The College of Richard Collyer New Technology Centre

Flood Risk Assessment & Drainage Strategy

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Table of Contents

1.0. Executive Summary 5

2.0. Introduction 6

2.1. Appointment and Brief 6

2.2. Sources of information 6

2.3. Limitations 6

3.0. Site Context 8

3.1. Site Location 8

3.2. Site Characterisation/ Land-Use 8

3.3. Topography 9

3.4. Geology 9

3.5. Hydrogeology 9

3.6. Existing Public Sewers 9

3.7. Existing Private Drainage 10

3.8. Watercourses, Land Drainage and other Waterbodies 10

4.0. Policy and Guidance 11

4.1. National Planning Policy Framework (NPPF) 11

4.2. Local Plan/Core Strategy 11

4.3. Strategic Flood Risk Assessment (SFRA) 11

5.0. Sources of Flood Risk 12

5.1. Fluvial Flood Risk 12

5.1.1. Climate Change 12

5.1.2. Mitigation Measures 12

5.2. Pluvial Flood Risk 12

5.3. Sewer Flood Risk 14

5.4. Groundwater Flood Risk 14

5.5. Flooding from Other Sources/Infrastructure Failure 14

5.6. Summary of Flood Risk 14

5.7. Sequential Test 15

5.8. Exceptions Test 15

6.0. Surface Water Management Strategy 16

6.1. Existing Site Drainage Regime 16
6.2. Pre-development Surface water Runoff 16
6.3. Post-development Surface water Runoff 17
6.4. Methods of Surface Water Management 18
6.5. Sustainable urban Drainage Systems (SuDS) 19
6.6. Surface Water Drainage Strategy 21

7.0. Foul Water Drainage Strategy 23

8.0. Conclusion 24

Appendix A: Proposed Site Plan 25

Appendix B: Site Location 26

Appendix C: Topographical and Utilities Surveys 27

Appendix D: Horsham District Policies 28

Appendix E: Proposed Drainage Strategy and Calculations 29

1.0. Executive Summary

Building Design Partnership (BDP) has been commissioned by The College of Richard Collyer to prepare this site-specific Flood Risk Assessment and Outline Drainage Strategy in support of a full planning application for a new Technology Centre at the College's campus at 82 Hurst Road, Horsham RH12 2EJ. The proposals comprise the phased construction of two new teaching buildings, a car park and associated landscaping on part of the existing college campus, replacing an existing car park and part of the existing playing fields.

The site lies wholly within Flood Zone 1 and is therefore at low risk of fluvial flooding. The nearest watercourse is Boldings Brook, approximately 1 kilometre to the north-west, and no historic flooding from watercourses is recorded at the site. The assessment identifies low residual risk from sewer flooding, groundwater flooding and other artificial sources, although a small area of the site is shown to have a high annual probability of surface water flooding. This area is proposed to form part of the hardstanding and has informed the outline drainage design. Educational development is classified as more vulnerable, but this is appropriate in Flood Zone 1 and neither the Sequential Test nor the Exception Test is required for the proposed development.

Ground investigation and site observations indicate that infiltration drainage is not currently feasible. Infiltration testing was inconclusive due to heavy rain and waterlogged ground, groundwater was encountered in boreholes, the site is underlain by low-permeability strata, and parts of the site are identified as having high groundwater vulnerability. In accordance with the drainage hierarchy, the preferred outline strategy is therefore to attenuate runoff on site and discharge at a controlled rate to the existing Southern Water surface water sewer crossing the site and outfalling towards Hurst Road, subject to agreement with Southern Water and the Lead Local Flood Authority.

The outline surface water strategy proposes to limit discharge from the eastern car park area to the 1 in 1 year greenfield rate of 1.9 l/s and to restrict the remaining developed area to 50% of the calculated brownfield runoff rate, giving a total proposed discharge of 35.9 l/s. Preliminary attenuation storage for the car park and public realm areas is estimated at approximately 437 m^3 to 654 m^3, with storage to be provided through a combination of permeable paving and geocellular tanks. The strategy has been developed to ensure that the site does not flood in all storm events, including the 1 in 100 year plus 45% climate change event SuDS measures such as permeable paving and geocellular storage are considered feasible and will also provide water quality treatment in line with CIRIA guidance.

Foul drainage is proposed to discharge via a new private gravity network to a new pumping chamber and rising main connecting to the public foul sewer in Hurst Road. Overall, the assessment concludes that the proposed development can be delivered safely in flood risk terms and without increasing flood risk elsewhere, subject to detailed design, approval of discharge arrangements, and implementation of an appropriate long-term maintenance regime for the private drainage infrastructure. On this basis, the proposed development is considered acceptable in flood risk and drainage terms for full planning submission.

2.0. Introduction

2.1. Appointment and Brief

Building Design Partnership (BDP) have been commissioned by The College of Richard Collyer to carry out a formal site-specific Flood Risk Assessment and Outline Drainage Strategy Report in support of a Full Planning Application, for the proposed development of a new Technology Centre, 82 Hurst Rd, Horsham RH12 2EJ.

The proposals include the phased construction of two new teaching buildings, a carpark, and associated landscaping on The College of Richard Collyer campus. The proposed development would replace an existing carpark. A copy of the Proposed Masterplan can be found in Appendix A.

This Flood Risk Assessment has been prepared in accordance with the National Planning Policy Framework (NPPF) and the accompanying Technical Guidance to assess all forms of flooding including the management of surface water on-site.

2.2. Sources of information

This Report summarises data supplied or provided from the following external sources listed below.

Table 1: Existing available information

Source of Information	Author	Date
The SuDS Manual C753	CIRIA	2014
Non-statutory technical standards for sustainable drainage systems	DEFRA	2015
The Building Regulations, Drainage and waste disposal, Part H	HM Government	2015
Southern Water SuDS Outline Guidance	Southern Water	-
Southern Water Surface Water Management Policy DS 001	Southern Water	2024
Horsham District Council Sustainable Design and Climate Change Policies	Horsham District Council	2024

2.3. Limitations

This report has been prepared for exclusive use by BDP's client The College of Richard Collyer, for the purpose of assisting them in evaluating the potential risk of flooding associated with the site, proposed drainage strategy and in making a Planning Application.

Building Design Partnership (BDP) accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of BDP. Any advice, opinions or recommendations within this document should be read and relied upon only in the context of the document as a whole.

BDP has endeavoured to assess all information provided to them during this appraisal. The report summarises from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.

This report addresses the flood risk posed to and from the proposed development, the extent of which is shown on the Proposed Plan contained within Appendix A. This report has been undertaken with the assumption that the site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

3.0. Site Context

3.1. Site Location

The site is located on The College of Richard Collyer campus at 82 Hurst Road, Horsham RH12 2 EJ (537942, 178526). A Site location plan is included in Appendix B.

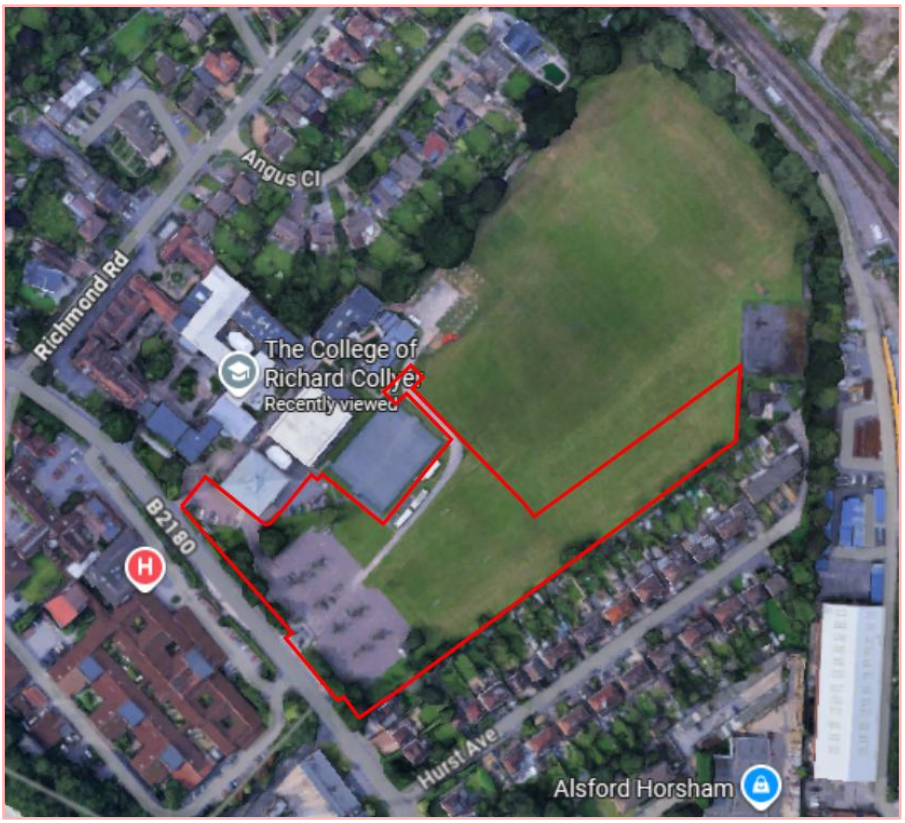

Figure 1: Aerial image of the site (Google.co.uk/maps)

3.2. Site Characterisation/ Land-Use

Key features of the existing site have been summarised below.

Table 2: Summary of site characteristics

Site Area (m^2)		18,218
Site Description and Current Use		Existing carpark and green playing fields. Site falls from North to South, with lowest point in South-West.
Boundaries	North	Green playing fields and school buildings
	East	Rear boundary of properties on Hurst Avenue
	South	N/A
	West	Hurst Road
Access	Vehicular	Via Hurst Road at existing carpark
	Pedestrian	Via Hurst road sidewalk, and from existing school buildings

3.3. Topography

A topographical survey of the site was undertaken by Sitech surveying services in 2018. The site is composed of an existing carpark and green playing fields. The site is relatively flat with a slight fall to the South and West. Existing ground levels are shown to range from approximately 51m Above Ordnance Datum (AOD) in the Northeast decreasing to 50m AOD in the Southwest. The lowest point is located at the South-West corner of the existing carpark, with an elevation of 49.5m AOD. The topographical survey can be found in Appendix C.

3.4. Geology

A soil investigation (SI) was undertaken by Soils Limited in April of 2026. The soil investigation comprised two boreholes to twenty meters, and 5 trial pits.

The geology is composed of made ground, topsoil and upper Tunbridge Wells sand. All three types of soil were determined to be mostly made up of silt and clay. Made ground and topsoil were found at widely varying levels, believed to be indicative of a historic clay pit. Upper Tunbridge Wells sand was present below the made ground and topsoil, to depths beyond 20m.

Groundwater is present on the site and was found in both boreholes; in one at approximately 2m depth, and in the other at 9m depth. Infiltration tests were carried out at seven locations; however, no results were returned as they were interrupted by heavy rain, and waterlogged soils, invalidating the results. Additionally, an extensive area of poor drainage has been identified within the existing playing fields area, based on liaison with the client. These factors suggest that infiltration is not likely to be feasible.

3.5. Hydrogeology

A review of DEFRA's Aquifer designation Map indicates that the site is underlain by a Secondary A aquifer. This designation aquifer comprises permeable layers that can support local water supplies and may form an important source of base flow to rivers. This furthers the notion that infiltration of surface run off from the site should not be considered.

In addition, the ground water vulnerability map also shows that the site is located in a location with areas of high vulnerability to a pollutant discharged at ground level. The vulnerability map also denotes unproductive areas, implying a very low permeability. However, the site is not located within a groundwater Source Protection Zones (SPZ).

Due to the high vulnerability within the site, appropriate mitigation measures for the removal of pollutants from surface water runoff should be incorporated into the forthcoming drainage strategy if infiltrating SuDS features are to be utilised.

3.6. Existing Public Sewers

Southern Water are the local Water Authority serving the area where the proposed development is located. Based on available sewer records, which can be found in Appendix C, an existing surface water sewer crosses the site, running Northeast to Southwest, a changing pipe diameter, from 375mm to 600mm. The sewer exits the site boundary at Hurst Road, to the West of the site. Additionally, an existing foul water public sewer runs South to North along Hurst Road outside of the site boundary.

3.7. Existing Private Drainage

Based on available drainage plans and information, the nearest private foul water drainage is located at the Northeast corner of the existing library building, which sits outside of the site boundary. This sewer is served by an existing pumping chamber, indicated on the Topographical and Utilities survey (Appendix C.)

An existing private surface water drain runs North to South across the site, and joins the public surface water drain under Hurst Road.

3.8. Watercourses, Land Drainage and other Waterbodies

The closest watercourse to the site is Boldings Brook, 1 kilometre to the Northwest of the site. The brook flows North to South and includes a large pond and local nature reserve at Warnham Mill.

4.0. Policy and Guidance

This report takes into account the provisions of the development plan and a range of other material considerations. However, it is the Government's National Planning Policy Framework (NPPF), Local Council's Policies and CIRIA document C624, which provide the most up to date and specific guidance on the Scope of Flood Risk Assessments.

4.1. National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) was first published in England in March 2012 and a revised version was published in December 2024. This included PPS25: Development and Flood Risk, along with its supplement on Development and Coastal Change.

One of the main aims of the NPPF is to ensure that 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 away from areas of highest risk. Chapter 14 of the document advises that where new development is necessary in areas of higher risk, this should be safe, without increasing flood risk elsewhere, and where possible should reduce flood risk overall.

Annex 3 from the 'Flood Risk and Coastal Change 'Planning Practice Guidance' (2025) defines the type and nature of different development classifications in the context of their flood risk vulnerability. This should be compared against 'Table 2: Flood Risk Vulnerability and Flood Zone `compatibility' to determine the risk of flooding to a proposed development.

4.2. Local Plan/Core Strategy

The Horsham District Planning Framework was adopted in November 2015 and sets out the local planning strategy for the years up to 2031. The policies of particular relevance to this report are Policy 35: Climate Change, and Policy 38: Flooding. An extract of selected policies are provided in Appendix D.

4.3. Strategic Flood Risk Assessment (SFRA)

West Sussex County Council Strategic Flood Risk Assessment (SFRA) was produced by Capita Symonds (2009). The report assists West Sussex County Council in meeting their duties as a Lead Local Flood Authority (LLFA) in managing local flood risk and delivering the requirements of the Flood Risk Regulations (2009).

SFRA's assess the risk associated with all types of flooding and provide the information required to identify the amount of development permitted in an area; how the drainage systems in the area should function and also how the risks in vulnerable areas can be reduced and/or mitigated.

The West Sussex County Council SFRA identifies several historic incidents of sewer flooding adjacent to the development site. This risk is further discussed in section 5.3. The SFRA map identifying areas more prone to flooding from sewers is provided in appendix E.

5.0. Sources of Flood Risk

5.1. Fluvial Flood Risk

The Environment Agency Flood Zone Map indicates that the proposed development lies entirely within Flood Zone 1 (low risk).

These Flood Zones are defined as follows:

- Flood Zone 1: Land assessed as having less than 1 in 1000 annual probability of flooding from rivers (<0.1%).
- Flood Zone 2: Land assessed as having between a 1 in 100 and 1 in 1000 annual probability of flooding from rivers (1%-0.1%).
- Flood Zone 3: Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%)

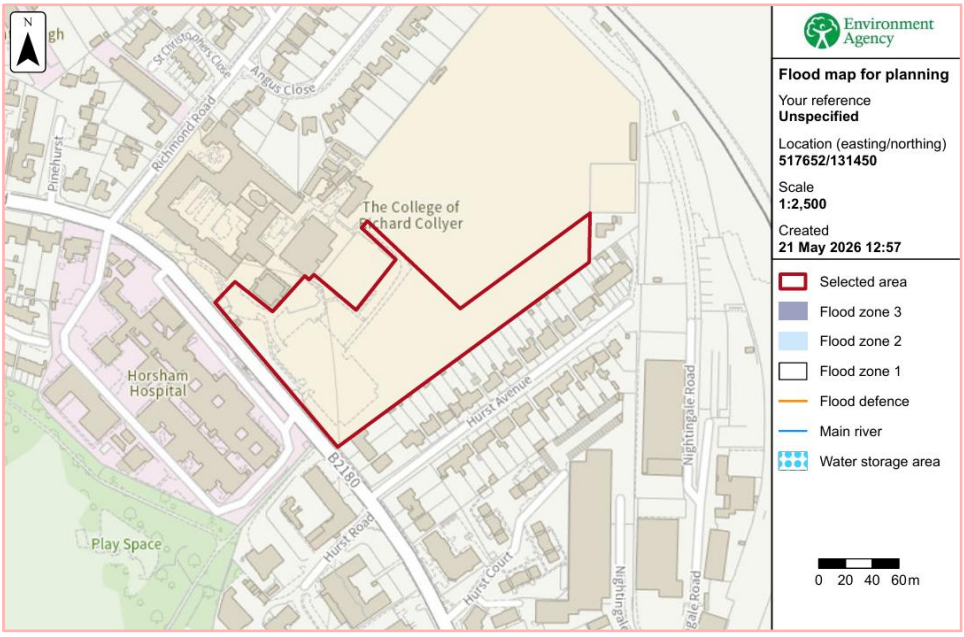

Figure 2: Environment Agency Flood Map for Planning - Flooding from Rivers and Sea (Gov.uk)

The flood risk at the College of Richard Collyer as a result of overflowing water courses is, therefore, considered very low. No historical flood events have been recorded.

5.1.1. Climate Change

Fluvial flooding risks due to climate change are not applicable to the site as sits entirely within Flood Risk Zone 1.

5.1.2. Mitigation Measures

Mitigation measures for fluvial flooding risks are not required.

5.2. Pluvial Flood Risk

Pluvial flooding is defined as flooding resulting from rainfall-generated overland flow before runoff enters any watercourse or sewer. It is usually associated with high intensity rainfall events but can also occur with low intensity rainfall or melting snow where ground is saturated, frozen, developed or otherwise has low permeability

resulting in overland flow and ponding in depressions in the topography. Large catchment areas are particularly prone to this type of flooding.

The majority of the New Technology Buildings site has a very low yearly chance of surface water flooding and a very low yearly chance of surface water flooding between 2040 and 2060. A small area of the site has a high yearly chance of surface water flooding, both currently, and between 2040 and 2060. This is assumed to be a result of runoff from the existing car park flowing north and accumulating in a topographic low point. Levels in this area will be re-engineered as part of the proposed development to remove undrained low points. A new drainage strategy as described in section 6.0, also proposes to attenuate runoff up to the 1 in 100 year plus 45% climate change. As such the risk of pluvial flooding is regarded as low.

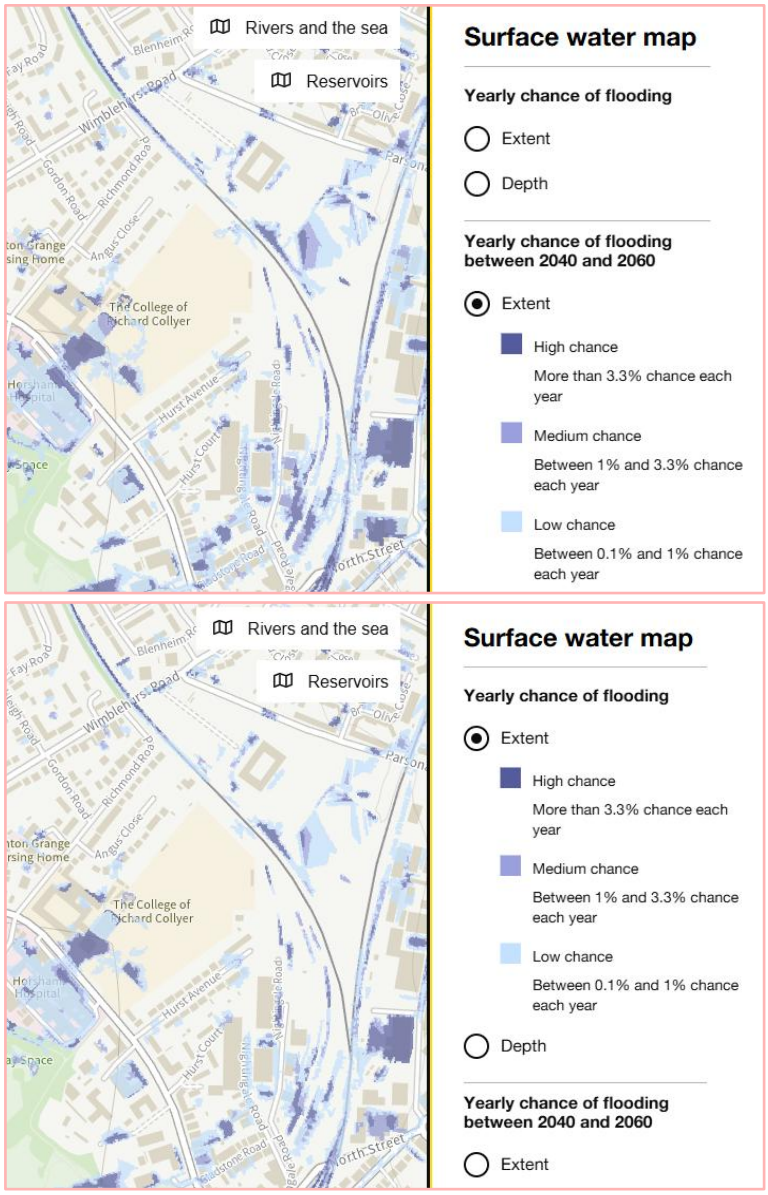

Figure 3: Environment Agency Surface Water Map of New Tech Building Site

5.3. Sewer Flood Risk

Sewer flooding occurs when the capacity of the local drainage system is exceeded either as a result of intense rainfall, blockages or high-water levels in watercourses preventing sewers from discharging properly.

