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FLOOD RISK ASSESSMENT

Caversham Park, Peppard Road, Caversham, Reading, RG4 8TZ

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1.0 Introduction

1.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd to accompany an application for the conversion and redevelopment of Caversham Park , Peppard Road, Caversham, Reading, RG4 8TZ (the 'Site'), to create a mixture of affordable, private, assisting living and care home accommodation.

1.2 The purpose of this document is to assess the existing level of flood risk to the site and its surroundings within the context of the development proposals and to demonstrate a suitable drainage strategy for the disposal of surface water from the site.

1.3 This assessment has been prepared in accordance with the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) to the NPPF and with reference to Reading Borough Council (RBC) Strategic Flood Risk Assessment (SFRA) report Level 1, published in June 2017.

1.4 This report concludes that the development is not at risk of flooding and the site can be developed safely without increasing flood risk elsewhere, and, therefore, the development proposals comply with relevant planning policy concerning flood risk. The report demonstrates that suitable provision for the disposal of surface water from the proposed development can be provided.

Planning Description of Proposed Development

1.5 Redevelopment of Caversham Park for 65 assisted living units (Class C2) for the over 55's through the conversion of Caversham Park House, 64 bed care home (Class C2), 61 age-restricted retirement dwellings (Class C3), including conversion of the existing buildings The Bursars House and The Lodge, 27 affordable dwellings (Class C3), and refurbishment and extension of the existing pavilion to provide changing facilities, café/studio/interpretation hub and sports provision comprising 2 no. croquet lawns, 2 no. bowling greens, refurbishment of the existing tennis court and associated parking.

1.6 Listed Consent - Works associated with the redevelopment of Caversham Park to provide assisted living units including alterations to the main house and demolition of existing extensions. Works associated with the residential conversion of Bursars House, The Lodge and 2 Caversham Park Drive.

2.0 Site Description

Site Location

2.1 The site is the whole of Caversham Park in Reading. It comprises the existing manor house, various outbuildings, associated car parking areas and the access road previously owned by British Broadcasting Company (BBC).

2.2 The site is bounded by residential houses to the south-west, west, north and east, and by green field to south-east. The approximate centre of the site is located at Ordnance Survey National Grid reference SU 72459 76262 and the postcode is RG4 8TZ. The site location plan is included in Appendix A.

Site Context

Topographical Survey

2.3 A topographical survey was carried out by Midland Survey Ltd indicating that the site's high point is located slightly north-west of the centre of the site (circa 83.70m AOD). The ground slopes in all four directions away from the high point at various slopes. The lowest point in the east of where the proposed development ends is around 80.30m AOD.

2.4 A copy of the topographical survey map is included in Appendix B.

Watercourses

2.5 There is an existing pond with an overflow located south of the manor house, which accepts surface water runoff flows from the Manor House, adjacent building and the associated hardstanding areas.

2.6 There is also a network of ditches in the east and north of the site. One ditch stretches from the east of the Manor House towards the eastern site boundary before bending towards south and reversing to the west. Another ditch bends around the northern boundary of the site before joining the aforementioned ditch in the east.

2.7 The closest main watercourse to the site is Berry Brook situated approximately 1km south from the site.

Geological Mapping

2.8 Geological records published by the British Geological Survey (BGS) indicate that the site north of the pond is partially underlain by a superficial geology of Black Park Gravel Member, comprising sand and gravel. The same part of the site is located above bedrock geology of Lambeth Group, which consists of clay, silt and sand. South of the pond the site is underlain by bedrock geology of Seaford Chalk Formation and Newhaven Chalk Formation. There is no superficial geology south of the pond within the site boundary. Extracts from BGS mapping are attached to Appendix C.

Groundwater Vulnerability

2.9 The Environment Agency (EA) defines Source Protection Zones (SPZs) for groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones show the risk of contamination from any activities that might cause pollution in the area. The SPZs mapping indicates that the eastern part of the site is located within Zone 2 source protection zone, whilst the western part of the site is within Zone 3.

2.10 A Nitrate Vulnerable Zone (NVZ) is a conservative designation for areas of land that drain to nitrate polluted waters or waters which could become polluted by nitrates. The NVZs mapping indicates that the site is mainly situated outside of the NVZ with only a very minor portion of land within the western part of the site being located within a Surface Water NVZ.

2.11 The EA defines Drinking Water Safeguard Zones (SgZs) for water sources used for public drinking water supply. SgZs are catchment areas that influence the water quality for their respective Drinking Water Protected Area (Surface Water), which are at risk of failing the drinking water protection objectives. The site is located within a SgZ (Surface Water).

2.12 The bedrock Aquifer Designation Map published by EA indicates that the site superficial and bedrock geologies are underlain by a Secondary A aquifer. Secondary A aquifers are permeable geological strata capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flow to rivers.

Existing Drainage Regime

2.13 The existing site is classed as a brownfield site.

2.14 Thames Water records, included in Appendix D, only indicate the presence of foul and surface water sewers within Peppard Road and an overflow within the pond.

2.15 A CCTV survey of the drainage within the site was carried out by Metro Rod in June 2019, which has shown that the site is served by private gravity-driven surface water and foul water drainage networks. Runoff from the roof of the existing manor house, associated buildings and hardstanding areas is drained uncontrollably into the pond located south of the manor house.

2.16 The CCTV report is provided in Appendix E.

2.17 The results of the CCTV survey were found insufficient to assess the existing surface water drainage arrangement for the whole site. Therefore, a walkover survey was required.

Walkover Survey

2.18 On the 23rd of November, Glanville Consultants attended the site in order to observe the existing drainage arrangement within the site. There was no rain on the day or the day before the survey took place.

2.19 It was found that the majority of the car parks and the access road drain into the concrete ring soakaways, some of which were found either completely silted up or filled with water. This suggested that some areas of the site do not provide sufficient infiltration or do not support the infiltration at all. Further discussions with the site manager have revealed that occasional ponding occurs within the car park in front of the main access to the Manor House.

2.20 Some of the existing buildings, for example the buildings south of the site main access, were found to be served by soakaways as well.

2.21 Some parts of the roads and car parks were found to be draining freely into the ground through outlets in the kerbs.

2.22 During the walkover survey it was also confirmed that the overflow from the pond comprises a 150mm diameter pipe, which runs in a southerly direction into the field located south of the pond. Further investigation has proved that overflows from the pond discharge freely into the field at ground level.

2.23 Based on the findings from the walkover survey, an existing catchment plan has been produced, which demonstrates the site's current surface water drainage arrangement. This catchment plan is provided in Appendix F.

Infiltration Testing & Groundwater

2.24 In November 2021 a series of falling head infiltration tests were carried out within five boreholes across the site as part of the site investigation. The obtained infiltration rates varied from 6.16 * 10^{-6}m/s (SA1 borehole) in the west of the site to 4.62 * 10^{-9}m/s (SA5 borehole) in the eastern part of the site. The variation in infiltration rates is mainly due to variable geology of the site. However, these infiltration rates should be confirmed by the infiltration testing in accordance with BRE 365 guidance.

2.25 The site infiltration test results are attached to Appendix G.

2.26 Groundwater was encountered in four out of five boreholes with the highest groundwater level being approximately 1.72m bgl (SA1 borehole). The boreholes were left for future groundwater monitoring visits in January and March 2022.

3.0 Development Proposals

3.1 The proposals comprise redevelopment of Caversham Park for:

- 65 assisted living units (class C2) for the over 55's through conversion of Caversham Park House;
- 64 bed care home (Class C2);
- 61 age restricted retirement dwellings (Class C3), including conversion of the existing buildings The Bursars House and The Lodge (Class C3)
- 27 affordable dwellings (Class C3); and
- refurbishment and extension of the existing pavilion to provide changing facilities, café/studio/interpretation hub and sports provision comprising 2 no. croquet lawns, 2 no. bowling greens, refurbishment of the existing tennis court and associated parking.

3.2 The proposed site layout is provided in Appendix H.

4.0 Planning Policy and Guidance

4.1 Set out below is a summary of the national and local planning policy and guidance relating to flood risk and surface water management that are relevant to the development proposals.

National

4.2 At a national level, the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG) to the NPPF ensure flood risk is taken into account at all stages of the planning process, to avoid inappropriate development in areas at risk of flooding and to direct development towards areas at lowest flood risk. The NPPF retains a risk-based approach to the planning process and defines four Flood Zones to be used as the basis for applying the sequential test to consider a development in terms of Flood Risk Vulnerability Classifications, which define the type of development that is considered appropriate within each zone.

4.3 The NPPF establishes the Flood Zones as the starting point for assessment with the overarching aim to steer new development to areas with the lowest probability of flooding. The Flood Zones are defined as follows:

- Flood Zone 1 (Low Probability) comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

- Flood Zone 2 (Medium Probability) comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.

- Flood Zone 3a (High Probability) comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

- Flood Zone 3b (The Functional Floodplain) comprises land where water has to flow or be stored in times of flood.

Local Policy and Guidance

Reading Borough Council Strategic Flood Risk Assessment Level 1 – June 2017.

4.4 The strategic flood risk assessment (SFRA) level 1, prepared by Peter Brett Associates, is a planning tool that assists the Council in its selection and development of sustainable development sites away from vulnerable flood risk areas in accordance with the NPPF and its associated Planning Practice Guidance on Flood Risk and Coastal Change.

5.0 Sources of Potential Flooding

5.1 Flood risk to the site has been considered from all likely sources of flooding, as defined in the NPPF and the Planning Practice Guidance to the NPPF. These include tidal, fluvial, surface water, artificial sources (reservoir), sewer and groundwater. The following paragraphs consider flood risk to the site from all of these sources.

Tidal

5.2 Given that there is no tidally influenced watercourse on or within the vicinity of the site, tidal flooding is not an issue that would prevent the development of the site.

Fluvial

5.3 The EA publishes interactive flood zone mapping on the GOV.UK website which shows the modelled extents of fluvial flooding. The flood zone mapping indicates that the site is entirely located within Flood Zone 1, at the lowest risk of fluvial flooding. Table 1 of the PPG to the NPPF defines land located within Flood Zone 1 as areas which are outside the floodplain and have little or no chance of flooding. An extract from the EA mapping is included in Appendix I.

Surface Water

5.4 The EA publishes a Flood Risk from Surface Water map on the GOV.UK website which indicates the predicted risk of surface water flooding in the event that rainwater does not drain away through normal drainage systems or soak into the ground. The mapping indicates that the site is located entirely with the area of 'very low' risk of surface water flooding, with an annual probability of flooding of less than 1:1,000. Based on the mapping, surface water flood risk is not an issue that would prevent the development of the site. An extract from the GOV.UK surface water flood map is included within Appendix J.

Reservoir

5.5 The EA publishes indicative mapping on the GOV.UK website which shows the maximum extent of reservoir flooding in the unlikely event that a reservoir should fail. The mapping indicates that the entire site is located outside of a reservoir flood risk area. Therefore, reservoir flooding is not considered to be an issue that would prevent the development of the site for its intended end use.

Sewer

5.6 The SFRA Level 1 provides data on historical sewer flooding within RBC area, in the form of mapping, which is based on Thames Water DG5 records. The SFRA mapping shows that the site falls within two postcode areas RG4 8 and RG4 6, which experienced over 101 and between 51-100 sewer flooding incidents, respectively. However, it's worth noting that it's difficult to relate these records to a particular site, as incidents could happened anywhere across the postcode areas, which cover large areas of the city. Furthermore, these records are dated to February 2016 and cover historical incidents that happened before that date. It is likely that maintenance work may have been undertaken by Thames Water since the flooding incidents occurred and, therefore, the risk may have been reduced or removed. As such, these records do not necessarily represent the current or future sewer flood risk situation.

5.7 It is therefore reasonable to conclude that the risk of sewer flooding within the site is very low and is not an issue that would prevent the development of the site.

Groundwater

5.8 The SFRA provides a map which shows the areas susceptible to groundwater flooding (AStGWF). This map indicates that the site is located within the area of less than 25% chance of groundwater flooding. AStGWF mapping is based on the underlying geology across a 1km square grid, which means this dataset covers a large area of land and only isolated locations within the overall susceptible area are actually likely to suffer from the consequences of groundwater flooding. No historic groundwater flooding has been recorded by the site manager either. Therefore, it is reasonable to assume that risk of groundwater flooding within the site is very low.

Historic Flooding

5.9 The SFRA Level 1 includes historical flood records which indicate that no historical flood incidents have been recorded within the site boundary.

Summary

5.10 The study has concluded that the site is at very low risk from all sources of flooding. The impact of flooding on the proposed development is discussed in more details in Section 6 of this report.

6.0 Flood Risk Assessment

6.1 The NPPF encourages a sequential, risk-based approach to determine the suitability of land for development. This document advises that the development of sites within Flood Zone 1 should be given preference where available.

6.2 Table 2 of the Planning Practice Guidance (PPG) to the NPPF categorises different types of development into five flood risk vulnerability classifications:

- Essential Infrastructure;
- Highly Vulnerable;
- More Vulnerable;
- Less Vulnerable; and
- Water Compatible Development.

6.3 The NPPF classifies the proposed residential use of the site as being 'More Vulnerable'.

6.4 As discussed in Section 5, the site is located entirely within Flood Zone 1. Table 3 of the PPG states that all uses of land are appropriate for Flood Zone 1. Therefore, the proposed development use is compatible with the flood zone of the site and developing the site for its intended purpose is considered appropriate in terms of flood risk. As such, the Sequential Test and Exception Test are not required to be applied to this development.

6.5 The site is considered to be at low or very low risk from all sources of flooding.

6.6 New on-site surface water drainage will be designed to accommodate a 1 in 100 year with a 40% allowance for climate change without creating a flood hazard.

6.7 The development is proposed to be accessed from Peppard Road, which is a public highway located entirely within Flood Zone 1. As such, safe, dry access and egress will be provided to the entirety of the development during times of fluvial flooding.

7.0 Surface Water Drainage

7.1 The PPG recommends that priority should be given to the use of Sustainable Drainage Systems (SuDS) as they are designed to control surface water runoff where it falls and mimic natural drainage characteristics as closely as possible. Source control techniques will be incorporated into the drainage strategy to ensure that surface water runoff is managed as close to source as possible. Sustainable drainage systems (SuDS) also provide opportunities for the following:

- Reducing the causes and impacts of flooding;
- Removing pollutants from urban runoff; and
- Combining water management and green space with benefits for amenity, recreation and wildlife.

7.2 SuDS encompass a wide range of drainage techniques intended to minimise the rate of discharge, volume and environmental impact of runoff and include:

- pervious pavements;
- swales and basins;
- green roofs and rainwater reuse;
- infiltration trenches and filter drains; and
- ponds and wetlands.

7.3 When used across the site these techniques control the rate of discharge, attenuate flow, provide storage and improve water quality. The combination of techniques that are appropriate will be dependent upon ground conditions, topography and other site-specific characteristics.

7.4 The Building Regulations part H3 stipulates that rainwater from roofs and paved areas is to be carried away from surface and to discharge to one of the following, listed in order of priority:

a) An adequate soakaway or some other adequate infiltration system; where this is not practical;
b) A watercourse; or, where this is not practical;
c) A sewer.

Surface Water Disposal Method

7.5 A hierarchical approach has been followed with regards to the method of disposal of surface water runoff from the development, in accordance with the Building Regulations.

7.6 As discussed in Section 2 of this report, the infiltration rates vary across the site, meaning that runoff from only some areas of the site could be disposed of by means of infiltration. Following the hierarchy, some areas of the site will have to drain runoff into the ditch in the east of the site at a controlled rate, whilst some portions of the site will continue following the existing surface water drainage arrangement. The future drainage serving the development has therefore been split into five sub-catchments (Western, Central, Cricket Pavilion, Eastern and Existing access road) based on the runoff disposal methods assigned for each. The proposed catchment plan is attached to Appendix K.

7.7 The following sections of the report will describe the surface water drainage strategy for the site on a catchment basis. The proposed drainage layouts with typical drainage construction details are provided in Appendix L.

Western Catchment

7.8 As discussed in section 2, this part of the site should support infiltration, therefore, the access road and parking bays within this catchment will be designed as permeable pavement which will drain runoff under their own footprint.

7.9 Private soakaways will be installed in the back gardens of some houses where the soakaways can be located outside of the tree root protection areas and at a minimum 5m offset distance from the face of the foundations. Runoff from the roofs of the remaining buildings will drain into the shared soakaway.

Central Catchment

7.10 This catchment covers the proposed care home building and the Manor House.

7.11 As described above in this report, this catchment drains runoff into the pond south-west of the Manor House. Runoff from the pond is then discharged freely into the field south of the pond via 150mm diameter pipe.

7.12 An area assessment has demonstrated that the catchment area served by this surface water network will be reduced by 2,052m² as a result of the proposed works. Therefore, runoff from the roofs of the Manor House and the proposed care home building will be draining into the pond, thus following the existing drainage arrangement whilst providing a significant drainage betterment for the catchment.

Eastern Catchment

7.13 This catchment covers the proposed age restricted blocks of flats in the east of the site along with a major portion of the access road (which is currently served by a series of soakaways) and the parking bays. It also includes a proposed car park and the access road to the proposed care home. Runoff from this catchment will be discharged into the ditch in the east of the site at a controlled rate.

Greenfield and Brownfield Runoff Calculations (Eastern Catchment)

7.14 Findings during the site walkover survey demonstrated that a number of the soakaways in this area were not operational as they were filled with water on the day the survey took place. This area overlies a clay geology and likely perched water table. Considering that no rainfall occurred on the day or in the period leading up to the day of the visit, this suggests that these soakaways are not functioning as intended or suitable in their current condition for the future disposal of surface water runoff.

7.15 It was therefore proposed to treat the areas of the access road and the car park shown on the existing catchment plan (Appendix F) as “Brownfield Catchment” (7490m² in total), which has been used in combination with greenfield runoff to calculate flows.

7.16 Greenfield runoff rate of 1.4 l/s has been calculated for the eastern catchment, whilst brownfield runoff for 1 in 1 year 60 minute rainfall event has been calculated as 25 l/s. Greenfield and brownfield runoff calculations are provided in Appendix M.

7.17 Due to the size of the Eastern Catchment it is not practically possible to provide sufficient attenuation storage within the site to discharge runoff from this catchment at the existing greenfield runoff rate. Following the guidance for brownfield sites provided in the non-statutory technical standards for sustainable drainage systems, it was decided to set the outflow rate from the catchment as close to greenfield runoff rate as practically possible whilst not increasing the existing brownfield runoff rate. The outflow was therefore restricted to 12.5 l/s, which is a half of the existing brownfield runoff rate, thus representing significant betterment and a reduction in flood risk.

Surface Water Drainage Strategy (Eastern Catchment)

7.18 Runoff from this catchment will be collected by a piped/culverted network. A flow control chamber will be installed at the downstream end of the system, which will release runoff from the site at a controlled rate of 12.5 l/s.

7.19 Attenuation will be provided within the lined geocellular storage crate system located at the upstream end of the proposed network. Runoff from the catchment will enter the system and then back up into the attenuation tank.

7.20 Runoff from the roofs will be collected by a pipe network, whilst runoff from the roads will be picked up by a series of road gullies.

7.21 Parking bays will be constructed as permeable pavement with lined sub-bases and with the outfalls into the main system. This will slow runoff flows down before entering the system, whilst providing water treatment to runoff.

7.22 A section of a swale will be installed at the outfall to provide smooth discharge into the existing ditch. The swale will be installed at an angle in the direction of fall of the existing ditch and will be reinforced with rip-rap (or similar construction) to minimise the risk of scouring and loss of material during the operation of the proposed drainage system.

7.23 A section of the main drainage run will be constructed of a 1.2m x 0.6m high concrete box culvert, which will provide sufficient capacity to back runoff up to the attenuation system.

Cricket Pavilion Catchment

7.24 This catchment currently comprises the car park and a building with changing rooms and showers. The catchment is served by a concrete ring soakaway north-east of the car park, which was found dry, but silted up, during the site visit. This suggests that this soakaway is functional.

7.25 As a result of the proposed development, the existing car park within this catchment will be extended with Pavilion building being increased in size as well.

7.26 Therefore, based on the information above, it was assumed that the existing soakaway can be re-used to serve the proposed car park, consequently the impermeable catchment area currently served by this soakaway will not increase and will see a reduction of 152m².

7.27 Runoff from the roof of the proposed Pavilion building will be directed into the new surface water drainage system, which will serve the Eastern Catchment.

Western Access Road Catchment

7.28 This catchment comprises the access road, associated footpaths and the existing buildings. No increase in impermeable area or change of use is proposed within this area of the site. Therefore, the current surface water drainage arrangement will be preserved.

