



Drainage Statement

Proposed Residential Development at

66 Victoria Road, Burgess Hill

On behalf of

Less2Buildit

December 2024

Document History and Status

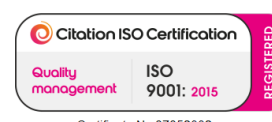
Project Number 23950

Date	Version	Prepared By	Reviewed By	Approved By
3 Dec 2024	1.0	Sonya Macandrew Beng GMICE	Stuart Magowan IEng MICE	Stuart Magowan IEng MICE
4 Dec 2024	1.1	Sonya Macandrew Beng GMICE	Stuart Magowan IEng MICE	Stuart Magowan IEng MICE

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1 Non Technical Summary

- 1.1 This Drainage Statement has been undertaken on behalf of Less2Buildit in support of an application to Discharge Conditions 5 and 6 of the Planning Approval granted for Planning Application Reference DM/21/1991 for the demolition of the existing commercial office building and erection of 7 flats at 66 Victoria Road, Burgess Hill.
- 1.2 The proposed development will incorporate a sustainable drainage system which will discharge surface water to the public surface water sewer to the south of Victoria Road at a suitably restricted rate to provide betterment over the existing system for all storm return periods up to and including the 1:100 year rainfall event with an allowance for climate change.
- 1.3 Foul water will be discharged to the existing public foul sewer located beneath the hardstanding on the southern part of the site to the south of the existing and the proposed building.
- 1.4 This report concludes that a suitable surface water and foul water drainage system can be designed to accommodate the anticipated flows from the proposed development.

2 Conditions

2.1 Condition 5

2.1.1 Condition 5 states that, *'The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the Local Planning Authority. No building shall be occupied until all the approved drainage works have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.'*

2.2 Condition 6

2.2.1 Condition 6 states that, *'The development hereby permitted shall not commence unless and until a topographical site survey and/or a CCTV survey has been submitted to and approved in writing by the Local Planning Authority with the connection application showing the existing connection points, pipe sizes, gradients and calculations confirming the proposed surface water flow will be no greater than the existing contributing flows. The development shall be carried out in accordance with the approved details.'*

3 Existing Site

3.1 Site Location

3.1.1 The development site is located at 66 Victoria Road, Burgess Hill, West Sussex at Ordnance Survey reference TQ 300 189. The nearest postcode is RH15 9LH.



Image 1: Site Location

3.1.2 The site is bounded by residential flats to the north, commercial property to the east and Victoria Road to the south and west.

3.1.3 The closest watercourse is an unnamed tributary of Pook Bourne with main river status approximately 100m to the southwest of the site.

3.1.4 The site is entirely located in Flood Zone 1 and the online Environment Agency mapping confirms it to be at a low surface water flood risk.

3.1.5 A copy of the site location plan is located in Appendix 1 at the rear of this report.

3.2 Site Description

3.2.1 The site is approximately 0.03ha (330m²) in area and currently comprises and existing office building and hardstanding for parking.

3.2.2 Existing ground levels are highest at the northwest corner of the site at approximately 29.9m AOD. The site falls towards its approximate centre to a level of approximately 29.4m AOD.

3.2.3 A copy of the existing site layout plan is located in Appendix 2 at the rear of this report.

3.3 Existing Drainage

- 3.3.1 The surface water from the site currently drains by gravity in an unrestricted manner to an existing 700mm diameter public surface water sewer to the south of Victoria Road.
- 3.3.2 A further 600mm public surface water sewer crosses the southeast corner of the site beneath the hardstanding, but there is no connection from the site to this sewer.
- 3.3.3 The foul water from the site drains by gravity to an existing 225mm diameter public foul sewer that crosses the site to the south of the existing building.
- 3.3.4 Southern Water's sewer records confirm the location and depth of the public sewers and correspondence with them has confirmed that other sewers on the site are privately owned.
- 3.3.5 Modelled existing peak surface water flows to the public surface water sewer have been calculated as follows.

Storm Period	Modelled peak. existing unrestricted surface water flow to public sewer (l/s)
1:2 year	5.6
1:10 year	10.7
1:30 year	14.0
1:100 year	17.7
1:100 year + 45%	n/a

- 3.3.6 A CCTV survey was undertaken by Coastal Drains Ltd to determine the location, connections and condition of the surface and foul water from the existing building and hard paved areas.
- 3.3.7 The CCTV survey confirmed the following drainage on-site:
- A private 150mm surface water sewer runs parallel to the west face of the existing building and receives surface water drainage from the roof and hardstanding areas of the site. This private sewer has been confirmed as discharging in an unrestricted manner to a 700mm public surface water sewer to the south of the site the other side of Victoria Road.

- A private 150mm diameter foul sewer beneath the existing building receives foul water from the existing building and from the block of residential units to the north of the site that are constructed on land that previously was part of the same block of land as the proposed site. This private sewer has been confirmed as discharging in an unrestricted manner to the 225mm public foul water sewer beneath the hardstanding to the south of the building on the site.

3.3.8 Copies of the sewer records, easement, correspondence and CCTV survey report are located in Appendix 3 at the rear of this report.

3.4 Geology and Groundwater

3.4.1 Site-specific Investigation by Ashdown Site Investigation Limited confirms that the site is underlain by stiff mottled CLAY (Weald Clay Formation) to at least 3m below ground level. This is overlain by made ground of 0.2m to 0.5m in depth over reworked clay up to 1.5m below ground level.

3.4.2 Groundwater was encountered at a depth of 1.7m below ground level in the clay layer.

3.4.3 Weald Clay Formation soils possess negligible to poor infiltration characteristics and infiltration testing carried out in two locations on-site produced infiltration rates of 7.3×10^{-8} m/s and 4.2×10^{-7} m/s.

3.4.4 The online “Magic Map” available from Defra shows that the site is located in an area underlain by Weald Clay Formation which is classed as an unproductive stratum and not within a source protection zone.

3.4.5 Copies of extracts from the site investigation report are located in Appendix 4 at the rear of this report.

4 Development Proposals

4.1 Description

4.1.1 The development proposals are for the demolition of the existing office building and erection of a block of seven residential units with associated access and parking.

4.1.2 The areas of the various positively drained elements of the development are summarised as follows:

- Roof Areas 167m²
- Access and Parking Areas 160m²

4.1.3 A copy of the proposed site layout plan together with a drained areas plan is located in Appendix 5 at the rear of this report.

4.2 Surface Water Drainage

4.2.1 CIRIA report C753 The SuDS Manual-v6 provides guidance on surface water drainage. The aim for surface water runoff is to match greenfield runoff rates and volumes where reasonably achievable.

4.2.2 For surface water discharge, the drainage hierarchy notes the following list of drainage options in order of preference:

- 1 Infiltration to ground
- 2 Discharge to a watercourse
- 3 Discharge to a surface water sewer
- 4 Discharge to a combined water sewer

4.2.3 The preferred surface water drainage strategy should where possible be based on infiltration to ground, however site investigation reported infiltration rates that are too low to allow infiltration of surface water at a viable rate.

4.2.4 The nearest watercourse is approximately 100m southwest of the boundary of the site and it is not viable to make a direct connection to it.

4.2.5 The proposed surface water drainage strategy will be based on a restricted discharge to the existing public 700mm diameter surface water sewer via the on-site connection. The public surface water sewer discharges to the unnamed tributary of Pook Bourne approximately 100m southwest of the site.

4.2.6 Calculations have been carried out based on restricting the proposed surface water flows from the site to provide significant betterment on the existing contributing flows to demonstrate that surface water drainage can be adequately accommodated within the site without any increased flood risk elsewhere.

Storm Period	Modelled peak. existing unrestricted surface water flow to public sewer (l/s)	Modelled peak. surface water flow to public sewer with 5l/s restriction (l/s)	Percentage betterment on existing flows
1:2 year	5.6	3.3	41%
1:10 year	10.7	4.9	54%
1:30 year	14	5.0	64%
1:100 year	17.7	5.0	72%
1:100 year+45%	n/a	5.1	Less than existing 1:2 year flow

4.2.7 A storage volume of 9m³ is proposed as sufficient to accommodate a 1:100 year storm event including an additional 45% to account for the predicted effects of future climate change. It is proposed to provide this in 95% voided crates and 30% voided subbase beneath the hardstanding west of the proposed building.

4.3 Foul Drainage

4.3.1 Foul water will be discharged to the existing public foul sewer located beneath the hardstanding on the southern part of the site via a proposed connection to the existing onsite manhole.

4.3.2 A copy of the drainage strategy plan, construction details and supporting calculations is located in Appendix 6 at the rear of this report.

4.4 Water Quality

4.4.1 The proposed development is for residential use. In accordance with CIRIA SuDS Manual 2015 (Report C753), the pollution hazard level for this type of development is classified as between very low and low depending on the use / area of the site.

4.4.2 The surface water drainage scheme will include mitigation to ensure that surface water is suitably treated and any pollution risk adequately managed prior to discharge.

4.4.3 Table 26.2 in Chapter 26 of CIRIA report C753 The SuDS Manual provides Pollution Hazard Indices for varying land types. Those of relevance to the development proposals are as follows:

Land Use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very Low	0.2	0.2	0.05
Individual property driveways, residential car park, low-traffic roads	Low	0.5	0.4	0.4

Table 1: Pollution Hazard Indices

4.4.4 The surface water drainage design will incorporate a filter drain to treat the runoff from the residential roofs and permeable paving above voided subbase beneath car parking areas. These will meet the target treatment level required as follows.

SuDS Type	Total suspended solids (TSS)	Metals	Hydrocarbons
Filter drain	0.4	0.4	0.4
Permeable pavement	0.7	0.6	0.7

Table 2: Pollution Mitigation Indices and Provision

4.4.5 An outline drainage management and maintenance schedule is located in Appendix 7 at the rear of this report.

4.5 Risk to Others

4.5.1 The proposed surface water drainage system will be designed to current standards incorporating SuDS elements providing attenuation and storage which will minimise runoff leaving the site during times of heavy rain.

4.5.2 Allowance has been made for a 45% increase in rainfall intensities which accords with the latest figures published by the Environment Agency with the requirements under the National Planning Policy Framework.

4.5.3 The proposed drainage system will incorporate sufficient treatment prior to final discharge thus mitigating the risk of pollution from the site.

4.5.4 The residual risk of sewer flooding from this development for the foreseeable future is therefore negligible.

4.6 Surface Water Exceedance Routes

- 4.6.1 In the event of exceedance of the 100 year + 45% design standard flows would follow the designed route but at an increased rate of flow.
- 4.6.2 In the event of the on-site surface water drainage network becoming blocked or suffering a failure due to lack of maintenance surface water would migrate via the local highway drainage network towards Pook Bourne.
- 4.6.3 Any water leaving the site would flow via the local highway network towards Pook Bourne.
- 4.6.4 There is no associated flood risk to the downstream catchment.