The West Sussex County Council SFRA identifies historic flooding due to sewer overflow within 500m of the site. The site itself has no recorded historic sewer overflow events. This is considered a low risk.

5.4. Groundwater Flood Risk

In general terms groundwater flooding can occur from three main sources, raised water tables, seepage and percolation, and groundwater recovery or rebound. If groundwater levels are naturally close to the surface, then this can present a flood risk during intense rainfall.

The New Tech Building site is outside of a groundwater flood alert area. The soil investigation conducted at the site identified groundwater at 2m below surface level. This recording was made in January of 2026 during heavy rainfall. Continued monitoring of the groundwater over the subsequent three months indicated a stable water table level of 2m below surface level. This represents a low risk of flooding due to groundwater.

5.5. Flooding from Other Sources/Infrastructure Failure

Non-natural or artificial sources of flooding that can occur as a result of structural, hydraulic or geotechnical failure of infrastructure that retains, transmits or controls the flow of water; such as reservoirs, lakes and canals etc.

The Environment Agency Flood Map for Planning shows that the site is not at risk from flooding from reservoir breach.

5.6. Summary of Flood Risk

Taking into consideration the evidence collated and the implementation of the recommended mitigation measures, the flood risk proposed to the development can be summarised as indicated in the table below:

Table 3: Summary of mitigated sources of flood risk

Source	Mitigated Risk
Fluvial	Low
Coastal – Sea	N/A
Coastal – Estuarine	N/A
Pluvial Flooding	Low
Sewer - SWS, FWS, CS, CSO	Low
Groundwater	Low
Other Sources	Low

The proposed development is for educational use and can be considered as more vulnerable according to Annex 3 of the Technical Guidance to the NPPF. Considering Table 2: Flood Risk Vulnerability and flood zone compatibility, this type of development is seen to be appropriate for Flood Zone 1. An exception test is not required.

Table 4 – Extract from Table 3: Flood Risk Vulnerability and Flood Zone Compatibility (Technical Guidance for NPPF, Gov.co.uk)

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a	Exception Test Required	*X*	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	*X*	*X*	*X*	✓

Key:

✓ Development is appropriate

X Development should not be permitted

5.7. Sequential Test

The proposed development is located within Flood Zone 1, which has the lowest risk of flooding, therefore a sequential test is not required.

5.8. Exceptions Test

As demonstrated in section 5.6, an exceptions test is not required.

6.0. Surface Water Management Strategy

6.1. Existing Site Drainage Regime

The proposed site predominantly comprises soft landscaped areas (1.33 Ha) and an existing car park (0.49 Ha). Although the car park has been constructed using permeable blocks, it is assumed that this system is lined based on the underlying geology, with a positive drainage connection into Hurst Road via an existing 150mm surface drain. The remaining greenfield areas are expected to discharge directly into the soil.

6.2. Pre-development Surface water Runoff

Since the site comprises of existing hardstanding, which is positively drained into the local sewer network, the pre-development runoff rate from this area (0.49Ha) has been calculated using the Modified Rational Method, as per the Wallingford Procedure. The method is given:

$$Q = 2.78C_vC_riA$$

Where:

- Q = *design event peak rate runoff (l/s)*
- C_v = *volumetric runoff coefficient*
- Cr = *dimensionless routing coefficient*
- i = *rainfall intensity for the design return period (mm/hr)*
- A = *total catchment area being drained (ha)*

The values for the proposed development site are provided:

C_v	= 1	*(assumed)*
Cr	= 1	*(assumed)*
i	= 50	*(SuDs manual C753, Section 24.6)*
A	= 0.49	*(measured)*

The value for the design event peak rate runoff is calculated:

$$Q = 2.78*1*50*0.49$$
$$= 68\ l/s$$

The drainage regime for 69% of the existing landscaped areas (0.92 Ha) is to remain as existing with runoff draining directly to the ground. This area has therefore been omitted from the pre-development runoff rate calculations. Approximately 0.41 Ha of the existing landscaped area is proposed to be developed into a new car park. The greenfield runoff rate for this area has been calculated based on the FEH2025 method using HR Wallingford and is tabulated overleaf:

Table 5: Summary of Greenfield runoff rates

Return Period	FEH2025 (l/s)
QBAR (l/s)	2.3
1 in 1 year (l/s)	1.9
1 in 30 year (l/s)	5.3
1 in 100 year (l/s)	7.3

6.3. Post-development Surface water Runoff

Consultation with the West Sussex County Council is yet to be undertaken as the site sits in Flood Zone 1 and the scheme represents a betterment to risk of flooding on the site. Discharge consent will be required from Southern Water.

For the proposed car park area in the east of the site, the post-development discharge rate is to be restricted to the 1 in 1 year greenfield rate of 1.9 l/s as demonstrated in Table 5. For the remainder of the proposed development, the post-development discharge rate is proposed to be restricted to 50% of the brownfield runoff rate of 68 l/s, equating to a maximum rate of 34 l/s.

Therefore, the proposed total surface water discharge rate is proposed to be 35.9 l/s, subject to confirmation from Southern Water and the Lead Local Flood Authority, West Sussex County Council.

In May 2022, the Environment Agency released updated climate change allowances for peak rainfall intensities which should be applied to new developments. Table 6 demonstrates the climate change allowances with central and upper end being considered. In addition, a 1 in 30-year rainfall event must now also be modelled.

Based on the nature of the development, a lifespan of 60 years is anticipated. The potential climate change allowance for 1% and 3.3% annual exceedance rainfall events considering 2070 to 2115 ranges between 25% for the central allowance and 45% for the upper end allowance. As such the design will consider an allowance of 45% climate change on peak rainfall intensity for all calculations.

Table 6: Extract of Environment Agency Guidance - Peak Rainfall Allowances for Arun and Western Streams

3.3% Annual Exceedance Rainfall Event	Central Allowance	Upper End Allowance
2050s	20%	35%
2070s	25%	40%

1% Annual Exceedance Rainfall Event	Central Allowance	Upper End Allowance
2050s	20%	45%
2070s	25%	45%

6.4. Methods of Surface Water Management

In accordance with Building Regulations and the NPPF Drainage Hierarchy the management and discharge of surface water from a development should be applied in the order of priority as listed.

1) Collected for non-potable use
2) Infiltrated to ground
3) Discharged to an above ground surface water body
4) Discharged to a surface water sewer, or another piped surface water drainage system
5) Discharged to a combined sewer.

No surface water will be allowed to connect to a foul sewer.

The feasibility of each disposal method has been assessed and summarised in the Table 7.

Table 7: Feasibility of disposal methods for surface water discharge

Method	Comments	Feasible
Collected for non-potable use	Rainwater harvesting is to be considered for new roofs. Application of water butts or similar is a potential option for watering adjacent planters. At this stage, it is assumed that some rainwater will be collected and reused for WC flushing.	Y
Infiltration	Infiltration tests during SI were unable to collect results. Geological mapping shows the site is underlain by low permeability bedrock and contains areas with a high level of vulnerability to ground source pollutants. Anecdotal evidence from the client regarding poorly draining playing fields suggests low permeability soil. Revision of infiltration feasibility may be possible in light of accurate infiltration tests.	N
Watercourse	The nearest watercourse is over a kilometre from the development. Gravity feeding to the water course is not feasible.	N
Surface Water Sewer	An existing public sewer crosses the site with conveniently located existing manholes, allowing for a limited discharge rate off site. Potential to reuse the existing outfall to Hurst road.	Y
Combined Water Sewer	There are no public combined sewer in close proximity to site.	N

Based on the underlying ground conditions and location of the site, the most appropriate method for the discharge of surface water runoff is to a nearby public surface water drain which eventually discharges to the closest watercourse.

6.5. Sustainable urban Drainage Systems (SuDS)

The general principle of the surface water drainage strategy for the development site is to collect runoff from buildings and hardstanding areas and attenuate at source, with a controlled discharge to the surrounding network.

The CIRIA SuDS Manual encourages the use of the 'SuDS management train' concept to manage runoff. The hierarchy of techniques to be used is:

1. Prevention – Prevention of runoff by good site design and reduction of impermeable areas.
2. Source Control – Dealing with water where and when it falls (e.g., infiltration techniques).
3. Site Control – Management of water in the local area (e.g., swales, detention basins).
4. Regional Control – Management of runoff from sites (e.g., balancing ponds, wetlands).

Various SuDS methods have been summarised in Table 8 to assess and establish which are most feasible for the site.

Table 8: Summary of potential SuDS features and feasibility within the proposed drainage strategy

Suds Method	Comments	Feasible
Green & Blue Roof	Vegetated or hardstanding roof designed to store water, which can be used for irrigation, cooling water or non-potable use within the building. Proposed roofs could be designed with this feature if structural capacity, extra loadings and waterproofing are taken into consideration within the design.	Y
Rainwater Harvesting	Rainwater from roofs and hard surfaces can be stored and reused. It is feasible to implement rainwater harvesting for the proposed buildings.	Y
Permeable Paving	Surfaces can be either porous or permeable. Rainwater infiltrates through the surface and into underlying layers where it is temporarily stored before either infiltrating into the ground or discharge through the drainage system. The proposed hard landscaped areas may utilise permeable paving however, due to the existing geology of the site, it is not anticipated that it can infiltrate into the ground. Areas of permeable paving will discharge into the proposed drainage system.	Y
Swales	Shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants. Check dams and berms can also be installed along the flow path to promote settling and infiltration. The use of swales on site has been explored and discounted to allow for the planting of trees in the assessed area.	N
Channels and Rills	Open surface water channels with hard edge to convey rainwater. Planting can be used to enhance visual appearance and provide water treatment. Channels and rills have been discounted based on the potential impact on accessibility.	N
Filter Drains	Shallow excavations filled with gravel to create temporary storage of runoff used to filter and convey rainwater. It is feasible to implement filter drains within the proposed strategy to store and convey runoff.	Y

Infiltration Basin	Vegetated depressions designed to store runoff on the surface and infiltrate it gradually into the ground. Based on the geology of the site, it is unlikely that the use of infiltration basins will be feasible.	N
Rain Garden	Relatively small depressions in the ground that act as infiltration points for roof water and other 'clean' surface water runoff (low contamination levels). The use of rain gardens could be incorporated into the soft landscaped areas with excess runoff discharging into the proposed surface water drainage network, however these have not been continued into stage 3.	N
Detention Basin	Surface storage basins are normally dry and provide flow control through attenuation of stormwater runoff. The large, landscaped areas within the proposed plan are located towards the North of the site and based on existing levels, it is unlikely that these areas may act as a detention basin due being at an increased level within the site.	N
Retention Pond	Retention ponds provide stormwater attenuation and treatment. The large, landscaped areas within the proposed plan are located towards the North of the site and based on existing levels, it is unlikely that these areas may act as a detention basin due being at an increased level within the site.	N
Geocellular Storage Systems	Geocellular systems can be used to control and manage surface water runoff. The modular systems mean that they can be tailored to suit specification requirements of any site. Geocellular storage systems can be used on site to provide surface water runoff attenuation.	Y

The type of land use is considered to be the primary influencing factor in the quality of urban surface water runoff. The indicative pollution hazard indices for the land uses associated with the proposed development have been extracted from Table 26.14 of the SuDS Manual and have been tabulated below.

Table 9: Extracted from Table 26.2 Pollution hazard indices for different land use classifications (CIRIA SuDS Manual C753)

Land use	Pollution hazard level	Total suspended solids (TSS)	Hydro-carbons	Metals
Other roofs (typically commercial / industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day	Low	0.5	0.4	0.4

Maximum	**Low**	**0.5**	**0.4**	**0.4**

In order to provide adequate treatment to the site, the proposed SuDS components should have a total pollution mitigation index greater than or equal to the pollution hazard index of the land use. The surface water drainage strategy proposes the use of permeable paving, geocellular storage systems and tree pits. The mitigation indices for these SuDS feature, tabulated below, are shown to be greater than the pollution indices from the proposed land use and are therefore considered appropriate to mitigate potential pollutants from the site.

Table 10: Extracted from Table 26.3 Indicative SuDS mitigation indices for discharges to surface waters (CIRIA SuDS Manual C753)

Types of SuDS Components	Mitigation Indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Maximum	0.8	0.8	0.8

Final coordination of the SUDs features will be undertaken at the detailed design stage in conjunction with the design of the piped drainage systems.

6.6. Surface Water Drainage Strategy

The proposed development is for the construction of two new teaching buildings, carpark, and associated landscaping, which will increase the impermeable area of the site to 0.95 Ha and reduce the overall soft landscaping to 0.83 Ha.

The drainage strategy proposes to discharge surface water runoff from the new roof and hardstanding areas to an existing Southern Water surface water sewer in Hurst Road via an existing connection. Surface water will be restricted to the proposed rate of 35.9 l/s in accordance with national guidance, providing a betterment on existing conditions.

Using the Quick Storage Estimate Tool in InfoDrainage, an approximate storage volume has been calculated for the car park and public realm areas with a total estimated storage ranging between 437m^3 and 654m^3:

Table 11: Indicative Attenuation Volumes

Proposed Catchment	Preliminary Storage Estimate, m^3	
	Range	Average
Car Park	292-407	350
Public Realm	145-247	196

The proposed drainage strategy is to be developed in accordance with current best practice and has been designed to not flood for all critical flood events up to and including the 1 in 100 year plus 45% climate change storm.

Surface water will be directed to the public surface water sewer in Hurst Road via a new network of private surface water drains and restricted to 35.9 l/s using a hydrobrake flow control. Attenuation is to be provided in the form of rain gardens, permeable paving and geocellular tanks to provide storage up to the 1 in 100 year plus 45% climate change event.

All proposed SuDS have been designed to attenuate runoff from all the proposed impermeable areas. Any storage created from the incorporation of the rainwater tanks will be in addition to the attenuation provided in the drainage strategy drawing. The proposed drainage features represent a betterment to the flood risk of the existing site and will ensure occupiers and users will remain safe from both current and future surface water flood risks for the lifetime of the development.

The new drainage network will not be offered for adoption to Southern Water. It is important that any drainage systems that are not offered for adoption to either the Water Company or the Local Authority have an appropriate maintenance regime scheduled and an appropriate management company appointed to carry out the works.

A copy of the proposed drainage strategy and calculations is included in Appendix E.

7.0. Foul Water Drainage Strategy

The nearest existing below foul water drainage network is located Northeast of the library building. However, this network is too shallow to enable a new gravity connection from the proposed development and is currently served by an existing pump chamber from the college. A public foul water sewer within Hurst Road to the south of the site is also identified to be too shallow to facilitate a gravity connection from the new buildings.

As a result, a new foul water network has been proposed, gravitating to a new pumping chamber with a rising main, which will discharge into the public foul water sewer in Hurst Road via an existing manhole.

Approximately 5.8 l/s is estimated to be generated from the new building based on the Discharge Units Method (BS 12056-2:2000 System III) and applying estimated peak flows from appliances. The number of appliances is to be confirmed at detailed design. The proposal is subject to change, following further design development and coordination with the Public Health Engineer.

The proposed development does not increase the school's capacity or anticipated occupancy and is intended to provide a long-term replacement for existing temporary teaching accommodation currently provided by portacabins on site. As such, the development is expected to serve existing demand rather than generate a material increase in pupil or staff numbers.

The foul water system will be designed and constructed in accordance with the current Building Regulations, BS EN:752 drainage and sewer systems outside buildings, the local authority building control specifications and requirements, Design and Construction Guidance (DCG) and the Civil Engineering Specification for the Water Industry 7th Edition.

As with surface water, the new drainage network will not be offered for adoption to Southern Water. It is important that any drainage systems that are not offered for adoption to either the Water Company or the Local Authority have an appropriate maintenance regime scheduled and an appropriate management company appointed to carry out the works. The proposed drainage strategy plan is enclosed in Appendix E.

8.0. Conclusion

This site-specific Flood Risk Assessment and Outline Drainage Strategy has been prepared in support of a full planning application for the proposed New Tech Building development at The College of Richard Collyer, Horsham. The assessment confirms that the site lies wholly within Flood Zone 1 and is therefore at low risk of fluvial flooding. No recorded historic flooding from watercourses affects the site. A small area is identified as having a high annual probability of surface water flooding; however, this area is proposed to form part of the hardstanding and has been taken into account in the drainage design. Residual risks from sewer flooding, groundwater flooding and other artificial sources are assessed as low. Educational development is classified as more vulnerable, but this is appropriate in Flood Zone 1 and neither the Sequential Test nor the Exception Test is required.

In accordance with the drainage hierarchy, infiltration is not considered feasible due to inconclusive infiltration testing, low-permeability ground conditions, observed groundwater and groundwater vulnerability constraints. The preferred outline strategy is therefore to attenuate runoff on site and discharge at a controlled rate to the existing Southern Water surface water sewer, subject to agreement with Southern Water and the Lead Local Flood Authority. The proposed strategy limits discharge from the eastern car park area to the 1 in 1 year greenfield rate of 1.9 l/s and restricts the remainder of the development to 50% of the calculated brownfield runoff rate, giving a total proposed discharge of 35.9 l/s. Indicative attenuation storage of approximately 437 m^3 to 654 m^3 is to be provided through a combination of SuDS features including permeable paving and geocellular storage, with the system designed so that the site does not flood during all storms up to and including the critical 1 in 100 year plus 45% climate cange event.

Foul drainage is proposed to discharge via a new private gravity network to a new pumping chamber and rising main connecting to the public foul sewer in Hurst Road. Subject to detailed design development, confirmation of discharge arrangements, and implementation of an appropriate long-term operation and maintenance regime for the private drainage infrastructure, the proposed development can be delivered safely in flood risk terms and without increasing flood risk elsewhere. On this basis, the development is considered acceptable in flood risk and drainage terms for full planning submission.

Appendix A: Proposed Site Plan

BUILDING DESIGN PARTNERSHIP SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.

ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

ANY DRAWING ERRORS OR DIVERGENCIES SHOULD BE BROUGHT TO THE ATTENTION OF BUILDING DESIGN PARTNERSHIP AT THE ADDRESS SHOWN BELOW.



NOTES

Full landscaping design and external lighting proposals are reflected in the landsape drawings ref no. CRC-BDP-EX-00-PL-L-900101, CRC-BDP-EX-00-PL-L-900102 and CRC-BDP-EX-00-PL-L-900103.