7.29 The hydraulic calculations for the above catchments are attached to Appendix N.

Sustainable Drainage Pollution Control and Maintenance

Pollution Control

7.30 Pollution control measures are designed to minimise the transmittal of any pollutants collected by runoff flowing over impermeable areas.

7.31 Table 26.2 of The SuDS Manual indicates the minimum treatment indices for contributing pollution hazards for different land use classifications. The treatment indices for the land uses proposed within the development are shown in Table 1. In order to deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index (for each contaminant type) that equates to or exceeds the pollution hazard index. Table 2 indicates the SuDS mitigation indices for the permeable pavement and the swale.

7.32 The pollution indices in Table 1 should be compared with the mitigation indices in Table 2 and the following formulae applied:

Total SuDS Mitigation Index ≥ Pollution Hazards Index (for each contaminant type)
Total SuDS Mitigation Index = 1st Stage Mitigation Index + 0.5 (2nd Stage Mitigation Index)

7.33 For a residential development, roof runoff has very low hazard potential and runoff from lightly trafficked roads has a low hazard potential.

7.34 The proposed car parking bays will be constructed of permeable materials whilst the access roads will be constructed of impermeable materials. From inspection of Tables 1 and 2, it can be seen that permeable pavement in combination with the swale are sufficient to mitigate pollution risk from individual driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change.

7.35 In addition, sediment sumps or catchpits will be installed immediately upstream of the SuDS features, which may thereby improve the quality of runoff to surface waters.

Table 1: Pollution Hazard Indices

Catchment Type	Pollution Hazard Level	Requirements for Discharge to groundwater	Pollution Hazard Indices		
			Suspended solids	Metals	Hydrocarbons
Residential roofs	Very low	Removal of gross solids and sediments only	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, home zones and general access roads)	Low	Simple index approach	0.5	0.4	0.4

Table 2: SuDS Mitigation Indices

Type of SuDS	SuDS Mitigation Indices		
	Suspended solids	Metals	Hydrocarbons
Permeable pavement	0.7	0.6	0.7
Swale	0.5	0.6	0.6

Maintenance

7.36 Maintenance of proposed SuDS and drainage networks serving a single property will be the responsibility of the future owners.

7.37 Drainage within the shared areas, such as car parking spaces, access roads, etc. will be managed by a private management company.

7.38 SuDS management and maintenance plan is provided in Appendix O.

Exceedance Flows

7.39 In the unlikely event of exceedance (events greater than the 1 in 100 year plus climate change), flows would be routed away from buildings as indicated on the drawing included at Appendix P.

8.0 Summary and Conclusions

Summary

8.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd to accompany an application for the conversion and redevelopment of Caversham Park , Peppard Road, Reading, RG4 8TZ, to create a mixture of affordable, private, assisting living and care home accommodation.

8.2 This assessment has been prepared in accordance with the requirement of National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG), flood risk and drainage guidance, and with reference to the relevant Strategic Flood Risk Assessments.

8.3 The site is located entirely within Flood Zone 1, beyond the limits of the 1 in 1,000 year fluvial flood event (<0.1%).

8.4 The proposed development site is considered to be at very low risk of flooding from all sources examined.

8.5 The proposed drainage strategy will offer protection against surface water flooding by providing a positive drainage system, which will intercept runoff generated within the site. The drainage system will be designed to accommodate the design rainfall event (1 in 100-year return period with a 40% allowance for climate change). As such, surface water flooding is not considered to be an issue that would prevent the development of the site for its intended end use.

8.6 The infiltration testing and groundwater monitoring results have shown that the disposal of runoff from the site by means of infiltration is feasible for the Western Catchment and a portion of the Cricket Pavilion Catchment, subject to further infiltration testing carried out in accordance with BRE 365 and positive infiltration results.

8.7 Following the drainage hierarchy, runoff from the Eastern Catchment will be discharged into the existing ditch at a controlled rate of 12.5l/s (50% betterment to existing brownfield runoff situation), which will provide significant drainage improvement whilst reducing flood risk to the site and surrounding area.

8.8 The Central Catchment, which will be reduced as a result of the proposed works and thus will provide betterment to the site drainage, will follow the existing drainage arrangement and will discharge runoff into the pond.

8.9 The proposed drainage strategy will also provide opportunities to degrade pollutants, thereby improving the quality of surface water discharging from the site.

8.10 A maintenance plan has been provided in order to ensure the proposed drainage features are maintained in perpetuity in accordance with the appropriate guidance and standards.

Conclusion

8.11 In conclusion, this report has demonstrated that the proposed development:

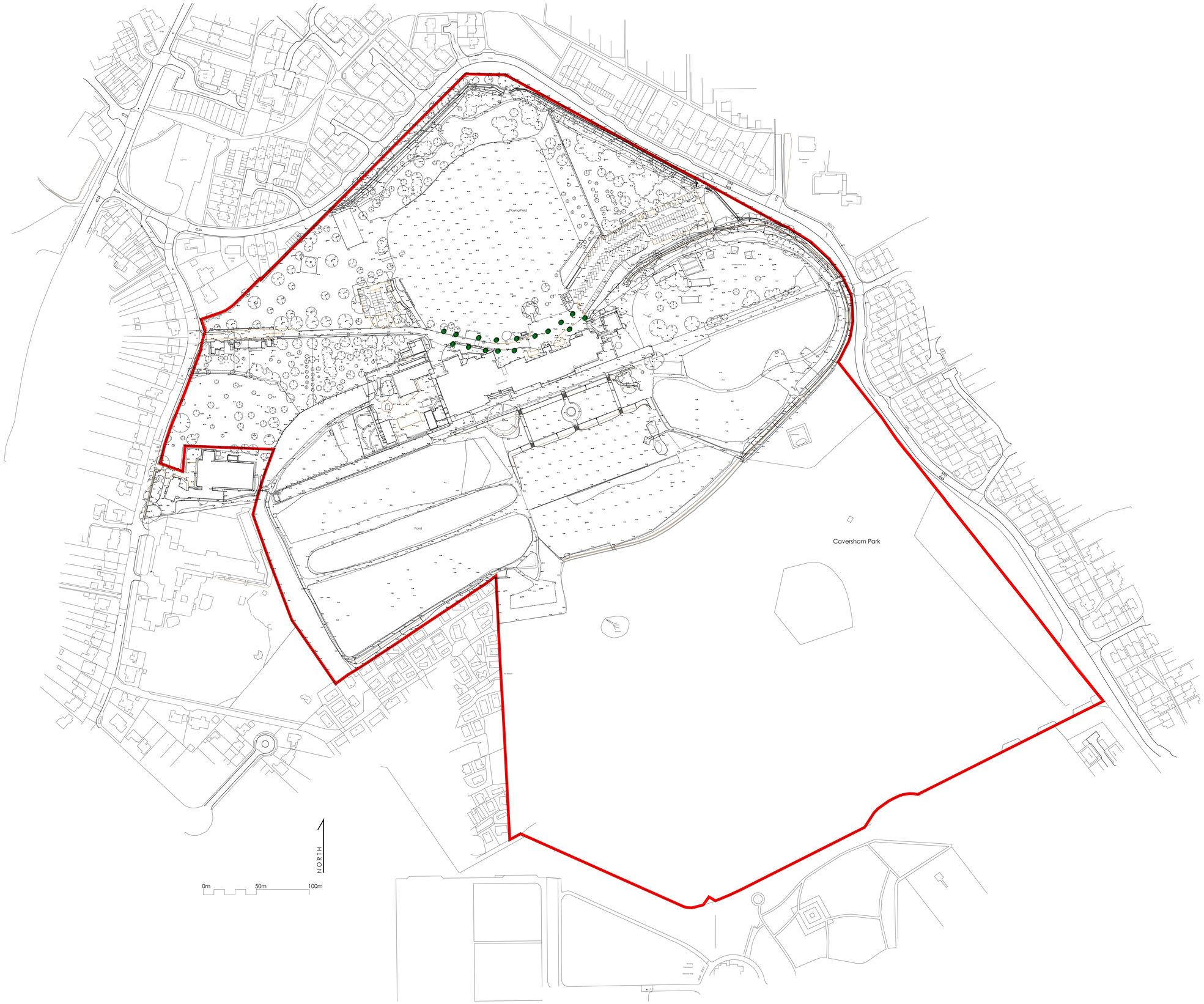
- is in accordance with the National Planning Policy Framework;
- will not be at an unacceptable risk from fluvial flooding or other sources;
- will not increase flood risk elsewhere;
- will employ a surface water drainage strategy based on the principles of sustainable drainage.

8.12 Therefore, the proposals are considered to fully comply with National, Regional and Local planning policy in respect of flood risk and surface water drainage.

Appendices

Appendix A

Location Plan



NOTES:

DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING

ALL DIMENSIONS ARE TO BE CHECKED AGAINST ACTUAL SITE DIMENSIONS BEFORE ANY WORK IS PERMITTED

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REVISIONS

Rev.	Date	Description

Client :
Beechcroft Developments

Job :
Caversham Park Reading

Drawing Title:
Topo / Title Plan Overlay

Scale:
1:1250 @ A0

Date: Nov 2021
Drawn By: RN
Checked: ***

Drawing No: 3251.P.1000
Revision:

PRELIMINARY

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Wiltshire, SN13 0RP
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BHP HARWOOD
ARCHITECTS

Appendix B

Topographical Survey

NOTES

GENERAL NOTES :-

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.
GRID COORDINATES ARE ORDNANCE SURVEY MATERIAL ONLY DERIVED FROM GPS TRANSFORMATION. ACCURACY OF THESE IS 0.05M IN X, Y AND 0.05M IN Z WITHIN THE SURVEY.

THIS DRAWING HAS BEEN PRODUCED WITH A PLOT SCALE ACCURACY OF 1:500.

SERVICE COVERS INDICATED WHERE VISIBLE. FIRE HYDRANTS / DETAILS SURVEYED FROM SURFACE INSPECTION ONLY. GENERALLY OBRADED COVERS AND COVERS BEYOND HIGHWAYS WILL NOT BE LOTED

TREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.

OVERHEAD CABLES ARE INDICATED USING STATIC SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

SERVICE COVERS LOCATED UNDER PARKED VEHICLES/MOBILE STRUCTURES WAYBE OMITTED.
BURIED SERVICE COVERS WILL NOT BE INDICATED.

TOPOGRAPHICAL SURVEY/UTILITY KEY :-

hgt = height	gr = gull. gr.
p = pole	ch = chimney
⊥ = pos.bm	TBM = temporary survey bench mark
a/g = above ground	p & f fence = post & rail fence
m = manhole cover	pl = plant pot
w = water mark	pr = pipe riser
bb = bellbin beacon	pb = pipe to ground
s = stop cock	pbg = pipe to garage
g = gas meter	pbh = pipe to house
b = bell bell	pr = pipe riser
bot = bottom of shaft	ra = road sign
c = cable	rb = road bollard
c/a fence = creosoted fence	s/bench = above bench
c/box = control box	sc = sump cover
cc = concrete column	sig = signal
cl = cover level	sw = south west
cr = crane	sp = sprinkler
cv = cobble chief	sf = security fence
d/sewer = drainage sewer	sl = soil stack chimpter
d/chan = drainage channel	sf = spot flight
ejb = electric junction box	sb = spot beam
ew = east west	sg = spot gate
ep = electric pole	sw = south west
ef = electric fence	TBM = temporary bench mark
el = electric line	tc = telephone cabinet/kiosk
f = water tap	b = threshold level
fb = fire bell bell	top = top of bank
fl = fire hydrant	toe = toe of slope
fp = fire point	tos = top of slope
fs = fire switch	tob = top of bank
fsw = fire water sewer	tp = telephone pole
g = gully	tr = traffic signal
g/chan = gully hole	u/s = underside
h = hedge	u/g = underground
h/hedge = hedge chestnut	up = unable to lift
i = inspection cover	up/c = unable to lift/cover
i/c = inspection cover	up/s = unable to survey
i/l = inspection level	up/s/c = unable to survey/cover
ir = iron/wood	w = water cock
im = interceptor	wt = water tank
m = manhole	wm = water meter
mc = manhole cover	wp = water pipe
n/b = nose bolt	wv = water valve
n/h = river head	

Appendix C

British Geological Survey Mapping

KEY

Approximate site boundary

NOTES

1. This drawing is to be read in conjunction with all other documents and specifications
2. Dimensions not to be scaled from drawing

N

Superficial Geology

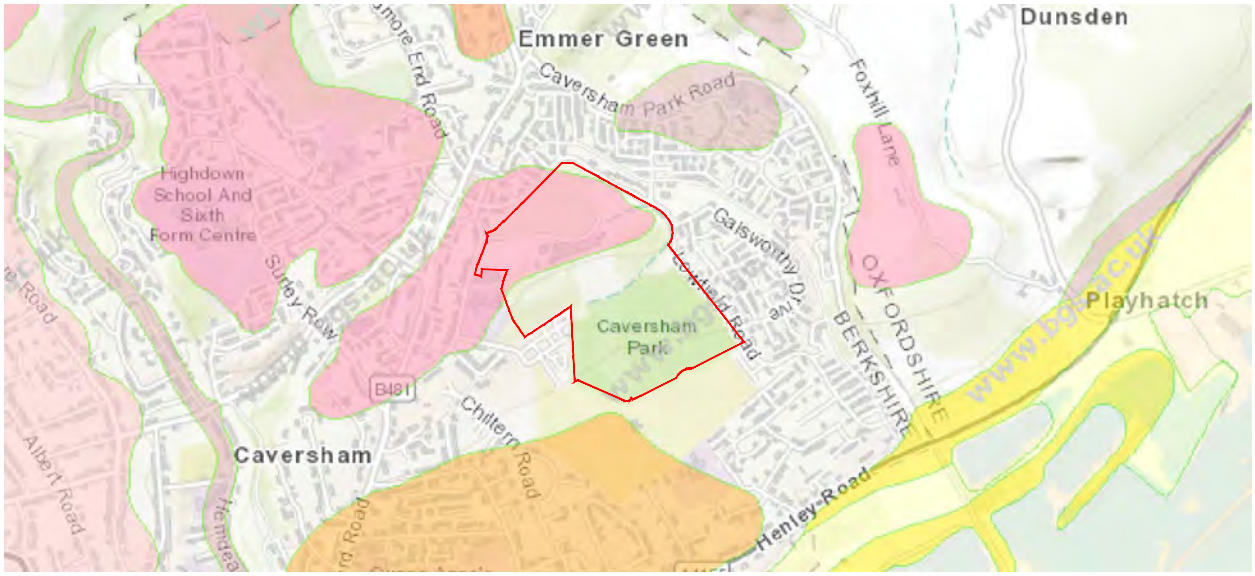
Black Park Gravel Member - Sand and Gravel

Bedrock Geology

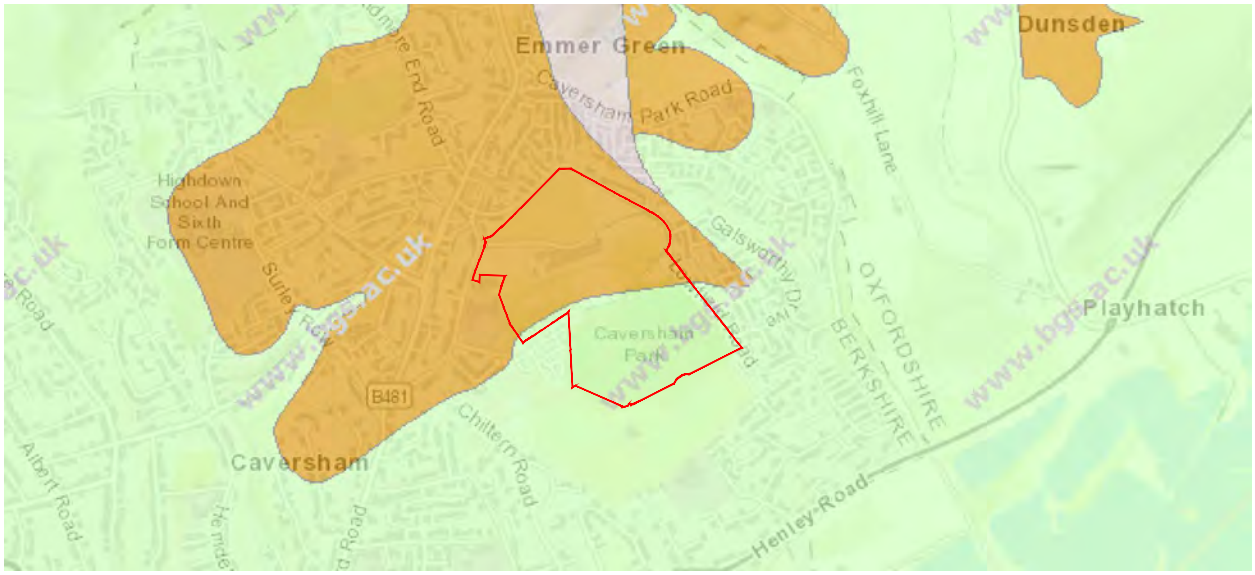
Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk

Lambeth Group - Clay, Silt And Sand

Superficial Deposits



Bedrock Geology



Glanville

Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD
Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

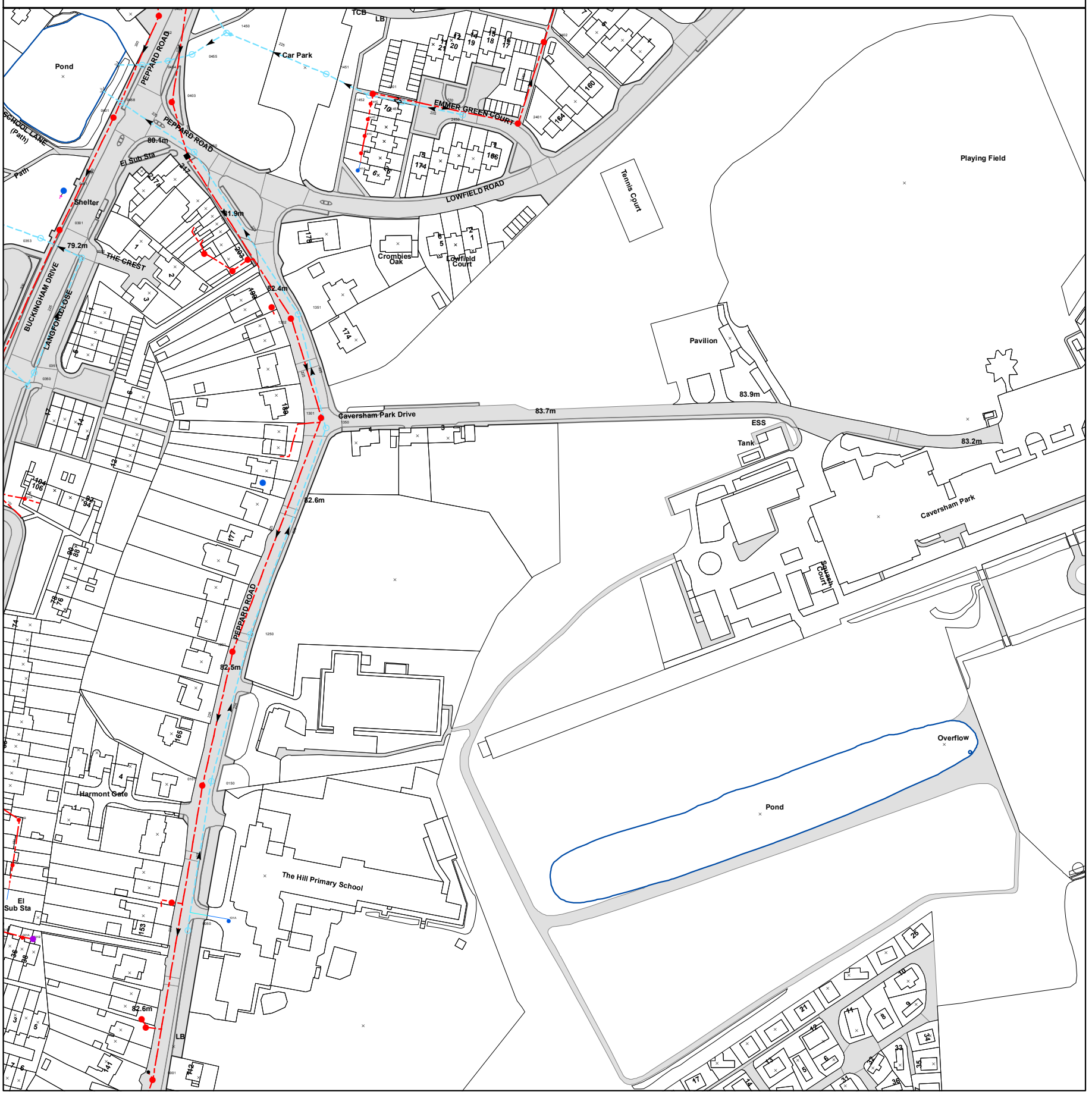
Project :	Caversham Park, Reading, RG4 8TZ		
Title :	British Geological Survey Mapping		
Project Engineer : A. Persins	Scale : NTS	Drawing No. 8210940 - SK04	Rev -
Project Director : J. Hanlon	Date : December 2021		