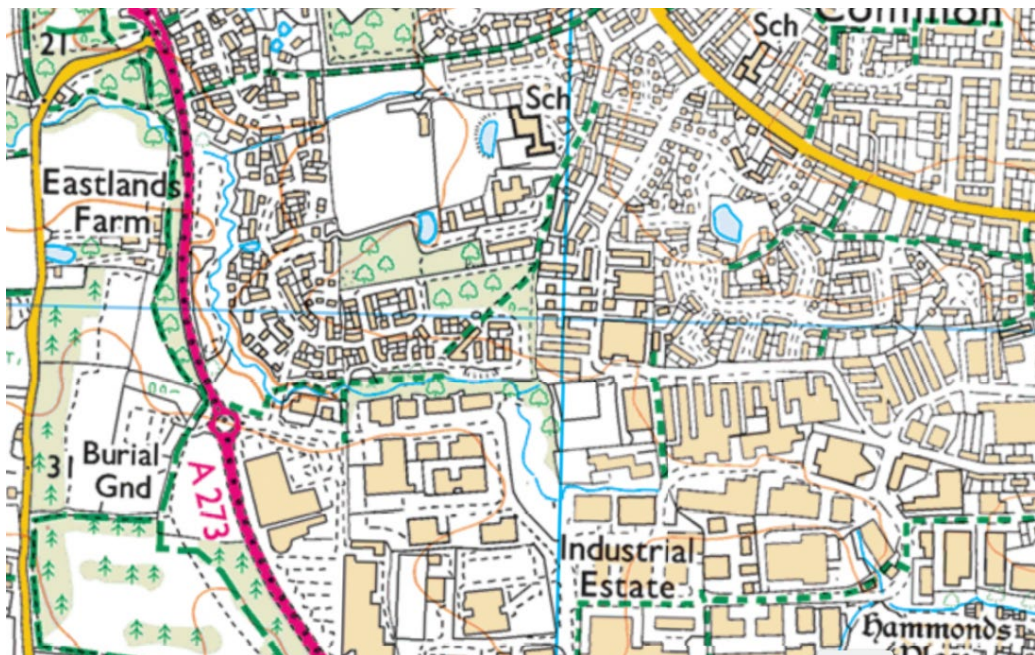


Image 2: Local Topography

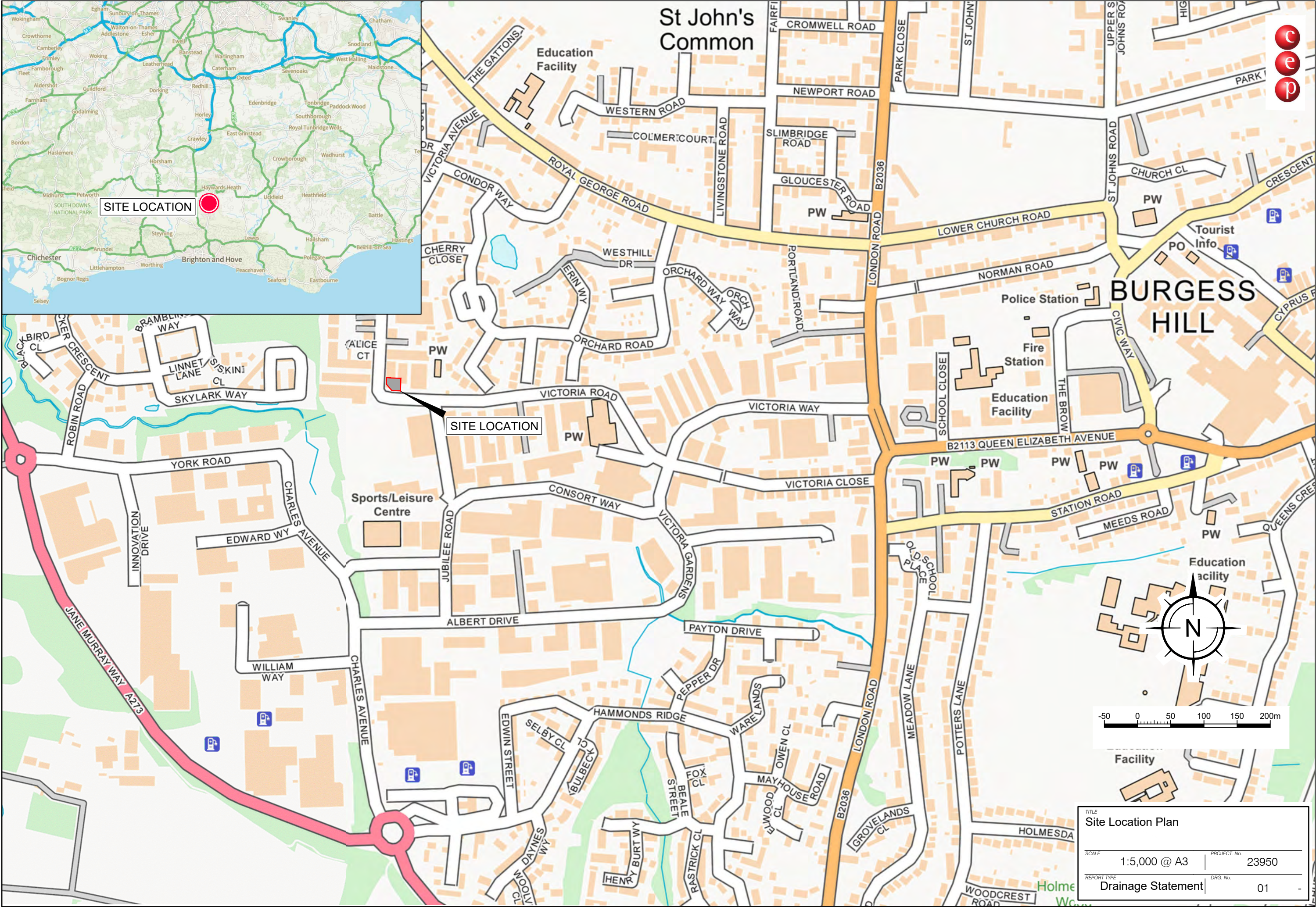
5 Conclusions

- 5.1 The geology of the area is predominantly clay and is not suitable to accommodate an infiltration drainage system.
- 5.2 A suitable SuDS drainage system is proposed which accords with the requirements of national and local policy.
- 5.3 Surface water will be discharged to the existing public surface water sewer south of Victoria Road at a suitably restricted rate to provide betterment on the existing contributing flows.
- 5.4 Calculations confirm that surface water runoff generated by the proposed development can be attenuated on site for all rainfall events up to the 1:100 year event including an allowance for climate change.
- 5.5 Water quality improvement will be provided to mitigate against any risk to any receiving waterbody.
- 5.6 Foul water will be discharged to the existing public foul sewer located beneath the hardstanding below the southern part of the site via a proposed connection to the existing onsite manhole.
- 5.7 A suitable surface water and foul water drainage system can be designed to accommodate the anticipated flows from the proposed development and in terms of drainage the development proposals are suitable at this location.

6 List of Appendices, Images and Tables

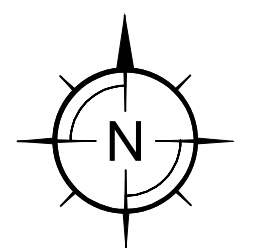
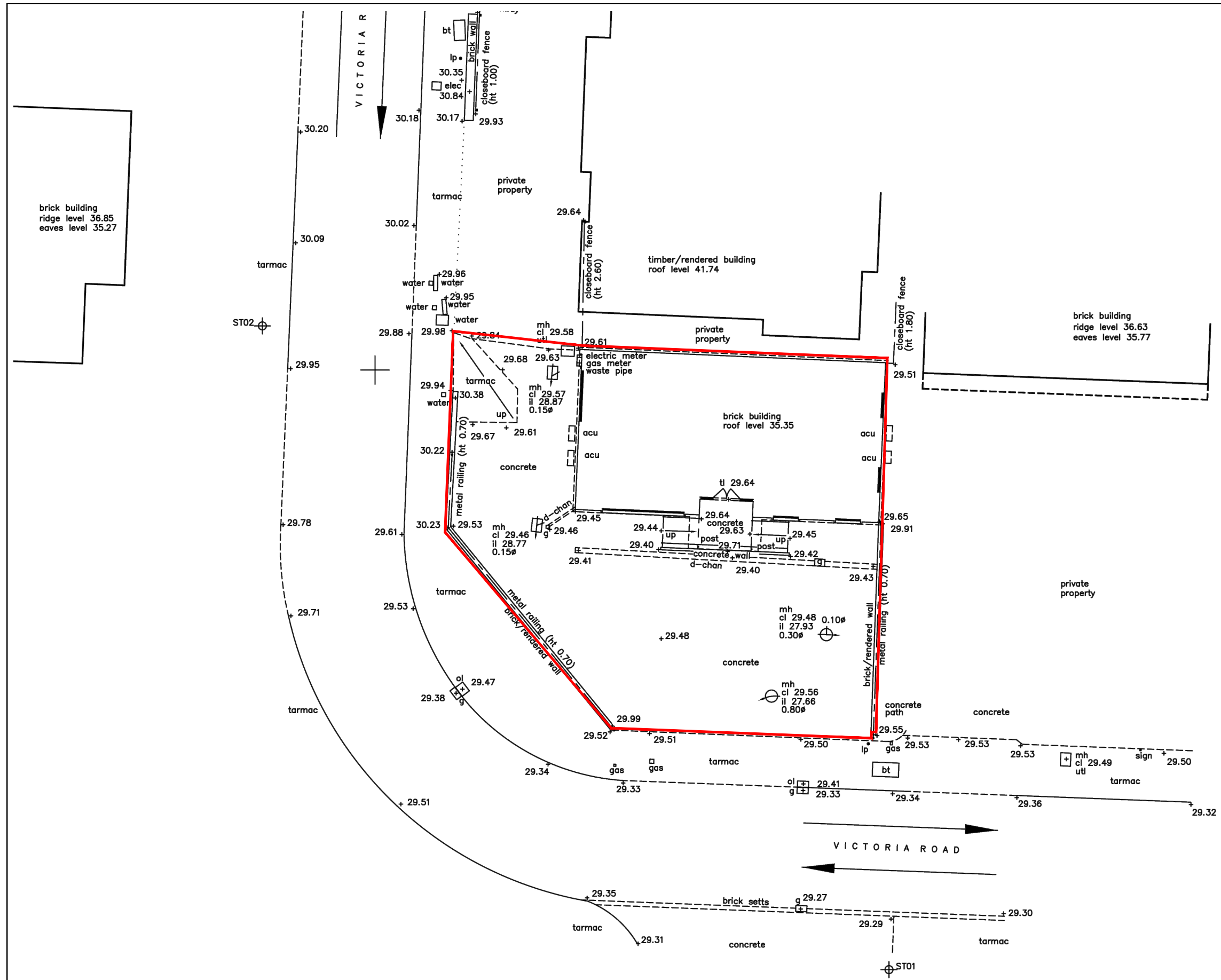
Appendix 1	Site Location Plan
Appendix 2	Existing Site Layout Plan
Appendix 3	Sewer Records, Easement, Correspondence and CCTV Survey Report
Appendix 4	Extracts from the Site Investigation Report
Appendix 5	Proposed Site Layout Plan and Drained Areas Plan
Appendix 6	Drainage Strategy Plan, Construction Details and Calculations
Appendix 7	Outline Drainage Management and Maintenance Plan
Image 1	Site Location
Image 2	Local Topography
Table 1	Pollution Hazard Indices
Table 2	Pollution Mitigation Indices and Provision

Appendix 1
Site Location Plan



TITLE Site Location Plan	
SCALE 1:5,000 @ A3	PROJECT No. 23950
REPORT TYPE Drainage Statement	DRG. No. 01

Appendix 2
Existing Site Layout Plan



TITLE Existing Site Layout Plan	
SCALE 1:200 @ A3	PROJECT No. 66 Victoria Road
REPORT TYPE Drainage Statement	DRG. No. 02

Appendix 3

**Sewer Records, Easement, Correspondence
and CCTV Survey Report**

Sonya Macandrew

From: Wastewater Technical <WastewaterTechnical@southernwater.co.uk>
Sent: 02 October 2024 09:48
To: Sonya Macandrew
Cc: CEP | Reception
Subject: RE: 23950 66 Victoria Road, Burgess Hill

Hi Sonya,

Thank you for taking my call this morning.

As we discussed, the two lateral drains that you plotted on the mapping snip below (Image 1) would have remained private in the 2011 transfer of sewers and will be private until they reach MH 0904.

If you need anything else please do let me know.

Kind regards,

Mia Dougan
Wastewater Application Advisor
Developer Services

M. 07463 965896

T. 0330 303 0119



www.southernwater.co.uk

From: Sonya Macandrew <Sonya@civil.co.uk>
Sent: Tuesday, October 1, 2024 4:40 PM
To: Wastewater Technical <WastewaterTechnical@southernwater.co.uk>
Cc: CEP | Reception <Reception@civil.co.uk>
Subject: RE: 23950 66 Victoria Road, Burgess Hill

You don't often get email from sonya@civil.co.uk. [Learn why this is important](#)

Hi Mia

Apologies, I meant to include the following with my earlier email. Please refer to pages 6 & 7 and 21 & 22, which support my understanding that the assets in question are private pipes and not public sewers.

<https://www.water.org.uk/wp-content/uploads/2019/03/Private-Sewer-Transfer-Water-UK-Template.pdf>

Kind regards

Sonya

Sonya Macandrew

07810 335512

Sonya@civil.co.uk



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From: Sonya Macandrew

Sent: Tuesday, October 1, 2024 3:49 PM

To: 'Wastewater Technical' <WastewaterTechnical@southernwater.co.uk>

Cc: CEP | Reception <Reception@civil.co.uk>

Subject: RE: 23950 66 Victoria Road, Burgess Hill

Hi Mia

I have left a couple of messages but have not been able to get hold of anyone to discuss the appropriate action or submissions for this site.

The main point that requires absolute confirmation is the status of the sewers under the building in question and shown in the sketch below. The reason I question this is that Southern Waters own Asset Plan shows the now two buildings as one with one boundary (see my second image), meaning as I understand it that the assets would not have been transferred to Southern Water in 2011, as they only served one property at the time.

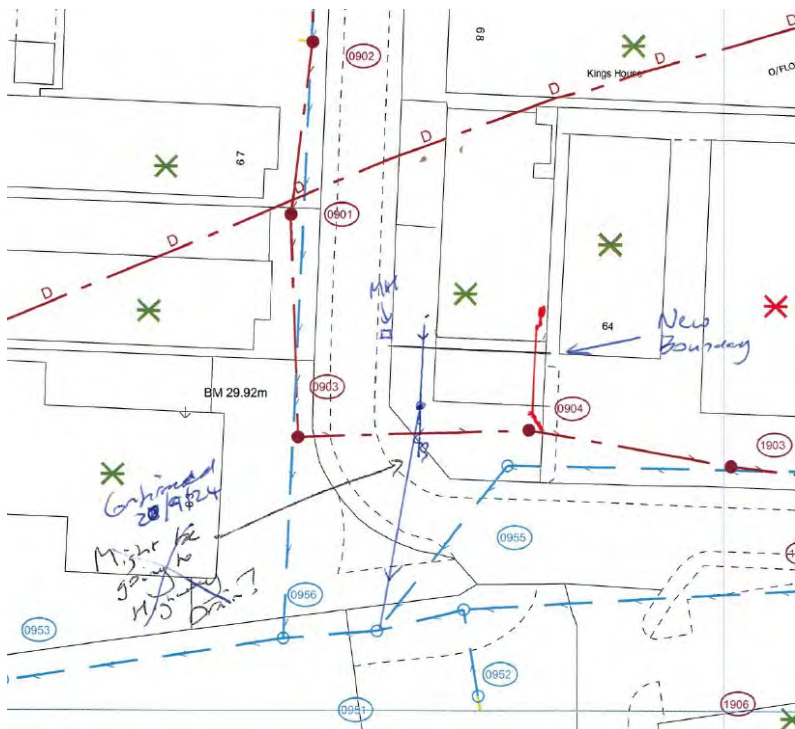


Image 1 – showing two additional 150mm diameter sewers hand drawing in red and blue solid lines

The attached Southern Water Asset Plan shows this site as one building with a single site boundary. As shown in the extract below.



Image 2 – Extract from Southern Water's Asset Map showing one building with one site boundary leading to the question of whether the assets would have been transferred in 2011

Images on Google Maps also show this as one building until at least March 2019 and it is referred to as one garage in planning applications in 1981 and 2004.