Key

- CRC Ownership
- Project Site Boundary
- Pedestrian access
- Vehicular access
- Vehicular exit
- Logistics and vehicular access
- Existing trees
- Proposed trees
- Electric vehicle charging points (active)
- Electric vehicle charging points (passive)

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
P01	Planning Issue	CP	CH	01/07/2026

SCALE 1:500

CLIENT: COLLYER'S Founded in 1532

BDP.
16 Brewhouse Yard
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London
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United Kingdom

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together with: ritchie studio

PROJECT TITLE: The College of Richard Collyer - New Technology Centre

JOB NUMBER: P3003919

DRAWING TITLE: Phase 2 - Proposed Site Plan

SCALE: @ A0 1 : 500

DATE PRINTED: 01/07/26

DRAWING NO.: CRC-BDP-XX-00-PL-A-910003

REVISION: P01

Autodesk Docs://CRC - College of Richard Collyer/CRC-BDP-ZZ-ZZ-M3-A-900001.rvt

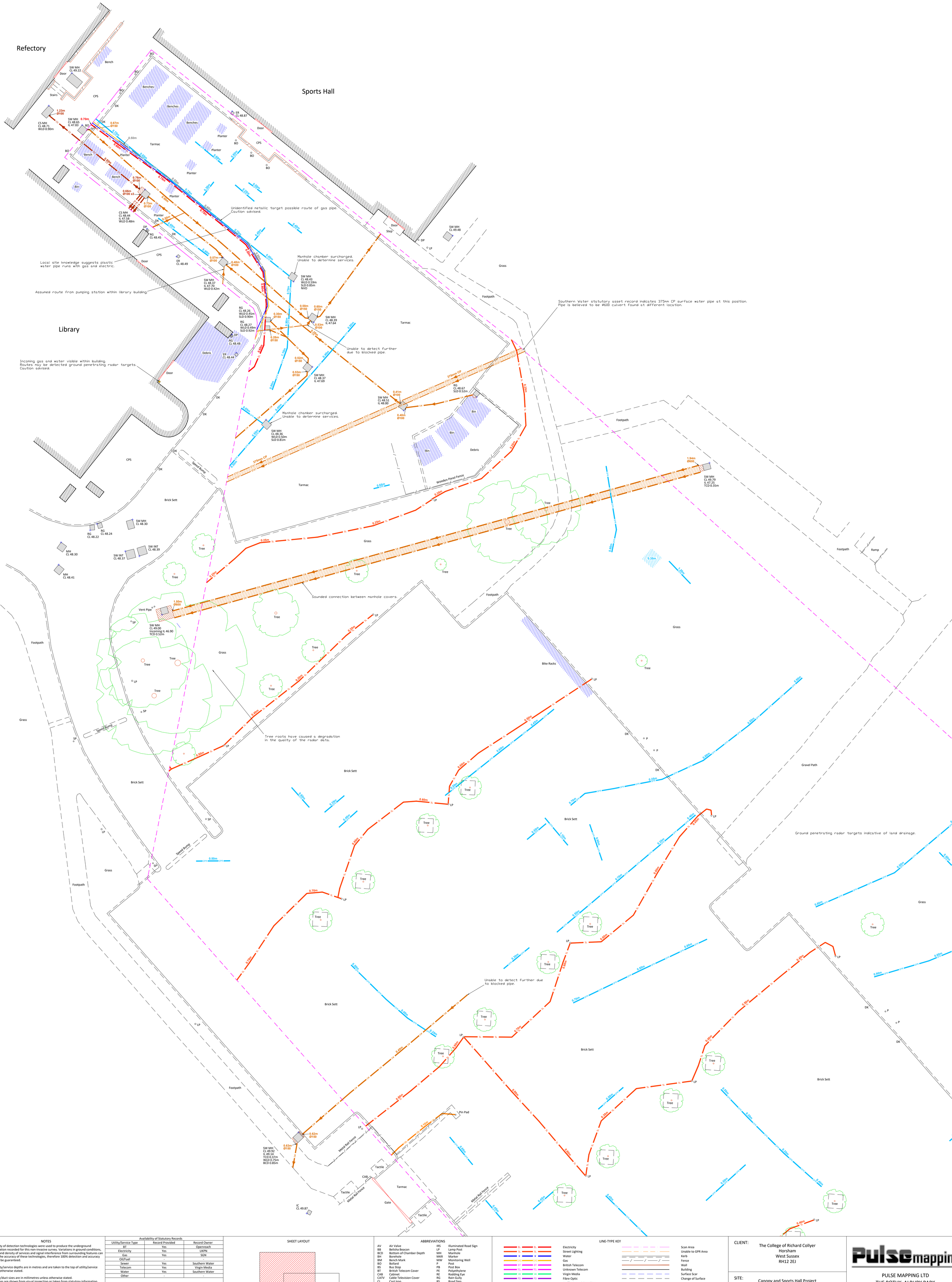
Appendix B: Site Location

The College of Richard Collyer, 82 Hurst Rd, Horsham RH12 2EJ



Key plan, site boundary in red

Appendix C: Topographical and Utilities Surveys



NOTES

A variety of detection technologies were used to produce the underground information recorded for this non-invasive survey. Variations in ground conditions, depth and density of services and signal interference from surrounding features can affect the accuracy of these technologies, therefore 100% detection and accuracy cannot be guaranteed.

All utility/service depths are in metres and are taken to the top of utility/service unless otherwise stated.

All pipe/duct sizes are in millimetres unless otherwise stated.
Pipe sizes are shown from visual inspection or taken from statutory information.

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Underground services shown on this drawing are illustrated by a single service line. This single service line may actually represent multiple cables and/or ducts.

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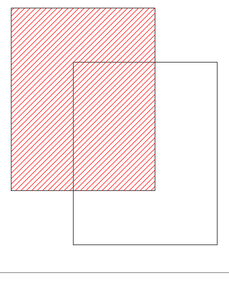
Topographical survey control is to OSGB36(15) datum by GPS (as recorded at the time of acquisition) and the project rotated to North, all subsequent data acquired does not have a scalefactor applied and therefore is based on a flat earth scenario. Real Time Kinematic accuracies: Horizontal 10mm +1ppm, Vertical 20mm +1ppm. Rapid Static accuracies: Horizontal 5mm +1ppm, vertical 10mm +1ppm.

Availability of Statutory Records

Utility/Service Type	Record Provided	Record Owner
BT	Yes	Openreach
Electricity	Yes	UKPN
Gas	Yes	SGN
Oil/Fuel	-	-
Sewer	Yes	Southern Water
Telecom	Yes	Virgin Media
Water	Yes	Southern Water
Other	-	-

SHEET LAYOUT



ABBREVIATIONS

AV	Air Valve	IRS	Illuminated Road Sign
BB	Belisha Beacon	LP	Lamp Post
BCD	Bottom of Chamber Depth	MH	Manhole
BH	Borehole	MKR	Marker
BM	Bench Mark	MW	Monitoring Well
BO	Bollard	P	Post
BS	Bus Stop	PB	Post Box
BT	British Telecom Cover	PE	Polyethylene
CAB	Cabinet	RE	Rodding Eye
CATV	Cable Television Cover	RG	Rain Gully
CI	Cast Iron	RS	Road Sign
CL	Cover Level	SI	Spun Iron
CPS	Concrete Paving Slabs	SLD	Silt Level Depth
CS	Combined Sewer	SP	Sign Post
DK	Dropped Kerb	ST	Steel
DIA	Diameter	STN	Survey Station
DP	Down Pipe	SV	Stop Valve
EJB	Electricity Junction Box	SW	Surface Water
EP	Electricity Pole	TCB	Telephone Call Box
ER	Earth Rod	TCD	Top of Chamber Depth
FB	Flower Bed	TL	Traffic Light
FH	Fire Hydrant	TLCB	Traffic Light Control Box
FL	Flood Light	TP	Telegraph Pole
FW	Foul Water	UTL	Unable To Lift
FWP	Foul Water Pipe	VC	Vitrified Clay
GM	Gas Meter	VP	Vent Pipe
GP	Gas Pipe	WLD	Water Level Depth
GV	Gas Valve	WM	Water Meter
IC	Inspection Cover	WSC	Water Stop Cock
ID	Invert Depth	WSV	Water Stop Valve
IL	Invert Level	WWO	Water Wash Out

LINE-TYPE KEY

EL	Electricity
SL	Street Lighting
W	Water
GAS	Gas
BT	British Telecom
TEL	Unknown Telecom
VM	Virgin Media
FO	Fibre Optic
TS	Traffic Control Signalling
CCTV	CCTV
DUCT	Empty Duct
EAR	Earth
SW	Surface Water
FW	Foul Water
CS	Combined Sewer
O/F	Oil/Fuel Pipe
PIPE	Unknown Pipe
CBL	Unknown Cable
MET	Metallic Target
RDR	Radar Target
PCS	Possible Target
ASMD	Assumed (Colour indicates service type)
STAT	Statutory Records (Colour indicates service type)
	Scan Area
	Unable to GPR Area
	Kerb
	Fence
	Wall
	Building
	Surface Scar
	Change of Surface
	Building
	Extents of Chamber
	GPR Detected Anomalous Area
	GPR Detected Reinforcing
	Area of Obstruction
	Electrical Interference

CLIENT:
The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

SITE:
Canopy and Sports Hall Project
The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

PROJECT REF: P231017-Collyer's College

DRAWN: JC | DATE: 14/02/2024

CHECKED: NJG | SHEET NO: 1 of 2

SCALE: A0 1:100 | REV: P01

Metres 1:100
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0

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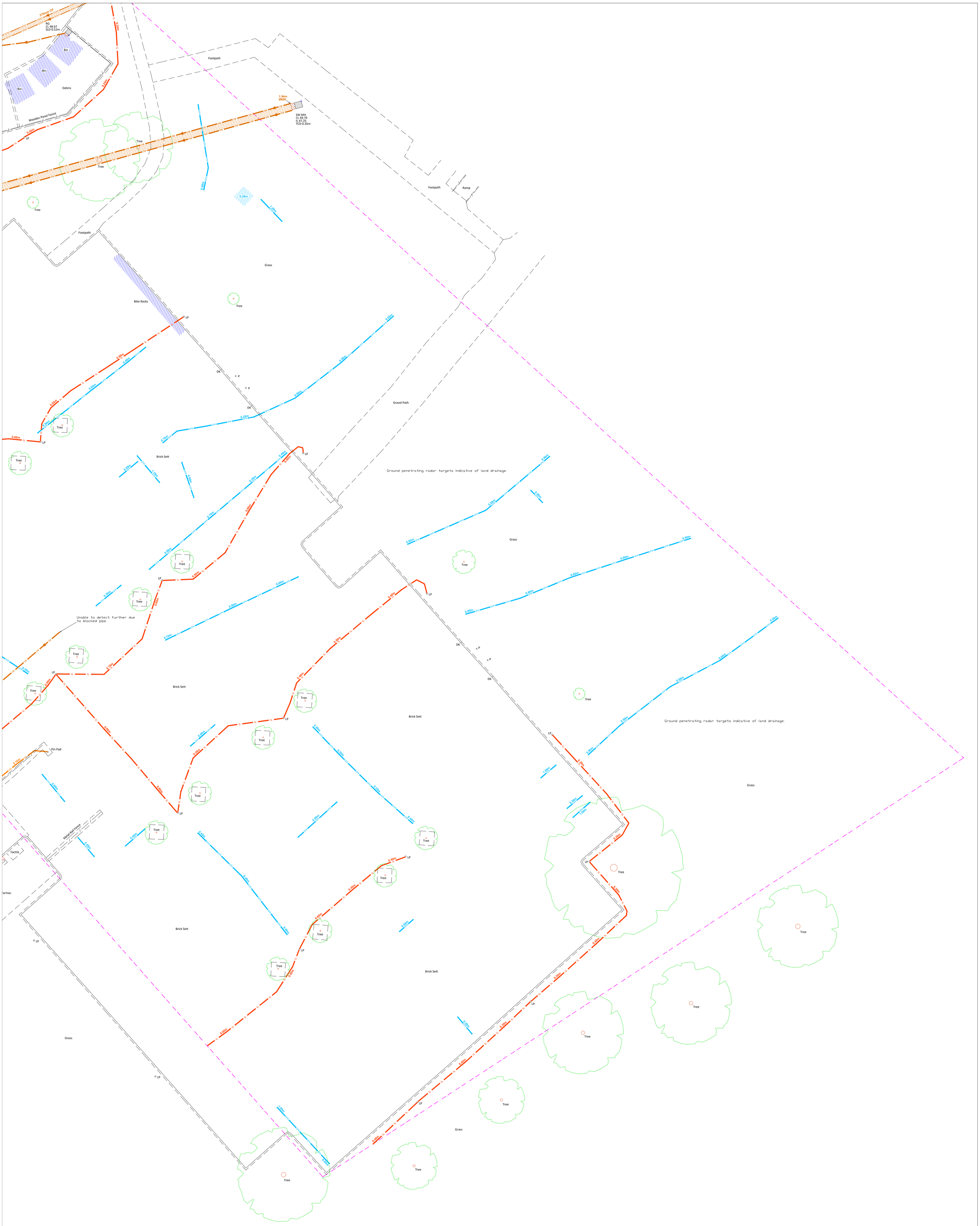

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SHEET LAYOUT

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Water		Kerb
Gas		Fence
British Telecom		Wall
Unknown Telecom		Building
Virgin Media		Surface Scar
Fibre Optic		Change of Surface
Traffic Control Signalling		
CCTV		
Empty Duct		Building
Earth		
Surface Water		Extents of Chamber
Foul Water		
Combined Sewer		
Oil/Fuel Pipe		GPR Detected Anomalous Area
Unknown Pipe		
Unknown Cable		GPR Detected Reinforcing
Metallic Target		
Radar Target		Area of Obstruction
Possible Target		
Assumed		Electrical Interference
Statutory Records		

EL, SL, W, GAS, BT, TEL, VM, FO, TS, CCTV, DUCT, EAR, SW, FW, CS, O/Y, PIPE, OBL, UCT, DPH, TCV, ASMO, STAT
(Colour indicates service type)

CLIENT:	The College of Richard Collyer Horsham West Sussex RH12 2EJ
SITE:	Canopy and Sports Hall Project The College of Richard Collyer Horsham West Sussex RH12 2EJ
PROJECT REF:	P231017-Collyer's College
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SCALE: A0 1:100	REV: P01

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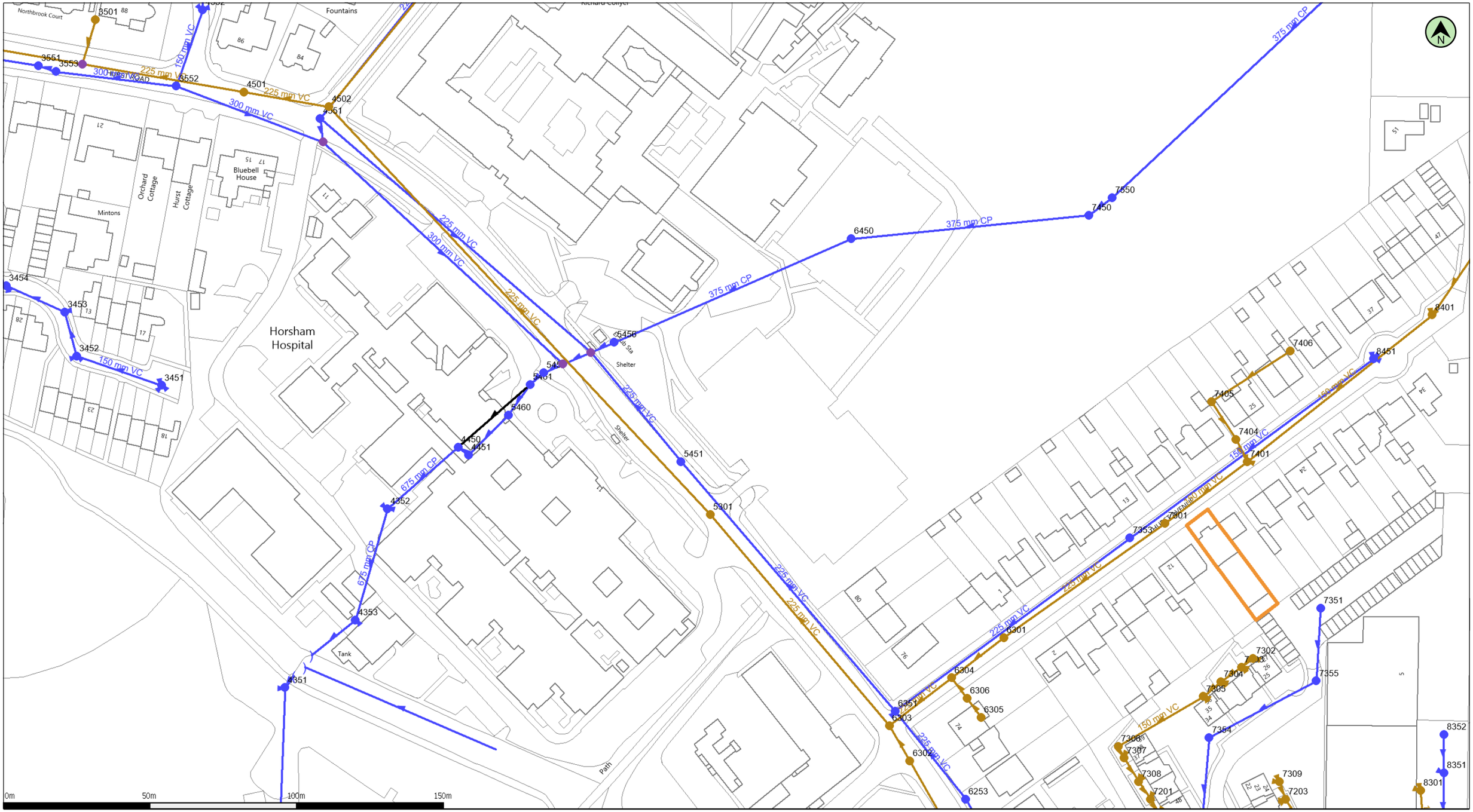

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Date: 04/03/25

Scale: 1:1250

Map Centre: 517588,131433

Data updated: 26/02/25

Our Ref: 1706565 - 1

Wastewater Plan A3
Powered by digdat

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122 .This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Foul Gravity Sewer
Combined Gravity Sewer
Culverted Water Course or Treated Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Outfall
Surface Water Outfall
Foul Outfall
Surface Water Inlet
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
WWTW Water Treatment Works
Section 104 Area
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Side Entry Manhole, Demarcation Chamber, Dummy Manhole or Surface Water Soakaway

tatiana.patten@bdp.com

P3003919 Collyers

South-east car park, College of Richard Collyer

WATER for LIFE
from Southern Water

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3501	F	0.00	0.00	
4501	F	52.25	47.31	
4502	F	52.15	47.37	
5301	F	50.01	0.00	
6301	F	51.50	49.24	
6302	F	52.42	0.00	
6303	F	52.27	0.00	
6304	F	0.00	0.00	
6305	F	0.00	0.00	
6306	F	0.00	0.00	
7201	F	54.09	52.51	
7203	F	54.94	54.31	
7301	F	52.48	50.24	
7302	F	54.69	53.70	
7303	F	54.64	53.59	
7304	F	54.51	53.45	
7305	F	54.54	53.32	
7306	F	53.88	52.84	
7307	F	53.87	52.75	
7308	F	53.84	52.63	
7309	F	54.91	54.42	
7401	F	52.93	50.72	
7404	F	0.00	0.00	
7405	F	0.00	0.00	
7406	F	0.00	0.00	
8301	F	54.34	53.86	
8401	F	52.98	52.00	
3451	S	50.37	49.35	
3452	S	50.24	49.06	
3453	S	50.22	48.54	
3454	S	50.04	48.31	
3551	S	51.27	49.68	
3552	S	51.86	51.15	
3553	S	51.30	0.00	
4351	S	46.25	45.13	
4352	S	46.79	45.68	
4353	S	47.34	45.35	
4450	S	47.78	45.81	
4451	S	47.80	45.84	
4551	S	52.15	0.00	
4552	S	52.25	51.51	
5451	S	49.44	47.80	
5456	S	47.81	0.00	
5459	S	47.90	46.22	
5460	S	47.90	46.01	
5461	S	47.60	46.09	
6253	S	52.62	49.98	
6351	S	52.16	49.69	
6450	S	0.00	0.00	
7351	S	54.57	0.00	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
7353	S	52.39	50.59	
7354	S	0.00	0.00	
7355	S	0.00	0.00	
7450	S	0.00	0.00	
7550	S	0.00	0.00	
8351	S	54.17	53.05	
8352	S	54.21	0.00	
8451	S	52.90	51.77	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Appendix D: Horsham District Policies

Policy 35

Strategic Policy: Climate Change

Development will be supported where it makes a clear contribution to mitigating and adapting to the impacts of climate change and to meeting the district's carbon reduction targets as set out in the Council's Acting Together on Climate Change Strategy, 2009.

