



STAR RADCLIFFE ACADEMY

DRAINAGE MAINTENANCE STRATEGY

Project No: 2303-02
January 2026
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Rev: P02

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Date **01.12.25**

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1. INTRODUCTION

1.1 Purpose of this Report

This Drainage Maintenance Strategy report contains the information required in respect to Condition 10, associated to permission ref. 70071 (which has subsequently been superseded by permission ref. 71525) for the Star Radcliffe Academy development and should be read in conjunction with the Drainage Technical Note (Doc ref FS1013-REN-XX-XX-T-C-0162).

Condition 10: Prior to the first occupation of the development a sustainable drainage management and maintenance plan for the lifetime of the development shall be submitted to the local planning authority and agreed in writing. The sustainable drainage management and maintenance plan shall include as a minimum:

- (a). Arrangements for adoption by an appropriate public body or statutory undertaker, or, management and maintenance by a resident's management company; and*
- (b). Arrangements for inspection and ongoing maintenance of all elements of the sustainable drainage system to secure the operation of the surface water drainage scheme throughout its lifetime.*

The development shall subsequently be completed, maintained and managed in accordance with the approved plan.

Reason. To ensure that management arrangements are in place for the sustainable drainage system in order to manage the risk of flooding and pollution during the lifetime of the development, pursuant to Policy EN5/1 of the Bury Unitary Development Plan and Section 14 of the National Planning Policy Framework.

2. THE SITE

2.1 Site Location

The proposed development site is located off Spring Lane, Radcliffe.

The site location is described below:

- Post Code M26 2SZ
- OS X (Easting) 378714
- OS Y (Northing) 407606
- Nat. Grid SD 787076

The site location is illustrated in Figure 2.1 below. The approximate overall planning boundary for the Star Radcliffe Academy development is shown in red.



Figure 2.1: Indicative Site Location

2.2 Proposed Development

The proposed redevelopment comprises a new 3-storey secondary school building along with a new artificial grass pitch, a multi-use games area (MUGA), a grass pitch, new car parking areas and access roads.

The proposed access road to the south of the site is to be adopted by Bury Council and so does not form part of the onsite maintenance strategy.

3. FUTURE MANAGEMENT & MAINTENANCE

In order to ensure the ongoing functioning of the below ground drainage networks, a suitable maintenance strategy is to be adopted to ensure the drainage network performs as expected. The drainage network should be cleaned regularly and the routine maintenance and cleansing regime should be clearly documented.

It is assumed that all drainage within the site will remain private and will be maintained by the building owner or a management company selected on their behalf.

This strategy is intended to give an overview of the operation and maintenance for the drainage features included within the proposed design. Where proprietary products have been specified, the manufacturer's instructions and recommendations are to be followed.

The recommended operations and frequencies are typical and initially should be undertaken more frequently to ensure that there are no unforeseen issues with the operation.

The Main Contractor delivering the development is to update the general requirements to reflect the product specific requirements of the as installed proprietary SuDS and incorporate these into the Operation & Maintenance manual for the building.

It should be noted that the Main Contractor should provide a Verification Report, including photographic evidence, to demonstrate that the drainage has been constructed as per the design drawings. As-built drawings should be supplied by the Main Contractor where the construction of the drainage varies from the design drawings.

The following components have been included within the drainage strategy for the proposed development:

- Inspection chambers, manholes and catchpits.
- Pipes.
- Drainage channels and gullies.
- Pervious pavements / Ultraporous Pavement surface

4.1 General Maintenance & Inspection Requirements

No work shall be carried out on the drainage system without permission from a nominated person, who has access to information/a working knowledge of the system.

Maintenance/inspection work shall be carried out in a safe/planned manner.

All work is to be carried out by competent persons suitably trained and equipped in accordance with current statutory safe working policies.

Entry into confined spaces shall be kept to a minimum and be restricted to suitably qualified/equipped personnel working in accordance with current statutory safe working policies.

Drainage systems shall be inspected on a regular basis or when any problems arise. Any debris/defects discovered shall be recorded and a programme of cleaning/ repair initiated. Urgent repairs/cleaning shall be actioned as soon as practicable.

It is recommended that the drainage system is inspected a minimum of twice a year, with the system also being inspected after all major storm events.

Clearing of the drainage system can be achieved by a number of methods depending on the nature of the work;

- Rodding – Manual/Mechanical with flexible rods.
- Jetting – High pressure water jetting.
- Plunging.