Appendix D

Thames Water Records

Based on the Ordnance Survey Map with the sanction of the Controller of H.M Stationary Office License Number 10019345

CDWS/CDWS Standard/2020_4167880



0 10 20 40 60 80 Meters

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

Scale:	1:1792
Width:	500m
Printed By:	G1KANAGA
Print Date:	18/03/2020
Map Centre:	472250,176250
Grid Reference:	SU7276SW

Comments:

CDWS/CDWS Standard/2020_4167880

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

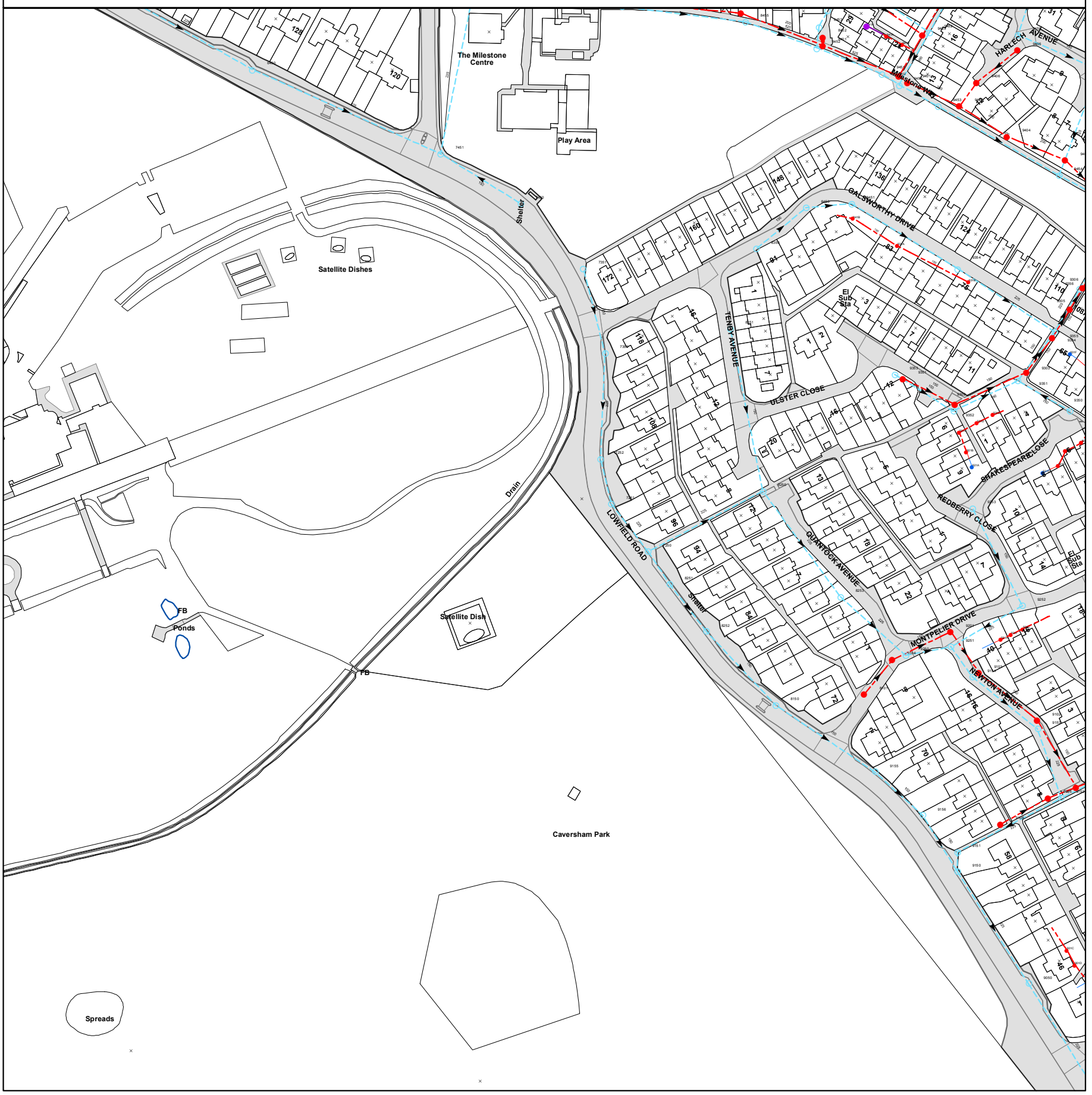
REFERENCE	COVER LEVEL	INVERT LEVEL
0350	79.44	77.77
1450	81.27	79.25
13ZW		
0450	81.2	79.59
2450	82.72	80.91
0353	79.04	76.54
0101	82.57	77.57
0454	80.35	78.45
0403	80.56	78.84
00ZT		
0452	80.44	78.48
1451	81.63	80.18
1301	82.78	78.18
1401	82.85	82.05
0401	80.03	78.45
0458		
2401	82.78	81.53
13YY		
141A		
101A		
141E		
1250	82.44	80.56
0050	82.65	81.04
021A		
001A		
011B		

REFERENCE	COVER LEVEL	INVERT LEVEL
0351	79.29	77.74
1201	82.47	77.77
0455	80.79	78.8
0301	79.38	78.43
0451	78.91	76.86
1453	82.94	80.61
13ZV		
00YY		
0352	79.15	76.85
0001	82.04	77.12
1350	82.81	80.17
0402	80.79	78.45
1452	82.85	80.44
2402	82.64	81.21
1351	82.4	79.97
1302	82.41	78.34
12ZV		
141C		
141B		
141D		
03ZT		
00ZV		
0150	82.55	80.77
001B		
011A		

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

Based on the Ordnance Survey Map with the sanction of the Controller of H.M Stationary Office License Number 10019345

CDWS/CDWS Standard/2020_4167880



0 10 20 40 60 80 Meters

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

Scale:	1:1792
Width:	500m
Printed By:	G1KANAGA
Print Date:	18/03/2020
Map Centre:	472750,176250
Grid Reference:	SU7276SE

Comments:

CDWS/CDWS Standard/2020_4167880

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
921A		
8350	77.73	76.16
8252		
9050	62	60.64
9102	70.36	68.04
9350	73.96	72.57
9101	68.48	66.48
9351	74.54	72.31
9455	70.54	68.83
9303	74.24	72.4
9152	67.59	66.02
9304	72.64	71.13
9105		
8403	70.24	68.04
9106		
6450	78.88	76.25
7252	78.34	76.75
8451		
8253	72.65	70.69
9301	75.98	74.47
9406	67.63	66.11
9253	74.78	73.71
7351	79.57	78.04
8101	70.11	69.09
9201	71.74	68.63
9150	65.26	63.74
8453	69.46	68.58
8402	69.07	67.99
9354	73.57	71.81
8450	76.31	74.68
9451	68.4	65.38
9453	67.54	64.83
931F		
931D		
8250	76.52	74.15
9404	66.9	65.32
9407	67.29	65.79
7450	79.02	77.82
841B		
931B		
941A		
841A		
921F		
921E		
921I		
901D		

REFERENCE	COVER LEVEL	INVERT LEVEL
931C		
8351	78.79	77.42
7451	78.61	75.14
9153	69.96	67.9
8455	69.82	67.42
9305	71.07	69.17
9356		
9405	69.63	67.85
9252	72.41	70.89
9454	66.09	64.02
9306		
9355		
8150	71.13	69.44
8251	75.41	73.43
7250	76.19	74.52
7251	77.57	76.15
7350	79.41	77.6
8454	69.75	68.67
9450	68.23	65.21
9250	71.18	69.48
9103	71.64	68.46
9154	71.54	68.74
9353	76.22	74.39
9251	71.7	68.92
9302	75.76	73.59
8452	69.07	66.9
8401	69	67.01
9151	65.86	64.26
9104	71.03	68.88
9155	68.28	66.6
9452	69.39	66.4
9403	69.28	67.8
921B		
931E		
9156	66.88	65.3
9408	66.19	
9401	68.15	66.26
9352	75.74	73.74
931A		
9402	68.28	66.28
941B		
921G		
921D		
921H		
921C		
901C		

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

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

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

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

Control Valve

Drop Pipe

Ancillary

Weir

End Items

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

Outfall

Undefined End

Inlet

Other Symbols

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

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.

2) All measurements on the plans are metric.

3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.

4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

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

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0118 925 1504.

Appendix E

CCTV Drainage Survey Report

METRO ROD
DRAIN CARE AND REPAIR

CCTV Inspection Report

BBC
CAVERSHAM PARK
PEPPARD ROAD
READING
RG4 8TZ

13/06/2019

Job Number: 780878

Reading Office
Unit B9, Great Knollys Street, Reading, Berkshire, RG1 7HN
Tel: 0118 950 4477

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Report Contents

Page 1	Cover Page
Page 2	Contents Page
Page 5	Grade Defect Descriptions
Page 6	Site Drawings
Page 7	Site Photos
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Page 16	Survey Run Sheet(Survey 2 - SWMH2 to SWMH3)
Page 17	Survey Run Sheet(Survey 3 - SWMH4 to SWMH3)
Page 18	Survey Run Sheet(Survey 4 - SWMH4 to SWMH5)
Page 19	Survey Run Sheet(Survey 5 - SWMH5 to SWMH18)
Page 21	Survey Run Sheet(Survey 6 - FWMH2 to FWMH1)
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Page 28	Survey Run Sheet(Survey 12 - FWMH1B to PUMP STATION)
Page 30	Survey Run Sheet(Survey 13 - FWMH1A to PUMP STATION)
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Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Report Contents

Page 34 Survey Run Sheet(Survey 15 - FWMH11 to FWMH12)

Page 35 Survey Run Sheet(Survey 16 - FWMH10 to FWMH9)

Page 37 Survey Run Sheet(Survey 17 - FWMH12 to FWMH13)

Page 38 Survey Run Sheet(Survey 18 - SWMH10 to SWMH9)

Page 40 Survey Run Sheet(Survey 19 - SWMH10 to SWMH11)

Page 41 Survey Run Sheet(Survey 20 - SWMH12 to SWMH11)

Page 42 Survey Run Sheet(Survey 21 - SWMH12 to RWP)

Page 43 Survey Run Sheet(Survey 22 - SWMH14 to SWMH15)

Page 44 Survey Run Sheet(Survey 23 - SWMH14 to SWMH16)

Page 45 Survey Run Sheet(Survey 24 - FWMH15 to FWMH14)

Page 46 Survey Run Sheet(Survey 25 - FWMH15 to FWMH3)

Page 48 Survey Run Sheet(Survey 26 - FWMH21 to FWMH22)

Page 49 Survey Run Sheet(Survey 27 - FWMH21 to FWMH20)

Page 50 Survey Run Sheet(Survey 28 - SWMH17 to SWMH6)

Page 51 Survey Run Sheet(Survey 29 - SWMH7 to SWMH16)

Page 52 Survey Run Sheet(Survey 30 - SWMH7 to SWMH8)

Page 53 Survey Run Sheet(Survey 31 - SWMH8 to SWMH18)

Page 54 Survey Run Sheet(Survey 32 - SWMH18 to SWMH19)

Page 56 Survey Run Sheet(Survey 33 - SWMH19 to LAKE)

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Report Contents

Page 58 Survey Run Sheet(Survey 34 - FWMH7 to FWMH6)

Page 59 Survey Run Sheet(Survey 35 - FWMH7 to FWMH9)

Page 60 Survey Run Sheet(Survey 36 - FWMH8 to FWMH7)

Page 61 Survey Run Sheet(Survey 37 - FWMH8 to FWMH20)

Page 62 Survey Run Sheet(Survey 38 - FWMH16 to FWMH19)

Page 63 Survey Run Sheet(Survey 39 - FWMH16 to FWMH23)

Page 65 Survey Run Sheet(Survey 40 - FWMH16 to FWMH17)

Page 67 Survey Run Sheet(Survey 41 - FWMH18 to FWMH17)

Page 69 Survey Run Sheet(Survey 42 - FWMH20 to FWMH23)

Page 71 Survey Run Sheet(Survey 43 - FWMH20 to FWMH23)

Page 73 Survey Run Sheet(Survey 44 - FWMH25 to FWMH9)

Page 74 Survey Run Sheet(Survey 45 - FWMH25 to FWMH26)

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Page 77 Survey Run Sheet(Survey 47 - SWMH18 to SWMH6)

Page 79 Survey Run Sheet(Survey 48 - FWMH27 to TANK)

Page 80 Defect Summary

Page 84 Job Summary

Defect Grade Descriptions

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

1: Occurences without damage. For example, laterals, joints,etc.

NO DEFECTS WERE DETECTED.

2: Constructional deficiencies or occurences with insignificant influence to tightness, hydraulic or static pressure or pipe: Eg. wide joints, badly torched intakes, minor deformation of plastic pipes, minor erosions etc.

REHABILITATION CAN BE SCHEDULED LONG-TERM.

3: Constructional deficiencies diminishing static, hydraulic and tightness: Eg. untorched intakes, cracks, minor drainage obstructions such as calcite build ups, protruding laterals, minor damages to pipe wall, individual root penetrations, corroded pipe walls etc.

REHABILITATION IS NECESSARY MEDIUM-TERM WITHIN 3 TO 5 YEARS.

4: Constructional damages with insufficent static safety, hydraulic or tightness: Eg. axial/radial pipe bursts, pipe deformations, visually noticeable infiltration/exfiltration, cavities, in pipe-wall, severe protruding, laterals severe root penetrations, severe corrosion of pipe wall etc.

REHABILITATION PROCEDURE IS URGENT AND HAS TO BE COMPLETED WITHIN 1 TO 2 YEARS. NECESSITY FOR EMERGENCY OPERATIONS HAS TO BE EXAMINED.

5: Pipe is already or will shortly be impermeable: Eg. collapsed pipe, deeply rooted pipe or other drainage obstructions. Pipe loses water or danger of backwater in basements etc.

REHABILITATION IS URGENT AND SHORT-TERM. IN ORDER TO PREVENT FURTHER DAMAGE, NECESSARY TEMPORARY SPOT REPAIR HAS TO BE CONDUCTED ON EMERGENCY LEVEL.

Site Drawings/Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

This sketch is not to scale and does not represent the exact routing of the drainage system

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Site Photos

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: SWMH2 Internal

Manhole / Access Point: SWMH4 Internal

Manhole / Access Point: SWMH5 Internal

Manhole / Access Point: FWMH1 Internal

Manhole / Access Point: FWMH2 Internal

Manhole / Access Point: FWMH3 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: FWMH5 Internal

Manhole / Access Point: PUMP STATION Internal

Manhole / Access Point: FWMH1B Internal

Manhole / Access Point: FWMH1A Internal

Manhole / Access Point: FWMH10 Internal

Manhole / Access Point: FWMH12 Internal

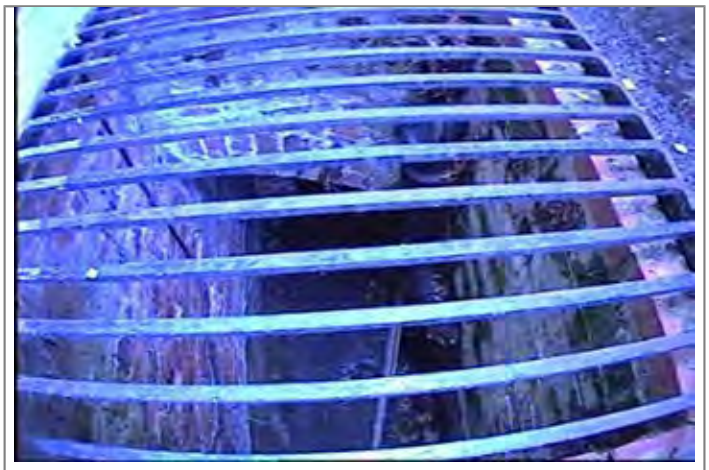
Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: FWMH11 Internal

Manhole / Access Point: FWMH13 Internal



Manhole / Access Point: RWP Location

Manhole / Access Point: SWMH10 Internal

Manhole / Access Point: SWMH12 Internal

Manhole / Access Point: SWMH14 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: FWMH15 Internal

Manhole / Access Point: FWMH21 Internal

Manhole / Access Point: FWMH22 Internal

Manhole / Access Point: SWMH17 Internal

Manhole / Access Point: SWMH7 Internal

Manhole / Access Point: SWMH18 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: SWMH19 Internal

Manhole / Access Point: FWMH7 Internal

Manhole / Access Point: FWMH8 Internal

Manhole / Access Point: FWMH16 Internal

Manhole / Access Point: FWMH18 Internal

Manhole / Access Point: FWMH25 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: SWMH9 Internal

Manhole / Access Point: SWMH11 Internal

Manhole / Access Point: FWMH14 Internal

Manhole / Access Point: SWMH16 Internal

Manhole / Access Point: FWMH19 Internal

Manhole / Access Point: FWMH24 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: FWMH23 Internal

Manhole / Access Point: SWMH15 Internal

Manhole / Access Point: SWMH3 Internal

Manhole / Access Point: SWMH1 Internal

Manhole / Access Point: FWMH4 Internal

Manhole / Access Point: FWMH6 Internal

Site Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Manhole / Access Point: FWMH9 Internal

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH1 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**1**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH2**
End MH **SWMH1**
Total length **14.1 metres**

Scale **1:0.73**
Direction **Upstream**

M/H Ref:SWMH2 | I/L : metres | M/H Depth: 1600 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH2	3387450	Comment / 0
0.00	WL	Water level 5% height/diameter	3387451	Comment / 0
14.10	MHF	Finish node type, manhole, reference SWMH1	3387455	Comment / 0

M/H Ref:SWMH1 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH2 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**2**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH2**
End MH **SWMH3**
Total length **19.67 metres**

Scale **1:1.00**
Direction **Downstream**

M/H Ref:SWMH2 | I/L : metres | M/H Depth: 1600 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH2	3387480	Comment / 0
0.00	WL	Water level 5% height/diameter	3387481	Comment / 0
19.67	MHF	Finish node type, manhole, reference SWMH3	3387497	Comment / 0

M/H Ref:SWMH3 | I/L : metres | M/H Depth: 1960 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH3 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**3**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH4**
End MH **SWMH3**
Total length **40.05 metres**

Scale **1:2.10**
Direction **Upstream**

M/H Ref:SWMH4 | I/L : metres | M/H Depth: 2310 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH4	3387541	Comment / 0
0.00	WL	Water level 5% height/diameter	3387542	Comment / 0
2.10	JN	Junction at 12 o'clock, diameter 100mm	3387546	Comment / 0
40.05	MHF	Finish node type, manhole, reference SWMH3	3387561	Comment / 0

M/H Ref:SWMH3 | I/L : metres | M/H Depth: 1960 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH4 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**4**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH4**
End MH **SWMH5**
Total length **23.11 metres**

Scale **1:1.21**
Direction **Downstream**

M/H Ref:SWMH4 | I/L : metres | M/H Depth: 2310 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH4	3387584	Comment / 0
0.00	WL	Water level 5% height/diameter	3387586	Comment / 0
4.11	JN	Junction at 2 o'clock, diameter 150mm	3387591	Comment / 0
23.11	MHF	Finish node type, manhole, reference SWMH5	3387606	Comment / 0

M/H Ref:SWMH5 | I/L : metres | M/H Depth: 2410 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH5 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**5/0**	**DDFRT6A12S**	**5**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH5**
End MH **SWMH18**
Total length **25.89 metres**

Scale **1:1.31**
Direction **Downstream**

M/H Ref:SWMH5 | I/L : metres | M/H Depth: 2410 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH5	3387753	Comment / 0
0.00	WL	Water level 5% height/diameter	3387754	Comment / 0
12.36	JN	Junction at 1 o'clock, diameter 100mm	3387758	Comment / 0
25.57	JN	Junction at 1 o'clock, diameter 100mm	3387779	Comment / 0
25.57	OBC	Other obstacles through connection/junction at 1 o'clock 50% cross-sectional area loss	3387791	Service / 5
25.89	SA	Survey abandoned - Remark: ABANDONED SURVEY DUE TO ROD PROTRUDING THROUGH JUNCTION UNABLE TO GET CAMERA PAST ROD.	3387830	Comment / 0

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 2700 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Other obstacles through connection/junction at 1 o'clock 50% cross-sectional area loss

Survey abandoned - Remark: ABANDONED SURVEY DUE TO ROD PROTRUDING THROUGH JUNCTION UNABLE TO GET CAMERA PAST ROD.