Measures which should be used to mitigate the effects of climate change include;

1. **Reduced energy use in construction;**

2. **Improved energy efficiency in new developments, including influencing the behaviour of occupants to reduce energy use;**

3. **The use of decentralised, renewable and low carbon energy supply systems;**

4. **The use of patterns of development which reduce the need to travel, encourage walking and cycling and include good accessibility to public transport and other forms of sustainable transport; and**

5. **Measures which reduce the amount of biodegradable waste sent to landfill.**

Development must be designed so that it can adapt to the impacts of climate change, reducing vulnerability, particularly in terms of flood risk, water supply and changes to the district's landscape. Developments should adapt to climate change using the following measures:

1. **Provision of appropriate flood storage capacity in new building development;**

2. **Use of green infrastructure and dual use SuDS to help absorb heat, reduce surface water runoff, provide flood storage capacity and assist habitat migration;**

3. **Use of measures which promote the conservation of water and/or grey water recycling; and**

4. **Use of site layout, design measures and construction techniques that provide resilience to climate change (opportunities for natural ventilation and solar gain).**
   If it is not possible to incorporate the adaption and mitigation measures proposed, an explanation should be provided as to why this is the case.

Policy 38

Strategic Policy: Flooding

1. **Development proposals will follow a sequential approach to flood risk management, giving priority to development sites with the lowest risk of flooding and making required development safe without increasing flood risk elsewhere. Development proposals will;**

    a. **take a sequential approach to ensure most vulnerable uses are placed in the lowest risk areas.**

    b. **avoid the functional floodplain (Flood zone 3b) except for water-compatible uses and essential infrastructure.**

    c. **only be acceptable in Flood Zone 2 and 3 following completion of a sequential test and exceptions test if necessary.**

    d. **require a site-specific Flood Risk Assessments for all developments over 1 hectare in Flood Zone 1 and all proposals in Flood Zone 2 and 3.**

2. **Comply with the tests and recommendations set out in the Horsham District Strategic Flood Risk Assessment (SFRA).**

3. **Where there is the potential to increase flood risk, proposals must incorporate the use of sustainable drainage systems (SuDS) where technically feasible, or incorporate water management measures which reduce the risk of flooding and ensure flood risk is not increased elsewhere.**

4. **Consider the vulnerability and importance of local ecological resources such as water quality and biodiversity when determining the suitability of SuDS. New development should undertake more detailed assessments to consider the most appropriate SuDS methods for each site. Consideration should also be given to amenity value and green infrastructure.**

5. **Utilise drainage techniques that mimic natural drainage patterns and manage surface water as close to its source as possible will be required where technically feasible.**

6. **Be in accordance with the objective of the Water Framework Directive, and accord with the findings of the Gatwick Sub Region Water Cycle Study in order to maintain water quality and water availability in rivers and wetlands and wastewater treatment requirements.**

Appendix E: Proposed Drainage Strategy and Calculations

LEGEND

- PLANNING BOUNDARY
- EXISTING FOUL WATER SEWER
- EXISTING MANHOLE
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED SURFACE WATER MANHOLE/ INSPECTION CHAMBER
- PROPOSED SURFACE WATER DRAINAGE CHANNEL WITH SUMP OUTLET
- PROPOSED GEOCELLULAR TANK
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED FOUL WATER MANHOLE/ INSPECTION CHAMBER
- PROPOSED PERMEABLE PAVING WITH PERFORATED PIPE
- SEWER EASEMENT

ACRONYMS:
FW - FOUL WATER
SW - SURFACE WATER
MH - MANHOLE
RWP - RAINWATER PIPE
SP - SOIL (VENT) PENETRATION
EX - EXISTING
CO - CHANNEL OUTLET
YG - YARD GULLY
FG - FLOOR GULLY
RG - ROAD GULLY
CL - COVER LEVEL
IL - INVERT LEVEL

EXISTING UPSTREAM NETWORK NOT SHOWN FOR CLARITY. REFER TO SURVEY.

MH90 CL (48.340) IL (47.680)
MH87 CL (48.500) IL (48.000)
MH88 CL (48.400) IL (47.500)
SWMH08 CL (49.500) IL (48.240)
SWMH10 CL (49.670) IL (48.066)
SWMH09 CL (49.620) IL (48.570)
SWMH11 CL (49.640) IL (48.590)
SWMH12 CL (49.580) IL (48.066)
FWMH04 CL (49.680) IL (48.283)
FWMH03 CL (50.915) IL (48.384)
FWMH02 CL (49.700) IL (46.700)
FWMH01 CL (49.620) IL (48.850)
FWMH05 CL (49.680) IL (48.144)
SWMH14 CL (49.670) IL (47.928)
SWMH15 CL (49.660) IL (48.600)
SWMH13 CL (49.710) IL (48.660)
FWMH07 CL (49.900) IL (48.064)
SWMH16 CL (49.670) IL (47.906)
FWMH06 CL (48.364) IL (47.964)
SWMH17 CL (49.670) IL (47.870)
FWMH09 CL (49.700) IL (47.929)
FWP01 CL (49.900) IL (45.925)
FWMH08 CL (49.700) IL (48.000)
SWMH22 CL (48.700) IL (47.650)
SWMH20 CL (48.882) IL (46.700)
SWMH21 (FLOW CONTROL) CL (49.052) IL (46.632)
S.WATER MH5456 CL (48.230) IL (46.280)
SWMH19 CL (49.817) IL (46.831)
SWMH07 CL (50.062) IL (46.971)
SWMH05A CL (50.214) IL (49.075)
SWMH05 CL (50.257) IL (48.813)
SWMH05B CL (50.366) IL (49.227)
SWMH06A CL (49.858) IL (48.885)
SWMH06B CL (50.008) IL (49.034)
SWMH06 CL (49.881) IL (48.629)
SWMH07A CL (49.829) IL (49.400)
SWMH07B CL (49.969) IL (49.500)
FWMH10 CL (48.800) IL (48.950)
S. WATER MH5451 CL (49.440) IL (47.800)
S. WATER MH5301 CL (50.010) IL (44.010)

ATTENUATION TANK 4
CL: 48.700
IL: 46.800
VOID VOLUME: 99.7m³
VOID RATIO: 95%
MAX TOP OF TANK LEVEL: 47.800m
TANK TO COMPLY WITH C680 AND C737.
CALCULATIONS TO BE PROVIDED BY TANK SUPPLIER.

ATTENUATION TANK 3
CL: 49.700
IL: 46.750
VOID VOLUME: 63.1m³
VOID RATIO: 95%
MAX TOP OF TANK LEVEL: 48.400m
TANK TO COMPLY WITH C680 AND C737.
CALCULATIONS TO BE PROVIDED BY TANK SUPPLIER.

ATTENUATION TANK 2
CL: 49.670
IL: 47.000
VOID VOLUME: 164.0m³
VOID RATIO: 95%
MAX TOP OF TANK LEVEL: 48.400m
TANK TO COMPLY WITH C680 AND C737.
CALCULATIONS TO BE PROVIDED BY TANK SUPPLIER.

ATTENUATION TANK 1
CL: 49.800
IL: 47.013
VOID VOLUME: 78.537m³
VOID RATIO: 95%
MAX TOP OF TANK LEVEL: 48.400m
TANK TO COMPLY WITH C680 AND C737.
CALCULATIONS TO BE PROVIDED BY TANK SUPPLIER.

PACKAGE PUMPING STATION
24 HOUR STOAGE TO BE PROVIDED
ASSUME BASE OF CHAMBER IS 1m BELOW INVERT
PUMP TO BE DESIGNED BY SPECIALIST

SECTION 106 APPROVAL WILL BE REQUIRED FOR THE PROPOSED NEW CONNECTION TO THE SEWER.
IL: (46.486)

SOUTHERN WATER SURFACE WATER SEWER PASSES THROUGH SITE BOUNDARY. A 3m EASEMENT EITHER SIDE OF PIPE TO BE ALLOWED FOR BELOW GROUND STRUCTURES.

CONNECTIVITY OF EXISTING PRIVATE DRAINAGE NOT KNOWN

S106 CONNECTION TO EXISTING MANHOLE - SOUTHERN WATER APPROVAL REQUIRED

PERMEABLE PAVING WITH HALF PERFORATED PIPE UNDERDRAIN STORAGE LAYER 300mm DEPTH. VOID RATIO 30% AND A 75mm ORIFICE ON EACH PIPE OUTLET TO RESTRICT THE OUTGOING FLOW.

TORST ROAD

SCALE BAR [m] 1:250 (0, 10, 20)

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   - 3.3. CHECK AND VERIFY THE LOCATION AND LEVELS ALL EXISTING DRAINS, SEWERS, INSPECTION CHAMBERS AND MANHOLES AGAINST DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
4. UNLESS FORMING OUTFALL PIPEWORK OR SHOWN AS BEING DEMOLISHED, ALL EXISTING DRAINAGE TO BE REPLACED LIKE FOR LIKE. WHERE NO GRADIENT HAS BEEN RECORDED, ASSUME 1:40 UNLESS OTHERWISE STATED ON DRAWING.
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6. ALL DRAINAGE PIPES/POINTS/COVERS SETTING OUT/DIMENSIONS TBC.
7. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.
8. ALL PROPRIETARY PRODUCTS / SYSTEMS TO BE VERIFIED BY THE MANUFACTURER AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION / DETAILS.
9. ALL DRAINAGE TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH BS EN 12056-1:2000, BS EN 752:2017, AND BS EN 1610:2015.

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
P01	Revised for Planning	JD	TA	10/09/26

KEY PLAN



CLIENT

COLLYER'S
Founded in 1532

BDP.
16 Brewhouse Yard
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London
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United Kingdom

T +44 [0]20 7812 8000
www.bdp.com

together with: ritchie studio

PROJECT TITLE
The College of Richard Collyer - New Technology Centre

BDP JOB NUMBER	ISO 27001 CLASSIFICATION
P3003919	For Information

DRAWING TITLE
Proposed Below Ground Drainage Layout Plan Sheet 1 of 2

SCALE: 1:250 @ A1

DATE FIRST ISSUED: 10/09/26

DRAWING No.: CRC-BDP-ZZ-00-DR-C-20501

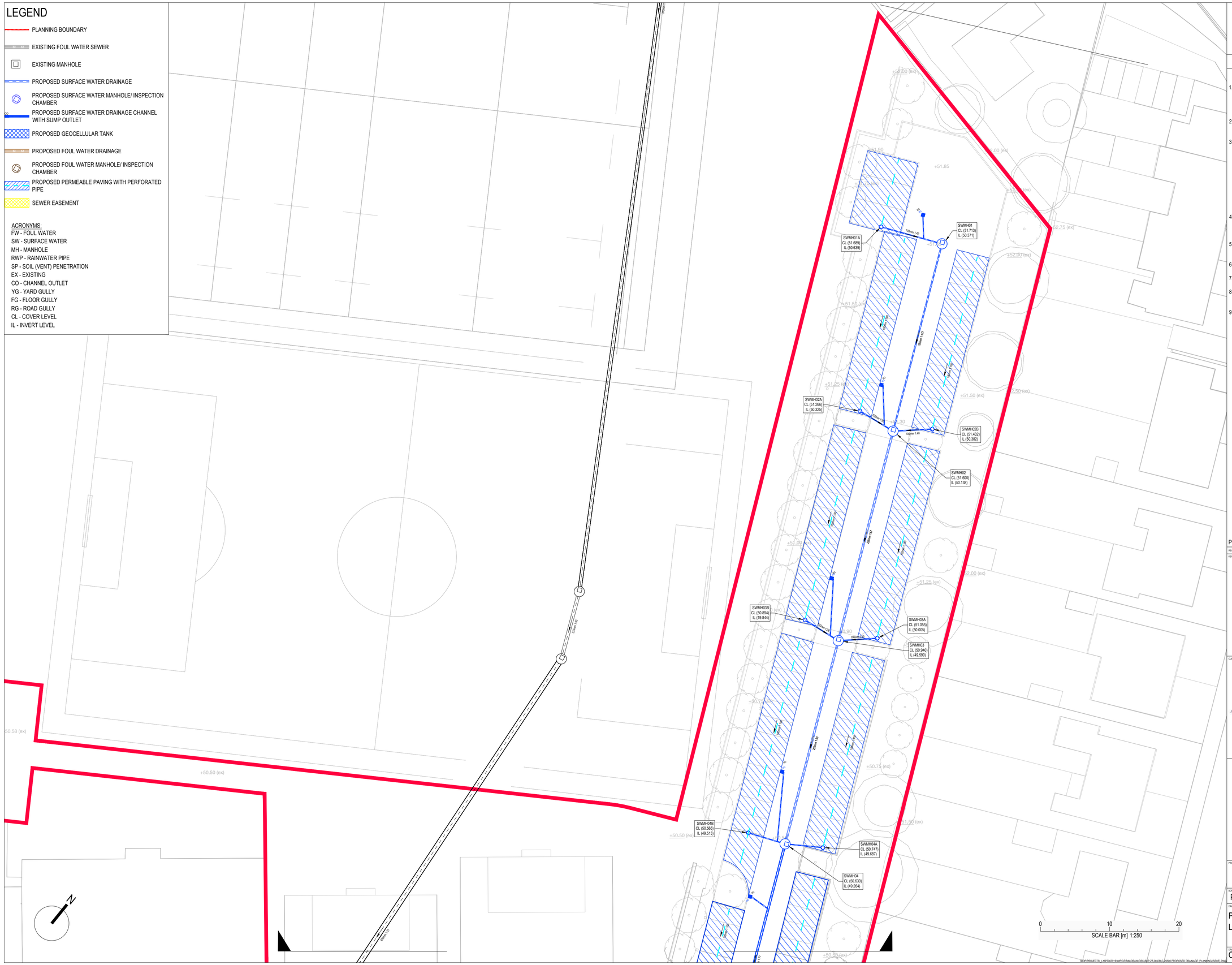
REVISION: P01

C:\USERS\JDAVIES\APPDATA\LOCAL\TEMP\SGWM10\WPCE\BIMDRAWC\RC-BDP-ZZ-00-DR-C-20502 PROPOSED DRAINAGE (PLANNING STRUCTURE).DWG

LEGEND

- PLANNING BOUNDARY
- EXISTING FOUL WATER SEWER
- EXISTING MANHOLE
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED SURFACE WATER MANHOLE/ INSPECTION CHAMBER
- PROPOSED SURFACE WATER DRAINAGE CHANNEL WITH SUMP OUTLET
- PROPOSED GEOCELLULAR TANK
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED FOUL WATER MANHOLE/ INSPECTION CHAMBER
- PROPOSED PERMEABLE PAVING WITH PERFORATED PIPE
- SEWER EASEMENT

ACRONYMS:
FW - FOUL WATER
SW - SURFACE WATER
MH - MANHOLE
RWP - RAINWATER PIPE
SP - SOIL (VENT) PENETRATION
EX - EXISTING
CO - CHANNEL OUTLET
YG - YARD GULLY
FG - FLOOR GULLY
RG - ROAD GULLY
CL - COVER LEVEL
IL - INVERT LEVEL



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REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
P01	Revised for Planning	JD	TA	10/09/26

KEY PLAN



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PROJECT TITLE
The College of Richard Collyer - New Technology Centre

BDP JOB NUMBER	ISSUING CLASSIFICATION
P3003919	For Information

DRAWING TITLE
Proposed Below Ground Drainage Layout Plan Sheet 2 of 2

SCALE: 1:250 @ A1

DATE FIRST ISSUED: 10/09/26

DRAWING No.: CRC-BDP-ZZ-00-DR-C-20502

REVISION: P01

\\BDPPROJECTS...\WIP\3003919\WIP\CE\BIM\DRAWFORC\CRC-BDP-ZZ-00-DR-C-20502 PROPOSED DRAINAGE (PLANNING ISSUE).DWG

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

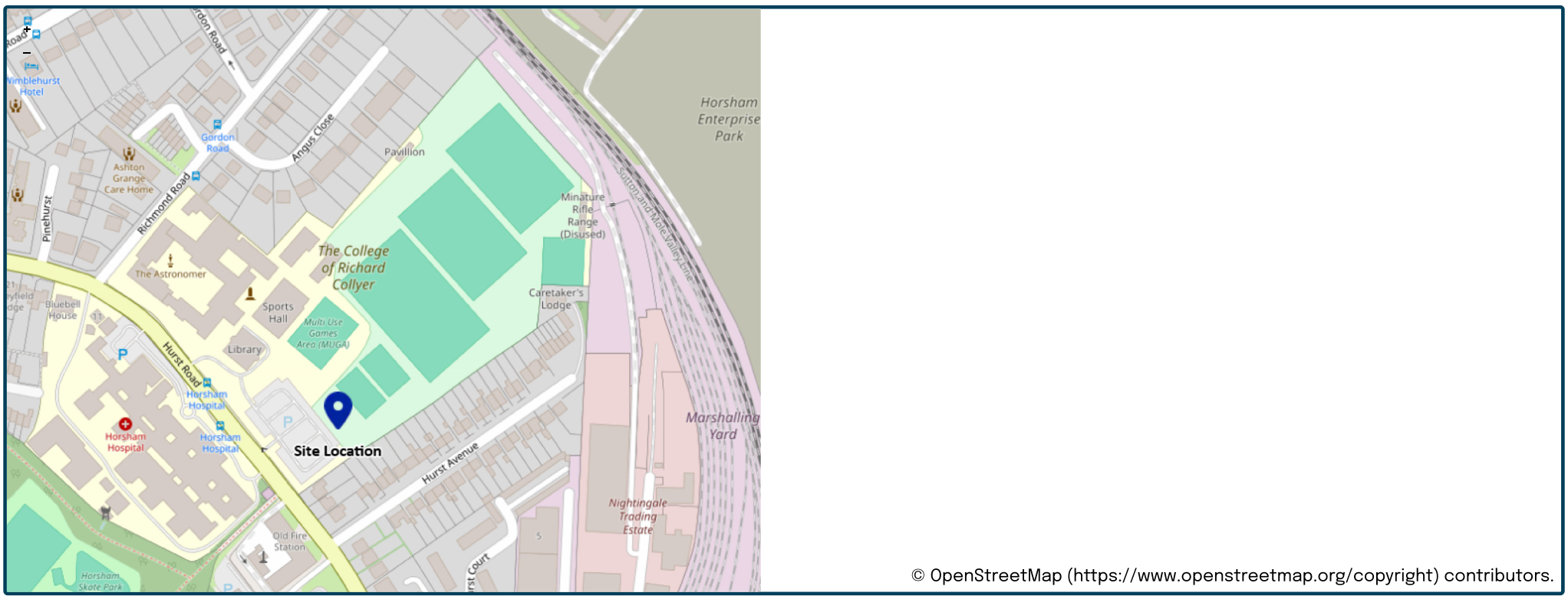
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	23/04/2025
Calculated by	TP BDP
Reference	P3003919 - RIBA 2
Model version	2.0.0

Location

Site name	Collyer
Site location	Horsham



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Site easting	517645
Site northing	131405

Site details

Total site area (ha)	0.412 ha

Greenfield runoff

Method

Method	IH124

IH124

	My value	Map value
SAAR (mm)	789 mm	789
How should SPR be derived?	WRAP soil type	
WRAP soil type	4	4
SPR	0.47	
QBar (IH124) (l/s)	2.3 l/s	

Growth curve factors

	My value	Map value
Hydrological region	7	7
1 year growth factor	0.85	
2 year growth factor	0.88	
10 year growth factor	1.62	
30 year growth factor	2.3	
100 year growth factor	3.19	
200 year growth factor	3.74	

Results

Method	IH124	
Flow rate 1 year (l/s)	1.9	l/s
Flow rate 2 year (l/s)	2	l/s
Flow rate 10 years (l/s)	3.7	l/s
Flow rate 30 years (l/s)	5.3	l/s
Flow rate 100 years (l/s)	7.3	l/s
Flow rate 200 years (l/s)	8.6	l/s

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.0.0) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	BDP:		

Catchment Area Type : Catchment Area

Area (ha)	0.022

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (1) Type : Catchment Area

Area (ha)	0.021

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (2) Type : Catchment Area

Area (ha)	0.031

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (3) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (4) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (5) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (6) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (7) Type : Catchment Area

Area (ha)	0.022

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (8) Type : Catchment Area

Area (ha)	0.026

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (9) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (10) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (11) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (12) Type : Catchment Area