Project

Project Name: 66 Victoria Road

Project Description: CCTV Survey, Trace & Plot

Project Status: Complete

Project Date: 25/09/2022

Inspection Standard: MSCC5 Sewers & Drainage GB (SRM5 Scoring)





COASTAL DRAINS LTD

Coastal Drains Ltd

Commerce Way, Lancing

Tel. 0808 253 3550

info@coastaldrains.co.uk

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66 Victoria Road		25/09/2022

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Project Information

Project Name
66 Victoria Road

Project Number

Project Date
25/09/2022

Site

Street: 66 Victoria Road
Town or City: Burgess Hill
County: Sussex
Post Code: RH15 9LH

Contractor

Company: Coastal Drains Ltd
Department: Unit 3, Wayside
Street: Commerce Way
Town or City: Lancing
County: West Sussex
Post Code: BN15 8SW
Phone: 0808 253 3550
Email: info@coastaldrains.co.uk





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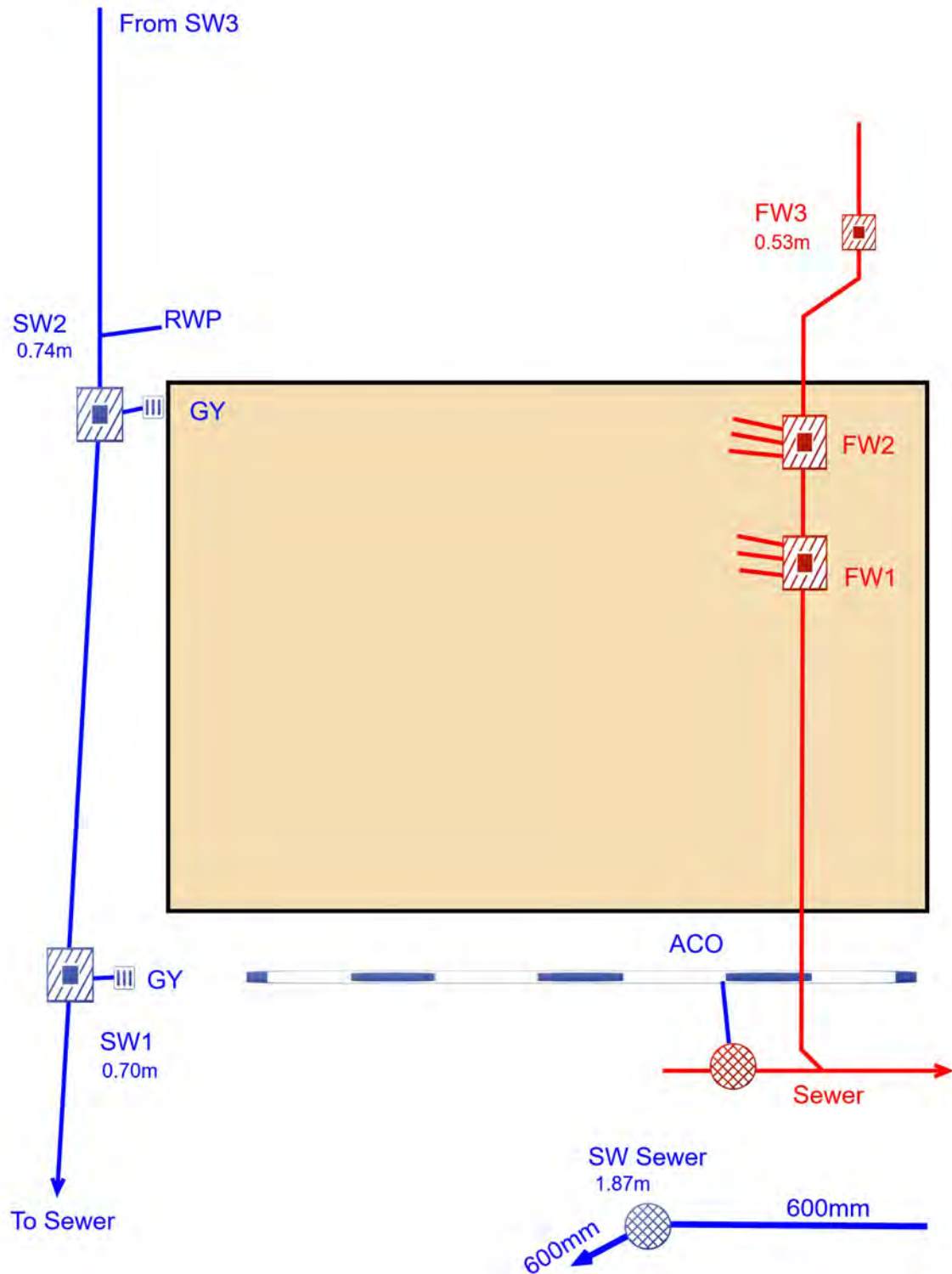
Project Information

Project Name
66 Victoria Road

Project Number

Project Date
25/09/2022

Project Drawing, Page '66 Victoria Road'





Scoring Summary

Project Name
66 Victoria Road

Project Number

Project Date
25/09/2022

Structural Defects

Grade 3: Best practice suggests consideration should be given to repairs in the medium term.

Grade 4: Best practice suggests consideration should be given to repairs to avoid a potential collapse.

Grade 5: Best practice suggests that this pipe is at risk of collapse at any time. Urgent consideration should be given to repairs to avoid total failure.

Section	PLR	Grade	Description
1	SW3X	3	Fracture, circumferential at joint from 8 o'clock to 5 o'clock
4	SW1	3	Fracture, circumferential at joint from 12 o'clock to 12 o'clock

Service / Operational Condition

Grade 3: Best practice suggests consideration should be given to maintenance activities in the medium term.

Grade 4: Best practice suggests consideration should be given to maintenance activity to avoid potential blockages.

Grade 5: Best practice suggests that this pipe is at a high risk of backing up or causing flooding.

Section	PLR	Grade	Description
1	SW3X	4	Multiple defects
3	SW2X	3	Multiple defects
4	SW1	5	Multiple defects
5	GYX	5	Settled deposits, coarse, 100% cross-sectional area loss
7	FW3X	3	Joint displaced, medium

Abandoned Surveys

Section	PLR	Description
4	SW1	Survey abandoned
5	GYX	Survey abandoned

Information

These scoring summaries are based on the SRM grading from the WRc.

Project Pictures

Project Name
 66 Victoria Road

Project Number

Project Date
 25/09/2022



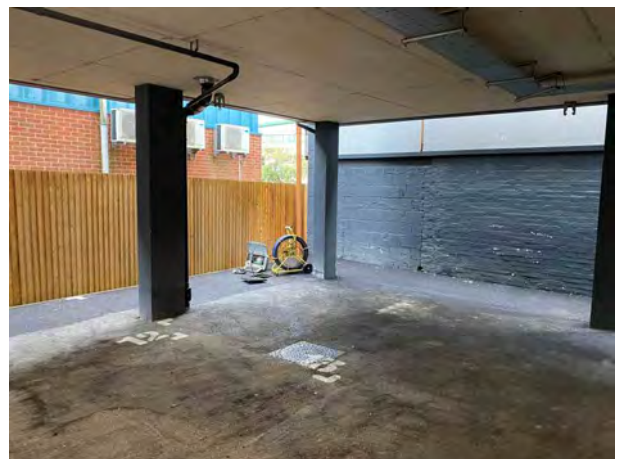
Site



Foul Sewer chamber location



Foul Sewer chamber location



FW3 Location



Unidentified chamber



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Section Profile**Project Name**
66 Victoria Road**Project Number****Project Date**
25/09/2022**Circular, 100 mm**

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
1	SW3	SW2	23/09/2022	Victoria Rd	Vitrified clay	17.00 m	17.00 m
2	GY	SW2	23/09/2022	Victoria Rd	Vitrified clay	1.60 m	1.60 m
6	ACO	Sewer	23/09/2022	Victoria Rd	Polyvinyl chloride	3.90 m	3.90 m
7	FW3	FW2	23/09/2022	Victoria Rd	Polyvinyl chloride	4.70 m	4.70 m

Total: 4 Inspections x Circular 100 mm = 27.20 m Total Length and 27.20 m Inspected Length**Circular, 150 mm**

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
3	SW2	SW1	23/09/2022	Victoria Rd	Vitrified clay	7.90 m	7.90 m
8	FW2	FW1	23/09/2022	Victoria Rd	Polyvinyl chloride	2.80 m	2.80 m
9	FW1	Sewer	23/09/2022	Victoria Rd	Vitrified clay	7.20 m	7.20 m

Total: 3 Inspections x Circular 150 mm = 17.90 m Total Length and 17.90 m Inspected Length**Total: 7 Inspections = 45.10 m Total Length and 45.10 m Inspected Length**



Section Summary

Project Name 66 Victoria Road	Project Number	Project Date 25/09/2022
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Number of sections	9
Total length of sections	54.50 m
Total length of inspected sections	54.30 m
Total length of not inspected sections	0.20 m
Number of abandoned inspections	2
Number of section inspection photos	54
Number of section inspection videos	11
Number of section inspection scans	0
Number of section inclination measurements	0

PLR:	SW3X	Upstream Node:	SW3
Inspection Direction:	Upstream	Downstream Node:	SW2
Inspected Length:	17.00 m	Dia/Height:	100 mm
Total Length:	17.00 m	Material:	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW2
2	0.00	WL	Water level, 20% of the vertical dimension
3	0.50	FCJ	Fracture, circumferential at joint from 8 o'clock to 5 o'clock
4	1.25	JN	Junction at 3 o'clock, 100mm dia
5	1.90	DER	Settled deposits, coarse, 35% cross-sectional area loss
6	2.50	DEZ	Attached deposits, other from 4 o'clock to 8 o'clock, 15% cross-sectional area loss, start
7	3.30	DER	Settled deposits, coarse, 20% cross-sectional area loss
8	4.40	DEZ	Attached deposits, other from 3 o'clock to 9 o'clock, 20% cross-sectional area loss, change
9	6.40	DEZ	Attached deposits, other from 3 o'clock to 9 o'clock, 20% cross-sectional area loss, finish
10	6.40	WL	Water level, 30% of the vertical dimension
11	6.50	MCPVC	Pipe material changes to polyvinyl chloride at this point
12	6.50	JDM	Joint displaced, medium
13	6.70	JN	Junction at 2 o'clock, 100mm dia
14	7.60	JN	Junction at 3 o'clock, 100mm dia
15	17.00	MHF	Finish node, manhole, reference: SW3

PLR:	GYX	Upstream Node:	GY
Inspection Direction:	Upstream	Downstream Node:	SW2
Inspected Length:	1.60 m	Dia/Height:	100 mm
Total Length:	1.60 m	Material:	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW2



Section Summary

Project Name 66 Victoria Road	Project Number	Project Date 25/09/2022
---	-----------------------	-----------------------------------

No.	m+	Code	Observation
2	0.00	WL	Water level, 0% of the vertical dimension
3	0.00	DER	Settled deposits, coarse, 20% cross-sectional area loss, start
4	1.00	LU	Line deviates up
5	1.00	DER	Settled deposits, coarse, 20% cross-sectional area loss, finish
6	1.60	MHF	Finish node, manhole, reference: GY

PLR:	SW2X	Upstream Node:	SW2
Inspection Direction:	Downstream	Downstream Node:	SW1
Inspected Length:	7.90 m	Dia/Height:	150 mm
Total Length:	7.90 m	Material:	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW2
2	0.00	WL	Water level, 15% of the vertical dimension
3	0.70	DER	Settled deposits, coarse, 15% cross-sectional area loss, start
4	3.10	DER	Settled deposits, coarse, 10% cross-sectional area loss
5	6.40	DER	Settled deposits, coarse, 5% cross-sectional area loss, change
6	7.90	DER	Settled deposits, coarse, 5% cross-sectional area loss, finish
7	7.90	MHF	Finish node, manhole, reference: SW1

PLR:	SW1	Upstream Node:	SW1
Inspection Direction:	Downstream	Downstream Node:	Sewer
Inspected Length:	8.80 m	Dia/Height:	150 mm
Total Length:	9.00 m	Material:	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW1
2	0.00	WL	Water level, 10% of the vertical dimension
3	0.00	DER	Settled deposits, coarse, 10% cross-sectional area loss, start
4	1.00	DER	Settled deposits, coarse, 15% cross-sectional area loss, change
5	2.70	DER	Settled deposits, coarse, 20% cross-sectional area loss, change
6	3.80	DER	Settled deposits, coarse, 15% cross-sectional area loss, change
7	4.50	FCJ	Fracture, circumferential at joint from 12 o'clock to 12 o'clock
8	6.00	DER	Settled deposits, coarse, 15% cross-sectional area loss, finish
9	7.60	WL	Water level, 10% of the vertical dimension
10	7.70	WL	Water level, 20% of the vertical dimension
11	7.80	OBZ	Other obstacles from 4 o'clock to 9 o'clock, 30% cross-sectional area loss
12	7.80	DER	Settled deposits, coarse, 10% cross-sectional area loss
13	8.20	LL	Line deviates left
14	8.80	OBZ	Other obstacles from 1 o'clock to 10 o'clock, 80% cross-sectional area loss
15	8.80	SA	Survey abandoned

PLR:	GYX	Upstream Node:	GY
Inspection Direction:	Upstream	Downstream Node:	SW1
Inspected Length:	0.40 m	Dia/Height:	100 mm
Total Length:	0.40 m	Material:	Vitrified clay



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Section Summary

Project Name
66 Victoria Road**Project Number****Project Date**
25/09/2022

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW1
2	0.00	WL	Water level, 0% of the vertical dimension
3	0.40	DER	Settled deposits, coarse, 100% cross-sectional area loss
4	0.40	SA	Survey abandoned

PLR:	ACOX	Upstream Node:	ACO
Inspection Direction:	Downstream	Downstream Node:	Sewer
Inspected Length:	3.90 m	Dia/Height:	100 mm
Total Length:	3.90 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: ACO
2	0.00	WL	Water level, 0% of the vertical dimension
3	3.90	MHF	Finish node, manhole, reference: Sewer

PLR:	FW3X	Upstream Node:	FW3
Inspection Direction:	Downstream	Downstream Node:	FW2
Inspected Length:	4.70 m	Dia/Height:	100 mm
Total Length:	4.70 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW3
2	0.00	WL	Water level, 0% of the vertical dimension
3	0.60	LR	Line deviates right
4	1.50	LL	Line deviates left
5	4.00	MCVC	Pipe material changes to vitrified clay at this point
6	4.00	JDM	Joint displaced, medium
7	4.70	MHF	Finish node, manhole, reference: FW2

PLR:	FW2X	Upstream Node:	FW2
Inspection Direction:	Downstream	Downstream Node:	FW1
Inspected Length:	2.80 m	Dia/Height:	150 mm
Total Length:	2.80 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW2
2	0.00	WL	Water level, 0% of the vertical dimension
3	2.80	MHF	Finish node, manhole, reference: FW1

PLR:	FW1X	Upstream Node:	FW1
Inspection Direction:	Downstream	Downstream Node:	Sewer
Inspected Length:	7.20 m	Dia/Height:	150 mm
Total Length:	7.20 m	Material:	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW1
2	0.00	WL	Water level, 5% of the vertical dimension
3	5.20	RFJ	Roots, fine at joint
4	6.00	RFJ	Roots, fine at joint
5	6.70	LL	Line deviates left

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Section Summary

Project Name 66 Victoria Road	Project Number	Project Date 25/09/2022
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No.	m+	Code	Observation
6	7.20	MHF	Finish node, manhole, reference: Sewer