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH1 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**6**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Cast iron**
Category

Start MH **FWMH2**
End MH **FWMH1**
Total length **22.02 metres**

Scale **1:1.15**
Direction **Upstream**

M/H Ref:FWMH2 | I/L : metres | M/H Depth: 1070 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH2	3388119	Comment / 0
0.00	WL	Water level 5% height/diameter	3388120	Comment / 0
22.02	MHF	Finish node type, manhole, reference FWMH1	3388129	Comment / 0

M/H Ref:FWMH1 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**PUMP STATIX**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**7**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Cast iron**
Category

Start MH **FWMH1**
End MH **PUMP STATION**
Total length **36.16 metres**

Scale **1:1.89**
Direction **Upstream**

M/H Ref:FWMH1 | I/L : metres | M/H Depth: 910 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1	3388219	Comment / 0
0.00	WL	Water level 5% height/diameter	3388220	Comment / 0
36.16	OCF	Finish node type, other special chamber, reference PUMP STATION	3388228	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH3 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**8**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH3**
End MH **FWMH4**
Total length **22.02 metres**

Scale **1:1.15**
Direction **Downstream**

M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH3	3388245	Comment / 0
0.00	WL	Water level 5% height/diameter	3388246	Comment / 0
22.02	MHF	Finish node type, manhole, reference FWMH4	3388257	Comment / 0

M/H Ref:FWMH4 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH2 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**9**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH3**
End MH **FWMH2**
Total length **6.21 metres**

Scale **1:0.31**
Direction **Upstream**

M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH3	3388285	Comment / 0
0.00	WL	Water level 5% height/diameter	3388286	Comment / 0
6.21	MHF	Finish node type, manhole, reference FWMH2	3388290	Comment / 0

M/H Ref:FWMH2 | I/L : metres | M/H Depth: 1070 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH4 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**10**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH5**
End MH **FWMH4**
Total length **30.38 metres**

Scale **1:1.57**
Direction **Upstream**

M/H Ref:FWMH5 | I/L : metres | M/H Depth: 1710 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH5	3390997	Comment / 0
0.00	WL	Water level 5% height/diameter	3390998	Comment / 0
30.38	MHF	Finish node type, manhole, reference FWMH4	3390999	Comment / 0

M/H Ref:FWMH4 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH5 X**	**13/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**11**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH5**
End MH **FWMH6**
Total length **14.34 metres**

Scale **1:0.73**
Direction **Downstream**

M/H Ref:FWMH5 | I/L : metres | M/H Depth: 1710 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH5	3391000	Comment / 0
0.00	WL	Water level 5% height/diameter	3391001	Comment / 0
14.34	REM	NOW AT RUNNING TRAP AT FWMH6	3391002	Comment / 0
14.34	WRF	Finish node type, Winser trap, reference FWMH6	3391003	Comment / 0

M/H Ref:FWMH6 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

NOW AT RUNNING TRAP AT FWMH6

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH1B X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/3**	**DDFRT6A12S**	**12**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **FWMH1B**
End MH **PUMP STATION**
Total length **1.67 metres**

Scale **1:0.05**
Direction **Downstream**

M/H Ref:FWMH1B | I/L : metres | M/H Depth: 1180 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1B	3391006	Comment / 0
0.00	WL	Water level 5% height/diameter	3391012	Comment / 0
0.44	CM	Cracks multiple from 1 to 5 o'clock	3391031	Structural / 3
1.67	ICF	Finish node type, inspection chamber, reference PUMP STATION	3391043	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**14/06/2019**

Cracks multiple from 1 to 5 o'clock

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH1A X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/2**	**DDFRT6A12S**	**13**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **FWMH1A**
End MH **PUMP STATION**
Total length **16.49 metres**

Scale **1:0.84**
Direction **Downstream**

M/H Ref:FWMH1A | I/L : metres | M/H Depth: 1500 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1A	3391087	Comment / 0
0.00	WL	Water level 5% height/diameter	3391088	Comment / 0
1.13	CL (S1)	Crack longitudinal at 7 o'clock, Start	3391094	Structural / 2
3.09	CL (F1)	Crack longitudinal at 7 o'clock, Start, Finished	3391095	Structural / 2
3.09	CL (S2)	Crack longitudinal at 3 o'clock, Start	3391096	Structural / 2
4.95	CL (F2)	Crack longitudinal at 3 o'clock, Start, Finished	3391098	Structural / 2
5.01	CL (S3)	Crack longitudinal at 7 o'clock, Start	3391099	Structural / 2
6.76	CL (F3)	Crack longitudinal at 7 o'clock, Start, Finished	3391101	Structural / 2
6.76	CL (S4)	Crack longitudinal at 5 o'clock, Start	3391102	Structural / 2
7.01	CL (S5)	Crack longitudinal at 9 o'clock, Start	3391103	Structural / 2
8.79	CL (F4)	Crack longitudinal at 5 o'clock, Start, Finished	3391106	Structural / 2
8.79	CL (F5)	Crack longitudinal at 9 o'clock, Start, Finished	3391107	Structural / 2
16.49	ICF	Finish node type, inspection chamber, reference PUMP STATION	3391409	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**14/06/2019**

Crack longitudinal at 7 o'clock, Start

Crack longitudinal at 7 o'clock, Start, Finished

Crack longitudinal at 3 o'clock, Start

Crack longitudinal at 3 o'clock, Start, Finished

Crack longitudinal at 7 o'clock, Start

Crack longitudinal at 7 o'clock, Start, Finished

CCTV Inspection Photos

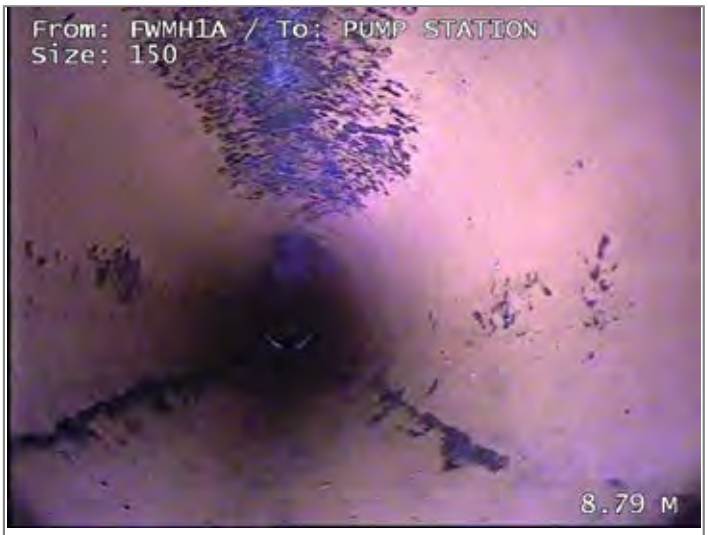
Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**14/06/2019**

Crack longitudinal at 5 o'clock, Start

Crack longitudinal at 9 o'clock, Start

Crack longitudinal at 5 o'clock, Start, Finished



Crack longitudinal at 9 o'clock, Start, Finished

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH11 X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**14**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH10**
End MH **FWMH11**
Total length **10.04 metres**

Scale **1:0.52**
Direction **Upstream**

M/H Ref:FWMH10 | I/L : metres | M/H Depth: 1360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH10	3391531	Comment / 0
0.00	WL	Water level 5% height/diameter	3391532	Comment / 0
10.04	MHF	Finish node type, manhole, reference FWMH11	3391533	Comment / 0

M/H Ref:FWMH11 | I/L : metres | M/H Depth: 1000 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH12 X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**15**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH11**
End MH **FWMH12**
Total length **7.07 metres**

Scale **1:0.37**
Direction **Upstream**

M/H Ref:FWMH11 | I/L : metres | M/H Depth: 1000 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH11	3391534	Comment / 0
0.00	WL	Water level 5% height/diameter	3391535	Comment / 0
7.07	MHF	Finish node type, manhole, reference FWMH12	3391536	Comment / 0

M/H Ref:FWMH12 | I/L : metres | M/H Depth: 840 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH10 X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/3**	**DDFRT6A12S**	**16**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH10**
End MH **FWMH9**
Total length **10.73 metres**

Scale **1:0.52**
Direction **Downstream**

M/H Ref:FWMH10 | I/L : metres | M/H Depth: 1360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH10	3391537	Comment / 0
0.00	WL	Water level 5% height/diameter	3391538	Comment / 0
9.09	CC	Crack circumferential from 1 to 11 o'clock	3391540	Structural / 2
10.21	CM	Cracks multiple from 9 to 5 o'clock	3391541	Structural / 3
10.73	MHF	Finish node type, manhole, reference FWMH9	3391542	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**14/06/2019**

Crack circumferential from 1 to 11 o'clock

Cracks multiple from 9 to 5 o'clock

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH13 X**	**14/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**17**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH12**
End MH **FWMH13**
Total length **6.36 metres**

Scale **1:0.31**
Direction **Upstream**

M/H Ref:FWMH12 | I/L : metres | M/H Depth: 840 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH12	3391543	Comment / 0
0.00	WL	Water level 5% height/diameter	3391544	Comment / 0
6.36	MHF	Finish node type, manhole, reference FWMH13	3391545	Comment / 0

M/H Ref:FWMH13 | I/L : metres | M/H Depth: 750 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH9 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/4**	**DDFRT6A12S**	**18**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH10**
End MH **SWMH9**
Total length **11.36 metres**

Scale **1:0.58**
Direction **Upstream**

M/H Ref:SWMH10 | I/L : metres | M/H Depth: 640 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH10	3394644	Comment / 0
0.00	WL	Water level 5% height/diameter	3394645	Comment / 0
8.57	B	Broken pipe from 8 to 4 o'clock	3394653	Structural / 4
11.36	MHF	Finish node type, manhole, reference SWMH9	3394654	Comment / 0

M/H Ref:SWMH9 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**17/06/2019**

Broken pipe from 8 to 4 o'clock

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH10 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**19**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH10**
End MH **SWMH11**
Total length **26.41 metres**

Scale **1:1.36**
Direction **Downstream**

M/H Ref:SWMH10 | I/L : metres | M/H Depth: 640 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH10	3394667	Comment / 0
0.00	WL	Water level 5% height/diameter	3394668	Comment / 0
9.08	JN	Junction at 10 o'clock, diameter 100mm	3394669	Comment / 0
9.44	JN	Junction at 10 o'clock, diameter 100mm	3394670	Comment / 0
26.41	MHF	Finish node type, manhole, reference SWMH11	3394694	Comment / 0

M/H Ref:SWMH11 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH11 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**20**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH12**
End MH **SWMH11**
Total length **9.44 metres**

Scale **1:0.47**
Direction **Upstream**

M/H Ref:SWMH12 | I/L : metres | M/H Depth: 1320 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH12	3394840	Comment / 0
0.00	WL	Water level 5% height/diameter	3394842	Comment / 0
9.44	MHF	Finish node type, manhole, reference SWMH11	3394848	Comment / 0

M/H Ref:SWMH11 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH12 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**21**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH12**
End MH **RWP**
Total length **1.87 metres**

Scale **1:0.05**
Direction **Downstream**

M/H Ref:SWMH12 | I/L : metres | M/H Depth: 1320 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH12	3394917	Comment / 0
0.00	WL	Water level 5% height/diameter	3395141	Comment / 0
1.87	OFF	Finish node type, outfall, reference RWP	3395146	Comment / 0

M/H Ref:RWP | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH15 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**22**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH14**
End MH **SWMH15**
Total length **20.52 metres**

Scale **1:1.05**
Direction **Upstream**

M/H Ref:SWMH14 | I/L : metres | M/H Depth: 2360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH14	3395219	Comment / 0
0.00	WL	Water level 5% height/diameter	3395220	Comment / 0
20.52	MHF	Finish node type, manhole, reference SWMH15	3395222	Comment / 0

M/H Ref:SWMH15 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH14 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**23**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH14**
End MH **SWMH16**
Total length **32.75 metres**

Scale **1:1.68**
Direction **Downstream**

M/H Ref:SWMH14 | I/L : metres | M/H Depth: 2360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH14	3395247	Comment / 0
0.00	WL	Water level 5% height/diameter	3395248	Comment / 0
1.49	LL	Line of drain/sewer deviates left	3395252	Comment / 0
2.77	JN	Junction at 11 o'clock, diameter 100mm	3395253	Comment / 0
8.46	JN	Junction at 9 o'clock, diameter 100mm	3395257	Comment / 0
28.51	JN	Junction at 3 o'clock, diameter 100mm	3395269	Comment / 0
32.75	MHF	Finish node type, manhole, reference SWMH16	3395270	Comment / 0

M/H Ref:SWMH16 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH14 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**24**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Cast iron**
Category

Start MH **FWMH15**
End MH **FWMH14**
Total length **27.49 metres**

Scale **1:1.42**
Direction **Upstream**

M/H Ref:FWMH15 | I/L : metres | M/H Depth: 1050 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH15	3395425	Comment / 0
0.00	WL	Water level 5% height/diameter	3395428	Comment / 0
23.56	LR	Line of drain/sewer deviates right	3395458	Comment / 0
27.49	MHF	Finish node type, manhole, reference FWMH14	3395486	Comment / 0

M/H Ref:FWMH14 | I/L : metres | M/H Depth: 780 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH15 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**25**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Cast iron**
Category

Start MH **FWMH15**
End MH **FWMH3**
Total length **36.31 metres**

Scale **1:1.89**
Direction **Downstream**

M/H Ref:FWMH15 | I/L : metres | M/H Depth: 1050 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH15	3395685	Comment / 0
0.00	WL	Water level 5% height/diameter	3395686	Comment / 0
2.56	LL	Line of drain/sewer deviates left	3395687	Comment / 0
3.63	REM	JOINING ANOTHER PIPE	3395688	Comment / 0
3.95	LR	Line of drain/sewer deviates right	3395689	Comment / 0
36.31	MHF	Finish node type, manhole, reference FWMH3	3395726	Comment / 0

M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**17/06/2019**

JOINING ANOTHER PIPE

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH22 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**26**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Polyvinyl chloride**
Category

Start MH **FWMH21**
End MH **FWMH22**
Total length **4.95 metres**

Scale **1:0.21**
Direction **Upstream**

M/H Ref:FWMH21 | I/L : metres | M/H Depth: 850 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH21	3395852	Comment / 0
0.00	WL	Water level 5% height/diameter	3395853	Comment / 0
4.95	MHF	Finish node type, manhole, reference FWMH22	3395856	Comment / 0

M/H Ref:FWMH22 | I/L : metres | M/H Depth: 740 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH21 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**27**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Liner**
Category

Start MH **FWMH21**
End MH **FWMH20**
Total length **18.81 metres**

Scale **1:0.94**
Direction **Downstream**

M/H Ref:FWMH21 | I/L : metres | M/H Depth: 850 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH21	3395877	Comment / 0
0.00	WL	Water level 5% height/diameter	3395879	Comment / 0
18.81	MHF	Finish node type, manhole, reference FWMH20	3395882	Comment / 0

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH17 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**28**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **100mm**
Material **Polyvinyl chloride**
Category

Start MH **SWMH17**
End MH **SWMH6**
Total length **12.69 metres**

Scale **1:0.63**
Direction **Downstream**

M/H Ref:SWMH17 | I/L : metres | M/H Depth: 1100 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH17	3395911	Comment / 0
0.00	WL	Water level 5% height/diameter	3395912	Comment / 0
12.69	MHF	Finish node type, manhole, reference SWMH6	3395913	Comment / 0

M/H Ref:SWMH6 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH16 X**	**17/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**/0**	**DDFRT6A12S**	**29**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

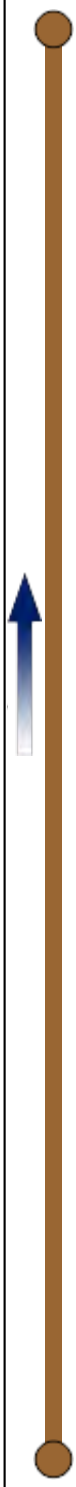
Shape/Size **225mm**
Material **Vitrified clay**
Category

Start MH **SWMH7**
End MH **SWMH16**
Total length **0 metres**

Scale **1:0.00**
Direction **Upstream**

M/H Ref:SWMH7 | I/L : metres | M/H Depth: 2490 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH7	3395973	Comment / 0
0.00	WL	Water level 5% height/diameter	3395981	Comment / 0



M/H Ref:SWMH16 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH7 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**30**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **300mm**
Material **Vitrified clay**
Category

Start MH **SWMH7**
End MH **SWMH8**
Total length **8.95 metres**

Scale **1:0.42**
Direction **Downstream**

M/H Ref:SWMH7 | I/L : metres | M/H Depth: 2490 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH7	3397159	Comment / 0
0.00	WL	Water level 5% height/diameter	3397161	Comment / 0
8.95	MHF	Finish node type, manhole, reference SWMH8	3397163	Comment / 0

M/H Ref:SWMH8 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH8 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**31**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **300mm**
Material **Vitrified clay**
Category

Start MH **SWMH8**
End MH **SWMH18**
Total length **26.43 metres**

Scale **1:1.36**
Direction **Downstream**

M/H Ref:SWMH8 | I/L : metres | M/H Depth: 2660 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH8	3397174	Comment / 0
0.00	WL	Water level 5% height/diameter	3397175	Comment / 0
26.43	MHF	Finish node type, manhole, reference SWMH18	3397211	Comment / 0

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH18 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**32**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **300mm**
Material **Vitrified clay**
Category

Start MH **SWMH18**
End MH **SWMH19**
Total length **28.02 metres**

Scale **1:1.47**
Direction **Downstream**

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 2700 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH18	3397606	Comment / 0
0.00	WL	Water level 5% height/diameter	3397609	Comment / 0
7.51	REM	HIDDEN MANHOLE UNDER GRAVEL ACCESS ROAD	3397613	Comment / 0
28.02	REM	NOW AT BACK DROP INTO SWMH19	3397627	Comment / 0
28.02	MHF	Finish node type, manhole, reference SWMH19	3397697	Comment / 0

M/H Ref:SWMH19 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**18/06/2019**

HIDDEN MANHOLE UNDER GRAVEL ACCESS ROAD

NOW AT BACK DROP INTO SWMH19

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH19 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**33**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **300mm**
Material **Vitrified clay**
Category

Start MH **SWMH19**
End MH **LAKE**
Total length **49.11 metres**

Scale **1:2.57**
Direction **Downstream**

M/H Ref:SWMH19 | I/L : metres | M/H Depth: 3250 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH19	3397864	Comment / 0
0.00	WL	Water level 5% height/diameter	3397865	Comment / 0
48.25	REM	HIDDEN MANHOLE	3397889	Comment / 0
49.11	REM	HIGH WATER LEVELS DUE TO LAKE LEVELS UNABLE TO SURVEY FURTHER	3397891	Comment / 0
49.11	OFF	Finish node type, outfall, reference LAKE	3397893	Comment / 0

M/H Ref:LAKE | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**18/06/2019**

HIDDEN MANHOLE

HIGH WATER LEVELS DUE TO LAKE LEVELS UNABLE TO SURVEY FURTHER

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH6 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**34**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH7**
End MH **FWMH6**
Total length **7.13 metres**

Scale **1:0.37**
Direction **Upstream**

M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH7	3398047	Comment / 0
0.00	WL	Water level 5% height/diameter	3398054	Comment / 0
7.13	MHF	Finish node type, manhole, reference FWMH6	3398065	Comment / 0

M/H Ref:FWMH6 | I/L : metres | M/H Depth: 1560 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH7 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**35**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH7**
End MH **FWMH9**
Total length **42.9 metres**

Scale **1:2.20**
Direction **Downstream**

M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH7	3398118	Comment / 0
0.00	WL	Water level 5% height/diameter	3398119	Comment / 0
42.90	MHF	Finish node type, manhole, reference FWMH9	3398175	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH8 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**36**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Liner**
Category

Start MH **FWMH8**
End MH **FWMH7**
Total length **6.23 metres**

Scale **1:0.31**
Direction **Downstream**

M/H Ref:FWMH8 | I/L : metres | M/H Depth: 1400 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH8	3398326	Comment / 0
0.00	WL	Water level 5% height/diameter	3398328	Comment / 0
6.23	MHF	Finish node type, manhole, reference FWMH7	3398359	Comment / 0

M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH20 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**37**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Liner**
Category