Area (ha)	0.023

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (13) Type : Catchment Area

Area (ha)	0.059

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (14) Type : Catchment Area

Area (ha)	0.025

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (15) Type : Catchment Area

Area (ha)	0.011

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (16) Type : Catchment Area

Area (ha)	0.06

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (17) Type : Catchment Area

Area (ha)	0.04

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (18) Type : Catchment Area

Area (ha)	0.041

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (19) Type : Catchment Area

Area (ha)	0.079

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (21) Type : Catchment Area

Area (ha)	0.012

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (22) Type : Catchment Area

Area (ha)	0.031

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (23) Type : Catchment Area

Area (ha)	0.032

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (24) Type : Catchment Area

Area (ha)	0.046

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (20) Type : Catchment Area

Area (ha)	0.025

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (26) Type : Catchment Area

Area (ha)	0.028

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (27) Type : Catchment Area

Area (ha)	0.021

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Catchment Area (28) Type : Catchment Area

Area (ha)	0.009

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (29)

Type : Catchment Area

Area (ha)	0.018

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	BDP:		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Outfall	Manhole	517544.719	131449.162	48.230	1.744	46.486	Circular	1.350
SW.MH01	Manhole	517791.234	131511.317	51.920	1.549	50.371	Circular	1.200
SW.MH02	Manhole	517766.779	131493.321	51.310	1.425	49.885	Circular	1.200
SW.MH03	Manhole	517741.711	131474.818	50.900	1.475	49.425	Circular	1.200
SW.MH04	Manhole	517720.414	131459.136	50.580	1.425	49.155	Circular	1.200
SW.MH05	Manhole	517688.291	131435.457	50.100	1.566	48.534	Circular	1.200
SW.MH06	Manhole	517663.218	131416.976	49.800	1.500	48.300	Circular	1.200
SW.MH07	Manhole	517627.744	131391.445	50.000	3.029	46.971	Circular	1.200
SW.MH21 (FLOW CONTROL)	Manhole	517558.553	131447.395	49.120	2.488	46.632	Circular	1.350
SW.MH19	Manhole	517608.720	131405.732	49.850	2.987	46.863	Circular	1.350
SW.MH15	Manhole	517595.727	131443.736	49.700	1.050	48.650	Rectangular	
SW.MH16	Manhole	517616.328	131427.190	49.670	1.764	47.906	Circular	1.200
SW.MH12	Manhole	517626.727	131440.748	49.580	1.514	48.066	Circular	1.200
SW.MH08	Manhole	517608.969	131473.879	49.500	1.260	48.240	Circular	1.200
SW.MH10	Manhole	517636.498	131452.846	49.670	1.604	48.066	Circular	1.200
SW.MH17	Manhole	517611.961	131421.358	49.670	1.800	47.870	Circular	1.200
SW.MH20	Manhole	517562.068	131450.575	48.950	2.250	46.700	Circular	1.200
SWMH22	Manhole	517547.850	131468.871	48.700	1.050	47.650	Circular	0.600
SW.MH14	Manhole	517619.102	131430.667	49.670	1.667	48.003	Circular	1.200
SW.MH09	Manhole	517653.931	131438.989	49.620	1.050	48.570	Circular	0.600
SW.MH11	Manhole	517606.738	131457.334	49.640	1.050	48.590	Circular	0.600
SW.MH13	Manhole	517633.163	131419.773	49.710	1.050	48.660	Circular	0.600

Name	Diameter (m)	Width (m)	Lock
Outfall			None
SW.MH01			None
SW.MH02			None
SW.MH03			None
SW.MH04			None
SW.MH05			None
SW.MH06			None
SW.MH07			None
SW.MH21 (FLOW CONTROL)			None
SW.MH19			None
SW.MH15	0.750	0.600	None
SW.MH16			None
SW.MH12			None
SW.MH08			None
SW.MH10			None
SW.MH17			None
SW.MH20			None
SWMH22			None
SW.MH14			None
SW.MH09			None
SW.MH11			None
SW.MH13			None

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	BDP:		

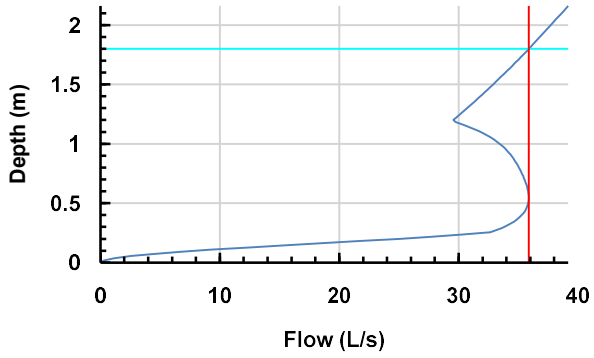
Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Outfall	Inlet	1.011	(None)	No Restriction
SW.MH01	Inlet	1.000	(None)	No Restriction
SW.MH02	Inlet	1.001	(None)	No Restriction
	Inlet (1)	PP2	(None)	No Restriction
	Inlet (2)	PP1	(None)	No Restriction
SW.MH03	Inlet	1.002	(None)	No Restriction
	Inlet (1)	PP4	(None)	No Restriction
	Inlet (2)	PP3	(None)	No Restriction
SW.MH04	Inlet	1.003	(None)	No Restriction
	Inlet (1)	PP6	(None)	No Restriction
	Inlet (2)	PP5	(None)	No Restriction
SW.MH05	Inlet	1.004	(None)	No Restriction
	Inlet (1)	PP7	(None)	No Restriction
	Inlet (2)	PP8	(None)	No Restriction
SW.MH06	Inlet	1.005	(None)	No Restriction
	Inlet (1)	PP10	(None)	No Restriction
	Inlet (2)	PP9	(None)	No Restriction
SW.MH07	Inlet (1)	PP12	(None)	No Restriction
	Inlet (2)	PP11	(None)	No Restriction
	Inlet (4)	1.007	(None)	No Restriction
SW.MH21 (FLOW CONTROL)	Inlet	7.001 1.010 (1)	(None)	No Restriction
SW.MH19	Inlet	1.008 Catchment Area (14) Catchment Area (19) 2.006 Catchment Area (15)	(None)	No Restriction
SW.MH15	Inlet	Catchment Area (28)	(None)	No Restriction
SW.MH16	Inlet	6.000 2.003 Catchment Area (18) Catchment Area (17)	(None)	No Restriction
SW.MH12	Inlet	4.000 2.001	(None)	No Restriction
	Inlet (1)	Catchment Area (20)	(None)	No Restriction
SW.MH08	Inlet (1)	Catchment Area (26)	(None)	No Restriction
SW.MH10	Inlet	2.000 3.000	(None)	No Restriction
	Inlet (1)	Catchment Area (24)	(None)	No Restriction
SW.MH17	Inlet	2.004 Catchment Area (27)	(None)	No Restriction
SW.MH20	Inlet	Catchment Area (16) Pipe (1)	(None)	No Restriction
SWMH22	Inlet	Catchment Area (13)	(None)	No Restriction
SW.MH14	Inlet	2.002 5.000 Catchment Area (22)	(None)	No Restriction
SW.MH09	Inlet	Catchment Area (21)	(None)	No Restriction
SW.MH11	Inlet (1)	Catchment Area (29)	(None)	No Restriction
SW.MH13	Inlet	Catchment Area (23)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW.MH01	Outlet	1.001	Free Discharge
SW.MH02	Outlet	1.002	Free Discharge
SW.MH03	Outlet	1.003	Free Discharge
SW.MH04	Outlet	1.004	Free Discharge
SW.MH05	Outlet	1.005	Free Discharge
SW.MH06	Outlet	1.006	Free Discharge
SW.MH07	Outlet (1)	1.008	Free Discharge
SW.MH21 (FLOW CONTROL)	Outlet	1.011	Hydro-Brake®

Invert Level (m)	46.632
Design Depth (m)	1.800
Design Flow (L/s)	35.9
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☑
Unit Reference	SHE-0245-3590-1800-3590



Junction	Outlet Name	Outgoing Connection	Outlet Type
SW.MH19	Outlet	1.009	Free Discharge
SW.MH15	Outlet	6.000	Free Discharge
SW.MH16	Outlet	2.004	Free Discharge
SW.MH12	Outlet	2.002	Free Discharge
SW.MH08	Outlet	2.000	Free Discharge
SW.MH10	Outlet	2.001	Free Discharge
SW.MH17	Outlet	2.005	Free Discharge
SW.MH20	Outlet	7.001	Free Discharge
SWMH22	Outlet	Pipe	Free Discharge
SW.MH14	Outlet	2.003	Free Discharge
SW.MH09	Outlet	3.000	Free Discharge
SW.MH11	Outlet	4.000	Free Discharge
SW.MH13	Outlet	5.000	Free Discharge



Porous Paving (0)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.750
Depth (m)	0.430
Base Level (m)	51.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	10.770
Long. Slope (1:X)	200.00
Width (m)	7.493
Total Volume (m³)	7.322

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	1.000
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	51.320

Advanced

Conductivity (m/hr)	250.0



Porous Paving (1)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.500
Depth (m)	0.430
Base Level (m)	51.070
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	26.405
Long. Slope (1:X)	200.00
Width (m)	4.793
Total Volume (m³)	11.536

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP1
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	51.070

Advanced

Conductivity (m/hr)	250.0



Porous Paving (2)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.500
Depth (m)	0.430
Base Level (m)	51.070
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.812
Long. Slope (1:X)	200.00
Width (m)	26.407
Total Volume (m³)	11.463

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP2
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	51.070

Advanced

Conductivity (m/hr)	250.0



Porous Paving (4)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.000
Depth (m)	0.430
Base Level (m)	50.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	28.806
Long. Slope (1:X)	200.00
Width (m)	4.804
Total Volume (m³)	12.612

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP4
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	50.570

Advanced

Conductivity (m/hr)	250.0



Porous Paving (3)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.000
Depth (m)	0.430
Base Level (m)	50.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.799
Long. Slope (1:X)	200.00
Width (m)	28.804
Total Volume (m³)	12.468

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP3
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	50.570

Advanced

Conductivity (m/hr)	250.0



Porous Paving (6)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.750
Depth (m)	0.430
Base Level (m)	50.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	28.795
Long. Slope (1:X)	200.00
Width (m)	4.791
Total Volume (m³)	12.575

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (5)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP6
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	50.320

Advanced

Conductivity (m/hr)	250.0



Porous Paving (5)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.750
Depth (m)	0.430
Base Level (m)	50.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.806
Long. Slope (1:X)	200.00
Width (m)	28.795
Total Volume (m³)	12.482

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (6)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP5
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	50.320

Advanced

Conductivity (m/hr)	250.0



Porous Paving (7)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.250
Depth (m)	0.430
Base Level (m)	49.820
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.788
Long. Slope (1:X)	200.00
Width (m)	24.002
Total Volume (m³)	10.369

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (7)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP7
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.820

Advanced

Conductivity (m/hr)	250.0



Porous Paving (8)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.250
Depth (m)	0.430
Base Level (m)	49.820
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.802
Long. Slope (1:X)	200.00
Width (m)	31.211
Total Volume (m³)	13.514

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (8)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP8
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.820

Advanced

Conductivity (m/hr)	250.0



Porous Paving (10)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.000
Depth (m)	0.430
Base Level (m)	49.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.813
Long. Slope (1:X)	200.00
Width (m)	28.804
Total Volume (m³)	12.504

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (9)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP10
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.570

Advanced

Conductivity (m/hr)	250.0



Porous Paving (9)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.000
Depth (m)	0.430
Base Level (m)	49.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.797
Long. Slope (1:X)	200.00
Width (m)	28.793
Total Volume (m³)	12.457

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (10)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP9
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.570

Advanced

Conductivity (m/hr)	250.0



Porous Paving (12)

Type : Porous Paving

Dimensions

Exceedance Level (m)	49.750
Depth (m)	0.430
Base Level (m)	49.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.800
Long. Slope (1:X)	200.00
Width (m)	28.792
Total Volume (m³)	12.466

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (11)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP12
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.320

Advanced

Conductivity (m/hr)	250.0



Porous Paving (11)

Type : Porous Paving

Dimensions

Exceedance Level (m)	49.750
Depth (m)	0.430
Base Level (m)	49.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.793
Long. Slope (1:X)	200.00
Width (m)	28.795
Total Volume (m³)	12.447

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (12)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP11
Outlet Type	Orifice

Diameter (m)	0.075
Coefficient of Discharge	0.600
Invert Level (m)	49.320

Advanced

Conductivity (m/hr)	250.0



Attenuation tank 1

Type : Cellular Storage

Dimensions

Exceedance Level (m)	49.800
Depth (m)	1.200
Base Level (m)	47.013
Number of Crates Long	15
Number of Crates Wide	9
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m^3)	78.537

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	1.006
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	1.007
Outlet Type	Free Discharge



Attenuation tank 2

Type : Cellular Storage

Dimensions

Exceedance Level (m)	49.730
Depth (m)	1.200
Base Level (m)	47.000
Number of Crates Long	15
Number of Crates Wide	19
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m^3)	163.980

Inlets

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	2.005
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	2.006
Outlet Type	Free Discharge



Attenuation tank 3

Type : Cellular Storage

Dimensions

Exceedance Level (m)	49.850
Depth (m)	0.800
Base Level (m)	46.750
Number of Crates Long	19
Number of Crates Wide	8
Number of Crates High	2
Porosity (%)	100
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m^3)	63.100

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	1.009
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	1.010 (1)
Outlet Type	Free Discharge



Attenuation tank 4

Type : Cellular Storage

Dimensions

Exceedance Level (m)	48.700
Depth (m)	1.000
Base Level (m)	46.800
Number of Crates Long	13
Number of Crates Wide	16
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	1
Total Volume (m^3)	99.700

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (1)
Outlet Type	Free Discharge

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	BDP:		

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
1.001	30.363	Pipe	73.908		0.6	150	51.920	50.371
1.002	31.157	Pipe	67.799		0.6	225	51.310	49.885
1.003	26.448	Pipe	97.793		0.6	225	50.900	49.425
1.004	39.907	Pipe	64.301		0.6	225	50.580	49.155
1.005	31.147	Pipe	132.897		0.6	300	50.100	48.534
1.000	8.303	Pipe	8.748		0.6	150	51.804	51.320
PP2	14.448	Pipe	13.017		0.6	150	51.524	51.070
PP1	20.605	Pipe	18.563		0.6	150	51.632	51.070
PP4	17.478	Pipe	16.342		0.6	150	51.144	50.570
PP3	17.371	Pipe	16.242		0.6	150	51.024	50.570
PP6	12.291	Pipe	10.550		0.6	100	50.894	50.320
PP5	12.649	Pipe	10.858		0.6	150	50.774	50.320
PP7	13.791	Pipe	12.144		0.6	150	50.274	49.820
PP8	18.238	Pipe	16.060		0.6	150	50.274	49.820
PP10	16.933	Pipe	15.119		0.6	150	50.024	49.570
PP9	12.483	Pipe	11.145		0.6	150	50.024	49.570
PP12	29.821	Pipe	12.695		0.6	225	49.774	49.320
PP11	29.199	Pipe	12.430		0.6	225	49.774	49.320
1.007	6.182	Pipe	200.000		0.6	300	49.800	47.013
1.006	18.519	Pipe	14.389		0.6	300	49.800	48.300
1.009	22.756	Pipe	201.381		0.6	300	49.850	46.863
1.011	13.947	Pipe	95.837		0.6	225	49.120	46.632
1.008	23.792	Pipe	220.294		0.6	300	50.000	46.971
Pipe	6.244	Pipe	7.346		0.6	150	48.700	47.650
1.010 (1)	23.630	Pipe	200.000		0.6	300	49.850	46.750
2.000	34.644	Pipe	199.106		0.6	300	49.500	48.240
2.001	15.551	Pipe	200.000		0.6	300	49.670	48.144
2.004	7.286	Pipe	200.000		0.6	300	49.670	47.906
6.000	26.423	Pipe	35.515		0.6	225	49.700	48.650
3.000	22.269	Pipe	63.443		0.6	150	49.620	48.570
2.005	3.227	Pipe	3.712		0.6	300	49.670	47.870
7.001	4.740	Pipe	69.552		0.6	225	48.950	46.700
2.006	7.020	Pipe	51.243		0.6	300	49.730	47.000
4.000	25.975	Pipe	49.570		0.6	150	49.640	48.590
2.002	12.640	Pipe	200.000		0.6	300	49.580	48.066
2.003	4.447	Pipe	45.945		0.6	300	49.670	48.003
5.000	17.787	Pipe	27.064		0.6	150	49.710	48.660
Pipe (1)	7.697	Pipe	76.969		0.6	150	48.700	46.800

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	BDP:		

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance
1.001	51.310	49.960	None		(None)	(None)
1.002	50.900	49.425	None		(None)	(None)
1.003	50.580	49.155	None		(None)	(None)
1.004	50.100	48.534	None		(None)	(None)
1.005	49.800	48.300	None		(None)	(None)
1.000	51.920	50.371	None	6.02	(None)	(None)
PP2	51.310	49.960	None	6.02	(None)	(None)
PP1	51.310	49.960	None	6.02	(None)	(None)
PP4	50.900	49.500	None	6.02	(None)	(None)
PP3	50.900	49.500	None	6.02	(None)	(None)
PP6	50.580	49.155	None	6.02	(None)	(None)
PP5	50.580	49.155	None	6.02	(None)	(None)
PP7	50.100	48.684	None	6.02	(None)	(None)
PP8	50.100	48.684	None	6.02	(None)	(None)
PP10	49.800	48.450	None	6.02	(None)	(None)
PP9	49.800	48.450	None	6.02	(None)	(None)
PP12	50.000	46.971	None	6.02	(None)	(None)
PP11	50.000	46.971	None	6.02	(None)	(None)
1.007	50.000	46.982	None	1.90	(None)	(None)
1.006	49.800	47.013	None		(None)	(None)
1.009	49.120	46.750	None		(None)	(None)
1.011	48.230	46.486	None	34.90	(None)	(None)
1.008	49.850	46.863	None		(None)	(None)
Pipe	48.950	46.800	None		(None)	(None)
1.010 (1)	49.120	46.632	None		(None)	(None)
2.000	49.670	48.066	Levels		(None)	(None)
2.001	49.580	48.066	All		(None)	(None)
2.004	49.670	47.870	None		(None)	(None)
6.000	49.670	47.906	None		(None)	(None)
3.000	49.670	48.219	All		(None)	(None)
2.005	49.730	47.000	None		(None)	(None)
7.001	49.120	46.632	None		(None)	(None)
2.006	49.850	46.863	None		(None)	(None)
4.000	49.580	48.066	None		(None)	(None)
2.002	49.670	48.003	None		(None)	(None)
2.003	49.670	47.906	None		(None)	(None)
5.000	49.670	48.003	None		(None)	(None)
Pipe (1)	48.950	46.700	None		(None)	(None)

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	BDP:		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FEH

Type: FEH

Site Location	GB 517617 131451 TQ 17617 31451
Return Period (years)	30.0
Rainfall Version	2022