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Section Inspection - 23/09/2022 - SW3X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
1	1	23/09/22	9:02	Not Specified	No Rain Or Snow	No	SW3X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Upstream	Upstream Node:	SW3
Road:	Victoria Rd	Inspected Length:	17.00 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	17.00 m	Downstream Node:	SW2
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale: 1:147	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m	SW2	0.00	MH	Start node, manhole, reference: SW2	00:00:00	1
		0.00	WL	Water level, 20% of the vertical dimension: Live	00:00:14	2
		0.50	FCJ	Fracture, circumferential at joint from 8 o'clock to 5 o'clock	00:00:22	3 3 / 2
		1.25	JN	Junction at 3 o'clock, 100mm dia	00:00:28	4
		1.90	DER	Settled deposits, coarse, 35% cross-sectional area loss	00:00:45	5 4
		2.50	S01	Attached deposits, other from 4 o'clock to 8 o'clock, 15% cross-sectional area loss, start	00:00:51	6
		3.30	DER	Settled deposits, coarse, 20% cross-sectional area loss	00:00:57	7 4
		4.40	C01	Attached deposits, other from 3 o'clock to 9 o'clock, 20% cross-sectional area loss, change	00:01:06	8
		6.40	F01	Attached deposits, other from 3 o'clock to 9 o'clock, 20% cross-sectional area loss, finish	00:01:19	9 3
		6.40	WL	Water level, 30% of the vertical dimension	00:01:24	
		6.50	MCPVC	Pipe material changes to polyvinyl chloride at this point	00:01:21	10
		6.50	JDM	Joint displaced, medium	00:01:23	1 1 / 3
		6.70	JN	Junction at 2 o'clock, 100mm dia	00:01:26	11
		7.60	JN	Junction at 3 o'clock, 100mm dia	00:01:37	12
		17.00	MHF	Finish node, manhole, reference: SW3: Located off site boundary	00:02:01	13
Depth: m	SW3					

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	40.0	2.4	41.0	3.0	5	7.0	1.2	21.0	4.0



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Section Pictures - 23/09/2022 - SW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	SW3X		



1, 00:00:00, 0.00 m
Start node, manhole, reference: SW2



2, 00:00:14, 0.00 m
Water level, 20% of the vertical dimension, Live



3, 00:00:22, 0.50 m
Fracture, circumferential at joint from 8 o'clock to 5 o'clock



4, 00:00:28, 1.25 m
Junction at 3 o'clock, 100mm dia



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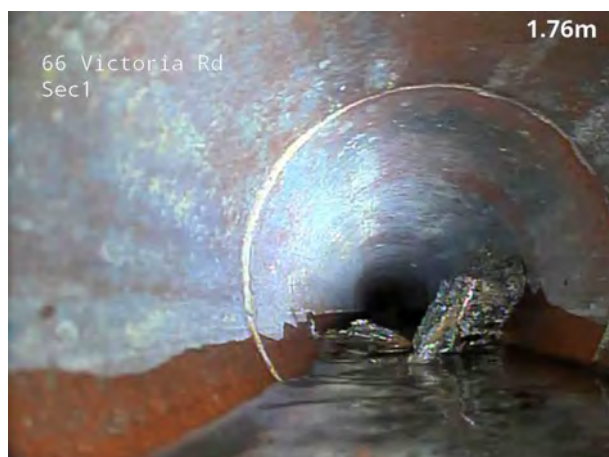
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Section Pictures - 23/09/2022 - SW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	SW3X		



5, 00:00:45, 1.90 m
Settled deposits, coarse, 35% cross-sectional area loss



6, 00:00:51, 2.50 m
Attached deposits, other from 4 o'clock to 8 o'clock, 15% cross-sectional area loss, start



7, 00:00:57, 3.30 m
Settled deposits, coarse, 20% cross-sectional area loss



8, 00:01:06, 4.40 m
Attached deposits, other from 3 o'clock to 9 o'clock, 20% cross-sectional area loss, change



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Section Pictures - 23/09/2022 - SW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	SW3X		



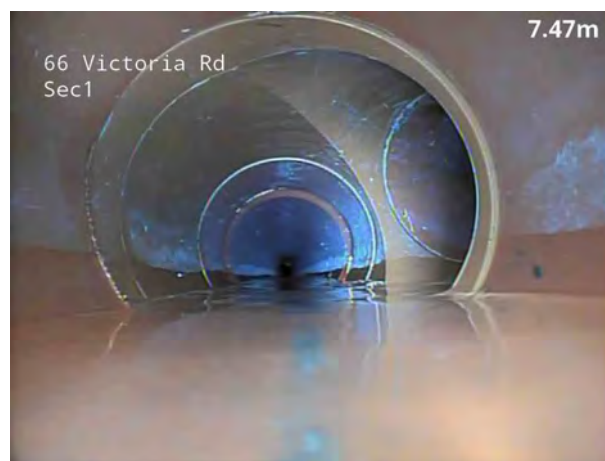
9, 00:01:19, 6.40 m
Attached deposits, other from 3 o'clock to 9 o'clock, 20%
cross-sectional area loss, finish



10, 00:01:21, 6.50 m
Pipe material changes to polyvinyl chloride at this point



11, 00:01:26, 6.70 m
Junction at 2 o'clock, 100mm dia



12, 00:01:37, 7.60 m
Junction at 3 o'clock, 100mm dia



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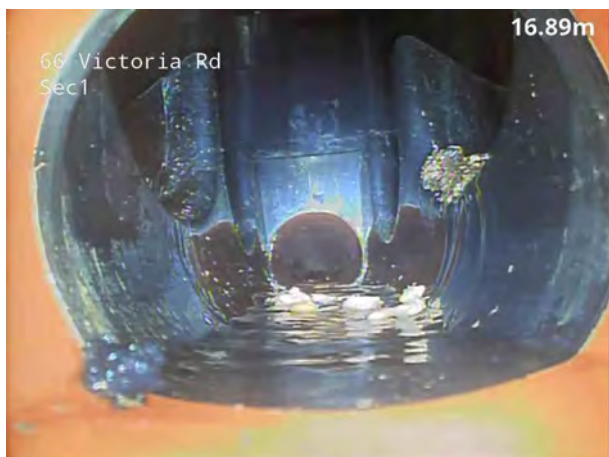
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Section Pictures - 23/09/2022 - SW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	SW3X		



13, 00:02:01, 17.00 m
Finish node, manhole, reference: SW3, Located off site
boundary



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Section Inspection - 23/09/2022 - GYX

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
2	1	23/09/22	9:05	Not Specified	No Rain Or Snow	No	GYX
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Upstream	Upstream Node:	GY
Road:	Victoria Rd	Inspected Length:	1.60 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	1.60 m	Downstream Node:	SW2
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
		0.00	MH	Start node, manhole, reference: SW2	00:00:00		
		0.00	WL	Water level, 0% of the vertical dimension	00:00:07	1	
		0.00	S01	Settled deposits, coarse, 20% cross-sectional area loss, start	00:00:07		
		1.00	LU	Line deviates up	00:00:19	2	
		1.00	F01	Settled deposits, coarse, 20% cross-sectional area loss, finish	00:00:35		4
		1.60	MHF	Finish node, manhole, reference: GY	00:00:29	3	

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	5.0	3.1	5.0	4.0



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Section Pictures - 23/09/2022 - GYX

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
2	Upstream	GYX		



1, 00:00:07, 0.00 m
Water level, 0% of the vertical dimension



2, 00:00:19, 1.00 m
Line deviates up



3, 00:00:29, 1.60 m
Finish node, manhole, reference: GY



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Section Inspection - 23/09/2022 - SW2X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
3	1	23/09/22	9:07	Not Specified	No Rain Or Snow	No	SW2X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	SW2
Road:	Victoria Rd	Inspected Length:	7.90 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	7.90 m	Downstream Node:	SW1
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:69	Position [m]	Code	Observation	MPEG	Photo	Grade
		0.00	MH	Start node, manhole, reference: SW2	00:00:00		
		0.00	WL	Water level, 15% of the vertical dimension: Live	00:00:12	1	
		0.70	S01	Settled deposits, coarse, 15% cross-sectional area loss, start	00:00:19	2	
		3.10	DER	Settled deposits, coarse, 10% cross-sectional area loss	00:00:30	3	3
		6.40	C01	Settled deposits, coarse, 5% cross-sectional area loss, change	00:00:42	4	
		7.90	F01	Settled deposits, coarse, 5% cross-sectional area loss, finish	00:00:55		3
		7.90	MHF	Finish node, manhole, reference: SW1	00:00:57	5	

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	2	4.0	2.3	18.0	3.0



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Section Pictures - 23/09/2022 - SW2X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	SW2X		



1, 00:00:12, 0.00 m
Water level, 15% of the vertical dimension, Live



2, 00:00:19, 0.70 m
Settled deposits, coarse, 15% cross-sectional area loss, start



3, 00:00:30, 3.10 m
Settled deposits, coarse, 10% cross-sectional area loss



4, 00:00:42, 6.40 m
Settled deposits, coarse, 5% cross-sectional area loss, change



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Section Pictures - 23/09/2022 - SW2X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	SW2X		



5, 00:00:57, 7.90 m
Finish node, manhole, reference: SW1



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Section Inspection - 23/09/2022 - SW1

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
4	1	23/09/22	9:09	Not Specified	No Rain Or Snow	No	SW1
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	SW1
Road:	Victoria Rd	Inspected Length:	8.80 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	9.00 m	Downstream Node:	SEWER
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:77	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m SW1							
		0.00	MH	Start node, manhole, reference: SW1	00:00:00	1	
		0.00	WL	Water level, 10% of the vertical dimension	00:00:03	2	
		0.00	S01	DER Settled deposits, coarse, 10% cross-sectional area loss, start	00:00:06	3	
		1.00	C01	DER Settled deposits, coarse, 15% cross-sectional area loss, change	00:00:13	4	
		2.70	C01	DER Settled deposits, coarse, 20% cross-sectional area loss, change	00:00:24	5	
		3.80	C01	DER Settled deposits, coarse, 15% cross-sectional area loss, change	00:00:30	6	
		4.50	FCJ	Fracture, circumferential at joint from 12 o'clock to 12 o'clock	00:00:44	7	3 / 2
		6.00	F01	DER Settled deposits, coarse, 15% cross-sectional area loss, finish	00:00:55	8	3
		7.60	WL	Water level, 10% of the vertical dimension	00:01:01	9	
		7.70	WL	Water level, 20% of the vertical dimension	00:01:02		
		7.80	OBZ	Other obstacles from 4 o'clock to 9 o'clock, 30% cross-sectional area loss	00:01:02	10	5
		7.80	DER	Settled deposits, coarse, 10% cross-sectional area loss	00:01:05	11	3
		8.20	LL	Line deviates left	00:01:09	12	
		8.80	OBZ	Other obstacles from 1 o'clock to 10 o'clock, 80% cross-sectional area loss: Unknown	00:01:23	13	5
		8.80	SA	Survey abandoned: Unable to pass	00:01:34	14	



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Section Inspection - 23/09/2022 - SW1

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
4	1	23/09/22	9:09	Not Specified	No Rain Or Snow	No	SW1
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Scale: 1:77 Position [m] Code Observation MPEG Photo Grade



9.00

End of pipe

Sewer
Depth: m

Construction Features

Structural Defects

Miscellaneous Features

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	40.0	4.5	40.0	3.0	5	12.0	4.0	35.0	5.0



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Section Pictures - 23/09/2022 - SW1

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	SW1		



1, 00:00:00, 0.00 m
Start node, manhole, reference: SW1



2, 00:00:03, 0.00 m
Water level, 10% of the vertical dimension



3, 00:00:06, 0.00 m
Settled deposits, coarse, 10% cross-sectional area loss, start



4, 00:00:13, 1.00 m
Settled deposits, coarse, 15% cross-sectional area loss, change



Section Pictures - 23/09/2022 - SW1

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	SW1		



5, 00:00:24, 2.70 m
Settled deposits, coarse, 20% cross-sectional area loss, change



6, 00:00:30, 3.80 m
Settled deposits, coarse, 15% cross-sectional area loss, change



7, 00:00:44, 4.50 m
Fracture, circumferential at joint from 12 o'clock to 12 o'clock



8, 00:00:55, 6.00 m
Settled deposits, coarse, 15% cross-sectional area loss, finish



Section Pictures - 23/09/2022 - SW1

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	SW1		



9, 00:01:01, 7.60 m
Water level, 10% of the vertical dimension



10, 00:01:02, 7.80 m
Other obstacles from 4 o'clock to 9 o'clock, 30% cross-sectional area loss



11, 00:01:05, 7.80 m
Settled deposits, coarse, 10% cross-sectional area loss



12, 00:01:09, 8.20 m
Line deviates left



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Section Pictures - 23/09/2022 - SW1

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	SW1		



13, 00:01:23, 8.80 m
Other obstacles from 1 o'clock to 10 o'clock, 80%
cross-sectional area loss, Unknown



14, 00:01:34, 8.80 m
Survey abandoned, Unable to pass



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Section Inspection - 23/09/2022 - GYX

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
5	1	23/09/22	9:13	Not Specified	No Rain Or Snow	No	GYX
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Upstream	Upstream Node:	GY
Road:	Victoria Rd	Inspected Length:	0.40 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	0.40 m	Downstream Node:	SW1
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
		0.00	MH	Start node, manhole, reference: SW1	00:00:00		
		0.00	WL	Water level, 0% of the vertical dimension	00:00:04	1	
		0.40	DER	Settled deposits, coarse, 100% cross-sectional area loss: Broken gully grill	00:00:12	2	5
		0.40	SA	Survey abandoned: Unable to continue	00:00:15	3	

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	10.0	25.0	10.0	5.0



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Coastal Drains Ltd

Commerce Way, Lancing

Tel. 0808 253 3550

info@coastaldrains.co.uk

Section Pictures - 23/09/2022 - GYX

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
5	Upstream	GYX		



1, 00:00:04, 0.00 m
Water level, 0% of the vertical dimension



2, 00:00:12, 0.40 m
Settled deposits, coarse, 100% cross-sectional area loss,
Broken gully grill



3, 00:00:15, 0.40 m
Survey abandoned, Unable to continue



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Section Inspection - 23/09/2022 - ACOX

Item No. 6	Insp. No. 1	Date 23/09/22	Time 9:20	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned No	PLR ACOX
Operator JY		Vehicle BV21 CDX		Camera P540	Preset Length Not Specified	Legal Status Private Drain	Alternative ID Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	ACO
Road:	Victoria Rd	Inspected Length:	3.90 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	3.90 m	Downstream Node:	SEWER
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale: 1:50 Position [m] Code Observation MPEG Photo Grade

Depth: m

ACO



0.00

MH

Start node, manhole, reference: ACO

00:00:00

1

0.00

WL

Water level, 0% of the vertical dimension

00:00:14

2

3.90

MHF

Finish node, manhole, reference: Sewer

00:00:26

3

Sewer

Depth: m

Construction Features

Structural Defects

Miscellaneous Features

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



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Section Pictures - 23/09/2022 - ACOX