4.2 Inspection Chambers, Manholes and Catchpits

The appropriate health and safety equipment must be used when accessing manholes/catchpits. Confined space certificates must be held by any personnel entering a manhole and the appropriate permits should be obtained from the Maintenance Manager prior to any access. The following operations should be carried out annually:

- Covers of inspection chambers and manholes shall be removed and the sides, benching and channels cleared.
- Deposits of silt in inspection chambers, catchpits and manholes shall be removed. Any traps shall then be plunged and thoroughly flushed out with clean water. This should be completed in Autumn, after leaf fall has halted. For product specific maintenance manual of the Catchpits adopted in the drainage network, refer to F5400 Formalo Catchpit product maintenance manual in Appendix B
- Main and branch drains shall be cleared as required and afterwards be flushed with clean water. Any obstructions found shall be removed and not flushed down the system.
- Covers of inspection chambers, manholes and catchpits shall be replaced, bedded in suitable sealing material as required and bolted/locked down as appropriate. Missing bolts and broken items shall be replaced in accordance with the manufacturer's details.

4.3 Pipes

Regular inspection and maintenance are important to identify areas which may have become obstructed/clogged and may not be draining correctly, failure to do so would expose the development to flood risk.

Pipes are proprietary products and therefore the materials used can vary across the site. As such, the manufacturer's recommendations should be followed. Access for maintenance of the pipes is provided through inspection chambers and manholes. The below table sets out the maintenance schedule for the pipe components of the proposed drainage systems.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Inspect for evidence of poor operation via water levels. If required, take remedial action.	Monthly for 3 months, then six monthly intervals. Also, 48 hours after large storms.
	Check and remove large debris and/or vegetation growth near pipe runs.	Monthly or as required.
Remedial Actions	Rod through poorly performing runs as initial remediation.	As required.
	If continued poor performance jet and CCTV survey poorly performing runs.	As required.
	Seek advice as to remediation techniques suitable for the type of performance issue.	As required, if above actions do not improve performance.
Monitoring	Initial inspection should be provided as post construction CCTV survey.	N/A

	Inspect/check all inlets, outlets and overflows to ensure they are in good condition and operating as designed.	Monthly for 3 months, then six monthly intervals. Also, 48 hours after large storms.
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4.4 Drainage Channels and Gullies

Channels and gullies should be inspected and cleaned in accordance with the manufacturer's details. Channel units can be cleaned through the use of a high-pressure hose; this can be fed into the channel system through access units strategically placed along the channel run. The throat section of channel units should be kept clear at all times to ensure uninterrupted flow of surface water into the drainage channel and any debris within the throat should be removed.

Locking bolts should be replaced and sufficiently tightened, taking care that the bolt heads do not stand above the top surface of the cover or grate. If covers are allowed to move within their frame, this may cause damage to the frame or seating. The below table sets out the maintenance schedule for the drainage channel and gully components of the proposed drainage systems.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Litter and debris removal.	Monthly or as required.
	Check and remove large debris and/or vegetation growth near pipe runs.	Monthly or as required.
	Inspect for evidence of poor operation and/or weed growth. If required, take remedial action. Inspect silt accumulation rates and establish appropriate brushing frequencies.	Monthly for 3 months, then six monthly intervals. Also, 48 hours after large storms.
Remedial Actions	Inspect access/outlet boxes and rod through poorly performing channels and outlets as initial remediation.	As required.
	Seek advice as to remediation techniques suitable for the type of performance issue.	As required, if above actions do not improve performance.
Monitoring	Initial inspection including channel outlet boxes and gully sumps.	Monthly for 3 months, then six monthly intervals. Also, 48 hours after large storms.

4.5 Permeable Paving

Permeable Pavements require maintenance and key house keeping measures to ensure that they perform effectively for their usable lifespan.

As with impermeable Asphalts, users of the permeable Asphalt surface are advised not to use or traffic the product until it has cooled to ambient temperature, and that it should be left after installation for a minimum of 24 hours.