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Limit Pipe Full Conditions (%)	75
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
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Report Details: Type: Junctions Summary Storm Phase: Phase	BDP:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	FEH: 2 years: +0 %: 120 mins: Summer	48.230	46.486	46.612	0.125	32.1	0.000	0.000	32.1	162.990	OK
SW.MH01	FEH: 2 years: +0 %: 30 mins: Summer	51.920	50.371	50.405	0.034	2.3	0.039	0.000	2.3	2.372	OK
SW.MH02	FEH: 2 years: +0 %: 60 mins: Summer	51.310	49.885	49.930	0.045	5.6	0.051	0.000	5.6	10.310	OK
SW.MH03	FEH: 2 years: +0 %: 60 mins: Summer	50.900	49.425	49.489	0.063	8.7	0.071	0.000	8.7	16.632	OK
SW.MH04	FEH: 2 years: +0 %: 60 mins: Summer	50.580	49.155	49.220	0.065	11.9	0.073	0.000	11.8	22.953	OK
SW.MH05	FEH: 2 years: +0 %: 60 mins: Summer	50.100	48.534	48.619	0.085	14.8	0.096	0.000	14.8	29.390	OK
SW.MH06	FEH: 2 years: +0 %: 60 mins: Summer	49.800	48.300	48.349	0.049	17.5	0.056	0.000	17.5	35.669	OK
SW.MH07	FEH: 2 years: +0 %: 120 mins: Summer	50.000	46.971	47.099	0.128	18.9	0.144	0.000	19.1	58.817	OK
SW.MH21 (FLOW CONTROL)	FEH: 2 years: +0 %: 120 mins: Summer	49.120	46.632	47.020	0.389	38.2	0.556	0.000	32.1	169.270	Surcharged
SW.MH19	FEH: 2 years: +0 %: 120 mins: Summer	49.850	46.863	47.076	0.213	48.6	0.305	0.000	48.0	141.402	OK
SW.MH15	FEH: 2 years: +0 %: 15 mins: Summer	49.700	48.650	48.671	0.021	1.9	0.010	0.000	1.9	0.826	OK
SW.MH16	FEH: 2 years: +0 %: 15 mins: Summer	49.670	47.906	48.095	0.189	56.7	0.213	0.000	57.3	25.049	OK
SW.MH12	FEH: 2 years: +0 %: 15 mins: Summer	49.580	48.066	48.199	0.133	26.0	0.151	0.000	26.1	11.249	OK
SW.MH08	FEH: 2 years: +0 %: 15 mins: Summer	49.500	48.240	48.292	0.052	5.8	0.059	0.000	5.6	2.506	OK
SW.MH10	FEH: 2 years: +0 %: 15 mins: Summer	49.670	48.066	48.246	0.180	17.6	0.204	0.000	17.3	7.365	OK
SW.MH17	FEH: 2 years: +0 %: 15 mins: Summer	49.670	47.870	47.947	0.078	61.4	0.088	0.000	61.0	26.912	OK
SW.MH20	FEH: 2 years: +0 %: 120 mins: Summer	48.950	46.700	47.021	0.321	11.4	0.363	0.000	7.2	41.881	Surcharged
SWMH22	FEH: 2 years: +0 %: 15 mins: Summer	48.700	47.650	47.701	0.051	12.3	0.014	0.000	12.3	5.350	OK
SW.MH14	FEH: 2 years: +0 %: 15 mins: Summer	49.670	48.003	48.140	0.138	38.7	0.156	0.000	38.8	16.951	OK
SW.MH09	FEH: 2 years: +0 %: 15 mins: Summer	49.620	48.570	48.605	0.035	2.6	0.010	0.000	2.5	1.117	OK
SW.MH11	FEH: 2 years: +0 %: 15 mins: Summer	49.640	48.590	48.627	0.037	3.7	0.011	0.000	3.7	1.622	OK
SW.MH13	FEH: 2 years: +0 %: 15 mins: Summer	49.710	48.660	48.704	0.044	6.7	0.012	0.000	6.7	2.912	OK

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	BDP:		

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	FEH: 30 years: +0 %: 120 mins: Summer	48.230	46.486	46.621	0.135	35.9	0.000	0.000	35.9	336.264	OK
SW.MH01	FEH: 30 years: +0 %: 30 mins: Summer	51.920	50.371	50.415	0.044	3.8	0.050	0.000	3.8	5.584	OK
SW.MH02	FEH: 30 years: +0 %: 30 mins: Summer	51.310	49.885	49.948	0.063	11.0	0.072	0.000	11.0	17.553	OK
SW.MH03	FEH: 30 years: +0 %: 60 mins: Summer	50.900	49.425	49.518	0.093	17.6	0.105	0.000	17.6	39.201	OK
SW.MH04	FEH: 30 years: +0 %: 60 mins: Summer	50.580	49.155	49.250	0.095	24.2	0.108	0.000	24.2	54.245	OK
SW.MH05	FEH: 30 years: +0 %: 60 mins: Summer	50.100	48.534	48.659	0.124	30.6	0.140	0.000	30.6	69.549	OK
SW.MH06	FEH: 30 years: +0 %: 30 mins: Summer	49.800	48.300	48.369	0.069	36.5	0.078	0.000	36.5	59.322	OK
SW.MH07	FEH: 30 years: +0 %: 60 mins: Summer	50.000	46.971	47.393	0.422	36.5	0.477	0.000	36.4	97.705	Surcharged
SW.MH21 (FLOW CONTROL)	FEH: 30 years: +0 %: 120 mins: Summer	49.120	46.632	47.308	0.676	42.3	0.967	0.000	35.9	346.145	Surcharged
SW.MH19	FEH: 30 years: +0 %: 120 mins: Summer	49.850	46.863	47.370	0.507	60.1	0.725	0.000	58.4	291.563	Surcharged
SW.MH15	FEH: 30 years: +0 %: 15 mins: Summer	49.700	48.650	48.682	0.032	4.2	0.014	0.000	4.2	1.843	OK
SW.MH16	FEH: 30 years: +0 %: 15 mins: Summer	49.670	47.906	48.189	0.283	124.9	0.320	0.000	125.2	56.431	OK
SW.MH12	FEH: 30 years: +0 %: 15 mins: Summer	49.580	48.066	48.304	0.238	56.7	0.269	0.000	56.6	25.594	OK
SW.MH08	FEH: 30 years: +0 %: 15 mins: Summer	49.500	48.240	48.344	0.104	12.9	0.118	0.000	12.1	5.589	OK
SW.MH10	FEH: 30 years: +0 %: 15 mins: Summer	49.670	48.066	48.331	0.265	38.1	0.300	0.000	37.4	16.893	OK
SW.MH17	FEH: 30 years: +0 %: 15 mins: Summer	49.670	47.870	47.997	0.128	134.3	0.144	0.000	134.4	60.623	OK
SW.MH20	FEH: 30 years: +0 %: 120 mins: Summer	48.950	46.700	47.308	0.608	13.5	0.688	0.000	10.3	85.347	Surcharged
SWMH22	FEH: 30 years: +0 %: 15 mins: Summer	48.700	47.650	47.727	0.077	27.6	0.022	0.000	27.6	11.943	OK
SW.MH14	FEH: 30 years: +0 %: 15 mins: Summer	49.670	48.003	48.248	0.245	84.8	0.277	0.000	84.9	38.339	OK
SW.MH09	FEH: 30 years: +0 %: 15 mins: Summer	49.620	48.570	48.622	0.052	5.8	0.015	0.000	5.7	2.483	OK
SW.MH11	FEH: 30 years: +0 %: 15 mins: Summer	49.640	48.590	48.648	0.058	8.4	0.016	0.000	8.3	3.618	OK
SW.MH13	FEH: 30 years: +0 %: 15 mins: Summer	49.710	48.660	48.729	0.069	15.0	0.020	0.000	14.9	6.492	OK

FEH: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	BDP:		

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	FEH: 100 years: +0 %: 240 mins: Winter	48.230	46.486	46.621	0.135	35.9	0.000	0.000	35.9	503.577	OK
SW.MH01	FEH: 100 years: +0 %: 30 mins: Summer	51.920	50.371	50.419	0.048	4.4	0.054	0.000	4.4	7.122	OK
SW.MH02	FEH: 100 years: +0 %: 60 mins: Summer	51.310	49.885	49.953	0.068	12.7	0.077	0.000	12.7	31.147	OK
SW.MH03	FEH: 100 years: +0 %: 60 mins: Summer	50.900	49.425	49.527	0.101	20.4	0.114	0.000	20.4	50.622	OK
SW.MH04	FEH: 100 years: +0 %: 60 mins: Summer	50.580	49.155	49.258	0.103	28.0	0.117	0.000	28.0	70.082	OK
SW.MH05	FEH: 100 years: +0 %: 60 mins: Summer	50.100	48.534	48.669	0.135	35.6	0.152	0.000	35.6	89.876	OK
SW.MH06	FEH: 100 years: +0 %: 60 mins: Summer	49.800	48.300	48.374	0.074	43.0	0.084	0.000	43.0	109.157	OK
SW.MH07	FEH: 100 years: +0 %: 60 mins: Summer	50.000	46.971	47.580	0.609	41.4	0.689	0.000	41.3	115.609	Surcharged
SW.MH21 (FLOW CONTROL)	FEH: 100 years: +0 %: 120 mins: Summer	49.120	46.632	47.487	0.856	44.8	1.224	0.000	35.9	422.363	Surcharged
SW.MH19	FEH: 100 years: +0 %: 60 mins: Summer	49.850	46.863	47.550	0.687	84.7	0.983	0.000	74.0	252.391	Surcharged
SW.MH15	FEH: 100 years: +0 %: 15 mins: Summer	49.700	48.650	48.686	0.036	5.4	0.016	0.000	5.3	2.320	OK
SW.MH16	FEH: 100 years: +0 %: 15 mins: Summer	49.670	47.906	48.275	0.369	153.2	0.418	0.000	152.5	71.268	Surcharged
SW.MH12	FEH: 100 years: +0 %: 15 mins: Summer	49.580	48.066	48.432	0.366	68.9	0.414	0.000	69.6	32.374	Surcharged
SW.MH08	FEH: 100 years: +0 %: 15 mins: Summer	49.500	48.240	48.478	0.238	16.2	0.270	0.000	17.5	7.045	OK
SW.MH10	FEH: 100 years: +0 %: 15 mins: Summer	49.670	48.066	48.469	0.403	46.0	0.455	0.000	47.5	21.393	Surcharged
SW.MH17	FEH: 100 years: +0 %: 15 mins: Summer	49.670	47.870	48.017	0.148	164.0	0.167	0.000	163.8	76.532	OK
SW.MH20	FEH: 100 years: +0 %: 120 mins: Summer	48.950	46.700	47.488	0.788	15.9	0.891	0.000	10.5	106.122	Surcharged
SWMH22	FEH: 100 years: +0 %: 15 mins: Summer	48.700	47.650	47.738	0.088	34.7	0.025	0.000	34.8	15.057	OK
SW.MH14	FEH: 100 years: +0 %: 15 mins: Summer	49.670	48.003	48.363	0.360	103.5	0.407	0.000	102.8	48.441	Surcharged
SW.MH09	FEH: 100 years: +0 %: 15 mins: Summer	49.620	48.570	48.627	0.057	7.3	0.016	0.000	7.2	3.126	OK
SW.MH11	FEH: 100 years: +0 %: 15 mins: Summer	49.640	48.590	48.658	0.068	10.5	0.019	0.000	10.5	4.554	OK
SW.MH13	FEH: 100 years: +0 %: 15 mins: Summer	49.710	48.660	48.740	0.080	18.9	0.023	0.000	18.9	8.184	OK

FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
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Report Details: Type: Junctions Summary Storm Phase: Phase	BDP:		

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	FEH: 30 years: +45 %: 360 mins: Winter	48.230	46.486	46.621	0.135	35.9	0.000	0.000	35.9	643.237	OK
SW.MH01	FEH: 30 years: +45 %: 30 mins: Summer	51.920	50.371	50.421	0.050	4.8	0.056	0.000	4.8	8.108	OK
SW.MH02	FEH: 30 years: +45 %: 30 mins: Summer	51.310	49.885	49.956	0.071	13.7	0.080	0.000	13.7	25.375	OK
SW.MH03	FEH: 30 years: +45 %: 60 mins: Summer	50.900	49.425	49.531	0.105	21.8	0.119	0.000	21.8	57.216	OK
SW.MH04	FEH: 30 years: +45 %: 60 mins: Summer	50.580	49.155	49.263	0.108	30.0	0.122	0.000	30.0	79.219	OK
SW.MH05	FEH: 30 years: +45 %: 60 mins: Summer	50.100	48.534	48.675	0.140	38.3	0.159	0.000	38.3	101.602	OK
SW.MH06	FEH: 30 years: +45 %: 60 mins: Summer	49.800	48.300	48.378	0.078	46.2	0.088	0.000	46.2	123.384	OK
SW.MH07	FEH: 30 years: +45 %: 120 mins: Summer	50.000	46.971	47.733	0.762	38.8	0.862	0.000	38.6	174.606	Surcharged
SW.MH21 (FLOW CONTROL)	FEH: 30 years: +45 %: 120 mins: Summer	49.120	46.632	47.663	1.031	48.2	1.476	0.000	35.9	451.911	Surcharged
SW.MH19	FEH: 30 years: +45 %: 120 mins: Summer	49.850	46.863	47.716	0.853	68.3	1.220	0.000	67.8	410.367	Surcharged
SW.MH15	FEH: 30 years: +45 %: 15 mins: Summer	49.700	48.650	48.689	0.039	6.2	0.017	0.000	6.1	2.658	OK
SW.MH16	FEH: 30 years: +45 %: 15 mins: Summer	49.670	47.906	48.549	0.643	169.7	0.727	0.000	164.8	82.059	Surcharged
SW.MH12	FEH: 30 years: +45 %: 15 mins: Summer	49.580	48.066	48.731	0.665	75.6	0.752	0.000	76.0	37.308	Surcharged
SW.MH08	FEH: 30 years: +45 %: 15 mins: Summer	49.500	48.240	48.780	0.540	18.7	0.611	0.000	22.1	8.134	Surcharged
SW.MH10	FEH: 30 years: +45 %: 15 mins: Summer	49.670	48.066	48.772	0.706	53.5	0.799	0.000	50.1	24.676	Surcharged
SW.MH17	FEH: 30 years: +45 %: 30 mins: Summer	49.670	47.870	48.029	0.159	175.3	0.180	0.000	175.3	117.388	OK
SW.MH20	FEH: 30 years: +45 %: 120 mins: Summer	48.950	46.700	47.664	0.964	18.4	1.090	0.000	9.1	117.937	Surcharged
SWMH22	FEH: 30 years: +45 %: 15 mins: Summer	48.700	47.650	47.746	0.096	40.0	0.027	0.000	40.0	17.316	OK
SW.MH14	FEH: 30 years: +45 %: 15 mins: Summer	49.670	48.003	48.650	0.647	112.7	0.731	0.000	112.9	55.786	Surcharged
SW.MH09	FEH: 30 years: +45 %: 15 mins: Summer	49.620	48.570	48.824	0.254	8.4	0.072	0.000	9.8	3.588	Surcharged
SW.MH11	FEH: 30 years: +45 %: 15 mins: Summer	49.640	48.590	48.834	0.244	12.1	0.069	0.000	12.1	5.233	Surcharged
SW.MH13	FEH: 30 years: +45 %: 15 mins: Summer	49.710	48.660	48.863	0.203	21.7	0.057	0.000	21.7	9.410	Surcharged

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

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
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Report Details: Type: Junctions Summary Storm Phase: Phase	BDP:		

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	FEH: 100 years: +45 %: 600 mins: Winter	48.230	46.486	46.621	0.135	35.9	0.000	0.000	35.9	895.906	OK
SW.MH01	FEH: 100 years: +45 %: 30 mins: Summer	51.920	50.371	50.425	0.054	5.5	0.061	0.000	5.5	10.294	OK
SW.MH02	FEH: 100 years: +45 %: 60 mins: Summer	51.310	49.885	49.962	0.077	15.8	0.087	0.000	15.8	45.318	OK
SW.MH03	FEH: 100 years: +45 %: 60 mins: Summer	50.900	49.425	49.541	0.115	25.3	0.130	0.000	25.3	73.718	OK
SW.MH04	FEH: 100 years: +45 %: 60 mins: Summer	50.580	49.155	49.273	0.118	34.7	0.133	0.000	34.8	102.096	OK
SW.MH05	FEH: 100 years: +45 %: 60 mins: Summer	50.100	48.534	48.687	0.152	44.4	0.172	0.000	44.4	130.946	OK
SW.MH06	FEH: 100 years: +45 %: 60 mins: Summer	49.800	48.300	48.384	0.084	53.8	0.095	0.000	53.8	159.025	OK
SW.MH07	FEH: 100 years: +45 %: 120 mins: Summer	50.000	46.971	48.276	1.305	41.9	1.476	0.000	41.7	195.982	Surcharged
SW.MH21 (FLOW CONTROL)	FEH: 100 years: +45 %: 120 mins: Summer	49.120	46.632	48.227	1.595	52.3	2.283	0.000	35.9	441.590	Surcharged
SW.MH19	FEH: 100 years: +45 %: 120 mins: Summer	49.850	46.863	48.267	1.404	77.7	2.009	0.000	76.9	452.651	Surcharged
SW.MH15	FEH: 100 years: +45 %: 15 mins: Summer	49.700	48.650	48.856	0.206	7.8	0.093	0.000	8.9	3.347	OK
SW.MH16	FEH: 100 years: +45 %: 15 mins: Summer	49.670	47.906	48.853	0.947	214.6	1.071	0.000	213.9	103.499	Surcharged
SW.MH12	FEH: 100 years: +45 %: 15 mins: Summer	49.580	48.066	49.148	1.082	95.4	1.224	0.000	96.3	47.136	Surcharged
SW.MH08	FEH: 100 years: +45 %: 15 mins: Summer	49.500	48.240	49.232	0.992	23.5	1.122	0.000	20.9	10.401	Flood Risk
SW.MH10	FEH: 100 years: +45 %: 15 mins: Summer	49.670	48.066	49.216	1.150	64.9	1.301	0.000	63.7	31.378	Surcharged
SW.MH17	FEH: 100 years: +45 %: 120 mins: Summer	49.670	47.870	48.268	0.398	123.4	0.450	0.000	115.2	225.892	Surcharged
SW.MH20	FEH: 100 years: +45 %: 120 mins: Summer	48.950	46.700	48.227	1.527	27.2	1.728	0.000	11.2	112.078	Surcharged
SWMH22	FEH: 100 years: +45 %: 120 mins: Summer	48.700	47.650	48.229	0.579	22.8	0.164	0.000	22.8	44.413	Surcharged
SW.MH14	FEH: 100 years: +45 %: 15 mins: Summer	49.670	48.003	49.018	1.016	142.8	1.149	0.000	142.5	70.430	Surcharged
SW.MH09	FEH: 100 years: +45 %: 15 mins: Summer	49.620	48.570	49.269	0.699	10.5	0.198	0.000	11.4	4.592	Surcharged
SW.MH11	FEH: 100 years: +45 %: 15 mins: Summer	49.640	48.590	49.281	0.691	15.3	0.196	0.000	13.9	6.595	Surcharged
SW.MH13	FEH: 100 years: +45 %: 15 mins: Summer	49.710	48.660	49.354	0.694	27.4	0.196	0.000	24.1	11.864	Surcharged

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Porous Paving (0)	FEH: 2 years: +0 %: 30 mins: Summer	51.413	51.396	0.039	0.076	4.1	1.391	0.000	0.000	2.3	2.400	80.997	OK
Porous Paving (1)	FEH: 2 years: +0 %: 60 mins: Summer	51.230	51.133	0.028	0.063	2.9	1.637	0.000	0.000	1.6	2.877	85.807	OK
Porous Paving (2)	FEH: 2 years: +0 %: 60 mins: Summer	51.147	51.142	0.052	0.072	4.3	2.371	0.000	0.000	2.0	4.282	79.313	OK
Porous Paving (4)	FEH: 2 years: +0 %: 60 mins: Summer	50.744	50.636	0.029	0.066	3.3	1.880	0.000	0.000	1.7	3.214	85.094	OK
Porous Paving (3)	FEH: 2 years: +0 %: 60 mins: Summer	50.632	50.627	0.038	0.057	3.3	1.956	0.000	0.000	1.4	3.163	84.311	OK
Porous Paving (6)	FEH: 2 years: +0 %: 60 mins: Summer	50.493	50.386	0.030	0.066	3.3	1.880	0.000	0.000	1.7	3.221	85.049	OK
Porous Paving (5)	FEH: 2 years: +0 %: 60 mins: Summer	50.381	50.377	0.037	0.057	3.3	1.950	0.000	0.000	1.4	3.168	84.380	OK
Porous Paving (7)	FEH: 2 years: +0 %: 60 mins: Summer	49.884	49.879	0.040	0.059	3.1	1.709	0.000	0.000	1.5	3.081	83.519	OK
Porous Paving (8)	FEH: 2 years: +0 %: 120 mins: Summer	49.884	49.879	0.040	0.059	2.6	2.215	0.000	0.000	1.5	4.971	83.608	OK
Porous Paving (10)	FEH: 2 years: +0 %: 60 mins: Summer	49.632	49.627	0.037	0.057	3.3	1.958	0.000	0.000	1.4	3.161	84.344	OK
Porous Paving (9)	FEH: 2 years: +0 %: 60 mins: Summer	49.631	49.627	0.037	0.057	3.3	1.947	0.000	0.000	1.4	3.163	84.373	OK
Porous Paving (12)	FEH: 2 years: +0 %: 60 mins: Summer	49.381	49.376	0.037	0.056	3.3	1.939	0.000	0.000	1.4	3.167	84.442	OK
Porous Paving (11)	FEH: 2 years: +0 %: 60 mins: Summer	49.381	49.377	0.037	0.057	3.3	1.942	0.000	0.000	1.4	3.176	84.395	OK
Attenuation tank 1	FEH: 2 years: +0 %: 120 mins: Summer	47.123	47.123	0.110	0.110	17.0	7.031	0.000	0.000	16.3	49.851	91.048	OK