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
6	Downstream	ACOX		



1, 00:00:00, 0.00 m
Start node, manhole, reference: ACO



2, 00:00:14, 0.00 m
Water level, 0% of the vertical dimension



3, 00:00:26, 3.90 m
Finish node, manhole, reference: Sewer



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Section Inspection - 23/09/2022 - FW3X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
7	1	23/09/22	9:26	Not Specified	No Rain Or Snow	No	FW3X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	FW3
Road:	Victoria Rd	Inspected Length:	4.70 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	4.70 m	Downstream Node:	FW2
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m FW3 0.00 0.00 0.60 1.50 4.00 4.00 4.70 0.00 0.00 0.00:13 0.00:19 00:00:19 00:00:38 00:00:45 MH WL LR LL MCVC JDM MHF Start node, manhole, reference: FW3: Located within neighbouring car park Water level, 0% of the vertical dimension Line deviates right Line deviates left Pipe material changes to vitrified clay at this point Joint displaced, medium Finish node, manhole, reference: FW2: Internal 00:00:00 00:00:11 00:00:13 00:00:19 00:00:19 00:00:38 00:00:45 1 2 3 4 5 6 1 / 3							

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	1.0	0.2	1.0	1.0	1	2.0	0.4	2.0	3.0



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Section Pictures - 23/09/2022 - FW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
7	Downstream	FW3X		



1, 00:00:00, 0.00 m
Start node, manhole, reference: FW3, Located within
neighbouring car park



2, 00:00:11, 0.00 m
Water level, 0% of the vertical dimension



3, 00:00:13, 0.60 m
Line deviates right



4, 00:00:19, 1.50 m
Line deviates left



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Section Pictures - 23/09/2022 - FW3X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
7	Downstream	FW3X		



5, 00:00:38, 4.00 m
Joint displaced, medium



6, 00:00:45, 4.70 m
Finish node, manhole, reference: FW2, Internal



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Section Inspection - 23/09/2022 - FW2X

Item No. 8	Insp. No. 1	Date 23/09/22	Time 9:27	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned No	PLR FW2X
Operator JY		Vehicle BV21 CDX		Camera P540	Preset Length Not Specified	Legal Status Private Drain	Alternative ID Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	FW2
Road:	Victoria Rd	Inspected Length:	2.80 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	2.80 m	Downstream Node:	FW1
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale: 1:50 Position [m] Code Observation MPEG Photo Grade

Depth: m

FW2



0.00

MH

Start node, manhole, reference: FW2: Internal

00:00:00

0.00

WL

Water level, 0% of the vertical dimension

00:00:01

1

2.80

MHF

Finish node, manhole, reference: FW1

00:00:31

2

FW1

Depth: m

Construction Features

Structural Defects

Miscellaneous Features

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



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Section Pictures - 23/09/2022 - FW2X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
8	Downstream	FW2X		



1, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension



2, 00:00:31, 2.80 m
Finish node, manhole, reference: FW1



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Section Inspection - 23/09/2022 - FW1X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
9	1	23/09/22	9:28	Not Specified	No Rain Or Snow	No	FW1X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
JY		BV21 CDX		P540	Not Specified	Private Drain	Not Specified

Town or Village:	Burgess Hill	Inspection Direction:	Downstream	Upstream Node:	FW1
Road:	Victoria Rd	Inspected Length:	7.20 m	Upstream Pipe Depth:	
Location:	Property or buildings	Total Length:	7.20 m	Downstream Node:	SEWER
Surface Type:	Asphalt	Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Vitrified clay		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:

Recommendations:

Scale: 1:63 Position [m] Code Observation MPEG Photo Grade

Depth: m

FW1



0.00

MH

Start node, manhole, reference: FW1

00:00:00

0.00

WL

Water level, 5% of the vertical dimension: Live

00:00:03

1

5.20

RFJ

Roots, fine at joint

00:00:45

2

2

6.00

RFJ

Roots, fine at joint

00:00:48

3

2

6.70

LL

Line deviates left

00:01:05

4

7.20

MHF

Finish node, manhole, reference: Sewer

00:01:17

5

Sewer

Depth: m

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	2	1.0	0.3	2.0	2.0



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Section Pictures - 23/09/2022 - FW1X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
9	Downstream	FW1X		



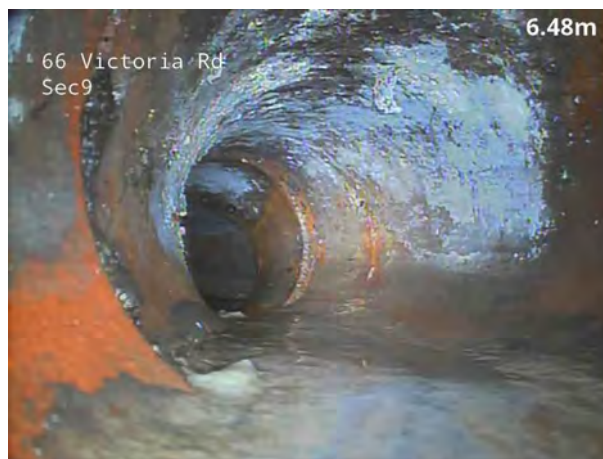
1, 00:00:03, 0.00 m
Water level, 5% of the vertical dimension, Live



2, 00:00:45, 5.20 m
Roots, fine at joint



3, 00:00:48, 6.00 m
Roots, fine at joint



4, 00:01:05, 6.70 m
Line deviates left



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Section Pictures - 23/09/2022 - FW1X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
9	Downstream	FW1X		



5, 00:01:17, 7.20 m
Finish node, manhole, reference: Sewer

Appendix 4

Extracts from the Site Investigation Report

EXECUTIVE SUMMARY

The following presents a summary of the main findings of the report. It is emphasised that no reliance should be placed on any individual point until the whole of the report has been read as other sections of the report may put into context the information contained herein.

It is proposed to construct a four-storey block of flats at the site of 66 Victoria Road, Burgess Hill, West Sussex. Parking and limited soft landscaped planters will be incorporated at ground floor level.

The site currently comprises a two-storey commercial office building situated in the north eastern corner of the site, with surrounding concrete surfaced car parking areas. The land to the north of the site (66a Victoria Road) has recently been redeveloped for residential housing. This report is supported by data used as part of a previous assessment by Ashdown Site Investigation Ltd. for the site to the north, as well as a number of other ground investigations in close proximity to the site.

The site comprised part of open fields at the time of the earliest inspected historical map, dated 1878. The site is shown to have been part of a works building by the mid 1960s and has been part of an industrial estate surrounded by works buildings since this period.

Reference to geological datasets indicates that the site is expected to be underlain by the Weald Clay Formation. The ground investigation confirmed the underlying soils to comprise a variable thickness of made ground/reworked soils, overlying Weald Clay Formation deposits.

The Weald Clay Formation is classed as an Unproductive Strata. The site does not lie within an Environment Agency Source Protection Zone. Groundwater was encountered at a depth of 1.70m below ground level during the short duration of the ground investigation.

The preliminary contamination risk assessment identified potential pollutant linkages relating to both proposed end users of the site and controlled waters, relating to the historical and current use of site and surrounding area as a works and for various light industrial uses.

The ground investigation encountered very low concentrations of contaminants and did not identify any of the potential contaminants to be present at concentrations that are considered to pose an unacceptable risk to either end users of the site or controlled waters beneath the site.

However, marginally elevated concentrations of petroleum hydrocarbons in relation to the threshold value for the use of PE water supply pipework were recorded and it is recommended that the local water supply company is consulted as to the selection of water supply pipe material and whether protective measures (e.g. barrier pipe) is required.

The details of the consultation and selection of water supply pipe material should be forwarded to the Local Planning Authority accompanying this report in relation to the discharge of Condition 11. The contents of this report, the conclusions drawn and recommendations made should be considered provisional until such time as the Local Planning Authority approve the report and any relevant conditions are discharged.

Precautions against shrinkage and heave for any new foundation system should assume a high volume change potential for the fine-grained Weald Clay Formation and derived made ground/reworked soils.

A net allowable bearing capacity of 170kN/m^2 may be assumed for spread (pad or strip) foundations up to 1.5m across bearing within the Weald Clay Formation soils of at least stiff consistency, typically encountered at depths of below 1.00m to 1.70m below ground level.

Indicative pile capacities are included in the body of the report.

A DS-1 Design Sulfate Class and an AC-1 ACEC classification should be assumed as a minimum for the design of concrete in contact with the ground where the ground will not be significantly disturbed.

In view of the variable thickness of made ground and the presence of soils of high volume change potential underlying the site, it is recommended that ground floors should be suspended.

Design equilibrium California bearing ratios and moduli of subgrade reaction are presented in the report. The subgrade is not likely to be susceptible to frost heave.

The results from the infiltration tests indicate that the Weald Clay Formation soils possess negligible to poor infiltration characteristics.

The infiltration rates derived from the tests are summarised in the following table.

Table 13. Calculated Infiltration Rates

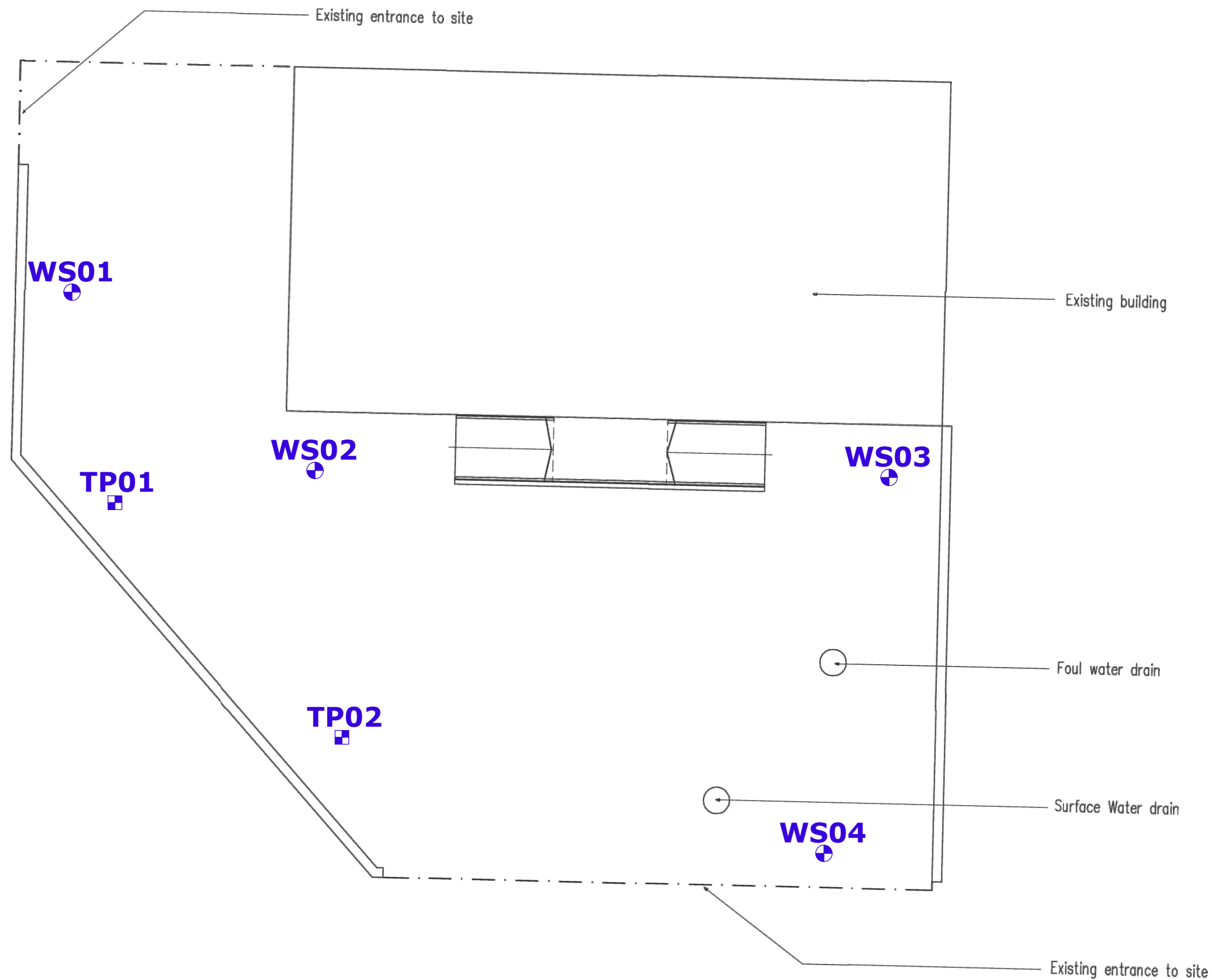
Exploratory Hole	Test Response Zone Depth (m)		Stratum	Infiltration Rate (f) (m/sec)	Driving Head of Water (m)
	Top	Bottom			
WS01	2.00	3.00	Weald Clay Formation	7.3×10^{-8}	2.5
WS04	2.00	3.00	Weald Clay Formation	1.2×10^{-5}	2.4
				4.2×10^{-7}	2.0

The value 'f' is equivalent to the soil infiltration coefficient 'q' quoted in the Construction Industry Research and Information Association (CIRIA) Report 156.

The results from the preliminary infiltration tests indicate that the Weald Clay Formation soils possess negligible to poor infiltration characteristics. The results from the tests should be provided to engineers responsible for the design of the drainage system.

To comply with building regulations²⁰, point discharging infiltration systems (conventional ring or trench soakaways) are required to be constructed a minimum of 5.0m away from proposed or existing buildings.

²⁰ The Building Regulations 2010; Part H; Drainage and Waste Disposal



**ASHDOWN SITE
INVESTIGATION**

L · I · M · I · T · E · D

Unit 3
The Old Grain Store
Ditchling Common Business Park
Ditchling
East Sussex
BN6 8SG
01273 483119
contact@ashdownsi.co.uk

Site:

66 Victoria Road
Burgess Hill
West Sussex

Report Ref:

P15682

Figure No.