Start MH **FWMH8**
End MH **FWMH20**
Total length **25.31 metres**

Scale **1:1.31**
Direction **Upstream**

M/H Ref:FWMH8 | I/L : metres | M/H Depth: 1400 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH8	3398362	Comment / 0
0.00	WL	Water level 5% height/diameter	3398365	Comment / 0
25.31	MHF	Finish node type, manhole, reference FWMH20	3398376	Comment / 0

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH19 X**	**18/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**38**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH16**
End MH **FWMH19**
Total length **9.16 metres**

Scale **1:0.47**
Direction **Upstream**

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399678	Comment / 0
0.00	WL	Water level 5% height/diameter	3399679	Comment / 0
9.16	MHF	Finish node type, manhole, reference FWMH19	3399680	Comment / 0

M/H Ref:FWMH19 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH16 X**	**18/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**39**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH16**
End MH **FWMH23**
Total length **25.72 metres**

Scale **1:1.31**
Direction **Downstream**

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399682	Comment / 0
0.00	WL	Water level 5% height/diameter	3399683	Comment / 0
7.79	REM	JOINS ANOTHER PIPE	3399684	Comment / 0
15.48	REM	JOINS ANOTHER PIPE	3399685	Comment / 0
25.72	MHF	Finish node type, manhole, reference FWMH23	3399686	Comment / 0

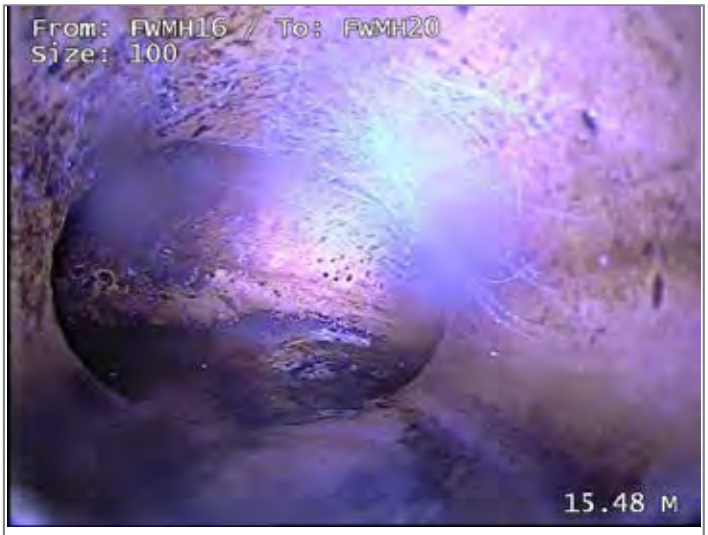
M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**18/06/2019**

JOINS ANOTHER PIPE



JOINS ANOTHER PIPE

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH17 X**	**18/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**3/0**	**DDFRT6A12S**	**40**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH16**
End MH **FWMH17**
Total length **14.52 metres**

Scale **1:0.73**
Direction **Upstream**

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

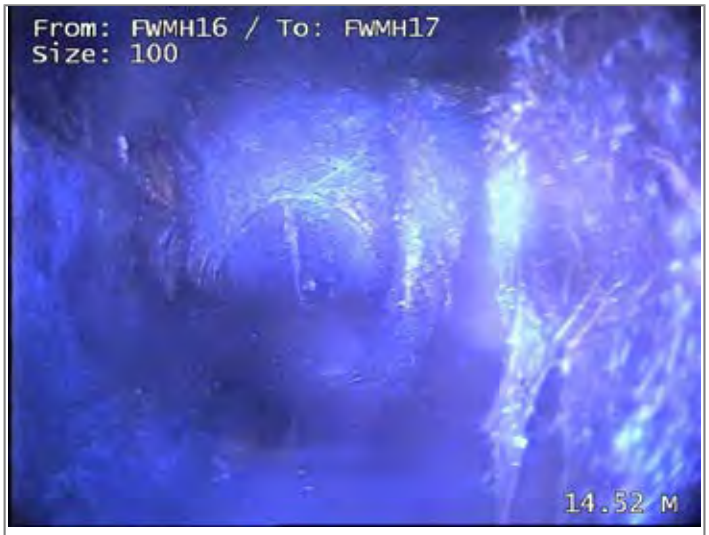
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399688	Comment / 0
0.00	WL	Water level 5% height/diameter	3399690	Comment / 0
14.52	RM	Roots mass 10% cross-sectional area loss	3399691	Service / 3
14.52	MHF	Finish node type, manhole, reference FWMH17	3399692	Comment / 0

M/H Ref:FWMH17 | I/L : metres | M/H Depth: 610 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**18/06/2019**



Roots mass 10% cross-sectional area loss

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH18 X**	**18/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**41**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Polyvinyl chloride**
Category

Start MH **FWMH18**
End MH **FWMH17**
Total length **11.75 metres**

Scale **1:0.58**
Direction **Downstream**

M/H Ref:FWMH18 | I/L : metres | M/H Depth: 450 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH18	3399695	Comment / 0
0.00	WL	Water level 5% height/diameter	3399696	Comment / 0
3.23	REM	HIDDEN MANHOLE	3399698	Comment / 0
11.75	MHF	Finish node type, manhole, reference FWMH17	3401454	Comment / 0

M/H Ref:FWMH17 | I/L : metres | M/H Depth: 610 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**18/06/2019**

HIDDEN MANHOLE

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH23 X**	**20/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**42**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH20**
End MH **FWMH23**
Total length **4.51 metres**

Scale **1:0.21**
Direction **Upstream**

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH20	3404870	Comment / 0
0.00	WL	Water level 5% height/diameter	3404871	Comment / 0
4.51	REM	UNABLE TO GET CAMERA THROUGH LINER WITH SKID ON	3404873	Comment / 0
4.51	MCZ	Material of drain/sewer changes to LINER at this point	3404879	Comment / 0

M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**20/06/2019**

UNABLE TO GET CAMERA THROUGH LINER WITH SKID ON

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH23 X**	**20/06/2019**	**Flushed through to enable survey**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**43**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH20**
End MH **FWMH23**
Total length **31.98 metres**

Scale **1:1.63**
Direction **Upstream**

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

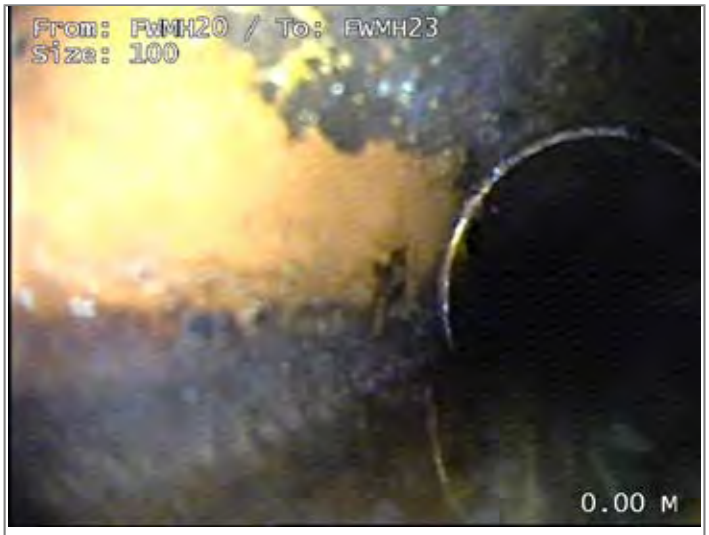
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH20	3404889	Comment / 0
0.00	WL	Water level 5% height/diameter	3404890	Comment / 0
0.00	REM	WITHOUT CAMERA SKID	3404898	Comment / 0
31.98	MHF	Finish node type, manhole, reference FWMH23	3405333	Comment / 0

M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**20/06/2019**



WITHOUT CAMERA SKID

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH9 X**	**20/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**44**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH25**
End MH **FWMH9**
Total length **48 metres**

Scale **1:2.52**
Direction **Upstream**

M/H Ref:FWMH25 | I/L : metres | M/H Depth: 2480 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH25	3405344	Comment / 0
0.00	WL	Water level 5% height/diameter	3405347	Comment / 0
48.00	MHF	Finish node type, manhole, reference FWMH9	3405430	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH25 X**	**20/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**0/0**	**DDFRT6A12S**	**45**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **150mm**
Material **Cast iron**
Category

Start MH **FWMH25**
End MH **FWMH26**
Total length **81.08 metres**

Scale **1:4.25**
Direction **Downstream**

M/H Ref:FWMH25 | I/L : metres | M/H Depth: 0 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH25	3405462	Comment / 0
0.00	WL	Water level 5% height/diameter	3405463	Comment / 0
81.08	REM	UNABLE TO PUSH ANY FURTHER AND LOCATE MANHOLE RAN OUT OF CABLE	3405507	Comment / 0

M/H Ref:FWMH26 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**20/06/2019**

UNABLE TO PUSH ANY FURTHER AND LOCATE MANHOLE RAN OUT OF CABLE

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH24 X**	**20/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
1 - Dry		**0/0**	**DDFRT6A12S**	**46**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Vitrified clay**
Category

Start MH **FWMH24**
End MH **FWMH19**
Total length **11.82 metres**

Scale **1:0.58**
Direction **Downstream**

M/H Ref:FWMH24 | I/L : metres | M/H Depth: 1180 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH24	3406492	Comment / 0
0.00	WL	Water level 5% height/diameter	3406494	Comment / 0
11.82	MHF	Finish node type, manhole, reference FWMH19	3406495	Comment / 0

M/H Ref:FWMH19 | I/L : metres | M/H Depth: 1390 metres

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**SWMH6 X**	**20/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
1 - Dry		**0/5**	**DDFRT6A12S**	**47**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start MH **SWMH18**
End MH **SWMH6**
Total length **8.57 metres**

Scale **1:0.42**
Direction **Upstream**

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 2700 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH18	3406760	Comment / 0
0.00	WL	Water level 5% height/diameter	3406762	Comment / 0
8.57	XP	Collapsed drain/sewer 100%	3406763	Structural / 5
8.57	SA	Survey abandoned - Remark: ABANDONED SURVEY DUE TO COLLAPSED PIPE	3406764	Comment / 0

M/H Ref:SWMH6 | I/L : metres | M/H Depth: 0 metres

CCTV Inspection Photos

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**20/06/2019**

Collapsed drain/sewer 100%

Survey abandoned - Remark: ABANDONED SURVEY DUE TO COLLAPSED PIPE

CCTV Inspection Report

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
PAUL BAYNHAM	**780878**	**FWMH27 X**	**21/06/2019**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
1 - Dry		**0/0**	**DDFRT6A12S**	**48**

Road **BBC**
Place **CAVERSHAM PARK**
Location **PEPPARD ROAD**

Division
District
Location Details

Purpose
Duty **Foul**
Catchment

Shape/Size **100mm**
Material **Polyvinyl chloride**
Category

Start MH **FWMH27**
End MH **TANK**
Total length **16 metres**

Scale **1:0.84**
Direction **Downstream**

M/H Ref:FWMH27 | I/L : metres | M/H Depth: 650 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH27	3408427	Comment / 0
0.00	WL	Water level 5% height/diameter	3408428	Comment / 0
16.00	ICF	Finish node type, inspection chamber, reference TANK	3408432	Comment / 0

M/H Ref:TANK | I/L : metres | M/H Depth: 3700 metres

Structural Defects (SRM 4)

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	SWMH1 X	U	S	150	13/06/2019	Vitrified clay	14.1 metres	14.1		0	1	0	0
2	SWMH2 X	D	S	150	13/06/2019	Vitrified clay	19.67 metres	19.67		0	1	0	0
3	SWMH3 X	U	S	225	13/06/2019	Vitrified clay	40.05 metres	40.05		0	1	0	0
4	SWMH4 X	D	S	225	13/06/2019	Vitrified clay	23.11 metres	23.11		0	1	0	0
5	SWMH5 X	D	S	225	13/06/2019	Vitrified clay	25.89 metres	25.89		0	1	0	0
6	FWMH1 X	U	F	100	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
7	PUMP STATIX	U	F	100	13/06/2019	Cast iron	36.16 metres	36.16		0	1	0	0
8	FWMH3 X	D	F	150	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
9	FWMH2 X	U	F	150	13/06/2019	Cast iron	6.21 metres	6.21		0	1	0	0
10	FWMH4 X	U	F	150	13/06/2019	Cast iron	30.38 metres	30.38		0	1	0	0
11	FWMH5 X	D	F	150	13/06/2019	Cast iron	14.34 metres	14.34		0	1	0	0
12	FWMH1B X	D	F	150	13/06/2019	Vitrified clay	1.67 metres	1.67		40	3	23.95	40
13	FWMH1A X	D	F	150	13/06/2019	Vitrified clay	16.49 metres	16.49		10	2	6.06	100
14	FWMH11 X	U	F	100	13/06/2019	Vitrified clay	10.04 metres	10.04		0	1	0	0
15	FWMH12 X	U	F	100	13/06/2019	Vitrified clay	7.07 metres	7.07		0	1	0	0
16	FWMH10 X	D	F	100	13/06/2019	Vitrified clay	10.73 metres	10.73		40	3	4.66	50
17	FWMH13 X	U	F	100	13/06/2019	Vitrified clay	6.36 metres	6.36		0	1	0	0
18	SWMH9 X	U	S	150	13/06/2019	Vitrified clay	11.36 metres	11.36		80	4	7.04	80
19	SWMH10 X	D	S	150	13/06/2019	Vitrified clay	26.41 metres	26.41		0	1	0	0
20	SWMH11 X	U	S	150	13/06/2019	Vitrified clay	9.44 metres	9.44		0	1	0	0
21	SWMH12 X	D	S	150	13/06/2019	Vitrified clay	1.87 metres	1.87		0	1	0	0
22	SWMH15 X	U	S	225	13/06/2019	Vitrified clay	20.52 metres	20.52		0	1	0	0
23	SWMH14 X	D	S	225	13/06/2019	Vitrified clay	32.75 metres	32.75		0	1	0	0
24	FWMH14 X	U	F	100	13/06/2019	Cast iron	27.49 metres	27.49		0	1	0	0
25	FWMH15 X	D	F	100	13/06/2019	Cast iron	36.31 metres	36.31		0	1	0	0
26	FWMH22 X	U	F	100	13/06/2019	Polyvinyl chloride	4.95 metres	4.95		0	1	0	0
27	FWMH21 X	D	F	100	13/06/2019	Liner	18.81 metres	18.81		0	1	0	0
28	SWMH17 X	D	S	100	13/06/2019	Polyvinyl chloride	12.69 metres	12.69		0	1	0	0
29	SWMH16 X	U	S	225	13/06/2019	Vitrified clay	0 metres	29.64		0	1	0	0

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Structural Defects (SRM 4)

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
30	SWMH7 X	D	S	300	13/06/2019	Vitrified clay	8.95 metres	8.95		0	1	0	0
31	SWMH8 X	D	S	300	13/06/2019	Vitrified clay	26.43 metres	26.43		0	1	0	0
32	SWMH18 X	D	S	300	13/06/2019	Vitrified clay	28.02 metres	28.02		0	1	0	0
33	SWMH19 X	D	S	300	13/06/2019	Vitrified clay	49.11 metres	49.11		0	1	0	0
34	FWMH6 X	U	F	150	13/06/2019	Cast iron	7.13 metres	7.13		0	1	0	0
35	FWMH7 X	D	F	150	13/06/2019	Cast iron	42.9 metres	42.9		0	1	0	0
36	FWMH8 X	D	F	100	13/06/2019	Liner	6.23 metres	6.23		0	1	0	0
37	FWMH20 X	U	F	100	13/06/2019	Liner	25.31 metres	25.31		0	1	0	0
38	FWMH19 X	U	F	100	13/06/2019	Vitrified clay	9.16 metres	9.16		0	1	0	0
39	FWMH16 X	D	F	100	13/06/2019	Vitrified clay	25.72 metres	25.72		0	1	0	0
40	FWMH17 X	U	F	100	13/06/2019	Vitrified clay	14.52 metres	14.52		0	1	0	0
41	FWMH18 X	D	F	100	13/06/2019	Polyvinyl chloride	11.75 metres	11.75		0	1	0	0
42	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	4.51 metres	4.51		0	1	0	0
43	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	31.98 metres	31.98		0	1	0	0
44	FWMH9 X	U	F	150	13/06/2019	Cast iron	48 metres	48		0	1	0	0
45	FWMH25 X	D	F	150	13/06/2019	Cast iron	81.08 metres	81.08		0	1	0	0
46	FWMH24 X	D	F	100	13/06/2019	Vitrified clay	11.82 metres	11.82		0	1	0	0
47	SWMH6 X	U	S	150	13/06/2019	Vitrified clay	8.57 metres	8.57		165	5	19.25	165
48	FWMH27 X	D	F	100	13/06/2019	Polyvinyl chloride	16 metres	16		0	1	0	0

Service Defects (SRM 4)

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	SWMH1 X	U	S	150	13/06/2019	Vitrified clay	14.1 metres	14.1		0	1	0	0
2	SWMH2 X	D	S	150	13/06/2019	Vitrified clay	19.67 metres	19.67		0	1	0	0
3	SWMH3 X	U	S	225	13/06/2019	Vitrified clay	40.05 metres	40.05		0	1	0	0
4	SWMH4 X	D	S	225	13/06/2019	Vitrified clay	23.11 metres	23.11		0	1	0	0
5	SWMH5 X	D	S	225	13/06/2019	Vitrified clay	25.89 metres	25.89		10	5	0.39	10
6	FWMH1 X	U	F	100	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
7	PUMP STATIX	U	F	100	13/06/2019	Cast iron	36.16 metres	36.16		0	1	0	0
8	FWMH3 X	D	F	150	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
9	FWMH2 X	U	F	150	13/06/2019	Cast iron	6.21 metres	6.21		0	1	0	0
10	FWMH4 X	U	F	150	13/06/2019	Cast iron	30.38 metres	30.38		0	1	0	0
11	FWMH5 X	D	F	150	13/06/2019	Cast iron	14.34 metres	14.34		0	1	0	0
12	FWMH1B X	D	F	150	13/06/2019	Vitrified clay	1.67 metres	1.67		0	1	0	0
13	FWMH1A X	D	F	150	13/06/2019	Vitrified clay	16.49 metres	16.49		0	1	0	0
14	FWMH11 X	U	F	100	13/06/2019	Vitrified clay	10.04 metres	10.04		0	1	0	0
15	FWMH12 X	U	F	100	13/06/2019	Vitrified clay	7.07 metres	7.07		0	1	0	0
16	FWMH10 X	D	F	100	13/06/2019	Vitrified clay	10.73 metres	10.73		0	1	0	0
17	FWMH13 X	U	F	100	13/06/2019	Vitrified clay	6.36 metres	6.36		0	1	0	0
18	SWMH9 X	U	S	150	13/06/2019	Vitrified clay	11.36 metres	11.36		0	1	0	0
19	SWMH10 X	D	S	150	13/06/2019	Vitrified clay	26.41 metres	26.41		0	1	0	0
20	SWMH11 X	U	S	150	13/06/2019	Vitrified clay	9.44 metres	9.44		0	1	0	0
21	SWMH12 X	D	S	150	13/06/2019	Vitrified clay	1.87 metres	1.87		0	1	0	0
22	SWMH15 X	U	S	225	13/06/2019	Vitrified clay	20.52 metres	20.52		0	1	0	0
23	SWMH14 X	D	S	225	13/06/2019	Vitrified clay	32.75 metres	32.75		0	1	0	0
24	FWMH14 X	U	F	100	13/06/2019	Cast iron	27.49 metres	27.49		0	1	0	0
25	FWMH15 X	D	F	100	13/06/2019	Cast iron	36.31 metres	36.31		0	1	0	0
26	FWMH22 X	U	F	100	13/06/2019	Polyvinyl chloride	4.95 metres	4.95		0	1	0	0
27	FWMH21 X	D	F	100	13/06/2019	Liner	18.81 metres	18.81		0	1	0	0
28	SWMH17 X	D	S	100	13/06/2019	Polyvinyl chloride	12.69 metres	12.69		0	1	0	0
29	SWMH16 X	U	S	225	13/06/2019	Vitrified clay	0 metres	29.64		0	1	0	0

Service Defects (SRM 4)