Attenuation tank 2	FEH: 2 years: +0 %: 30 mins: Summer	47.115	47.115	0.115	0.115	55.4	15.596	0.000	0.000	33.4	33.131	90.489	OK
Attenuation tank 3	FEH: 2 years: +0 %: 120 mins: Summer	47.047	47.047	0.297	0.297	48.0	22.578	0.000	0.000	38.2	140.015	64.219	OK
Attenuation tank 4	FEH: 2 years: +0 %: 120 mins: Summer	47.022	47.022	0.222	0.222	16.0	21.942	0.000	0.000	6.6	23.564	77.992	OK

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Porous Paving (0)	FEH: 30 years: +0 %: 30 mins: Summer	51.483	51.464	0.109	0.144	9.3	3.111	0.000	0.000	3.8	5.625	57.510	OK
Porous Paving (1)	FEH: 30 years: +0 %: 30 mins: Summer	51.254	51.189	0.052	0.119	8.7	3.334	0.000	0.000	3.4	5.055	71.096	OK
Porous Paving (2)	FEH: 30 years: +0 %: 60 mins: Summer	51.224	51.216	0.129	0.146	9.8	5.253	0.000	0.000	3.9	10.009	54.177	OK
Porous Paving (4)	FEH: 30 years: +0 %: 30 mins: Summer	50.769	50.694	0.055	0.124	9.8	3.853	0.000	0.000	3.5	5.627	69.450	OK
Porous Paving (3)	FEH: 30 years: +0 %: 60 mins: Summer	50.683	50.678	0.089	0.108	7.4	4.076	0.000	0.000	3.1	7.503	67.309	OK
Porous Paving (6)	FEH: 30 years: +0 %: 30 mins: Summer	50.519	50.445	0.055	0.125	9.8	3.853	0.000	0.000	3.5	5.636	69.362	OK
Porous Paving (5)	FEH: 30 years: +0 %: 60 mins: Summer	50.432	50.428	0.088	0.108	7.4	4.070	0.000	0.000	3.1	7.505	67.391	OK
Porous Paving (7)	FEH: 30 years: +0 %: 60 mins: Summer	49.939	49.933	0.095	0.113	7.1	3.581	0.000	0.000	3.2	7.234	65.465	OK
Porous Paving (8)	FEH: 30 years: +0 %: 60 mins: Summer	49.938	49.932	0.094	0.112	8.2	4.630	0.000	0.000	3.2	8.195	65.740	OK
Porous Paving (10)	FEH: 30 years: +0 %: 60 mins: Summer	49.682	49.678	0.088	0.108	7.4	4.075	0.000	0.000	3.1	7.492	67.411	OK
Porous Paving (9)	FEH: 30 years: +0 %: 60 mins: Summer	49.682	49.678	0.088	0.108	7.4	4.061	0.000	0.000	3.1	7.491	67.401	OK
Porous Paving (12)	FEH: 30 years: +0 %: 60 mins: Summer	49.432	49.427	0.088	0.107	7.4	4.053	0.000	0.000	3.1	7.492	67.490	OK
Porous Paving (11)	FEH: 30 years: +0 %: 60 mins: Summer	49.432	49.428	0.089	0.108	7.4	4.063	0.000	0.000	3.1	7.518	67.353	OK
Attenuation tank 1	FEH: 30 years: +0 %: 60 mins: Summer	47.401	47.401	0.388	0.388	40.9	24.896	0.000	0.000	30.9	81.287	68.300	OK

Attenuation tank 2	FEH: 30 years: +0 %: 120 mins: Summer	47.371	47.371	0.371	0.371	63.5	50.223	0.000	0.000	32.1	122.545	69.373	OK
Attenuation tank 3	FEH: 30 years: +0 %: 120 mins: Summer	47.335	47.335	0.585	0.585	58.4	44.497	0.000	0.000	42.3	289.545	29.482	OK
Attenuation tank 4	FEH: 30 years: +0 %: 120 mins: Summer	47.309	47.309	0.509	0.509	25.4	50.296	0.000	0.000	10.2	50.893	49.552	OK

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	BDP:		

FEH: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Porous Paving (0)	FEH: 100 years: +0 %: 30 mins: Summer	51.525	51.500	0.151	0.180	11.9	4.059	0.000	0.000	4.4	7.173	44.572	OK
Porous Paving (1)	FEH: 100 years: +0 %: 30 mins: Summer	51.270	51.212	0.068	0.142	11.1	4.268	0.000	0.000	3.8	6.481	63.005	OK
Porous Paving (2)	FEH: 100 years: +0 %: 60 mins: Summer	51.268	51.258	0.174	0.188	12.6	6.896	0.000	0.000	4.6	12.902	39.844	OK
Porous Paving (4)	FEH: 100 years: +0 %: 60 mins: Summer	50.784	50.722	0.070	0.152	9.6	4.979	0.000	0.000	4.0	9.854	60.518	OK
Porous Paving (3)	FEH: 100 years: +0 %: 60 mins: Summer	50.713	50.706	0.119	0.136	9.6	5.285	0.000	0.000	3.7	9.694	57.614	OK
Porous Paving (6)	FEH: 100 years: +0 %: 60 mins: Summer	50.534	50.472	0.070	0.152	9.6	4.974	0.000	0.000	4.0	9.861	60.446	OK
Porous Paving (5)	FEH: 100 years: +0 %: 60 mins: Summer	50.463	50.456	0.118	0.136	9.6	5.279	0.000	0.000	3.7	9.698	57.709	OK
Porous Paving (7)	FEH: 100 years: +0 %: 60 mins: Summer	49.971	49.964	0.127	0.144	9.1	4.661	0.000	0.000	3.8	9.342	55.048	OK
Porous Paving (8)	FEH: 100 years: +0 %: 60 mins: Summer	49.969	49.962	0.125	0.142	10.5	6.010	0.000	0.000	3.8	10.592	55.533	OK
Porous Paving (10)	FEH: 100 years: +0 %: 60 mins: Summer	49.712	49.706	0.118	0.136	9.6	5.285	0.000	0.000	3.7	9.687	57.734	OK
Porous Paving (9)	FEH: 100 years: +0 %: 60 mins: Summer	49.712	49.706	0.119	0.136	9.5	5.268	0.000	0.000	3.7	9.683	57.707	OK
Porous Paving (12)	FEH: 100 years: +0 %: 60 mins: Summer	49.462	49.455	0.118	0.135	9.5	5.258	0.000	0.000	3.7	9.681	57.817	OK
Porous Paving (11)	FEH: 100 years: +0 %: 60 mins: Summer	49.463	49.456	0.119	0.136	9.6	5.272	0.000	0.000	3.7	9.712	57.643	OK
Attenuation tank 1	FEH: 100 years: +0 %: 60 mins: Summer	47.589	47.589	0.576	0.576	44.9	36.957	0.000	0.000	34.7	95.431	52.943	OK

Attenuation tank 2	FEH: 100 years: +0 %: 60 mins: Summer	47.551	47.551	0.551	0.551	123.3	74.545	0.000	0.000	44.7	93.400	54.540	OK
Attenuation tank 3	FEH: 100 years: +0 %: 120 mins: Summer	47.514	47.514	0.764	0.764	62.9	58.039	0.000	0.000	44.8	356.761	8.020	OK
Attenuation tank 4	FEH: 100 years: +0 %: 120 mins: Summer	47.489	47.489	0.689	0.689	28.9	68.055	0.000	0.000	10.4	60.616	31.740	OK

FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Porous Paving (0)	FEH: 30 years: +45 %: 30 mins: Summer	51.552	51.523	0.178	0.203	13.5	4.689	0.000	0.000	4.8	8.168	35.966	OK
Porous Paving (1)	FEH: 30 years: +45 %: 30 mins: Summer	51.287	51.227	0.085	0.157	12.7	4.906	0.000	0.000	4.1	7.383	57.475	OK
Porous Paving (2)	FEH: 30 years: +45 %: 60 mins: Summer	51.294	51.283	0.200	0.213	14.2	7.871	0.000	0.000	4.9	14.569	31.333	OK
Porous Paving (4)	FEH: 30 years: +45 %: 30 mins: Summer	50.805	50.734	0.091	0.164	14.2	5.691	0.000	0.000	4.2	8.177	54.878	OK
Porous Paving (3)	FEH: 30 years: +45 %: 60 mins: Summer	50.731	50.723	0.137	0.153	10.8	6.007	0.000	0.000	4.0	10.965	51.818	OK
Porous Paving (6)	FEH: 30 years: +45 %: 30 mins: Summer	50.556	50.484	0.092	0.164	14.2	5.690	0.000	0.000	4.2	8.187	54.749	OK
Porous Paving (5)	FEH: 30 years: +45 %: 60 mins: Summer	50.480	50.473	0.136	0.153	10.8	6.001	0.000	0.000	4.0	10.965	51.925	OK
Porous Paving (7)	FEH: 30 years: +45 %: 60 mins: Summer	49.990	49.982	0.146	0.162	10.2	5.308	0.000	0.000	4.1	10.556	48.809	OK
Porous Paving (8)	FEH: 30 years: +45 %: 60 mins: Summer	49.988	49.980	0.144	0.160	11.9	6.827	0.000	0.000	4.1	11.975	49.481	OK
Porous Paving (10)	FEH: 30 years: +45 %: 60 mins: Summer	49.730	49.723	0.136	0.153	10.8	6.008	0.000	0.000	4.0	10.953	51.953	OK
Porous Paving (9)	FEH: 30 years: +45 %: 60 mins: Summer	49.730	49.723	0.136	0.153	10.8	5.988	0.000	0.000	4.0	10.949	51.930	OK
Porous Paving (12)	FEH: 30 years: +45 %: 60 mins: Summer	49.480	49.472	0.136	0.152	10.7	5.977	0.000	0.000	4.0	10.943	52.054	OK
Porous Paving (11)	FEH: 30 years: +45 %: 60 mins: Summer	49.481	49.473	0.137	0.153	10.8	5.994	0.000	0.000	4.0	10.982	51.842	OK
Attenuation tank 1	FEH: 30 years: +45 %: 120 mins: Summer	47.739	47.739	0.726	0.726	42.2	46.570	0.000	0.000	32.0	148.289	40.704	OK

Attenuation tank 2	FEH: 30 years: +45 %: 120 mins: Summer	47.717	47.717	0.717	0.717	92.4	97.060	0.000	0.000	28.9	169.659	40.810	OK
Attenuation tank 3	FEH: 30 years: +45 %: 120 mins: Summer	47.687	47.687	0.937	0.937	67.8	60.965	0.000	0.000	48.2	387.022	3.384	OK
Attenuation tank 4	FEH: 30 years: +45 %: 120 mins: Summer	47.664	47.664	0.864	0.864	32.2	85.409	0.000	0.000	9.1	60.057	14.334	OK

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

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Porous Paving (0)	FEH: 100 years: +45 %: 30 mins: Summer	51.617	51.580	0.243	0.260	17.2	6.176	0.000	0.000	5.5	10.378	15.663	OK
Porous Paving (1)	FEH: 100 years: +45 %: 60 mins: Summer	51.330	51.261	0.128	0.191	12.3	6.424	0.000	0.000	4.6	12.820	44.312	OK
Porous Paving (2)	FEH: 100 years: +45 %: 60 mins: Summer	51.363	51.349	0.269	0.279	18.2	10.434	0.000	0.000	5.8	18.746	8.977	OK
Porous Paving (4)	FEH: 100 years: +45 %: 60 mins: Summer	50.852	50.773	0.138	0.203	13.8	7.549	0.000	0.000	4.8	14.358	40.142	OK
Porous Paving (3)	FEH: 100 years: +45 %: 60 mins: Summer	50.777	50.767	0.183	0.197	13.9	7.890	0.000	0.000	4.7	14.137	36.716	OK
Porous Paving (6)	FEH: 100 years: +45 %: 60 mins: Summer	50.603	50.524	0.139	0.204	13.9	7.548	0.000	0.000	4.8	14.374	39.976	OK
Porous Paving (5)	FEH: 100 years: +45 %: 60 mins: Summer	50.527	50.517	0.183	0.197	13.9	7.880	0.000	0.000	4.7	14.133	36.873	OK
Porous Paving (7)	FEH: 100 years: +45 %: 60 mins: Summer	50.041	50.030	0.197	0.210	13.2	7.010	0.000	0.000	4.9	13.604	32.388	OK
Porous Paving (8)	FEH: 100 years: +45 %: 60 mins: Summer	50.037	50.026	0.193	0.206	15.2	8.974	0.000	0.000	4.8	15.426	33.596	OK
Porous Paving (10)	FEH: 100 years: +45 %: 60 mins: Summer	49.777	49.766	0.183	0.196	13.9	7.888	0.000	0.000	4.7	14.122	36.916	OK
Porous Paving (9)	FEH: 100 years: +45 %: 60 mins: Summer	49.777	49.767	0.183	0.197	13.8	7.866	0.000	0.000	4.7	14.117	36.857	OK
Porous Paving (12)	FEH: 100 years: +45 %: 60 mins: Summer	49.526	49.516	0.182	0.196	13.8	7.850	0.000	0.000	4.7	14.104	37.028	OK
Porous Paving (11)	FEH: 100 years: +45 %: 60 mins: Summer	49.527	49.517	0.183	0.197	13.9	7.873	0.000	0.000	4.7	14.153	36.746	OK
Attenuation tank 1	FEH: 100 years: +45 %: 120 mins: Summer	48.278	48.278	1.265	1.265	48.8	77.035	0.000	0.000	34.4	165.170	1.912	OK

Attenuation tank 2	FEH: 100 years: +45 %: 120 mins: Summer	48.268	48.268	1.268	1.268	115.2	162.562	0.000	0.000	26.9	175.202	0.864	OK
Attenuation tank 3	FEH: 100 years: +45 %: 120 mins: Summer	48.247	48.247	1.497	1.497	76.9	61.525	0.000	0.000	52.3	391.564	2.497	OK
Attenuation tank 4	FEH: 100 years: +45 %: 120 mins: Summer	48.228	48.228	1.428	1.428	39.7	99.242	0.000	0.000	11.1	40.604	0.459	OK

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	SW.MH 01	SW.MH 02	51.920	50.405	0.034	2.372	0.8	0.11	2.3	OK
1.002	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	SW.MH 02	SW.MH 03	51.310	49.930	0.053	7.282	0.8	0.09	5.6	OK
1.003	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW.MH 03	SW.MH 04	50.900	49.489	0.064	16.632	0.9	0.17	8.7	OK
1.004	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW.MH 04	SW.MH 05	50.580	49.220	0.075	22.953	1.0	0.18	11.8	OK
1.005	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW.MH 05	SW.MH 06	50.100	48.619	0.067	29.390	1.3	0.15	14.8	OK
1.000	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	Porous Paving (0)	SW.MH 01	51.804	51.377	0.027	2.394	1.1	0.04	2.3	OK
PP2	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (2)	SW.MH 02	51.524	51.132	0.021	4.274	1.4	0.04	2.0	OK
PP1	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (1)	SW.MH 02	51.632	51.113	0.020	2.870	1.1	0.04	1.6	OK
PP4	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (4)	SW.MH 03	51.144	50.615	0.020	3.206	1.2	0.04	1.7	OK
PP3	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (3)	SW.MH 03	51.024	50.617	0.018	3.154	1.1	0.03	1.4	OK
PP6	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (6)	SW.MH 04	50.894	50.360	0.037	1.181	0.7	0.07	1.3	OK
PP5	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (5)	SW.MH 04	50.774	50.360	0.036	1.035	0.6	0.02	1.1	OK
PP7	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (7)	SW.MH 05	50.274	49.870	0.018	3.074	1.3	0.03	1.5	OK
PP8	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	Porous Paving (8)	SW.MH 05	50.274	49.869	0.019	4.968	1.2	0.03	1.5	OK
PP10	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (10)	SW.MH 06	50.024	49.617	0.018	3.152	1.2	0.03	1.4	OK
PP9	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (9)	SW.MH 06	50.024	49.617	0.017	3.155	1.3	0.03	1.4	OK
PP12	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (12)	SW.MH 07	49.774	49.360	0.046	1.036	0.5	0.01	1.1	OK
PP11	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (11)	SW.MH 07	49.774	49.360	0.046	1.041	0.5	0.01	1.1	OK
1.007	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Attenuation tank 1	SW.MH 07	49.800	47.117	0.104	33.959	0.8	0.21	16.3	OK

1.006	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 06	Attenuation tank 1	49.800	48.345	0.059	11.802	2.7	0.05	13.6	OK
1.009	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 19	Attenuation tank 3	49.850	47.030	0.172	40.421	1.6	0.56	43.4	OK
1.011	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	SW.MH 21 (FLOW CONTROL)	Outfall	49.120	47.020	0.132	162.990	1.3	0.6	32.1	Surcharged
1.008	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 07	SW.MH19	50.000	47.051	0.115	8.504	0.7	0.16	11.9	OK
Pipe	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SWMH22	Attenuation tank 4	48.700	47.701	0.057	5.350	3.9	0.19	12.3	OK
1.010 (1)	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Attenuation tank 3	SW.MH21 (FLOW CONTROL)	49.850	47.031	0.300	97.687	0.5	0.49	38.6	OK
2.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 08	SW.MH10	49.500	48.292	0.116	2.506	0.2	0.07	5.6	OK
2.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 10	SW.MH12	49.670	48.246	0.118	7.365	0.7	0.22	17.3	OK
2.004	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 16	SW.MH17	49.670	48.095	0.133	25.049	1.9	0.73	57.3	OK
6.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 15	SW.MH16	49.700	48.671	0.105	0.826	0.1	0.02	1.9	OK
3.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 09	SW.MH10	49.620	48.605	0.034	1.117	0.8	0.11	2.5	OK
2.005	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 17	Attenuation tank 2	49.670	47.947	0.085	26.912	5.4	0.11	61.0	OK
7.001	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	SW.MH 20	SW.MH21 (FLOW CONTROL)	48.950	46.920	0.225	3.906	0.7	0.2	12.4	OK
2.006	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	Attenuation tank 2	SW.MH19	49.730	47.110	0.138	22.144	1.0	0.2	30.6	OK
4.000	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	SW.MH11	SW.MH12	49.640	48.626	0.082	1.624	0.5	0.14	3.5	OK
2.002	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 12	SW.MH14	49.580	48.199	0.135	11.249	0.8	0.33	26.1	OK
2.003	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	SW.MH 14	SW.MH16	49.670	48.140	0.163	16.951	1.0	0.24	38.8	OK
5.000	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	SW.MH 13	SW.MH14	49.710	48.703	0.086	2.908	0.7	0.18	6.3	OK
Pipe (1)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Attenuation tank 4	SW.MH20	48.700	47.014	0.150	11.079	0.5	0.33	6.6	Surcharged

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	BDP:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FEH: 30 years: +0 %: 30 mins: Summer	Pipe	SW.MH01	SW.MH02	51.920	50.415	0.044	5.584	0.9	0.18	3.8	OK
1.002	FEH: 30 years: +0 %: 30 mins: Summer	Pipe	SW.MH02	SW.MH03	51.310	49.948	0.078	17.553	0.9	0.17	11.0	OK
1.003	FEH: 30 years: +0 %: 30 mins: Summer	Pipe	SW.MH03	SW.MH04	50.900	49.518	0.094	28.170	1.1	0.33	17.5	OK
1.004	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW.MH04	SW.MH05	50.580	49.250	0.110	54.245	1.3	0.37	24.2	OK
1.005	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW.MH05	SW.MH06	50.100	48.659	0.096	69.549	1.6	0.32	30.6	OK
1.000	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (0)	SW.MH01	51.804	51.437	0.034	3.595	1.3	0.06	3.6	OK
PP2	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (2)	SW.MH02	51.524	51.208	0.029	9.999	1.7	0.08	3.9	OK
PP1	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (1)	SW.MH02	51.632	51.156	0.029	6.794	1.4	0.08	3.4	OK
PP4	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (4)	SW.MH03	51.144	50.662	0.029	7.611	1.5	0.08	3.5	OK
PP3	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (3)	SW.MH03	51.024	50.668	0.027	7.492	1.4	0.07	3.1	OK
PP6	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (6)	SW.MH04	50.894	50.402	0.059	3.313	0.7	0.17	3.2	OK
PP5	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (5)	SW.MH04	50.774	50.404	0.056	2.743	0.7	0.05	2.8	OK
PP7	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (7)	SW.MH05	50.274	49.924	0.026	7.227	1.6	0.06	3.2	OK
PP8	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (8)	SW.MH05	50.274	49.923	0.027	8.182	1.5	0.07	3.2	OK