2

Drawing Title

Site Plan

Scale

1:100

ASHDOWN SITE INVESTIGATION L · I · M · I · T · E · D E-mail: contact@ashdownsi.co.uk Web: www.ashdownsi.co.uk Tel: 01273 483119		Site Name: 66 Victoria Road, Burgess Hill, West Sussex						
Job Number: P15682		Borehole Number: WS01						
Start Date: 17/06/2022		Sheet 1 of 1						
End Date: 17/06/2022								
Samples and In Situ Testing								
Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Dynamic Probe	Legend	Depth	Stratum Description
	J T	0.20					0.00	Concrete with 5mm rebar.
	J T	0.45					0.10	MADE GROUND. Grey sandy subangular to subrounded fine to coarse gravel of brick and concrete.
	D	0.60					0.40	MADE GROUND: Brown mottled grey slightly gravelly slightly sandy clay. Gravel is subangular to subrounded fine to coarse brick.
	J T	0.70					0.50	REWORKED: Soft blue grey mottled brown clay with organic matter/ black speckling and rare gravel of brick.
	V	1.00		90				
	S	1.00		N=3 (0,0/0,1,1,1)			1.10	Firm grey brown mottled brown CLAY. (Weald Clay Formation)
	H	1.30		50				
	J T	1.40						
	D	1.50						
	H	1.50		60				
	H	1.70		75				becoming stiff below 1.70m depth.
	H	1.90		90				
	V	2.00		>130			2.00	Stiff red brown mottled grey and brown CLAY. (Weald Clay Formation)
	S	2.00		N=18 (0,3/3,4,5,6)				
	H	2.10		115				
	D	2.50						
	H	2.50		115				
	H	2.70		115				
	V	3.00		>130			3.00	End of borehole at 3.00m
	S	3.00		N=16 (2,2/3,3,5,5)				
Remarks								
Groundwater: Borehole dry on completion.						Excavation Method: WLS		
Stability: Borehole cased to 2.00m depth. Borehole stable on completion.						Borehole Diameter: Various		
Notes: n/a						Made By: BA		

ASHDOWN SITE INVESTIGATION L · I · M · I · T · E · D E-mail: contact@ashdownsi.co.uk Web: www.ashdownsi.co.uk Tel: 01273 483119		Site Name: 66 Victoria Road, Burgess Hill, West Sussex																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Blows/100mm																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Site Name: 66 Victoria Road, Burgess Hill, West Sussex

Job Number: P15682

Start Date: 17/06/2022

End Date: 17/06/2022

Borehole Number: **WS03**

Sheet 1 of 1

Standpipe	Sample/ Test Type	Samples and In Situ Testing		Test Result	Dynamic Probe						Legend	Depth	Stratum Description
		Depth From (m)	Depth To (m)		Blows/100mm								
	J T	0.25										0.00	Concrete.
	D	0.50										0.15	MADE GROUND: Sandy subangular to subrounded fine to coarse gravel of concrete.
	H	0.80		50								0.20	REWORKED: Soft to firm brown mottled red brown and grey clay with rare gravel of flint and carbonaceous/ ash-like material.
	J T	0.95										0.90	REWORKED: Soft blue grey clay with organic matter/ black speckling. (Alluvium)
	V	0.95		30								1.00	Stiff brown mottled grey and dark brown CLAY. (Weald Clay Formation)
	H	1.10		90									
	D	1.20											
	J T	1.30											
	H	1.30		100									
	V	2.00		>130									
	H	2.10		115									
	D	2.50											
	H	2.50		115									
	V	3.00		>130								3.00	End of borehole at 3.00m

Remarks	
---------	--

Groundwater: Groundwater recorded at 1.70m depth.

Stability: Borehole stable on completion.

Notes: n/a

Excavation Method: WLS

Borehole Diameter: Various

Made By: BA

ASHDOWN SITE INVESTIGATION L · I · M · I · T · E · D E-mail: contact@ashdownsi.co.uk Web: www.ashdownsi.co.uk Tel: 01273 483119		Site Name: 66 Victoria Road, Burgess Hill, West Sussex																					
		Job Number: P15682																					
		Start Date: 17/06/2022					Borehole Number: WS04																
		End Date: 17/06/2022																					
Sheet 1 of 1																							
Samples and In Situ Testing Dynamic Probe																							
Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Blows/100mm					Legend	Depth	Stratum Description											
	J T	0.20			0	5	10	15	20	25	30	0.00	Concrete.										
	J T	0.45										0.15	MADE GROUND: Sandy subangular to subrounded fine to coarse gravel of flint, brick and concrete.										
	D	0.50										0.40	MADE GROUND: Brown mottled grey slightly gravelly slightly sandy clay. Gravel is subangular to subrounded fine to coarse brick and concrete.										
	T	0.80																					
	V	1.00		90																			
	S	1.00		N=3 (0,0/1,0,1,1)																			
	H	1.10		60								1.20	REWORKED: Firm blue grey slightly gravelly clay. Gravel is subangular to subrounded fine to coarse flint with organic matter/ black speckling. (Alluvium)										
	J T	1.30										1.40	Stiff grey mottled brown and dark brown slightly gravelly CLAY. Gravel is subangular to subrounded fine mudstone. (Weald Clay Formation)										
	D	1.50																					
	H	1.50		90																			
	H	1.70		90																			
	V	2.00		>130									becoming brown and grey mottled with pockets of silt/ fine sand below 2.00m depth.										
	S	2.00		N=12 (1,1/2,3,3,4)																			
	H	2.10		140																			
	D	2.50																					
	H	2.50		185								2.60	Very stiff red brown mottled grey CLAY. (Weald Clay Formation)										
	H	2.70		225																			
	V	3.00		>130								3.00	End of borehole at 3.00m										
	S	3.00		N=24 (2,2/4,4,7,9)																			
Remarks																							
Groundwater: Borehole dry on completion.																							
Excavation Method: WLS																							
Stability: Borehole cased to 2.00m depth. Borehole stable on completion.																							
Borehole Diameter: Various																							
Notes: n/a																							
Made By: BA																							

Site Name: 66 Victoria Road, Burgess Hill, West Sussex

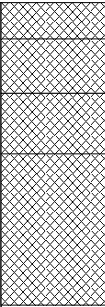
Job Number: P15682

Start Date: 17/06/2022

End Date: 17/06/2022

Trial Pit Number: TP01

Sheet 1 of 1

Samples and In Situ Testing				Stratum Description	
Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Legend	Depth/ Reduced Level
J T	0.20				0.00
					0.12
					0.30
					0.50
J T	0.70				1.00

Remarks	
---------	--

Groundwater: Trial pit dry on completion.

Stability: Trial pit stable on completion.

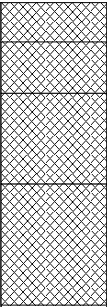
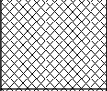
Notes: n/a

Excavation Method: HDP

Pit Length: n/a

Pit Width: n/a

Made By: CS

ASHDOWN SITE INVESTIGATION L · I · M · I · T · E · D E-mail: contact@ashdownsi.co.uk Web: www.ashdownsi.co.uk Tel: 01273 483119 Site Name: 66 Victoria Road, Burgess Hill, West Sussex Job Number: P15682 Start Date: 17/06/2022 End Date: 17/06/2022		Trial Pit Number: TP02 Sheet 1 of 1				
Samples and In Situ Testing						
Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Legend	Depth/ Reduced Level	Stratum Description
J T	0.20				0.00	Concrete with 5mm rebar.
					0.13	MADE GROUND: Sandy subangular to subrounded fine to coarse gravel of crystalline rock.
					0.30	
J T	0.40				0.60	REWORKED: Brown mottled grey clay.
J T	0.70				REWORKED: Dark grey clay with organic matter/ black speckling.	
					1.00	End of trial pit at 1.00m
Remarks						
Groundwater: Trial pit dry on completion.						
Stability: Trial pit stable on completion.						
Notes: n/a						
Excavation Method: HDP						
Pit Length: n/a						
Pit Width: n/a						
Made By: CS						

ASHDOWN SITE INVESTIGATION LIMITED

Site: 66 Victoria Road, Burgess Hill, West Sussex

Project No.: P15682

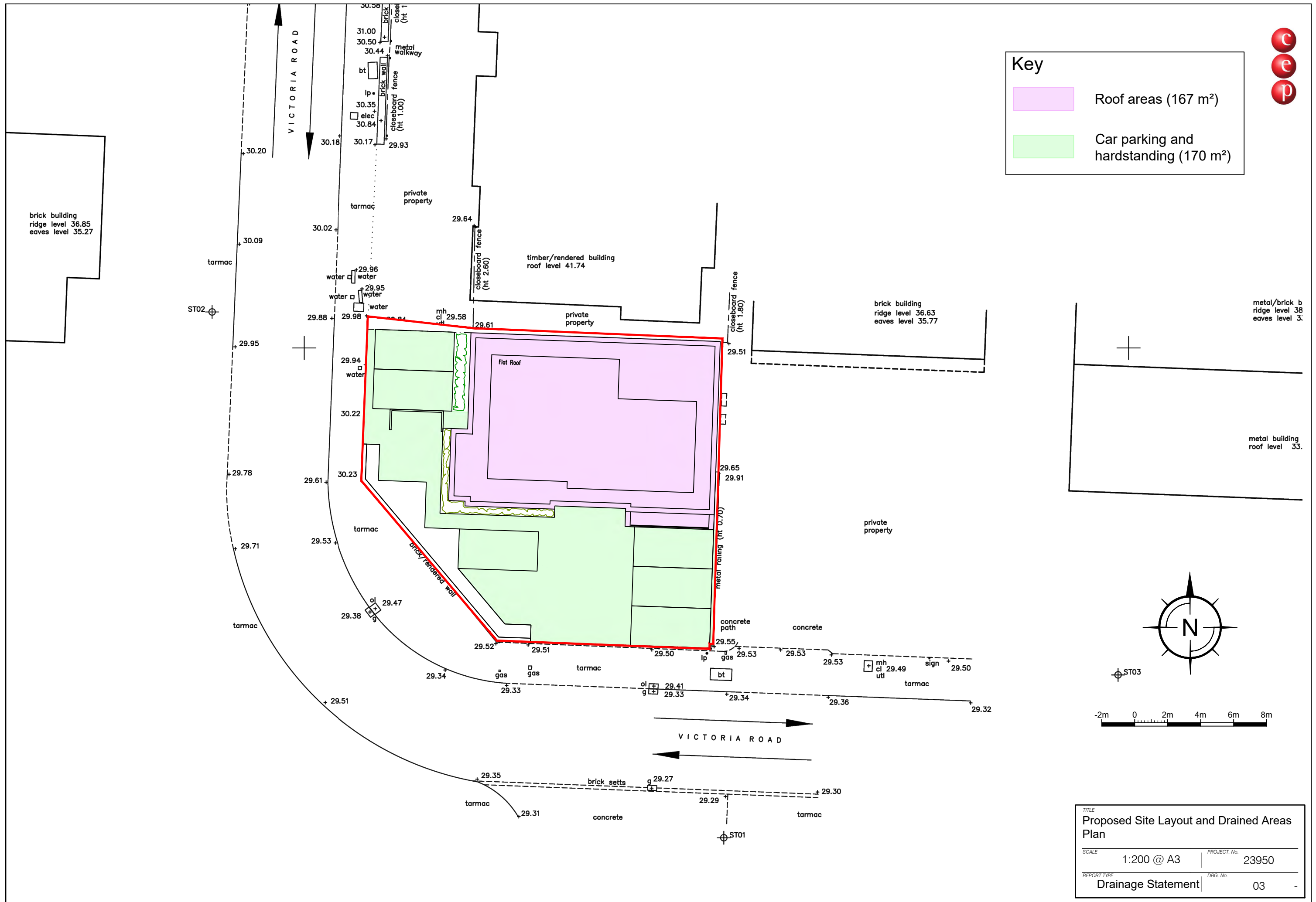
Sheet No.: 1 of 1

SUMMARY OF BOREHOLE FALLING HEAD SOAKAGE TEST RESULTS

WS01		WS04	
Time (mins)	Depth to water (m bgl)	Time (mins)	Depth to water (m bgl)
0	0.00	0	0.00
1	0.00	1	0.03
2	0.00	2	0.05
5	0.00	3	0.08
10	0.00	5	0.12
30	0.00	10	0.25
65	0.01	29	0.40
143	0.02	90	0.53
		126	0.56
Borehole Depth (m bgl)	3.00	Borehole Depth (m bgl)	3.00
Casing Depth (m bgl)	2.00	Casing Depth (m bgl)	2.00
Borehole Diameter (mm)	92.00	Borehole Diameter (mm)	92.00
Casing Diameter (mm)	105.00	Casing Diameter (mm)	105.00

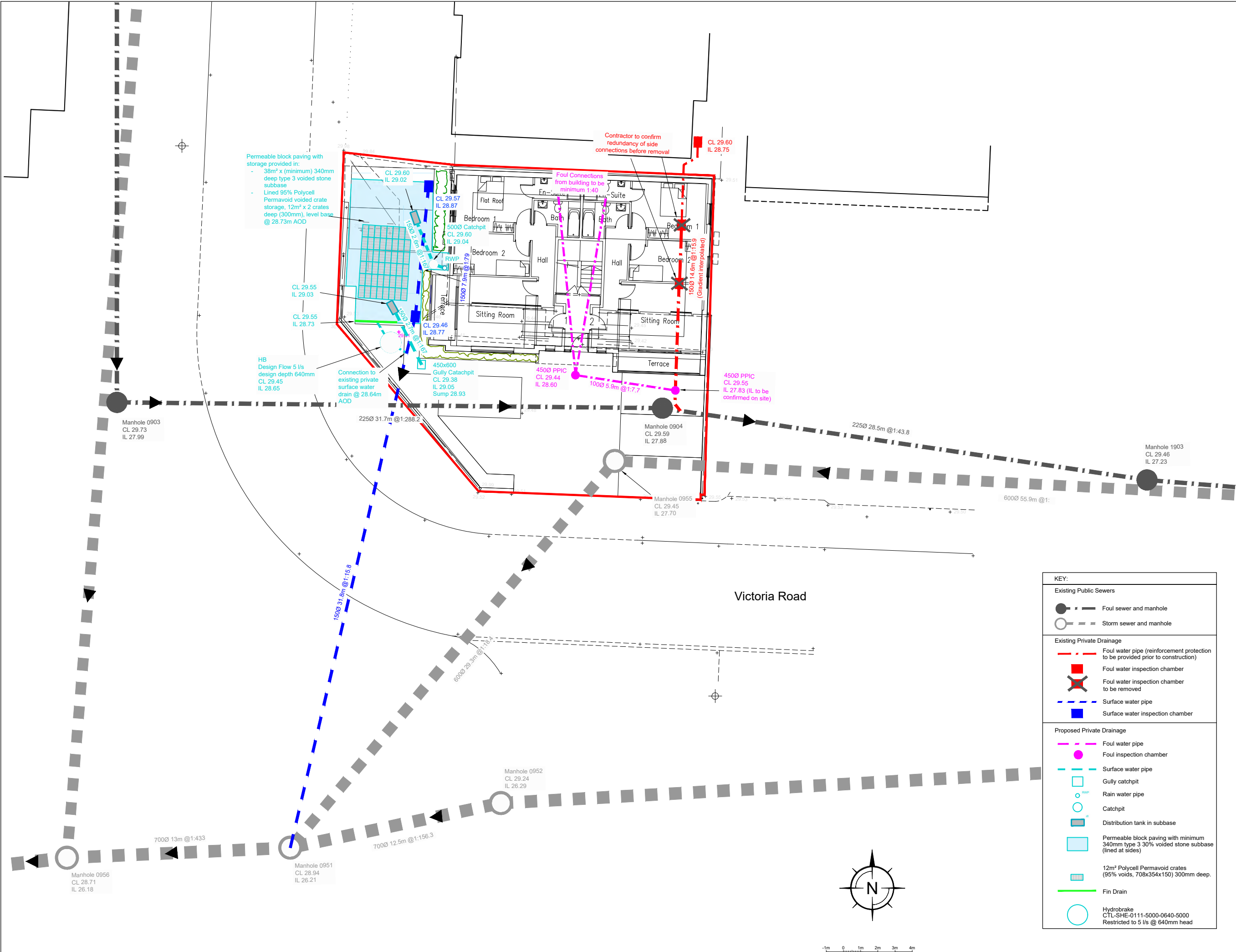
Notes: bgl – below ground level.