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
30	SWMH7 X	D	S	300	13/06/2019	Vitrified clay	8.95 metres	8.95		0	1	0	0
31	SWMH8 X	D	S	300	13/06/2019	Vitrified clay	26.43 metres	26.43		0	1	0	0
32	SWMH18 X	D	S	300	13/06/2019	Vitrified clay	28.02 metres	28.02		0	1	0	0
33	SWMH19 X	D	S	300	13/06/2019	Vitrified clay	49.11 metres	49.11		0	1	0	0
34	FWMH6 X	U	F	150	13/06/2019	Cast iron	7.13 metres	7.13		0	1	0	0
35	FWMH7 X	D	F	150	13/06/2019	Cast iron	42.9 metres	42.9		0	1	0	0
36	FWMH8 X	D	F	100	13/06/2019	Liner	6.23 metres	6.23		0	1	0	0
37	FWMH20 X	U	F	100	13/06/2019	Liner	25.31 metres	25.31		0	1	0	0
38	FWMH19 X	U	F	100	13/06/2019	Vitrified clay	9.16 metres	9.16		0	1	0	0
39	FWMH16 X	D	F	100	13/06/2019	Vitrified clay	25.72 metres	25.72		0	1	0	0
40	FWMH17 X	U	F	100	13/06/2019	Vitrified clay	14.52 metres	14.52		4	3	0.28	4
41	FWMH18 X	D	F	100	13/06/2019	Polyvinyl chloride	11.75 metres	11.75		0	1	0	0
42	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	4.51 metres	4.51		0	1	0	0
43	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	31.98 metres	31.98		0	1	0	0
44	FWMH9 X	U	F	150	13/06/2019	Cast iron	48 metres	48		0	1	0	0
45	FWMH25 X	D	F	150	13/06/2019	Cast iron	81.08 metres	81.08		0	1	0	0
46	FWMH24 X	D	F	100	13/06/2019	Vitrified clay	11.82 metres	11.82		0	1	0	0
47	SWMH6 X	U	S	150	13/06/2019	Vitrified clay	8.57 metres	8.57		0	1	0	0
48	FWMH27 X	D	F	100	13/06/2019	Polyvinyl chloride	16 metres	16		0	1	0	0

Report Summary

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Job Information

Total Distance Surveyed: **966.1 metres**
Engineer: **PAUL BAYNHAM**
Number of Surveys: **48**
Number of Surveys grade 4 or above: **2**

Section 1 Overview (13/06/2019)

Manholes: **SWMH2 to SWMH1**
Pipe Length: **14.1 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 2 Overview (13/06/2019)

Manholes: **SWMH2 to SWMH3**
Pipe Length: **19.67 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 3 Overview (13/06/2019)

Manholes: **SWMH4 to SWMH3**
Pipe Length: **40.05 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Section 4 Overview (13/06/2019)

Manholes: **SWMH4 to SWMH5**
Pipe Length: **23.11 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Section 5 Overview (13/06/2019)

Manholes: **SWMH5 to SWMH18**
Pipe Length: **25.89 metres**
Structural Grade: **0**
Service Grade: **5**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Report Summary

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 6 Overview (13/06/2019)

Manholes: **FWMH2 to FWMH1**
Pipe Length: **22.02 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **100mm**
Use: **Foul**

Section 7 Overview (13/06/2019)

Manholes: **FWMH1 to PUMP STATION**
Pipe Length: **36.16 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **100mm**
Use: **Foul**

Section 8 Overview (13/06/2019)

Manholes: **FWMH3 to FWMH4**
Pipe Length: **22.02 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 9 Overview (13/06/2019)

Manholes: **FWMH3 to FWMH2**
Pipe Length: **6.21 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 10 Overview (13/06/2019)

Manholes: **FWMH5 to FWMH4**
Pipe Length: **30.38 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 11 Overview (13/06/2019)

Manholes: **FWMH5 to FWMH6**
Pipe Length: **14.34 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
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RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 12 Overview (14/06/2019)

Manholes: **FWMH1B to PUMP STATION**
Pipe Length: **1.67 metres**
Structural Grade: **3**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Foul**

Section 13 Overview (14/06/2019)

Manholes: **FWMH1A to PUMP STATION**
Pipe Length: **16.49 metres**
Structural Grade: **2**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Foul**

Section 14 Overview (14/06/2019)

Manholes: **FWMH10 to FWMH11**
Pipe Length: **10.04 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 15 Overview (14/06/2019)

Manholes: **FWMH11 to FWMH12**
Pipe Length: **7.07 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 16 Overview (14/06/2019)

Manholes: **FWMH10 to FWMH9**
Pipe Length: **10.73 metres**
Structural Grade: **3**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 17 Overview (14/06/2019)

Manholes: **FWMH12 to FWMH13**
Pipe Length: **6.36 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Metro Rod (Reading)
Unit B9, Great Knollys Street,
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Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 18 Overview (17/06/2019)

Manholes: **SWMH10 to SWMH9**
Pipe Length: **11.36 metres**
Structural Grade: **4**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 19 Overview (17/06/2019)

Manholes: **SWMH10 to SWMH11**
Pipe Length: **26.41 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 20 Overview (17/06/2019)

Manholes: **SWMH12 to SWMH11**
Pipe Length: **9.44 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 21 Overview (17/06/2019)

Manholes: **SWMH12 to RWP**
Pipe Length: **1.87 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 22 Overview (17/06/2019)

Manholes: **SWMH14 to SWMH15**
Pipe Length: **20.52 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Section 23 Overview (17/06/2019)

Manholes: **SWMH14 to SWMH16**
Pipe Length: **32.75 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Metro Rod (Reading)
Unit B9, Great Knollys Street,
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RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 24 Overview (17/06/2019)

Manholes: **FWMH15 to FWMH14**
Pipe Length: **27.49 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **100mm**
Use: **Foul**

Section 25 Overview (17/06/2019)

Manholes: **FWMH15 to FWMH3**
Pipe Length: **36.31 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **100mm**
Use: **Foul**

Section 26 Overview (17/06/2019)

Manholes: **FWMH21 to FWMH22**
Pipe Length: **4.95 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Polyvinyl chloride**
Pipe Size: **100mm**
Use: **Foul**

Section 27 Overview (17/06/2019)

Manholes: **FWMH21 to FWMH20**
Pipe Length: **18.81 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Liner**
Pipe Size: **100mm**
Use: **Foul**

Section 28 Overview (17/06/2019)

Manholes: **SWMH17 to SWMH6**
Pipe Length: **12.69 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Polyvinyl chloride**
Pipe Size: **100mm**
Use: **Surface water**

Section 29 Overview (17/06/2019)

Manholes: **SWMH7 to SWMH16**
Pipe Length: **0 metres**
Structural Grade: **0**
Service Grade:
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Report Summary

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 30 Overview (18/06/2019)

Manholes: **SWMH7 to SWMH8**
Pipe Length: **8.95 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **300mm**
Use: **Surface water**

Section 31 Overview (18/06/2019)

Manholes: **SWMH8 to SWMH18**
Pipe Length: **26.43 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **300mm**
Use: **Surface water**

Section 32 Overview (18/06/2019)

Manholes: **SWMH18 to SWMH19**
Pipe Length: **28.02 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **300mm**
Use: **Surface water**

Section 33 Overview (18/06/2019)

Manholes: **SWMH19 to LAKE**
Pipe Length: **49.11 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **300mm**
Use: **Surface water**

Section 34 Overview (18/06/2019)

Manholes: **FWMH7 to FWMH6**
Pipe Length: **7.13 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 35 Overview (18/06/2019)

Manholes: **FWMH7 to FWMH9**
Pipe Length: **42.9 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Metro Rod (Reading)
Unit B9, Great Knollys Street,
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RG1 7HN

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 36 Overview (18/06/2019)

Manholes: **FWMH8 to FWMH7**
Pipe Length: **6.23 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Liner**
Pipe Size: **100mm**
Use: **Foul**

Section 37 Overview (18/06/2019)

Manholes: **FWMH8 to FWMH20**
Pipe Length: **25.31 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Liner**
Pipe Size: **100mm**
Use: **Foul**

Section 38 Overview (18/06/2019)

Manholes: **FWMH16 to FWMH19**
Pipe Length: **9.16 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 39 Overview (18/06/2019)

Manholes: **FWMH16 to FWMH23**
Pipe Length: **25.72 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 40 Overview (18/06/2019)

Manholes: **FWMH16 to FWMH17**
Pipe Length: **14.52 metres**
Structural Grade: **0**
Service Grade: **3**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 41 Overview (18/06/2019)

Manholes: **FWMH18 to FWMH17**
Pipe Length: **11.75 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Polyvinyl chloride**
Pipe Size: **100mm**
Use: **Foul**

Report Summary

Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 42 Overview (20/06/2019)

Manholes: **FWMH20 to FWMH23**
Pipe Length: **4.51 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 43 Overview (20/06/2019)

Manholes: **FWMH20 to FWMH23**
Pipe Length: **31.98 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 44 Overview (20/06/2019)

Manholes: **FWMH25 to FWMH9**
Pipe Length: **48 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 45 Overview (20/06/2019)

Manholes: **FWMH25 to FWMH26**
Pipe Length: **81.08 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Cast iron**
Pipe Size: **150mm**
Use: **Foul**

Section 46 Overview (20/06/2019)

Manholes: **FWMH24 to FWMH19**
Pipe Length: **11.82 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **100mm**
Use: **Foul**

Section 47 Overview (20/06/2019)

Manholes: **SWMH18 to SWMH6**
Pipe Length: **8.57 metres**
Structural Grade: **5**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Report Summary

Metro Rod (Reading)
Unit B9, Great Knollys Street,
Reading,
Berkshire,
RG1 7HN

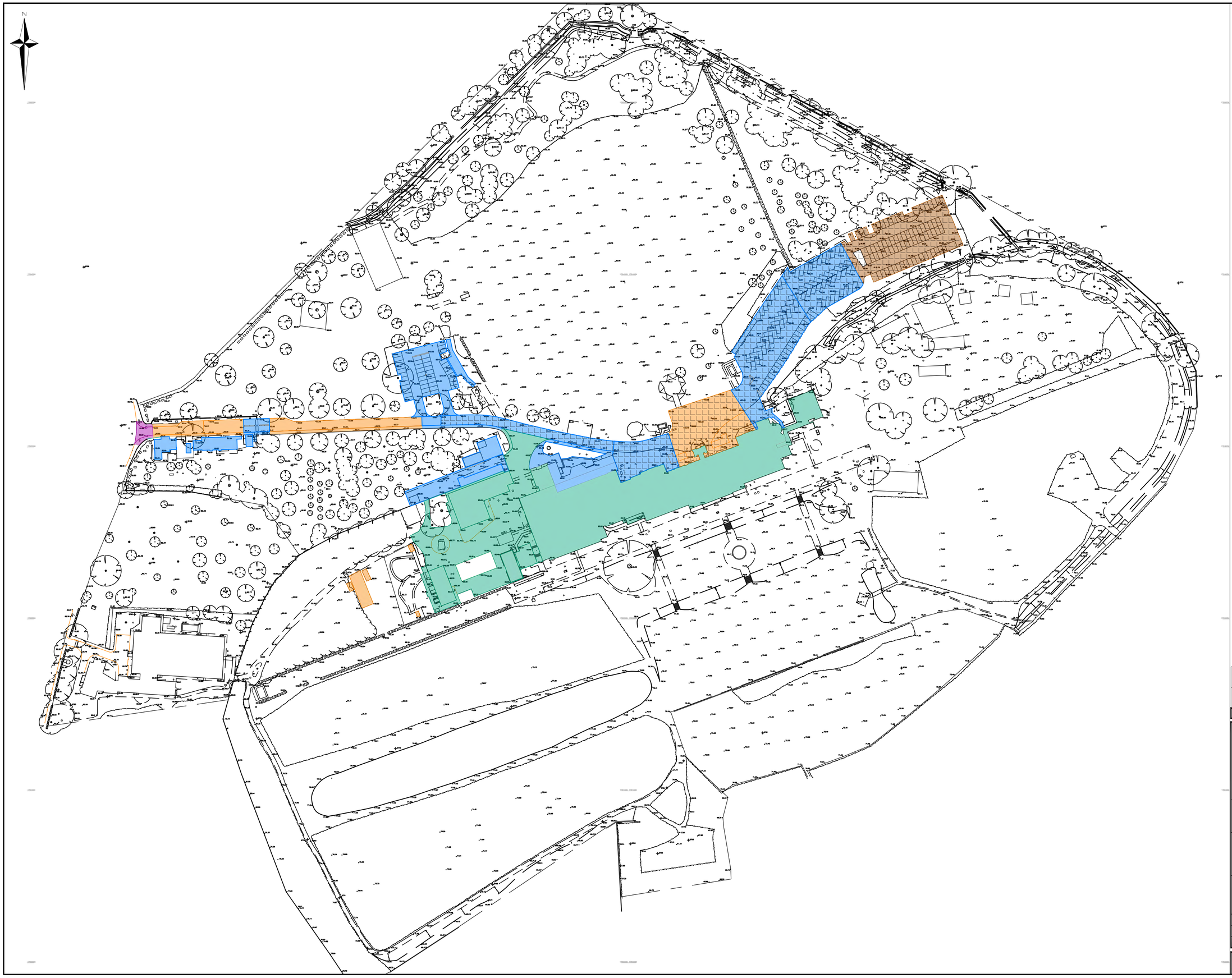
Job Number	Surveyed by (Operator)	Base Unit	Date
780878	**PAUL BAYNHAM**	**DDFRT6A12S**	**13/06/2019**

Section 48 Overview (21/06/2019)

Manholes: **FWMH27 to TANK**
Pipe Length: **16 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Polyvinyl chloride**
Pipe Size: **100mm**
Use: **Foul**

Appendix F

Existing Drainage Catchment Plan



NOTES

1. This drawing to be read in conjunction with all relevant documents and specifications.
2. Dimensions are scalable for 'Planning' purposes only.
3. Any discrepancies found between information shown on this or any other drawing shall be reported to the Engineer immediately and prior to works commencing on site.

KEY

- Existing catchment area assumed to drain to SA (7473m²)
- Existing catchment area draining to Pond (9103m²)
- Existing catchment area assumed to drain to Peppard Road (106m²)
- Existing catchment area assumed to drain to ground (2635m²)
- Existing catchment area assumed to drain to ditch (1889m²)
- Brownfield Catchment (7490m²)

Rev.	Description	Date	Chkd
P1	Project title changed in the title box.	-- A. Persins	JH
A1	First issue for APPROVAL.	25/11/2021 J. Dunesby	JH

Glanville
Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD
Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Client :
Beechcroft Developments Ltd

Project :
Caversham Park
Peppard Road, Reading
RG4 8TZ

Title :
Existing Drainage Catchment Analysis Plan

Project Engineer : A. Persins
Scale : 1:1000 @ A1
Project Director : J. Hanlon
Date : November 2021
Status : PLANNING

Drawing No. 8210940-SK02
Rev P1

Appendix G

Infiltration Test Results and Borehole Records

KEY
Borehole location
Within the grass verge
SA3
SA5
SA4
Within the grassed area
SA1
SA2

Southern Testing ST Consult

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Start - End Date	Project ID:	Hole Type:	SA1
09/11/2021	JT0443	WLS	Sheet 1 of 1

Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
Location:	Caversham Park, Reading				JB
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description
		0.10 - 0.20	ES			(0.20)			TOPSOIL. Grass over soft brown slightly sandy slightly gravelly CLAY with frequent roots (<1mm x 3mm x 30mm). Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint.
		0.20 - 0.30	ES			(0.20)		0.20	MADE GROUND. Soft brown slightly sandy slightly gravelly CLAY with occasional fragments (<18mm x 46mm x 60mm) of brick and ceramic. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.
		0.40 - 0.50	D ES			(0.25)		0.40	MADE GROUND
		0.70 - 0.80	D ES			(0.15)		0.65	Brown slightly sandy clayey GRAVEL. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of flint and chalk.
		0.90 - 1.00	D					0.80	Light brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk.
		1.00	SPT(S)	N=31 (6,6/6,10,8,7)		(0.60)			Orangish brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.
		1.50 - 1.60	D					1.40	Brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of flint.
	▼					(1.00)			
	▽	2.00	SPT(S)	N=27 (3,6/6,8,7,6)					
		2.50 - 3.00	D					2.40	Orangish brown slightly gravelly silty SAND. Sand is fine to coarse. Gravel is angular and subangular fine and medium of flint.
						(0.60)		3.00	End of Borehole at 3.00m

Hole Details: Depth (m bgl)	Dia. (mm)	Casing Details: Depth (m bgl)	Dia. (mm)	Waterstrike (m bgl): Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	Standing/Chiselling (m bgl): From	To	Time	Remarks
				09-11-2021	2.10			1.80	30				

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Start - End Date	Project ID:	Hole Type:	SA2
09/11/2021	JT0443	WLS	Sheet 1 of 2

Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
Location:	Caversham Park, Reading				JB
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description
		0.10 - 0.20	ES			(0.30)			TOPSOIL. Grass over soft brown slightly gravelly sandy CLAY with occasional roots (<1mm x 50mm). Sand is fine to coarse. Gravel is subangular and subrounded fine and medium of flint and chalk.
		0.30 - 0.40	ES			(0.20)		0.30	MADE GROUND. Soft reddish brown gravelly sandy gravelly CLAY with frequent angular to subrounded fragments (<25mm x 35mm x 50mm) of brick, tarmac, plastic and concrete. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk. MADE GROUND
		0.50 - 0.60	ES			(0.15)		0.50	MADE GROUND. Concrete. MADE GROUND
		0.70 - 0.80	ES			(0.15)		0.65	MADE GROUND. Brown slightly clayey sandy GRAVEL with occasional angular to subrounded fragments (<10mm x 28mm x 40mm) of brick. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk. MADE GROUND
		0.80 - 1.00	D			(0.20)		0.80	Orangish brown gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint.
		1.00 - 1.20	D			(0.20)		1.00	Brown slightly clayey very gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint.
		1.00	SPT(S)	N=8 (2,1/2,1,3,2)		(0.40)		1.20	Soft (possibly SPT disturbed) orangish brown mottled reddish brown, grey and black slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint with rare black plant matter (<5mm x 10mm x 60mm). LAMBETH GROUP
		1.30 - 1.50	D			(0.10)		1.60	Light blueish grey slightly gravelly very silty SAND. Sand is fine to coarse, predominantly fine and medium. Gravel is angular to subrounded fine and medium of flint. LAMBETH GROUP
		1.60 - 1.70	D			(0.55)		1.70	Orangish brown clayey gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint. LAMBETH GROUP
		1.80 - 2.00	D			(1.15)		2.25	Stiff light bluish grey mottled red and orange CLAY with rare to occasional fragments (<6mm x 6mm x 20mm) of partially decomposed plant matter. LAMBETH GROUP
		2.00	SPT(S)	N=9 (5,5/3,2,2,2)		(1.43)		3.40	*2.25m to 2.40m; firm.*
		2.30 - 2.70	D			(0.17)		3.57	*2.60m to 2.72m; firm.*
		2.40	HP	UCS(kPa)=290 UCS(kPa)=290 UCS(kPa)=290				5.00	Soft light brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of flint. LAMBETH GROUP
		2.90	HP	UCS(kPa)=290 UCS(kPa)=360 UCS(kPa)=370					Firm light bluish grey mottled red, orange and brown fissured CLAY with rare pockets (<15mm x
		3.00	SPT(S)	N=15 (1,2/2,3,5,5)					
		3.40 - 3.50	D						
		3.70 - 4.70	D						
		4.00	SPT(S)	N=17 (2,1/3,3,5,6)					
		5.00	SPT(S)	N=11 (,2/2,3,3,3)					

Depth scale: 1, 2, 3, 4, 5, 6

Hole Details: Depth (m bgl)	Dia. (mm)	Casing Details: Depth (m bgl)	Dia. (mm)	Waterstrike (m bgl): Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	Standing/Chiselling (m bgl): From	To	Time	Remarks
				09-11-2021	2.75			3.45	30				

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Start - End Date	Project ID:	Hole Type:	SA2
09/11/2021	JT0443	WLS	Sheet 2 of 2

Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
					JB
Location:	Caversham Park, Reading				
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description
									Firm light bluish grey mottled red, orange and brown fissured CLAY with rare pockets (<15mm x 35mm) of brown sandy clay and rare fragments (<3mm x 3mm x 50mm) of partially decomposed plant matter. Sand is fine to coarse. Fissures are inclined (40-70 degrees) extremely closely to closely spaced, very tight, polished, planar, striated, clean. LAMBETH GROUP

End of Borehole at 5.00m

7 8 9 10 11 12

Hole Details: Depth (m bgl)	Dia. (mm)	Casing Details: Depth (m bgl)	Dia. (mm)	Waterstrike (m bgl): Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	Standing/Chiselling (m bgl): From	To	Time	Remarks
				09-11-2021	2.75			3.45	30				

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Start - End Date	Project ID:	Hole Type:	SA3
10/11/2021	JT0443	WLS	Sheet 1 of 1

Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
Location:	Caversham Park, Reading				JB
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description	
		0.10 - 0.20	ES			(0.30)		0.30	TOPSOIL. Grass over soft brown slightly sandy slightly gravelly CLAY with occasional roots (<2mm x 30mm). Sand is fine to coarse. Gravel is subangular and subrounded fine and medium of flint.	
		0.40 - 0.50	ES			(0.40)		0.70	MADE GROUND. Soft brown slightly sandy slightly gravelly CLAY with frequent angular and subangular fragments (<35mm x 40mm x 55mm) of brick. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk. MADE GROUND	
		0.80 - 0.90	ES			(0.50)		1.20	MADE GROUND. Soft greyish brown slightly sandy gravelly CLAY with rare angular and subangular fragments (<5mm x 10mm x 20mm) of brick. Sand is fine to coarse. Gravel is angular to subrounded gine to coarse of flint. MADE GROUND	1
		1.40 - 1.60	D						Firm orangish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of flint.	
		1.50	HP	UCS(kPa)=200 UCS(kPa)=320 UCS(kPa)=380		(0.80)				
		1.80	HP	UCS(kPa)=240 UCS(kPa)=350 UCS(kPa)=400						
		2.10	HP	UCS(kPa)=160 UCS(kPa)=180 UCS(kPa)=200		(0.15)		2.00	Stiff bluesih grey mottled brown CLAY. LAMBETH GROUP	2
		2.30	HP	UCS(kPa)=140 UCS(kPa)=220 UCS(kPa)=260		(0.35)		2.15	Firm bluish grey mottled orangish brown slightly gravelly sandy CLAY with occasional shell fragments (<1mm) and occasional dark grey fragments (<6mm x 20mm) of partially decomposed plant matter. Sand is fine to coarse. Gravel is angular and subangular fine and medium of flint. LAMBETH GROUP	
						(0.20)		2.50		
						(0.30)		2.70	Orangish brown sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint. LAMBETH GROUP	
								3.00	Orangish brown silty gravelly SAND with occasional shell fragments (<1mm). Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint. LAMBETH GROUP	3
									End of Borehole at 3.00m	4

Hole Details		Casing Details		Waterstrike (m bgl)						Standing/Chiselling (m bgl)			
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks

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Start - End Date	Project ID:	Hole Type:	SA4
10/11/2021	JT0443	WLS	Sheet 1 of 1

Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
Location:	Caversham Park, Reading				JB
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description
		0.00 - 0.10	ES			(0.10)		0.10	TOPSOIL. Grass over soft grey slightly sandy slightly gravelly CLAY with frequent roots (<1mm x 20mm). Sand is fine to coarse. Gravel is subangular to rounded fine and medium of flint.
		0.20 - 0.30	ES			(0.30)		0.40	MADE GROUND. Soft brown slightly sandy slightly gravelly CLAY with occasional subangular to rounded fragments (<25mm x 40mm x 50mm) of brick, ceramic and wood. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.
		0.50 - 0.60	D ES			(0.60)		1.00	MADE GROUND
		1.00	SPT(S)	N=40 (6,10/12,10,10,8)					Brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded fine to coarse, predominantly fine and medium, of flint.
		1.10 - 1.40	D			(0.60)		1.60	Orangish brown sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse, predominantly fine and medium, of flint and chalk.
		1.60 - 1.80	D					1.80	Firm light bluish grey mottled orange slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of chalk and flint. LAMBETH GROUP
	▼	1.62	HP	UCS(kPa)=260 UCS(kPa)=290 UCS(kPa)=300		(0.20)			*1.65m to 1.70m; thin bed of orange silty sandy. Sand is fine to coarse.*
		1.75	HP	UCS(kPa)=310 UCS(kPa)=360 UCS(kPa)=380		(0.20)		2.00	Brown mottled black clayey very gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk. LAMBETH GROUP
		2.00 - 2.20	D			(0.40)		2.40	Dark brown mottled dark grey clayey sandy GRAVEL with occasional fragments (<10mm x 30mm) of partially decomposed plant matter. LAMBETH GROUP
		2.00	SPT(S)	N=33 (9,10/10,6,7,10)					Orangish brown sandy clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint. LAMBETH GROUP
		2.40 - 2.50	D						*2.40m to 2.50m; medium bed of orangish brown silty sand. Sand is fine to coarse.*
		2.60 - 2.90	D						
		2.80	D						
		3.00	SPT(S)	N=39 (9,9/10,8,10,11)		(1.20)			
	▽							3.60	Greyish brown mottled dark grey silty SAND. Sand is fine to coarse, predominantly fine and medium. LAMBETH GROUP
		3.70 - 3.90	D			(0.30)		3.90	End of Borehole at 3.90m

Hole Details: Depth (m bgl)	Dia. (mm)	Casing Details: Depth (m bgl)	Dia. (mm)	Waterstrike (m bgl): Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	Standing/Chiselling (m bgl): From	To	Time	Remarks
				10-11-2021	3.45			1.80	20				

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Start - End Date	Project ID:	Hole Type:	SA05
10/11/2021	JT0443	WLS	Sheet 1 of 1

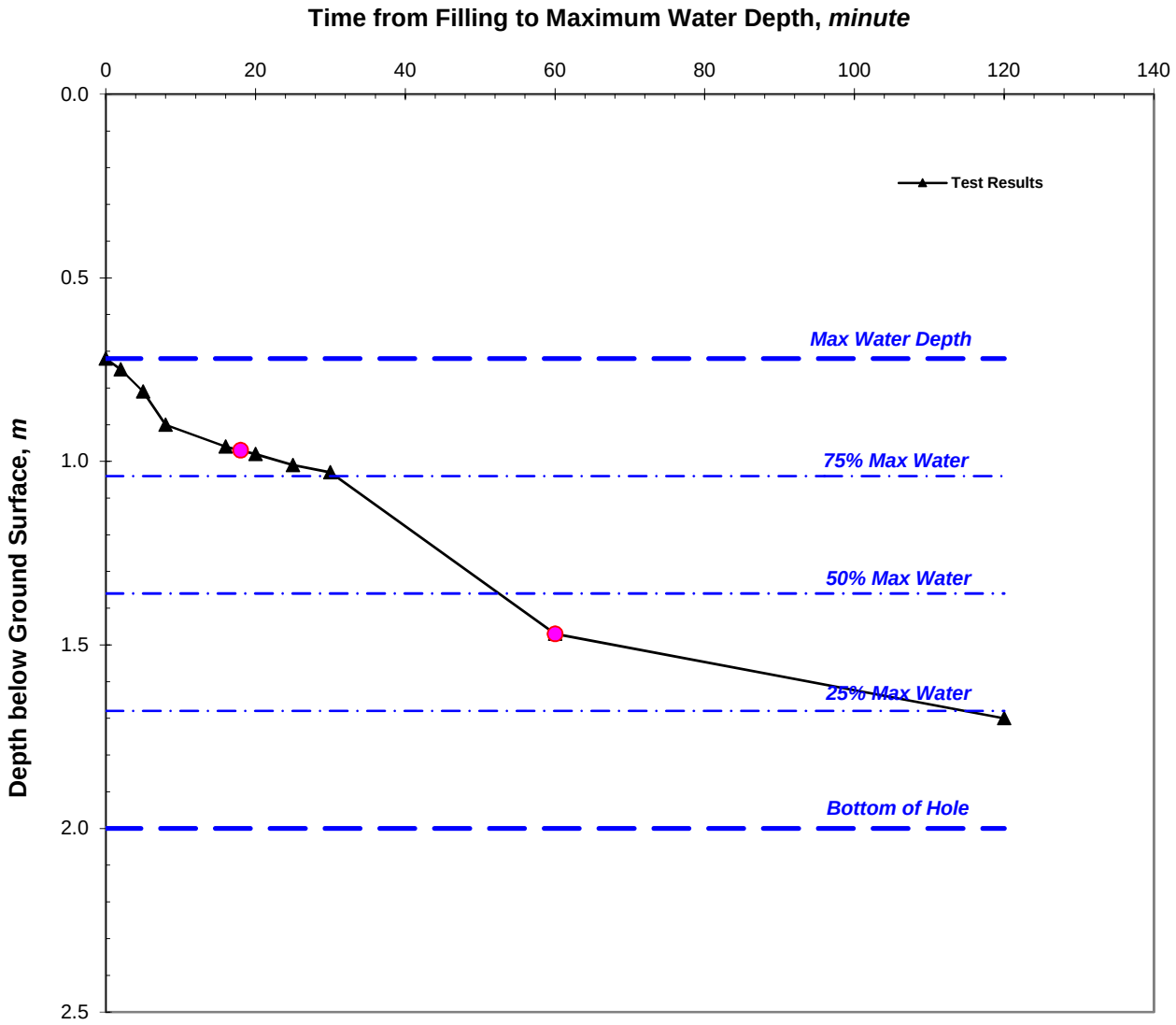
Project Name:	Caversham Park	Remarks:	Co-ordinates:	Level:	Logger:
Location:	Caversham Park, Reading				JB
Client:	Beachcroft Developments Ltd				

Well	Water Strikes	Samples and Insitu Testing: Depth (m bgl)	Type	Results	Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description	
		0.10 - 0.20	ES			(0.35)		0.35	TOPSOIL. Grass over soft brown slightly sandy slightly gravelly CLAY with abundant roots (<3mm x 3mm x 45mm). Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint.	
		0.40 - 0.50	ES			(0.45)		0.80	MADE GROUND. Soft reddish brown (brick red) slightly sandy slightly gravelly CLAY with abundant angular to subrounded fragments (<40mm x 55mm x 72mm) of brick. Sand is fine to coarse. Gravel is angular to subangular fine and medium of flint. MADE GROUND	
		0.90 - 1.00	ES							
		1.00 - 1.20	D			(0.75)		1.55	Soft brown mottled grey slightly sandy slightly gravelly CLAY with rare black fragments (<10mm x 90mm) of partially decomposed plant matter. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.	1
		1.30	HP	UCS(kPa)=250 UCS(kPa)=260 UCS(kPa)=280						
		1.70 - 1.90	D							
		1.70	HP	UCS(kPa)=200 UCS(kPa)=220 UCS(kPa)=270		(0.85)		2.40	Firm orangish brown mottled light bluish grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint. LAMBETH GROUP	2
▼		2.00	SPT(S)	N=8 (1,1/2,2,2,2)						
		2.30	HP	UCS(kPa)=150 UCS(kPa)=160 UCS(kPa)=180		(0.20)		2.60	Firm light bluish grey mottled orange brown slightly sandy CLAY with occasional shell fragments (<2mm). Sand is fine to coarse. LAMBETH GROUP	
		2.40 - 2.60	D							
		2.60	HP	UCS(kPa)=160						
		2.70 - 2.90	D							
		2.70	HP	UCS(kPa)=140 UCS(kPa)=170		(0.40)		3.00	Soft light bluish grey slightly sandy slightly gravelly CLAY with occasional shell fragments (<2mm) and occasional fragments (<3mm x 28mm) of partially decomposed plant matter. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint. LAMBETH GROUP	3
▽		3.00	SPT(S)	N=13 (2,2/2,3,4,4)						
		3.10 - 3.80	D			(1.50)		4.50	Orangish brown silty SAND with rare black fragments (<20mm x 45mm) of partially decomposed plant matter. Sand is fine to coarse, predominantly fine and medium. LAMBETH GROUP	4
		4.00	SPT(S)	N=44 (3,6/8,12,14,10)					End of Borehole at 4.50m	5

Hole Details: Depth (m bgl)	Dia. (mm)	Casing Details: Depth (m bgl)	Dia. (mm)	Waterstrike (m bgl): Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	Standing/Chiselling (m bgl): From	To	Time	Remarks
				10-11-2021	3.00			2.10	20				

Preliminary Falling-Head Soakage Test

Test Hole No: SA1
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, *m*	0.720
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, *m*	0.980
Depth to Borehole Base, m	2.000	Total Soakage Test Time, *min*	120.0
Depth to Top of Permeable Soils, *m*		Mean Internal Discharge Area, m^2	0.253
Depth to Groundwater Surface, *m*	1.720	Discharge Rate, *litre/min*	0.093
Depth to Top of Granular Fill, *m*		Soakage Rate, *litre/m*^{2}*/min*	**0.370**
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, *m/sec*	**6.16E-06**

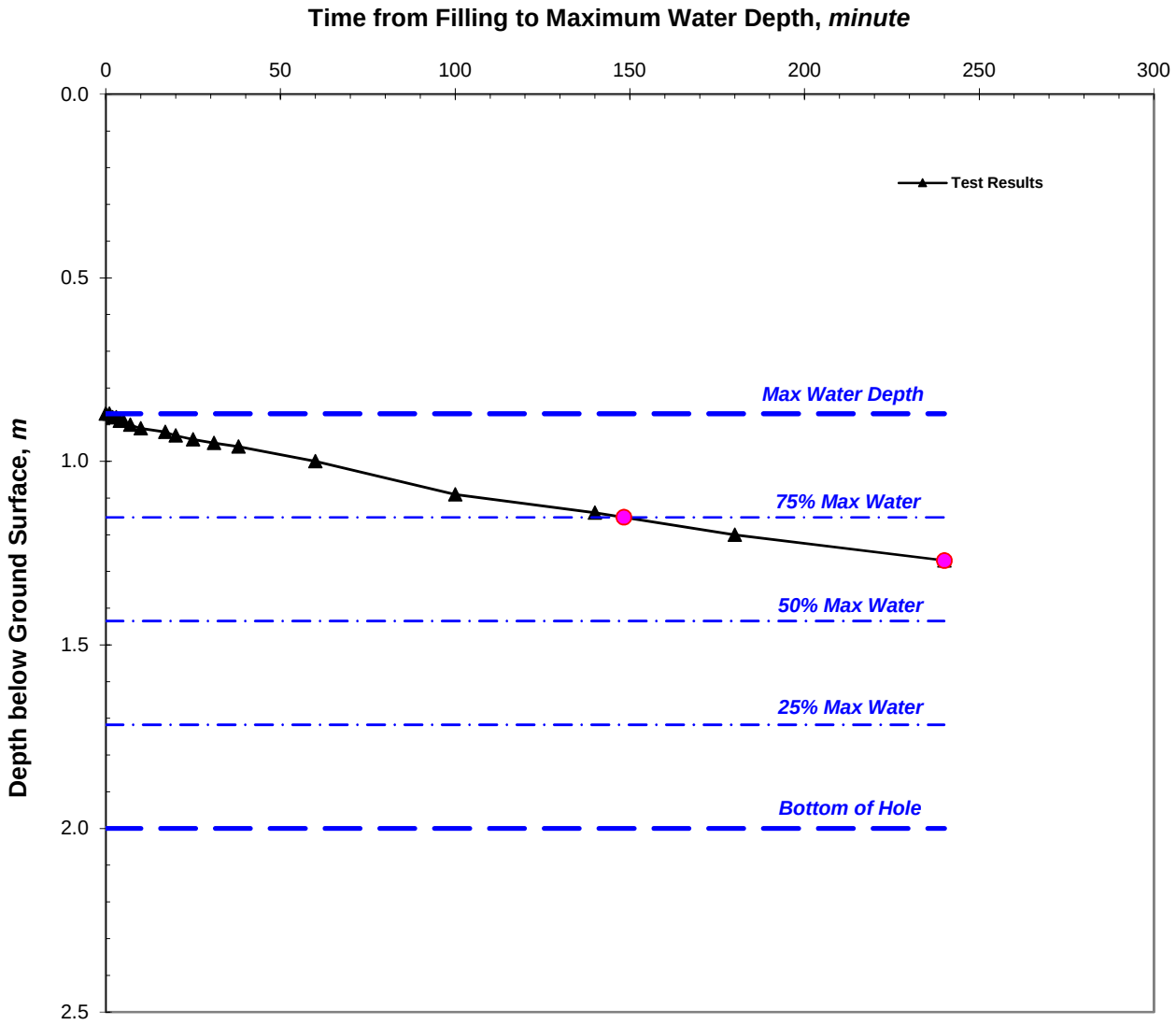
Comments:

Pit was nearly emptied at finish of test.

Client:	Beechcroft Developments Ltd	**Job No:**	JT0443	**Test Date:**	10/Nov/2021		
Site:	Caversham Park, Peppard Road, Caversha	**Tested By:**	RJ	**Engineer:**	RJ	**Fig. S1**	

Preliminary Falling-Head Soakage Test

Test Hole No: SA2
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, *m*	0.870
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, *m*	0.400
Depth to Borehole Base, m	2.000	Total Soakage Test Time, *min*	240.0
Depth to Top of Permeable Soils, *m*		Mean Internal Discharge Area, m^2	0.256
Depth to Groundwater Surface, *m*		Discharge Rate, *litre/min*	0.010
Depth to Top of Granular Fill, *m*		Soakage Rate, *litre/m*^{2}*/min*	**0.039**
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, *m/sec*	**6.56E-07**

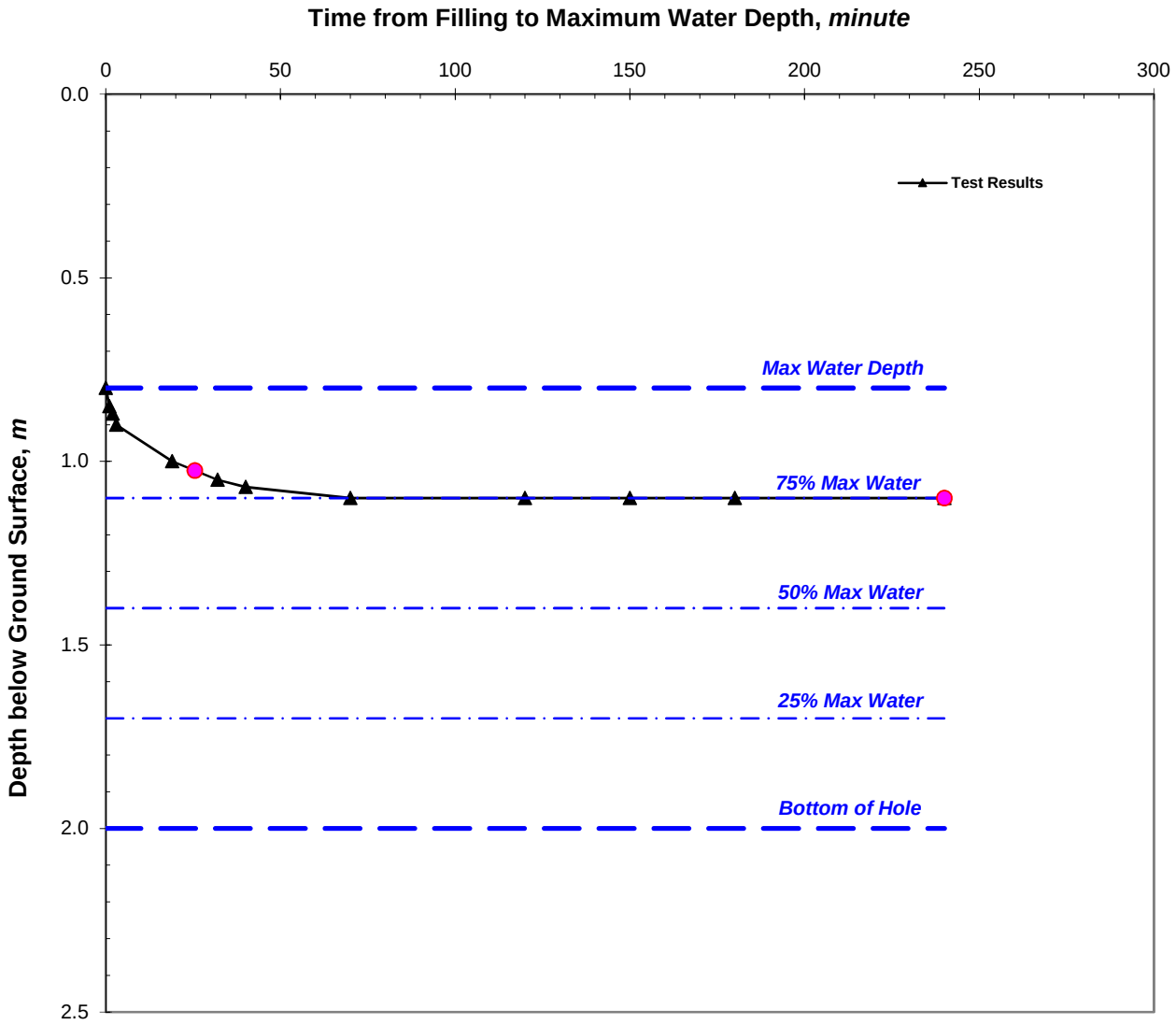
Comments:

Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:	Beechcroft Developments Ltd	**Job No:**	JT0443	**Test Date:**	09/Nov/2021	
Site:	Caversham Park, Peppard Road, Caversha	**Tested By:**	RJ	**Engineer:**	RJ	**Fig. S2**

Preliminary Falling-Head Soakage Test

Test Hole No: SA3
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, *m*	0.800
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, *m*	0.300
Depth to Borehole Base, m	2.000	Total Soakage Test Time, *min*	240.0
Depth to Top of Permeable Soils, *m*		Mean Internal Discharge Area, m^2	0.302
Depth to Groundwater Surface, *m*		Discharge Rate, *litre/min*	0.003
Depth to Top of Granular Fill, *m*		Soakage Rate, *litre/m*^{2}*/min*	**0.0091**
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, *m/sec*	**1.51E-07**

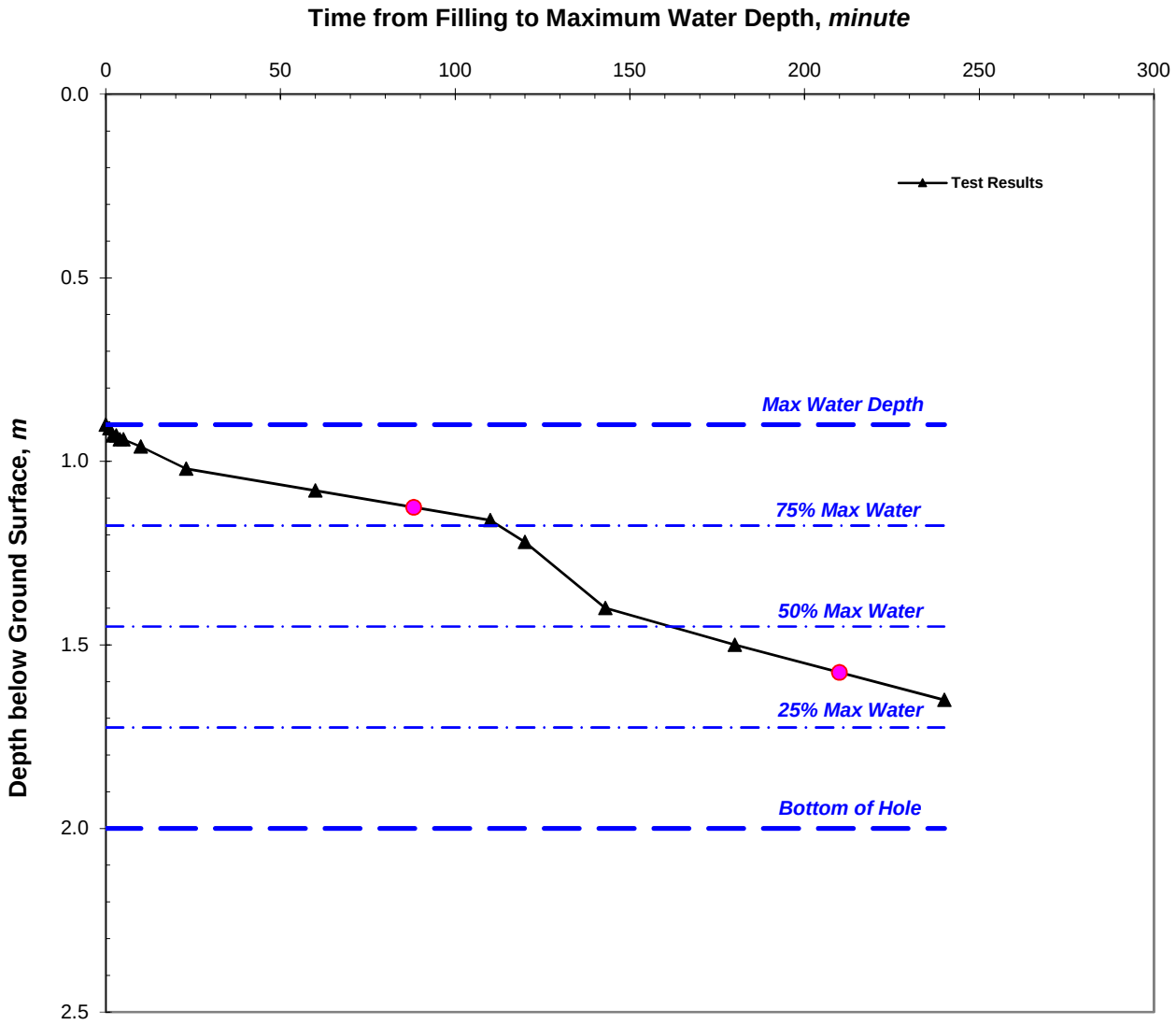
Comments:

Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:	Beechcroft Developments Ltd	**Job No:**	JT0443	**Test Date:**	10/Nov/2021	
Site:	Caversham Park, Peppard Road, Caversha	**Tested By:**	RJ	**Engineer:**	RJ	**Fig. S3**

Preliminary Falling-Head Soakage Test

Test Hole No: SA4
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, *m*	0.900
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, *m*	0.750
Depth to Borehole Base, m	2.000	Total Soakage Test Time, *min*	240.0
Depth to Top of Permeable Soils, *m*		Mean Internal Discharge Area, m^2	0.212
Depth to Groundwater Surface, *m*	1.800	Discharge Rate, *litre/min*	0.029
Depth to Top of Granular Fill, *m*		Soakage Rate, *litre/m*^{2}*/min*	**0.137**
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, *m/sec*	**2.28E-06**

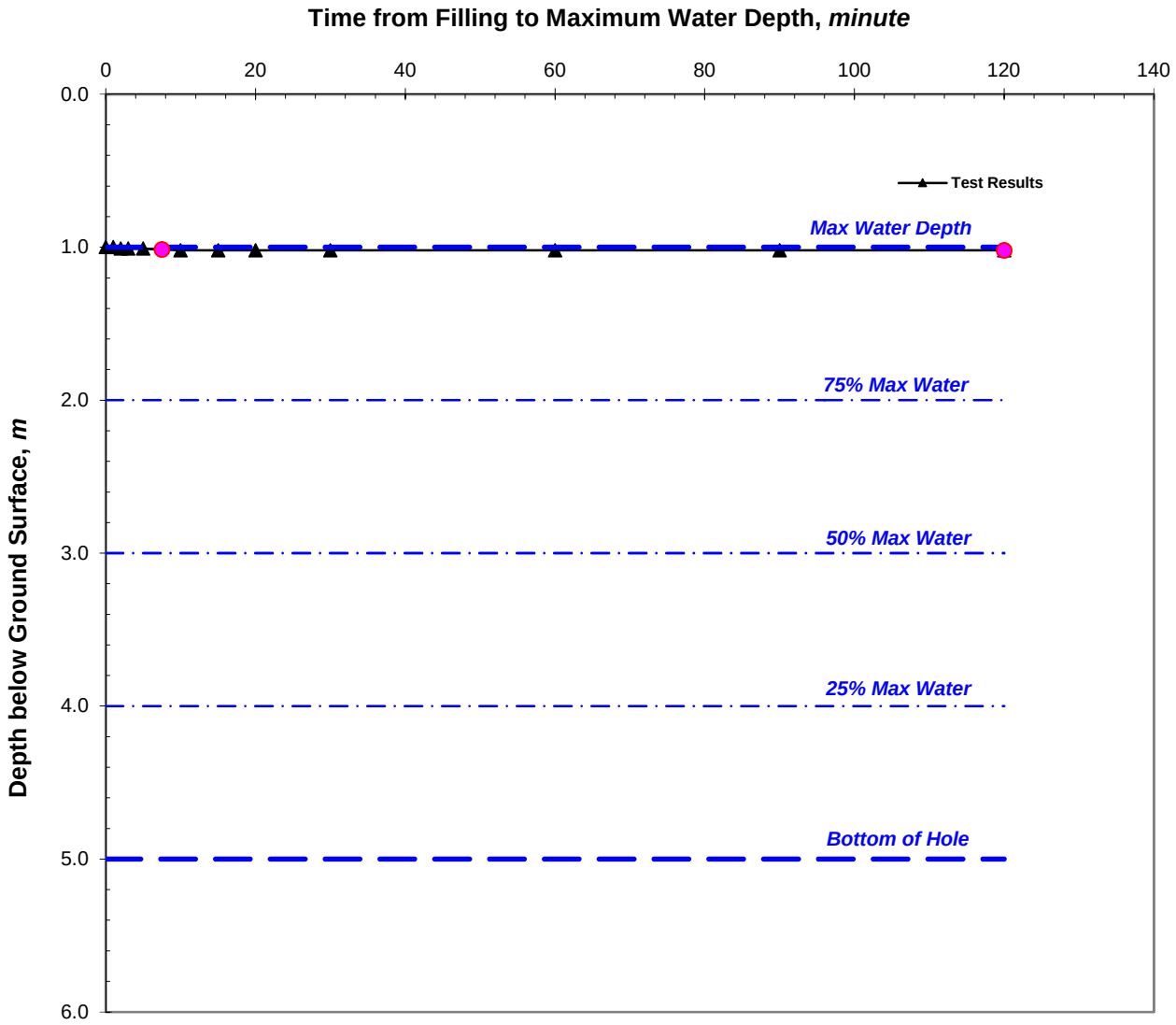
Comments:

Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:	Beechcroft Developments Ltd	**Job No:**	JT0443	**Test Date:**	10/Nov/2021	
Site:	Caversham Park, Peppard Road, Caversha	**Tested By:**	RJ	**Engineer:**	RJ	**Fig. S4**

Preliminary Falling-Head Soakage Test

Test Hole No: SA5
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, *m*	1.000
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, *m*	0.020
Depth to Borehole Base, m	5.000	Total Soakage Test Time, *min*	120.0
Depth to Top of Permeable Soils, *m*		Mean Internal Discharge Area, m^2	1.259
Depth to Groundwater Surface, *m*		Discharge Rate, *litre/min*	0.000
Depth to Top of Granular Fill, *m*		Soakage Rate, *litre/m*^{2}*/min*	**0.0003**
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, *m/sec*	**4.62E-09**

Comments:

Water level did not fall to 75% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:	Beechcroft Developments Ltd	**Job No:**	JT0443	**Test Date:**	10/Nov/2021	
Site:	Caversham Park, Peppard Road, Caversha	**Tested By:**	RJ	**Engineer:**	RJ	**Fig. S5**

Appendix H

Proposed Site Layout

Existing Tennis Court
Proposed Croquet Lawn
Potential Additional Croquet Lawn
Proposed Croquet Lawn
Proposed Bowling Green
Proposed Bowling Green
Existing hedge line to be extended
Existing planting
P70-81
(4 x Apartments)
P82-91
(4 x Apartments)
P76-77
(4 x Apartments)
P78-79
(4 x Apartments)
P80-89
(4 x Apartments)
P90-114
(20 x Apartments
+ 5 Houses)
P115-132
(18 x Apartments)
Designated Traditional Orchard
Carehome Provision:
27 cars
3 DM
30 Total
CAREHOME
Proposed Carehome
Proposed Pond
Tree-lined path. Beat'ed round the on site with Arboricultorulist
BBC ARCHIVES
Removed
POND
Approximate location of Siberian Cedar
W1
W2
W3
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
G12
G13
G14
G15
G16
G17
G18
G19
G20
G21
G22
G23
G24
G25
G26
G27
G28
G29
G30
G31
G32
G33
G34
G35
G36
G37
G38
G39
G40

Appendix I

Environment Agency's Flood Risk for Planning Map

Flood map for planning

Your reference	Location (easting/northing)	Created
8210940	**472405/176265**	**8 Dec 2021 8:48**

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2021 OS 100024198. https://flood-map-for-planning.service.gov.uk/os-terms

Environment Agency

Flood map for planning

Your reference
8210940

Location (easting/northing)
472405/176265

Scale
1:2500

Created
8 Dec 2021 8:48

- Selected point
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 20 40 60m

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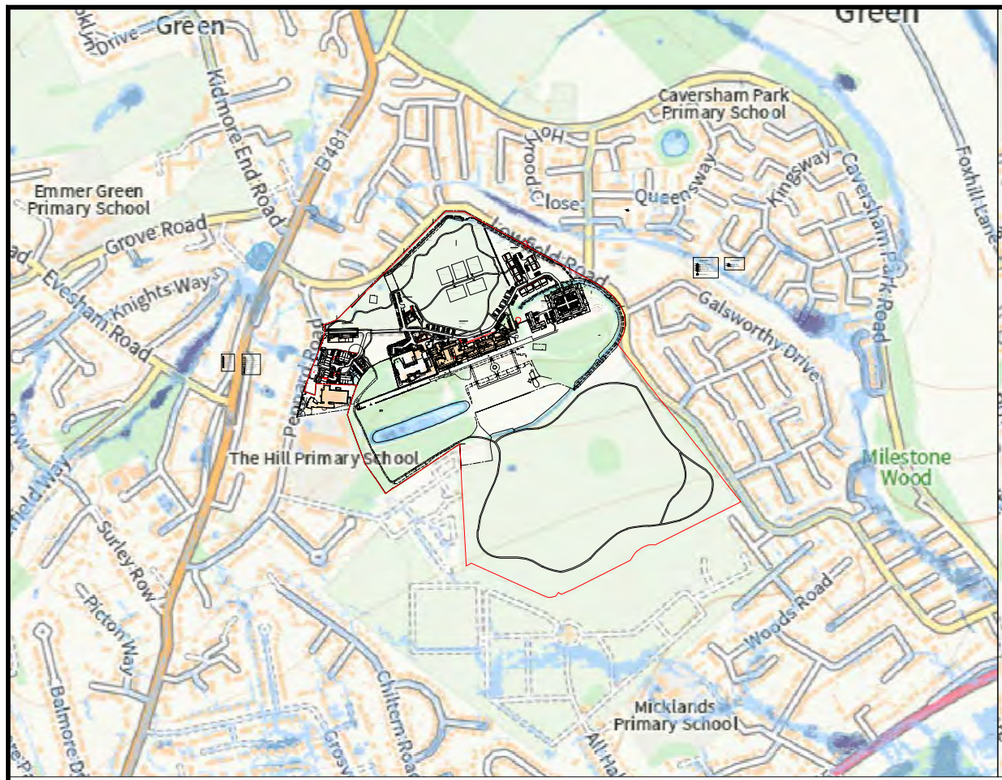
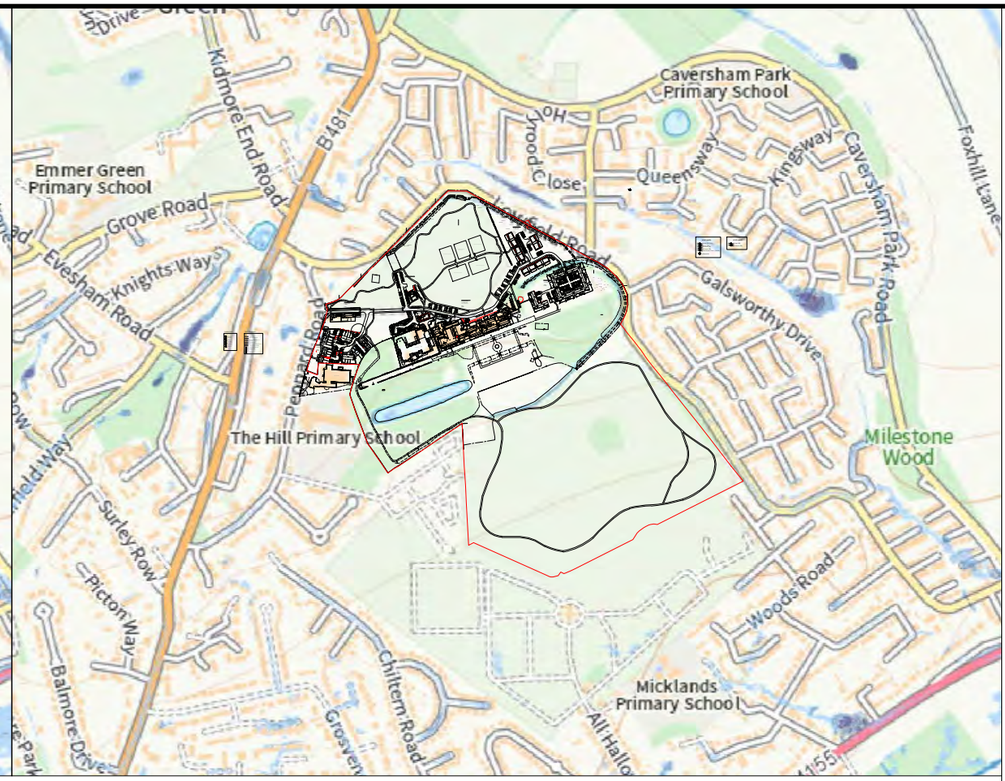
Appendix J

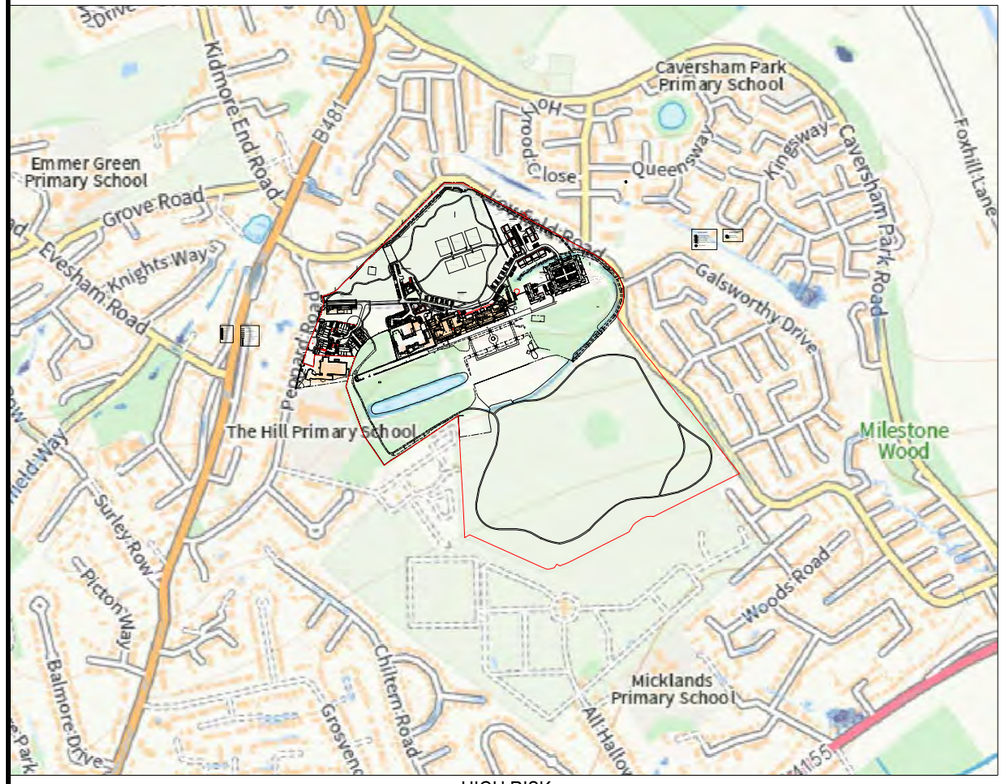
Environment Agency's Surface Water Flood Risk Mapping



LOW RISK
1 in 1000 yr - 1 in 100 yr event



MEDIUM RISK
1 in 100 yr - 1 in 30 yr event



HIGH RISK
> 1 in 30 yr event

NOTES

1. This drawing to be read in conjunction with all relevant documents and specifications.
2. Dimensions are scalable for 'Planning' purposes only.
3. Site layout provided by BHP Harwood Architects, drawing no. 3251.P.101, Rev X, dated February 2022.
4. Topographical survey by Midland Survey Ltd, drawing no. 26008 (dated October 2016).

KEY

- Flood depth: <300mm
- Flood depth: 300-900mm
- Flood depth: >900mm

N

Rev.	Description	Date	Chkd
C	Revised site layout.	16/06/2023 A. Persins	AP
B	Revised site layout.	05/12/2022 K. Hulse	AP
A	First issue.	08/12/2021 J. Dunesby	JH

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Oxon, OX11 7AD
Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Client : Beechcroft Developments Limited

Project : Caversham Park
Reading,
RG4 8TZ

Title : RoFSW
Surface Water Flood Risk Overlay
Depth

Project Engineer :	A. Persins	Scale :	NTS
Project Director :	J. Hanlon	Date :	December 2022
Status :	SKETCH		

Drawing No. 8210940-SK05 Rev C

Appendix K

Proposed Drainage Catchment Plan