By calling your bank and quoting:<br>Account number <b>90478703</b><br>Sort code <b>60-00-01</b><br>and your invoice number |

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