Appendix 5
Proposed Site Layout and
Drained Areas Plan



Appendix 6

**Drainage Strategy Plan,
Construction Details and
Calculations**



KEY:

Existing Public Sewers

Foul sewer and manhole

Storm sewer and manhole

Existing Private Drainage

Foul water pipe (reinforcement protection to be provided prior to construction)

Foul water inspection chamber

Foul water inspection chamber to be removed

Surface water pipe

Surface water inspection chamber

Proposed Private Drainage

Foul water pipe

Foul inspection chamber

Surface water pipe

Gully catchpit

Rain water pipe

Catchpit

Distribution tank in subbase

Permeable block paving with minimum 340mm type 3 30% voided stone subbase (lined at sides)

12m² Polycell Permavoid crates (95% voids, 708x354x150) 300mm deep.

Fin Drain

Hydrobrake CTL-SHE-0111-5000-0640-5000 Restricted to 5 l/s @ 640mm head

- GENERAL NOTES:**
- All dimensions to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.
 - This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and specification.
 - The main Contractor is responsible for ensuring the stability of the structure whilst the works are in progress.
 - Any information given regarding existing underground services is given in good faith after consultation with the relevant authority. No liability is accepted by the Consultant and the main Contractor is responsible for obtaining and checking all information and taking due care and attention whilst undertaking the works.
- DRAINAGE NOTES:**
- All adoptable pipes, bends and junctions shall be vitrified clay in accordance with the current version of BS EN 295-1, with flexible joints and kilnmark certified.
 - All Adoptable sewers shall be in strict accordance with the SSG Appendix C - Design and Construction Guidance. Unless otherwise stated adoptable sewers shall be 150mm diameter and shall be laid in a class S bedding. Where the depth to soffit is less than 1.2m under a public highway or 0.9m elsewhere the pipe shall be laid with a class Z bedding.
 - All private building drainage shall be constructed in strict in accordance with the current version of BS EN 752:2017. Unless otherwise specified building drainage shall be 100mm diameter and shall be laid at a minimum gradient of 1 in 40 for foul drains and 1 in 80 for surface water drains. All building drains shall be laid in class B bedding unless otherwise specified.
 - Where a pipe is within 1m of a foundation the trench shall be filled with class GEN 3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN 3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN 3 concrete.
 - Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN 3 concrete encasement (150mm thick). In all other cases the pipes shall be bedded and surrounded with 100mm thick granular material.
 - In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided. Compressible boards (fibreboard or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 18mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
 - All svps shall have rodding access plates fitted at their bases (ground floor level).
 - Where existing pipes are to be abandoned they shall be dug out together with any abandoned manholes.
 - Any discrepancy between the drawing and site should be reported immediately to the Engineer.
 - All manhole and chamber sizes are given as a minimum to meet the SSG Appendix C-Design and Construction Guidance

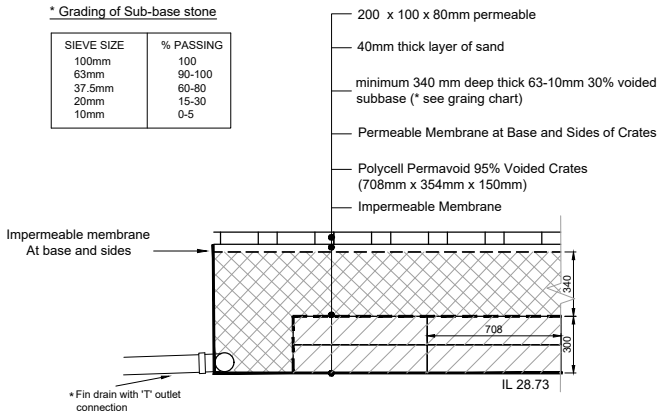
REV	DATE	INT	DESCRIPTION	CHK
Issue Status				
FOR APPROVAL				
The Civil Engineering Practice 11 Tungsten Building George Street Fishergate Sussex BN41 1RA 01273 424424 reception@civil.co.uk www.civil.co.uk				
CLIENT ECE Planning				
PROJECT 66 Victoria Road, Burgess Hill				
TITLE Drainage Strategy				
DRAWN N Thompson		DATE Oct 2024		PROJECT NO. 23950
ENGINEER S Macandrew		CHECKED SLM		DWG. No. 102
SCALE 1:200 @ A3				REV -

- GENERAL NOTES:
1. All dimensions to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.
 2. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and specification.
 3. The main Contractor is responsible for ensuring the stability of the structure whilst the works are in progress.
 4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority. No liability is accepted by the Consultant and the main Contractor is responsible for obtaining and checking all information and taking due care and attention whilst undertaking the works.

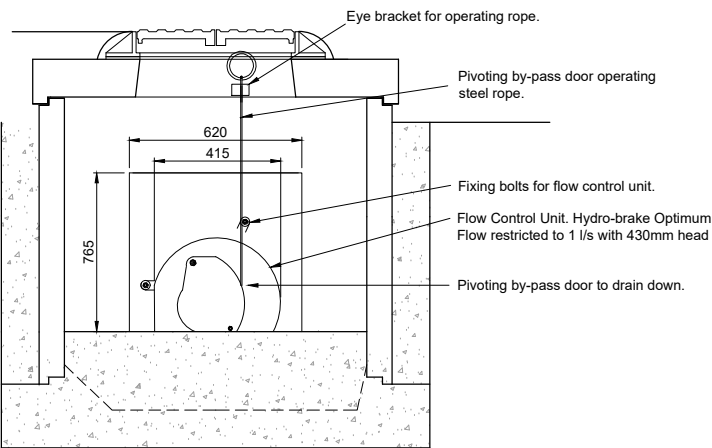
- DRAINAGE NOTES:
1. All adoptable pipes, bends and junctions shall be vitrified clay in accordance with the current version of BS EN 295-1, with flexible joints and kitemark certified.
 2. All Adoptable sewers shall be in strict accordance with the SSG Appendix C - Design and Construction Guidance. Unless otherwise stated adoptable sewers shall be 150mm diameter and shall be laid in a class S bedding. Where the depth to soffit is less than 1.2m under a public highway or 0.9m elsewhere the pipe shall be laid with a class 2 bedding.
 3. All private building drainage shall be constructed in strict in accordance with the current version of BS EN 752:2017. Unless otherwise specified building drainage shall be 100mm diameter and shall be laid at a minimum gradient of 1 in 40 for foul drains and 1 in 80 for surface water drains. All building drains shall be laid in class B bedding unless otherwise specified.
 4. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN 3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN 3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN 3 concrete.
 5. Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN 3 concrete encasement (150mm thick). In all other cases the pipes shall be bedded and surrounded with 100mm thick granular material.
 6. In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided. Compressible boards (fibreglass or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 18mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
 7. All svps shall have rodding access plates fitted at their bases (ground floor level).
 8. Where existing pipes are to be abandoned they shall be dug out together with any abandoned manholes.
 9. Any discrepancy between the drawing and site should be reported immediately to the Engineer.
 10. All manhole and chamber sizes are given as a minimum to meet the SSG Appendix C-Design and Construction Guidance

* Grading of Sub-base stone

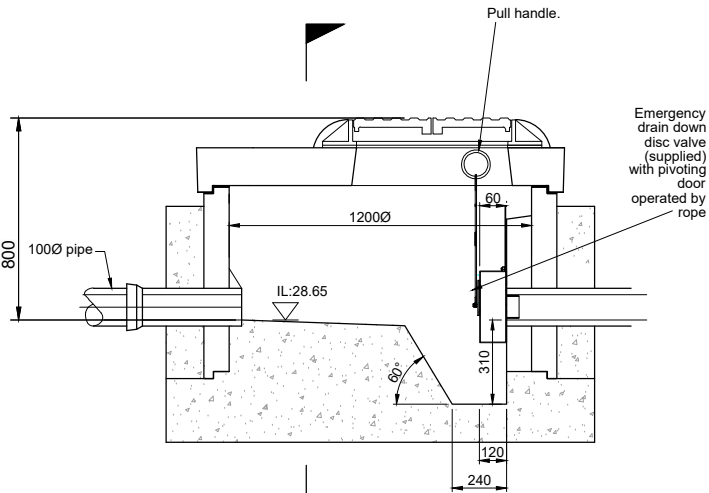
SIEVE SIZE	% PASSING
100mm	100
63mm	90-100
37.5mm	60-80
20mm	15-30
10mm	0-5



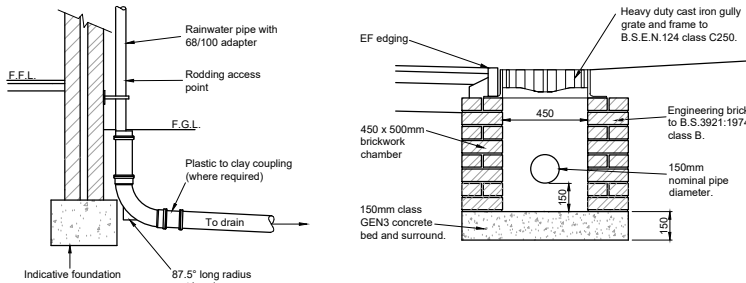
PERMEABLE BLOCK PAVING WITH SUBBASE AND FIN DRAIN DETAIL
(Scale 1:20)



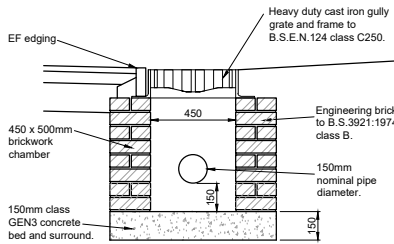
SECTION
(Scale 1:20)



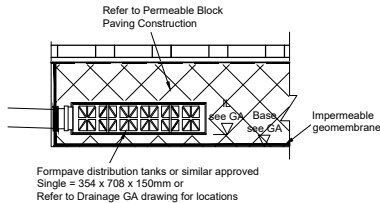
Hydro-Brake
SHE-0111-5000-0640-5000
NTS



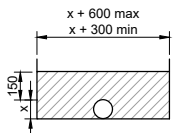
TYPICAL RAINWATER PIPE DETAIL
(Scale 1:25)



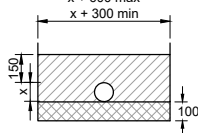
GULLY CATCHPIT
(Scale 1:20)



FORMPAVE DISTRIBUTION BOX
(Scale 1:20)



CLASS D PIPE BEDDING



CLASS N PIPE BEDDING

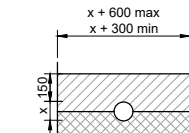
PIPE BORE	BEDDING CLASS	Fields and gardens		Light traffic roads		Heavy traffic roads	
		MIN	MAX	MIN	MAX	MIN	MAX
100mm	D or N	0.4	4.2	0.7	4.1	0.7	3.7
	F	0.3	5.8	0.5	5.8	0.5	5.5
	B	0.3	7.4	0.4	7.4	0.4	7.2
150mm	D or N	0.6	2.7	1.1	2.5	--	--
	F	0.6	3.9	0.7	3.8	0.7	3.3
	B	0.6	5.0	0.6	5.0	0.6	4.6
225mm	D or N	--	--	--	--	--	--
	F	0.6	2.5	1.2	2.1	--	--
	B	0.6	3.3	0.8	3.2	0.9	2.4

PIPE BEDDING FOR RIGID APPLIES (NON ADOPTIVE DRAINS)

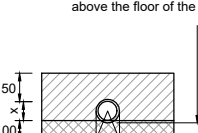
LEGEND:

- Selected fill: free from stones larger than 40mm, lumps of clay over 100mm, timber frozen material and vegetable matter
- Granular material: should conform to BS 882:1983 table 4 or BS8301:1985 Appendix D. Compaction fraction > 0.3 for class N > 0.2 for class F and B.
- Selected fill or granular fill free from stones larger than 40mm

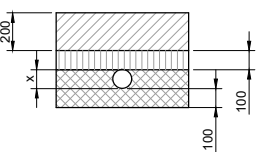
'x' - Denotes external pipe diameter.