PP10	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (10)	SW.MH06	50.024	49.668	0.027	7.481	1.5	0.07	3.1	OK
PP9	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (9)	SW.MH06	50.024	49.668	0.025	7.482	1.6	0.06	3.1	OK
PP12	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (12)	SW.MH07	49.774	49.403	0.147	2.737	0.5	0.02	2.8	OK
PP11	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (11)	SW.MH07	49.774	49.404	0.147	2.749	0.6	0.02	2.8	OK
1.007	FEH: 30 years: +0 %: 360 mins: Winter	Pipe	Attenuation tank 1	SW.MH07	49.800	47.177	0.177	136.369	0.7	0.17	13.2	OK
1.006	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH06	Attenuation tank 1	49.800	48.368	0.154	31.862	2.8	0.11	33.5	OK
1.009	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH19	Attenuation tank 3	49.850	47.215	0.300	80.061	1.7	1.1	86.1	Surcharged
1.011	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	SW.MH21 (FLOW CONTROL)	Outfall	49.120	47.308	0.142	336.264	1.4	0.68	35.9	Surcharged
1.008	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	SW.MH07	SW.MH19	50.000	47.247	0.300	22.936	0.5	0.51	38.3	OK
Pipe	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SWMH22	Attenuation tank 4	48.700	47.727	0.145	11.943	4.2	0.42	27.6	OK
1.010 (1)	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	Attenuation tank 3	SW.MH21 (FLOW CONTROL)	49.850	47.154	0.300	50.284	0.7	0.62	48.9	Surcharged
2.000	FEH: 30 years: +0 %: 30 mins: Summer	Pipe	SW.MH08	SW.MH10	49.500	48.331	0.171	7.432	0.3	0.14	11.3	OK
2.001	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH10	SW.MH12	49.670	48.331	0.213	16.893	0.7	0.48	37.4	OK
2.004	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH16	SW.MH17	49.670	48.189	0.205	56.431	2.4	1.6	125.2	OK
6.000	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH15	SW.MH16	49.700	48.682	0.157	1.843	0.1	0.05	4.2	OK
3.000	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH09	SW.MH10	49.620	48.622	0.081	2.483	0.9	0.26	5.7	OK
2.005	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	SW.MH17	Attenuation tank 2	49.670	47.991	0.159	60.621	5.7	0.22	125.7	OK

7.001	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	SW.MH 20	SW.MH21 (FLOW CONTROL)	48.950	47.102	0.225	6.447	0.8	0.3	19.0	Surcharged
2.006	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	Attenuation tank 2	SW.MH19	49.730	47.231	0.286	36.555	1.1	0.46	72.1	OK
4.000	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	SW.MH11	SW.MH12	49.640	48.646	0.139	3.623	0.5	0.31	7.8	OK
2.002	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH 12	SW.MH14	49.580	48.304	0.242	25.594	1.0	0.72	56.6	OK
2.003	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH 14	SW.MH16	49.670	48.248	0.264	38.339	1.3	0.52	84.9	OK
5.000	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SW.MH 13	SW.MH14	49.710	48.729	0.150	6.492	0.8	0.44	14.9	OK
Pipe (1)	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	Attenuation tank 4	SW.MH20	48.700	47.309	0.150	22.457	0.6	0.5	10.2	Surcharged

FEH: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FEH: 100 years: +0 %: 30 mins: Summer	Pipe	SW.MH01	SW.MH02	51.920	50.419	0.047	7.122	0.9	0.21	4.4	OK
1.002	FEH: 100 years: +0 %: 30 mins: Summer	Pipe	SW.MH02	SW.MH03	51.310	49.953	0.084	22.349	0.9	0.2	12.7	OK
1.003	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	SW.MH03	SW.MH04	50.900	49.527	0.102	50.622	1.2	0.39	20.4	OK
1.004	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	SW.MH04	SW.MH05	50.580	49.258	0.119	70.082	1.3	0.43	28.0	OK
1.005	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	SW.MH05	SW.MH06	50.100	48.669	0.104	89.876	1.6	0.37	35.6	OK
1.000	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (0)	SW.MH01	51.804	51.471	0.037	4.418	1.3	0.07	4.2	Surcharged
PP2	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (2)	SW.MH02	51.524	51.251	0.031	12.890	1.7	0.09	4.6	Surcharged
PP1	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (1)	SW.MH02	51.632	51.181	0.031	8.781	1.5	0.09	3.8	OK
PP4	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (4)	SW.MH03	51.144	50.690	0.031	9.847	1.5	0.09	4.0	OK
PP3	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (3)	SW.MH03	51.024	50.697	0.029	9.682	1.5	0.08	3.7	OK
PP6	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (6)	SW.MH04	50.894	50.424	0.064	4.024	0.8	0.19	3.6	Surcharged
PP5	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (5)	SW.MH04	50.774	50.425	0.061	3.474	0.7	0.06	3.3	OK
PP7	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (7)	SW.MH05	50.274	49.955	0.028	9.334	1.7	0.07	3.8	OK
PP8	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (8)	SW.MH05	50.274	49.954	0.030	10.577	1.5	0.09	3.8	OK

PP10	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (10)	SW.MH06	50.024	49.697	0.029	9.674	1.5	0.08	3.7	OK
PP9	FEH: 100 years: +0 %: 60 mins: Summer	Pipe	Porous Paving (9)	SW.MH06	50.024	49.697	0.027	9.673	1.7	0.07	3.7	OK
PP12	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (12)	SW.MH07	49.774	49.425	0.198	3.457	0.6	0.02	3.3	OK
PP11	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	Porous Paving (11)	SW.MH07	49.774	49.426	0.198	3.471	0.6	0.02	3.3	OK
1.007	FEH: 100 years: +0 %: 480 mins: Summer	Pipe	Attenuation tank 1	SW.MH07	49.800	47.332	0.300	180.965	0.7	0.21	16.7	Surcharged
1.006	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	SW.MH06	Attenuation tank 1	49.800	48.372	0.207	39.566	2.8	0.13	38.7	OK
1.009	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH19	Attenuation tank 3	49.850	47.308	0.300	89.494	1.7	1.13	88.4	Surcharged
1.011	FEH: 100 years: +0 %: 240 mins: Summer	Pipe	SW.MH21 (FLOW CONTROL)	Outfall	49.120	47.423	0.142	503.516	1.4	0.68	35.9	Surcharged
1.008	FEH: 100 years: +0 %: 30 mins: Winter	Pipe	SW.MH07	SW.MH19	50.000	47.476	0.300	64.403	0.6	0.58	43.6	Surcharged
Pipe	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SWMH22	Attenuation tank 4	48.700	47.738	0.150	15.057	4.2	0.53	34.8	OK
1.010 (1)	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	Attenuation tank 3	SW.MH21 (FLOW CONTROL)	49.850	47.237	0.300	52.797	0.7	0.66	51.8	Surcharged
2.000	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH08	SW.MH10	49.500	48.478	0.300	7.045	0.3	0.22	17.5	OK
2.001	FEH: 100 years: +0 %: 30 mins: Summer	Pipe	SW.MH10	SW.MH12	49.670	48.415	0.294	28.882	0.8	0.57	44.9	OK
2.004	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH16	SW.MH17	49.670	48.275	0.258	71.268	2.5	1.95	152.5	Surcharged
6.000	FEH: 100 years: +0 %: 30 mins: Summer	Pipe	SW.MH15	SW.MH16	49.700	48.684	0.186	3.118	0.1	0.06	4.9	OK
3.000	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	SW.MH09	SW.MH10	49.620	48.626	0.120	3.135	0.9	0.3	6.8	OK
2.005	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	SW.MH17	Attenuation tank 2	49.670	48.009	0.208	76.528	5.7	0.26	152.1	OK

7.001	FEH: 100 years: +0 %: 15 mins: Winter	Pipe	SW.MH 20	SW.MH21 (FLOW CONTROL)	48.950	47.181	0.225	7.878	0.8	0.34	21.2	Surcharged
2.006	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	Attenuation tank 2	SW.MH19	49.730	47.317	0.300	39.082	1.1	0.5	77.3	Surcharged
4.000	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH11	SW.MH12	49.640	48.658	0.150	4.554	0.6	0.41	10.5	OK
2.002	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH 12	SW.MH14	49.580	48.432	0.300	32.374	1.0	0.89	69.6	Surcharged
2.003	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH 14	SW.MH16	49.670	48.363	0.300	48.441	1.5	0.63	102.8	Surcharged
5.000	FEH: 100 years: +0 %: 15 mins: Summer	Pipe	SW.MH 13	SW.MH14	49.710	48.740	0.150	8.184	1.1	0.55	18.9	OK
Pipe (1)	FEH: 100 years: +0 %: 120 mins: Summer	Pipe	Attenuation tank 4	SW.MH20	48.700	47.489	0.150	21.226	0.6	0.51	10.4	Surcharged

FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FEH: 30 years: +45 %: 30 mins: Summer	Pipe	SW.MH01	SW.MH02	51.920	50.421	0.049	8.108	0.9	0.23	4.8	OK
1.002	FEH: 30 years: +45 %: 30 mins: Summer	Pipe	SW.MH02	SW.MH03	51.310	49.956	0.088	25.375	0.9	0.22	13.7	OK
1.003	FEH: 30 years: +45 %: 30 mins: Summer	Pipe	SW.MH03	SW.MH04	50.900	49.531	0.106	40.812	1.2	0.41	21.7	OK
1.004	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	SW.MH04	SW.MH05	50.580	49.263	0.124	79.219	1.3	0.46	30.0	OK
1.005	FEH: 30 years: +45 %: 30 mins: Summer	Pipe	SW.MH05	SW.MH06	50.100	48.674	0.108	71.274	1.7	0.39	37.9	OK
1.000	FEH: 30 years: +45 %: 30 mins: Summer	Pipe	Porous Paving (0)	SW.MH01	51.804	51.514	0.039	8.154	1.3	0.08	4.8	Surcharged
PP2	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (2)	SW.MH02	51.524	51.276	0.032	14.555	1.8	0.1	4.9	Surcharged
PP1	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (1)	SW.MH02	51.632	51.197	0.032	9.932	1.5	0.1	4.1	OK
PP4	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (4)	SW.MH03	51.144	50.707	0.031	11.131	1.6	0.1	4.2	OK
PP3	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (3)	SW.MH03	51.024	50.715	0.031	10.952	1.5	0.09	4.0	OK
PP6	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (6)	SW.MH04	50.894	50.440	0.067	4.406	0.8	0.21	3.9	Surcharged
PP5	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (5)	SW.MH04	50.774	50.442	0.064	3.943	0.7	0.07	3.6	OK
PP7	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (7)	SW.MH05	50.274	49.974	0.029	10.547	1.7	0.08	4.1	Surcharged
PP8	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (8)	SW.MH05	50.274	49.972	0.031	11.958	1.6	0.09	4.1	Surcharged

PP10	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (10)	SW.MH06	50.024	49.714	0.030	10.939	1.6	0.09	4.0	OK
PP9	FEH: 30 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (9)	SW.MH06	50.024	49.715	0.028	10.937	1.8	0.07	4.0	OK
PP12	FEH: 30 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (12)	SW.MH07	49.774	49.457	0.225	7.487	0.5	0.03	3.9	OK
PP11	FEH: 30 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (11)	SW.MH07	49.774	49.457	0.225	7.514	0.6	0.03	3.9	OK
1.007	FEH: 30 years: +45 %: 360 mins: Winter	Pipe	Attenuation tank 1	SW.MH07	49.800	47.465	0.300	198.062	0.7	0.21	16.5	Surcharged
1.006	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH06	Attenuation tank 1	49.800	48.374	0.247	44.236	2.9	0.14	42.2	OK
1.009	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	SW.MH19	Attenuation tank 3	49.850	47.376	0.300	95.833	1.7	1.17	91.0	Surcharged
1.011	FEH: 30 years: +45 %: 180 mins: Winter	Pipe	SW.MH21 (FLOW CONTROL)	Outfall	49.120	47.608	0.142	545.868	1.4	0.68	35.9	Surcharged
1.008	FEH: 30 years: +45 %: 30 mins: Winter	Pipe	SW.MH07	SW.MH19	50.000	47.569	0.300	69.911	0.7	0.63	47.1	Surcharged
Pipe	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SWMH22	Attenuation tank 4	48.700	47.746	0.150	17.316	4.2	0.6	40.0	OK
1.010 (1)	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	Attenuation tank 3	SW.MH21 (FLOW CONTROL)	49.850	47.298	0.300	54.044	0.8	0.69	53.7	Surcharged
2.000	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH08	SW.MH10	49.500	48.780	0.300	8.134	0.4	0.28	22.1	Surcharged
2.001	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH10	SW.MH12	49.670	48.772	0.300	24.676	0.8	0.64	50.1	Surcharged
2.004	FEH: 30 years: +45 %: 30 mins: Winter	Pipe	SW.MH16	SW.MH17	49.670	48.224	0.227	109.346	2.4	1.71	134.1	Surcharged
6.000	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH15	SW.MH16	49.700	48.689	0.225	2.658	0.2	0.07	6.1	OK
3.000	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH09	SW.MH10	49.620	48.824	0.150	3.588	0.9	0.44	9.8	Surcharged
2.005	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	SW.MH17	Attenuation tank 2	49.670	48.027	0.240	88.084	5.8	0.31	177.6	OK

7.001	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH 20	SW.MH21 (FLOW CONTROL)	48.950	47.239	0.225	9.421	0.8	0.42	26.1	Surcharged
2.006	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	Attenuation tank 2	SW.MH19	49.730	47.384	0.300	40.972	1.2	0.53	82.3	Surcharged
4.000	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH11	SW.MH12	49.640	48.834	0.150	5.233	0.7	0.48	12.1	Surcharged
2.002	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH 12	SW.MH14	49.580	48.731	0.300	37.308	1.1	0.97	76.0	Surcharged
2.003	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH 14	SW.MH16	49.670	48.650	0.300	55.786	1.6	0.69	112.9	Surcharged
5.000	FEH: 30 years: +45 %: 15 mins: Summer	Pipe	SW.MH 13	SW.MH14	49.710	48.863	0.150	9.410	1.2	0.63	21.7	Surcharged
Pipe (1)	FEH: 30 years: +45 %: 180 mins: Summer	Pipe	Attenuation tank 4	SW.MH20	48.700	47.636	0.150	37.384	0.6	0.51	10.4	Surcharged

The College of Ricjard Collyer - New Technology Centre: Prposed Below Ground Drainage Calculations	Date: 10/09/2026		
	Designed by: JD	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	BDP:		

FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SW.MH01	SW.MH02	51.920	50.425	0.053	10.294	1.0	0.27	5.5	OK
1.002	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SW.MH02	SW.MH03	51.310	49.961	0.096	31.871	1.0	0.25	15.7	OK
1.003	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	SW.MH03	SW.MH04	50.900	49.541	0.117	73.718	1.2	0.48	25.3	OK
1.004	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	SW.MH04	SW.MH05	50.580	49.273	0.135	102.096	1.4	0.54	34.8	OK
1.005	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	SW.MH05	SW.MH06	50.100	48.687	0.118	130.946	1.7	0.46	44.4	OK
1.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Porous Paving (0)	SW.MH01	51.804	51.546	0.041	5.868	1.4	0.09	5.2	Surcharged
PP2	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (2)	SW.MH02	51.524	51.344	0.035	18.728	1.9	0.12	5.8	Surcharged
PP1	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (1)	SW.MH02	51.632	51.239	0.034	12.812	1.5	0.11	4.6	Surcharged
PP4	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (4)	SW.MH03	51.144	50.752	0.037	14.347	1.6	0.11	4.8	Surcharged
PP3	FEH: 100 years: +45 %: 120 mins: Summer	Pipe	Porous Paving (3)	SW.MH03	51.024	50.732	0.032	17.130	1.6	0.1	4.3	Surcharged
PP6	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Porous Paving (6)	SW.MH04	50.894	50.474	0.072	5.047	0.8	0.23	4.4	Surcharged
PP5	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (5)	SW.MH04	50.774	50.475	0.069	4.736	0.8	0.08	4.2	Surcharged
PP7	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (7)	SW.MH05	50.274	50.023	0.031	13.593	1.8	0.09	4.9	Surcharged
PP8	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (8)	SW.MH05	50.274	50.020	0.034	15.404	1.6	0.11	4.8	Surcharged

PP10	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (10)	SW.MH06	50.024	49.760	0.033	14.105	1.7	0.1	4.7	Surcharged
PP9	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (9)	SW.MH06	50.024	49.760	0.030	14.103	1.8	0.09	4.7	Surcharged
PP12	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (12)	SW.MH07	49.774	49.498	0.225	9.442	0.6	0.03	4.5	OK
PP11	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (11)	SW.MH07	49.774	49.499	0.225	9.477	0.6	0.03	4.5	OK
1.007	FEH: 100 years: +45 %: 360 mins: Winter	Pipe	Attenuation tank 1	SW.MH07	49.800	47.795	0.300	246.332	0.7	0.24	19.0	Surcharged
1.006	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SW.MH06	Attenuation tank 1	49.800	48.380	0.300	52.532	2.9	0.16	48.4	OK
1.009	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SW.MH19	Attenuation tank 3	49.850	47.513	0.300	107.347	1.7	1.19	93.0	Surcharged
1.011	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	SW.MH21 (FLOW CONTROL)	Outfall	49.120	48.003	0.142	197.455	1.4	0.68	35.9	Surcharged
1.008	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	SW.MH07	SW.MH19	50.000	47.800	0.300	79.125	0.7	0.71	52.8	Surcharged
Pipe	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH22	Attenuation tank 4	48.700	47.758	0.150	21.830	4.3	0.71	47.2	OK
1.010 (1)	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Attenuation tank 3	SW.MH21 (FLOW CONTROL)	49.850	48.024	0.300	223.411	1.0	0.88	69.1	Surcharged
2.000	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SW.MH08	SW.MH10	49.500	49.100	0.300	10.268	0.4	0.3	23.4	Surcharged
2.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH10	SW.MH12	49.670	49.216	0.300	31.208	0.9	0.81	63.7	Surcharged
2.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH16	SW.MH17	49.670	48.853	0.300	103.499	3.0	2.73	213.9	Surcharged
6.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH15	SW.MH16	49.700	48.856	0.225	3.347	0.2	0.1	8.9	OK
3.000	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SW.MH09	SW.MH10	49.620	49.138	0.150	4.529	0.9	0.47	10.6	Surcharged
2.005	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SW.MH17	Attenuation tank 2	49.670	48.057	0.299	111.118	6.0	0.37	213.3	OK

7.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH 20	SW.MH21 (FLOW CONTROL)	48.950	47.357	0.225	12.021	0.9	0.51	32.0	Surcharged
2.006	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Attenuation tank 2	SW.MH19	49.730	47.527	0.300	44.857	1.3	0.57	88.7	Surcharged
4.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH11	SW.MH12	49.640	49.281	0.150	6.595	0.8	0.55	13.9	Surcharged
2.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH 12	SW.MH14	49.580	49.148	0.300	47.136	1.4	1.23	96.3	Surcharged
2.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH 14	SW.MH16	49.670	49.018	0.300	70.430	2.0	0.87	142.5	Surcharged
5.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SW.MH 13	SW.MH14	49.710	49.354	0.150	11.864	1.4	0.7	24.1	Surcharged
Pipe (1)	FEH: 100 years: +45 %: 120 mins: Winter	Pipe	Attenuation tank 4	SW.MH20	48.700	48.205	0.150	0.421	0.6	0.55	11.1	Surcharged