The general maintenance requirements for permeable paving systems are shown in the table below. The product specific maintenance manual for the permeable Asphalt surface is included in Appendix B.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Litter, leaves and spillages should be brushed or if possible vacuumed off the surface	Six monthly
	Periodic use of a standard road sweeper is permitted.	As required
	Stabilise and mow contributing and adjacent areas. Remove weeds through glyphosate applied directly by an applicator instead of spraying. Remediate any landscaping which has been raised to within 50mm of the level of the paving.	As required
Winter Maintenance	Winter maintenance can be undertaken using BS 3247 Fine Grade 6.3mm rock salt, however, effective dispersal across the surface is highly recommended and reduces clogging of the asphalt pores. As such, applicators or spreaders should be employed.	As required
	Snow clearance by unmodified or general plant must be prohibited. All clearance equipment such as JCB type loading shovels or tractors should use either plastic/rubber ploughs or buckets protected with rubber sheaths to prevent damage to the surface.	As required
Annual Assessment of Surface Permeability	During a period of heavy rain, an annual assessment of the surface should be undertaken to identify any areas which over time begin to hold water. Should any areas of ponding begin to show over 50% of the total surface area, hydraulic conductivity testing is recommended and an appropriate course of cleaning agreed.	Annually
Routine monitoring	An initial inspection should be undertaken monthly for the first three months after installation. Inspections for poor operation and/or weed growth should be undertaken three monthly, or within 48hours of large storms that occur within the first six months. Inspection chambers and silt accumulation rates should be monitored annually.	As required
New Building Work	An effective protection method should be agreed with all trades using the system area, in particular those requiring heavy plant, equipment and materials which may damage or clog the surface.	As required
Emergency Intervention	Oil and fuel spillages with any residues left for treatment within the pavement itself. High levels of spillage or long term deposits or oil and fuel may force minor repairs to the system layers.	As required

4.6 Flow Control Chambers

Regular inspection and maintenance is important, to identify if the flow control device has become obstructed/clogged and may not be functioning correctly, as failure to do so would expose the development to a risk of flooding.

Flow control devices are proprietary products and therefore can vary from manufacturer to manufacturer. As such, the manufacturer's recommendations should be followed.

Normally, little maintenance is required as flow control devices do not usually have moving parts. If blockages occur, they tend to do so at the intake of the flow control device.

Flow control devices are generally fitted with a pivoting by-pass door, which allows the manhole chamber to be drained down should blockages occur.

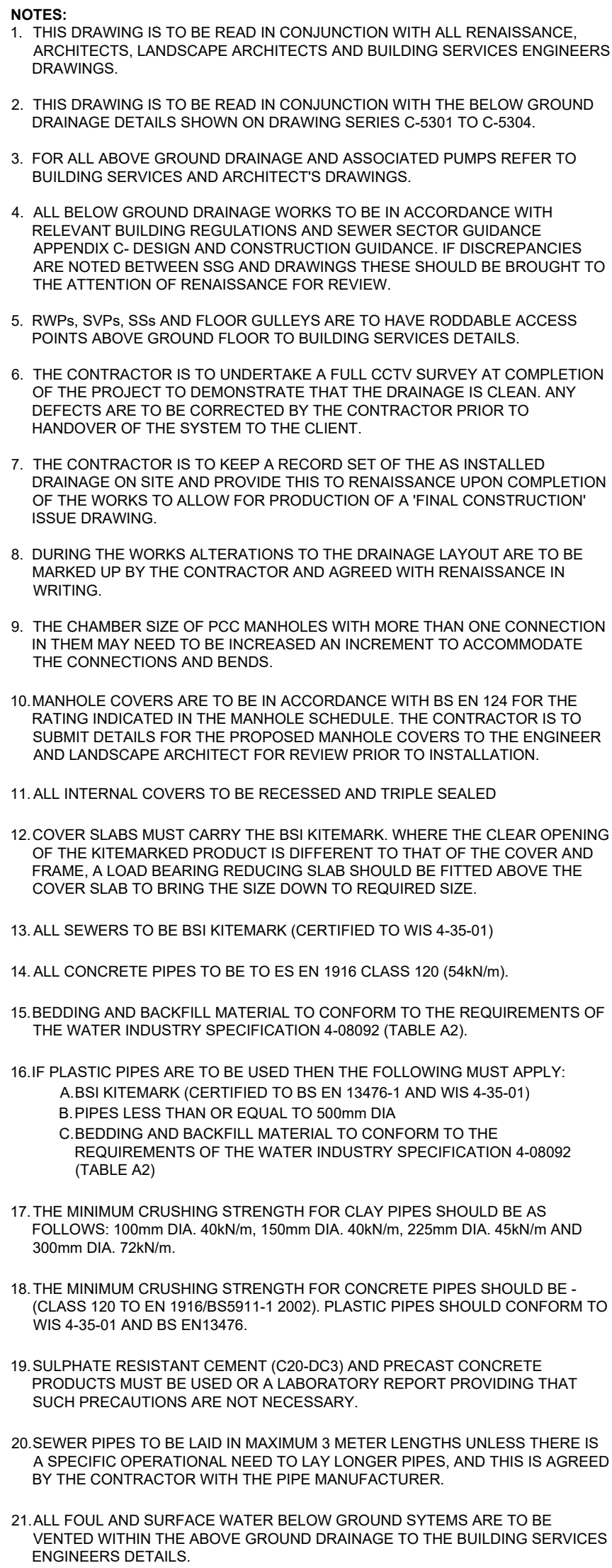
Following installation of the flow control device it is vitally important that any building materials etc. are removed from the unit and the chamber.