CLASS B PIPE BEDDING



CLASS F PIPE BEDDING



PIPE BEDDING FOR FLEXIBLE PIPES

PIPE BEDDING DETAILS
(NON ADOPTABLE DRAINS)
(Not To Scale)

REV DATE INT DESCRIPTION CHK

Issue Status FOR APPROVAL

The Civil Engineering Practice
11 Tungsten Building
George Street
Fishergate
Sussex
BN41 1RA
01273 424424
reception@civil.co.uk
www.civil.co.uk

CLIENT
ECE Planning
PROJECT
66 Victoria Road, Burgess Hill

TITLE
Construction Details

DESIGN
N Thompson
DATE
Oct 2024
PROJECT NO.
23950
ENGINEER
S Macandrew
CHECKED
SLM
SCALE
As Shown @ A1
103
REV
-

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.000
CV	0.850	Preferred Cover Depth (m)	0.550
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.016	5.00	29.570	450	530060.158	118949.315	0.700
2	0.020	5.00	29.460	450	530060.105	118941.422	0.690
2_AB_OUT			29.500	1200	530057.895	118918.053	3.290

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	7.893	0.600	28.870	28.770	0.100	78.9	150	5.12	50.0
1.001	2	2_AB_OUT	23.473	0.600	28.770	26.210	2.560	9.2	150	5.23	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.132	20.0	2.5	0.550	0.540	0.016	0.0	35	0.770
1.001	3.347	59.1	5.5	0.540	3.140	0.036	0.0	31	2.103

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	7.893	78.9	150	Circular	29.570	28.870	0.550	29.460	28.770	0.540
1.001	23.473	9.2	150	Circular	29.460	28.770	0.540	29.500	26.210	3.140

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	450	Manhole	Private	2	450	Manhole	Private
1.001	2	450	Manhole	Private	2_AB_OUT	1200	Manhole	Private

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.850	Drain Down Time (mins)	10000	Check Discharge Volume	✓
Winter CV	0.900	Additional Storage (m³/ha)	0.0	100 year 360 minute (m³)	

Storm Durations

15	30	960	10080
----	----	-----	-------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
10	0	0	0
30	0	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)		Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m³)	

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.908	0.038	2.5	0.0060	0.0000	OK
15 minute summer	2	10	28.802	0.032	5.7	0.0051	0.0000	OK
15 minute summer	2_AB_OUT	10	26.241	0.031	5.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	2.5	0.805	0.124	0.0244	
15 minute summer	2	1.001	2_AB_OUT	5.6	2.096	0.095	0.0632	2.5

Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.923	0.053	4.8	0.0085	0.0000	OK
15 minute summer	2	10	28.814	0.044	10.8	0.0070	0.0000	OK
15 minute summer	2_AB_OUT	10	26.253	0.043	10.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	4.8	0.962	0.238	0.0392	
15 minute summer	2	1.001	2_AB_OUT	10.7	2.511	0.181	0.1002	4.7

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.932	0.062	6.3	0.0099	0.0000	OK
15 minute summer	2	10	28.821	0.051	14.1	0.0081	0.0000	OK
15 minute summer	2_AB_OUT	10	26.260	0.050	14.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	6.3	1.032	0.313	0.0479	
15 minute summer	2	1.001	2_AB_OUT	14.0	2.700	0.237	0.1217	6.1

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.941	0.071	7.9	0.0112	0.0000	OK
15 minute summer	2	10	28.828	0.058	17.7	0.0092	0.0000	OK
15 minute summer	2_AB_OUT	10	26.266	0.056	17.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	7.8	1.089	0.392	0.0569	
15 minute summer	2	1.001	2_AB_OUT	17.7	2.873	0.299	0.1443	7.7

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.959	0.089	11.5	0.0141	0.0000	OK
15 minute summer	2	10	28.842	0.072	25.7	0.0114	0.0000	OK
15 minute summer	2_AB_OUT	10	26.279	0.069	25.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	11.4	1.189	0.571	0.0758	
15 minute summer	2	1.001	2_AB_OUT	25.6	3.158	0.433	0.1904	11.2

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.000
CV	0.850	Preferred Cover Depth (m)	0.550
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.016	5.00	29.600	450	530060.346	118947.357	0.700
2	0.017	5.00	29.380	450	530059.952	118940.767	0.700
3			29.510	450	530057.556	118944.875	0.862
4_HB			29.600	1200	530058.000	118941.878	0.972
5			29.500	450	530059.019	118940.912	0.892
5_AB_OUT			29.500	1200	530057.895	118918.053	3.290

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
2.000	1	3	3.734	0.600	28.900	28.875	0.025	150.0	150	5.08	50.0
1.000	2	3	4.756	0.600	28.680	28.648	0.032	150.0	150	5.10	50.0
1.001	3	4_HB	3.030	0.600	28.648	28.628	0.020	150.0	150	5.16	50.0
1.002	4_HB	5	1.404	0.600	28.628	28.608	0.020	70.2	150	5.18	50.0
1.003	5	5_AB_OUT	22.887	0.600	28.608	26.210	2.398	9.5	150	5.29	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
2.000	0.818	14.5	2.5	0.550	0.485	0.016	0.0	42	0.611
1.000	0.818	14.5	2.6	0.550	0.712	0.017	0.0	43	0.621
1.001	0.818	14.5	5.1	0.712	0.822	0.033	0.0	61	0.746
1.002	1.201	21.2	5.1	0.822	0.742	0.033	0.0	50	0.991
1.003	3.280	58.0	5.1	0.742	3.140	0.033	0.0	30	2.037

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
2.000	3.734	150.0	150	Circular	29.600	28.900	0.550	29.510	28.875	0.485
1.000	4.756	150.0	150	Circular	29.380	28.680	0.550	29.510	28.648	0.712
1.001	3.030	150.0	150	Circular	29.510	28.648	0.712	29.600	28.628	0.822
1.002	1.404	70.2	150	Circular	29.600	28.628	0.822	29.500	28.608	0.742

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.000	1	450	Manhole	Private	3	450	Manhole	Private
1.000	2	450	Manhole	Private	3	450	Manhole	Private
1.001	3	450	Manhole	Private	4_HB	1200	Manhole	Private
1.002	4_HB	1200	Manhole	Private	5	450	Manhole	Private

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.003	22.887	9.5	150	Circular	29.500	28.608	0.742	29.500	26.210	3.140

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	5	450	Manhole	Private	5_AB_OUT	1200	Manhole	Private

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.850	Drain Down Time (mins)	10000	Check Discharge Volume	✓
Winter CV	0.900	Additional Storage (m³/ha)	0.0	100 year 360 minute (m³)	

Storm Durations

15	30	60
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
10	0	0	0
30	0	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)		Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m³)	

Node 4 HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	28.628	Product Number	CTL-SHE-0111-5000-0640-5000
Design Depth (m)	0.640	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	28.648
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	35

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	12.0	0.0	0.300	12.0	0.0	0.301	0.0	0.0

Node 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	29.030
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	13

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	38.0	0.0	0.340	38.0	0.0	0.341	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	28.945	0.045	2.5	0.0072	0.0000	OK
15 minute summer	2	10	28.727	0.047	2.7	0.0075	0.0000	OK
15 minute winter	3	13	28.725	0.077	5.1	0.8945	0.0000	OK
15 minute winter	4_HB	13	28.723	0.095	3.4	0.1070	0.0000	OK
15 minute winter	5	13	28.633	0.025	3.4	0.0040	0.0000	OK
15 minute winter	5_AB_OUT	13	26.235	0.025	3.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	2.000	3	2.5	0.586	0.171	0.0158	
15 minute summer	2	1.000	3	2.7	0.607	0.186	0.0316	
15 minute winter	3	1.001	4_HB	3.4	0.436	0.234	0.0316	
15 minute winter	4_HB	Hydro-Brake®	5	3.4				
15 minute winter	5	1.003	5_AB_OUT	3.4	1.776	0.058	0.0433	2.4

Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.965	0.065	4.8	0.0103	0.0000	OK
15 minute winter	2	13	28.801	0.121	5.1	0.0192	0.0000	OK
15 minute winter	3	14	28.800	0.152	9.4	1.7558	0.0000	SURCHARGED
15 minute winter	4_HB	14	28.796	0.168	5.2	0.1896	0.0000	SURCHARGED
15 minute winter	5	14	28.638	0.030	4.9	0.0048	0.0000	OK
15 minute winter	5_AB_OUT	14	26.240	0.030	4.9	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	2.000	3	4.8	0.696	0.329	0.0255	
15 minute winter	2	1.000	3	4.6	0.699	0.321	0.0780	
15 minute winter	3	1.001	4_HB	5.2	0.472	0.363	0.0533	
15 minute winter	4_HB	Hydro-Brake®	5	4.9				
15 minute winter	5	1.003	5_AB_OUT	4.9	1.988	0.085	0.0568	4.5

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	28.976	0.076	6.3	0.0121	0.0000	OK
15 minute winter	2	14	28.874	0.194	6.6	0.0309	0.0000	SURCHARGED
15 minute winter	3	14	28.873	0.225	12.0	2.6004	0.0000	SURCHARGED
15 minute winter	4_HB	14	28.868	0.240	5.6	0.2719	0.0000	SURCHARGED
30 minute winter	5	20	28.638	0.030	5.0	0.0048	0.0000	OK
30 minute winter	5_AB_OUT	27	26.240	0.030	5.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	2.000	3	6.2	0.745	0.432	0.0313	
15 minute winter	2	1.000	3	5.9	0.720	0.408	0.0837	
15 minute winter	3	1.001	4_HB	5.6	0.468	0.385	0.0533	
15 minute winter	4_HB	Hydro-Brake®	5	5.0				
30 minute winter	5	1.003	5_AB_OUT	5.0	1.994	0.086	0.0572	7.9

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	1	24	29.035	0.135	6.2	0.0215	0.0000	OK
30 minute winter	2	24	29.036	0.356	6.6	0.0566	0.0000	SURCHARGED
30 minute winter	3	24	29.035	0.387	12.2	3.5493	0.0000	SURCHARGED
30 minute winter	4_HB	24	29.031	0.403	6.8	0.4556	0.0000	SURCHARGED
30 minute summer	5	34	28.638	0.030	5.0	0.0048	0.0000	OK
30 minute summer	5_AB_OUT	34	26.240	0.030	5.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	1	2.000	3	6.2	0.745	0.429	0.0641	
30 minute winter	2	1.000	3	6.0	0.687	0.417	0.0837	
30 minute winter	3	1.001	4_HB	6.8	0.451	0.472	0.0533	
30 minute winter	4_HB	Hydro-Brake®	5	5.0				
30 minute summer	5	1.003	5_AB_OUT	5.0	1.994	0.086	0.0572	9.4

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	1	26	29.280	0.380	9.0	0.0604	0.0000	SURCHARGED
30 minute winter	2	26	29.280	0.600	9.6	0.0954	0.0000	FLOOD RISK
30 minute winter	3	26	29.279	0.631	17.5	6.3686	0.0000	FLOOD RISK
30 minute winter	4_HB	26	29.274	0.646	6.0	0.7310	0.0000	SURCHARGED
30 minute winter	5	26	28.638	0.030	5.0	0.0048	0.0000	OK
30 minute winter	5_AB_OUT	26	26.240	0.030	5.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	1	2.000	3	8.9	0.808	0.616	0.0657	
30 minute winter	2	1.000	3	8.6	0.718	0.593	0.0837	
30 minute winter	3	1.001	4_HB	6.0	0.475	0.415	0.0533	
30 minute winter	4_HB	Hydro-Brake®	5	5.0				
30 minute winter	5	1.003	5_AB_OUT	5.0	1.994	0.086	0.0572	14.5

Appendix 7

**Outline Drainage Management
and Maintenance Schedule**

Drainage Maintenance Schedule



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Project	66 Victoria Road, Burgess Hill
Project Number	23950

By Sonya Macandrew

Date 3 December 2024

1 Schedule of Maintenance

- 1.1 Once appointed the Contractor will prepare a site specific method statement for the control of silt and other pollutants during construction. CIRIA Report C532, Control of water pollution from construction sites, provides further guidance on this.
- 1.2 The Contractor will maintain the proposed drainage system during construction and until the handing over of the site.
- 1.3 Upon completion the Principal Contractor will collate the data sheets, operation and maintenance details of all materials used in the construction of the site drainage system.
- 1.4 These details will be issued to the Management Company for their records.
- 1.5 Upon completion management of shared drainage facilities (where not adopted by a Statutory Undertaker) will be passed on to a Management Company appointed by the Developer on behalf of the Residents.
- 1.6 In the event that the Management Company becomes unable to discharge its duties within two years of first appointment the Developer will endeavour to appoint an alternative on behalf of the Residents.
- 1.7 Maintenance of individual property drainage connections is the responsibility of the individual property owners.
- 1.8 The following maintenance schedule details the typical tasks to be undertaken at different intervals.

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Manage vegetation and remove nuisance plants – aesthetics	As required
	Litter and debris removal – catchpits	Monthly or as required
	Cleaning of gutters and any filters on downpipes	3 Monthly
	Remove sediment and debris from silt trap chambers, channel drains and inlet chambers	6 monthly



Maintenance Schedule	Required Action	Frequency
	Visual inspection of permeable paving for defects and settlement	Annually
	Sweep / brush / vacuum permeable paving	Every 2 years
	Surface and foul water pipework – jetting / rodding	Every 2 years or as required
Occasional Maintenance	Remove silt and debris from oil interceptors where provided	When alarm indicates
Corrective Maintenance	Remove debris / blockages to silt traps / channel drains	As required
	Repairs to access chambers / manhole covers	As required
	Replace any broken permeable blocks / surface, remedial works to any depressions or rutting	As required
	Inspect inlet, outlet from downpipes, channel drains and gullies for blockages, standing water and clear	As required
	Reconstruct storage structures if performance deteriorates or failure occurs	As required
Monitoring	Inspect silt traps and note the rate sediment has accumulated	Monthly in the first year and then annually
	Inspect storage structures to ensure they are fully emptying	Annually

Indicative Schedule of Maintenance for the Proposed Drainage System

Component	Inspection Frequency					
	1 Month	3 Months	6 Months	1 Year	After leaf fall in Autumn	2 Years
Gullies, Channels and Gutters		✓			✓	
Catchpits	✓				✓	
Surface and Foul Water Pipework						✓
Permeable Paving				✓		
Flow Controls			✓			
Storage Facilities				✓		

Inspection Frequency Summary

2 Design Life

- 2.1 The design life of the development is likely to exceed the design life of the components within the SuDS network. During the routine drainage inspections it may be determined that some components have reached the end of their functional life cycle.
- 2.2 Where possible repairs should be the first option considered however if repairs are unviable it will be necessary for the property owner / Management Company to replace the faulty component.

3 Emergency Plan

3.1 Potential flood and maintenance indicators:

- Manholes or inspections chambers overflowing
- Gullies overflowing or ponding
- Channel drains overflowing or ponding
- Other visual indicators of the drainage system not performing as it should

3.2 Should any of the items above occur then immediate action as outlined below should be undertaken:

- Inspect for blockages in the problem area
- Should the problem not be identified via an initial inspection:
 - o For unadopted onsite drainage the Management Company should appoint a suitable drainage engineer to inspect and survey the system and jet any blockages
 - o For adopted onsite drainage the relevant statutory undertaker should be alerted
 - o Where it is suspected that there is a problem with the downstream drainage network the Owner or relevant statutory undertaker of that system should be alerted