After the system is made fully functional, it is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required. Units should also be inspected within 48 hours after large storms.

For the product specific operation and maintenance details of the flow control devices adopted in the surface water drainage network, refer to the HydroBrake maintenance manual and Formaflow 300FC Datasheet in Appendix B.

APPENDIX A

BELOW GROUND DRAINAGE DRAWINGS



- ALL EXISTING BURIED SURFACES UNDER PROPOSED BUILDING TO BE EXPOSED AND GRUBBED OUT WITH EXCAVATIONS BACKFILLED WITH SUITABLE WELL-COMPACTED MATERIAL BEFORE COMMENCING CONSTRUCTION WORK.
- ALL PHASE I AND GEO-ENVIRONMENTAL SURVEYS HAVE INDICATED THE PRESENCE OF COAL BENEATH THE SITE. A MORE EXTENSIVE GROUND INVESTIGATION IS REQUIRED TO VALIDATE THE PRESENCE OF ANY SHALLOW-MINERAL RESOURCES.
- THE GROUND INVESTIGATION REPORTS INDICATE HIGH GROUNDWATER LEVELS, WHICH ARE AS SHALLOW AS 1.89m-10m IN PLACES. RELATED RISKS REQUIRE INSTIUTY OF FOUNDATION DESIGN. GROUND BASES TO BE SETTED ALLOWANCE FOR MANAGED THE GROUND DURING THE CONSTRUCTION OF THE PROJECT.
- THE HISTORICAL MAPS INDICATE RAILWAY LINES PREVIOUSLY RUNNING ACROSS THE SITE. WHEN ENCOUNTERED, THESE ARE TO BE GRUBBED OUT WITH EXCAVATIONS BACKFILLED WITH SUITABLE WELL-COMPACTED MATERIAL.
- CONTAMINATION MAY BE ENCOUNTERED DURING GROUNDWORKS. A MORE EXTENSIVE GROUND INVESTIGATION IS REQUIRED TO DETERMINE NECESSARY MITIGATION MEASURES.

EXTERNAL WORKS SETTING OUT
FOR PROPOSED SITE LEVELS AND CHANNEL / GULLY LOCATIONS, REFER TO LANDSCAPE ARCHITECT'S DRAWINGS.

SVP & RWP SETTING OUT
SVP AND RWP LOCATIONS ARE INDICATIVE. FOR DETAILED SETTING OUT REFER TO ARCHITECTS/ BUILDING SERVICE ENGINEERS DRAWINGS.
ALL CONNECTIONS BETWEEN ABOVE GROUND DRAINAGE AND BELOW GROUND DRAINAGE TO BE SIZED TO SUIT ABOVE GROUND DRAINAGE.

METROLINK LINE

ALL DRAINAGE AND SURFACE FINISHES ADJACENT TO THE METROLINK LINE TO THE EAST OF THE SITE ARE TO FALL AWAY FROM THE EMBANKMENT TO PREVENT ANY IMPACTS ON ITS STABILITY.

PITCH DRAINAGE

THE PITCH AREAS HAVE BEEN INCLUDED WITHIN THE PROPOSED DRAINAGE DESIGN ALLOWING FOR THE FLOW RATES ADVISED BY THE SUDS SPECIALIST. THERE IS POTENTIAL FOR THE PITCHES TO BE DRAINED VIA AN INFILTRATION ONLY SYSTEM. THIS IS TO BE CONFIRMED ONCE ADDITIONAL INFILTRATION TESTING CAN BE CARRIED OUT UNDER THE FOOTPRINT OF THE EXISTING LEISURE CENTRE BUILDING.

C05	ISSUED WITH S73 APPLICATION	21.10.25	HW	PW
C04	REVISED TO SUIT INSTALLED DRAINAGE	21.08.25	SA	PW
C03	MANHOLE REFS UPDATED	24.07.25	HW	PW
C02	UPDATED FW AND SW CONNECTIONS	18.07.25	HW	PW
C01	CONSTRUCTION ISSUE	06.05.25	HW	PW
Rev:	Description:	Date:	By:	Chkd:



STAR RADCLIFFE ACADEMY,
BURY

Drawing Title:

BELOW GROUND DRAINAGE
PLAN - SHEET 1 OF 2

Status:	
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STAGE 5

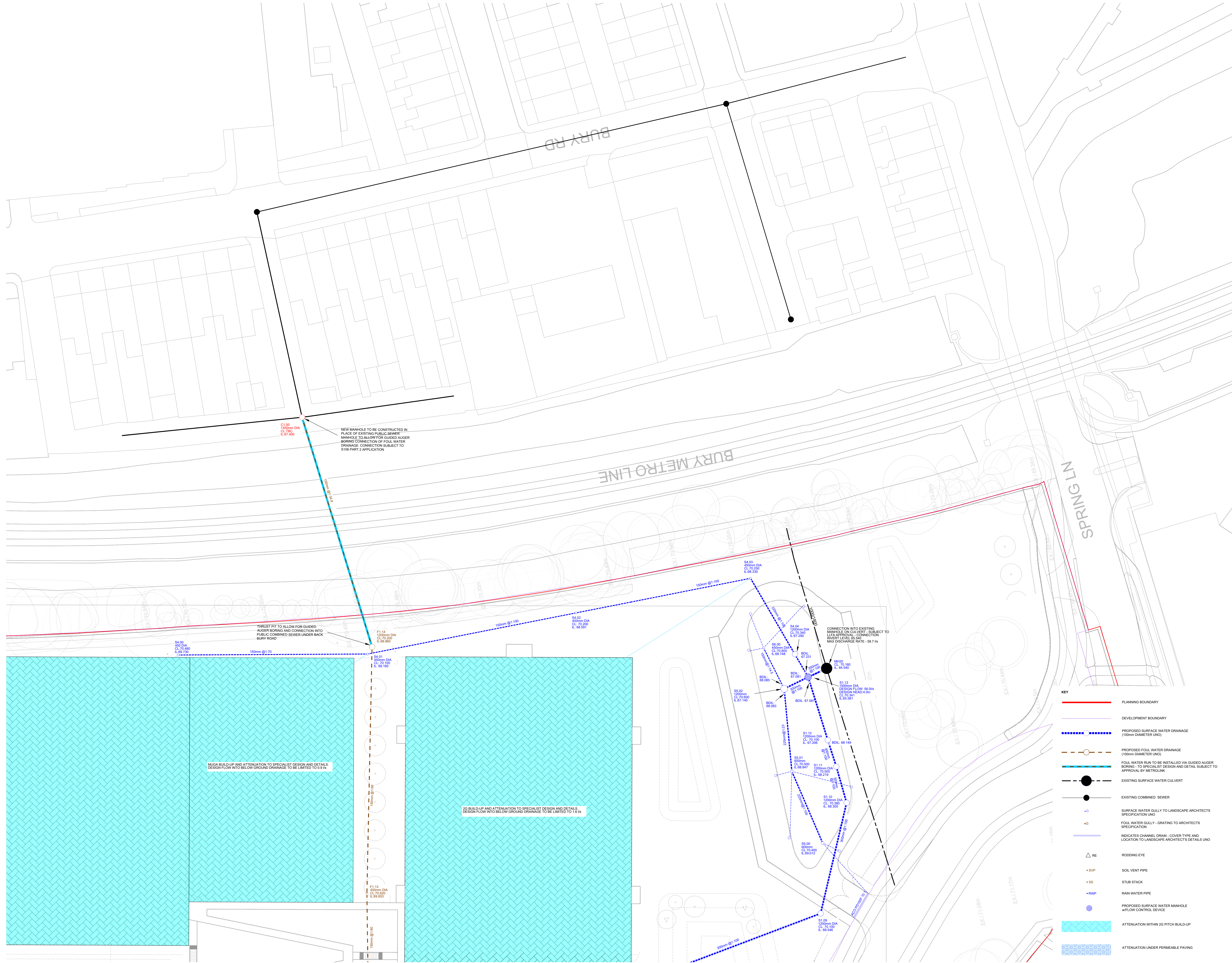
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Project	Originator	Volume	Level	Type	Role	Number:	Revision:
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ES1013 BEN FY 00 D C 5310 C05



1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE DETAIL SHOWN ON DRAWING SERIES C-0301 TO C-0304.
3. FOR ALL ABOVE GROUND DRAINAGE AND ASSOCIATED PUMPS REFER TO BUILDING SERVICES AND ARCHITECT'S DRAWINGS.
4. ALL BELOW GROUND DRAINAGE WORKS TO BE IN ACCORDANCE WITH RELEVANT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE. APPENDIX C: DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN SSC AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
5. RWP, SVP, SSS AND FLOOR GULLEYS ARE TO HAVE RODDABLE ACCESS POINTS ABOVE GROUND FLOOR TO BUILDING SERVICES DETAILS.
6. THE CONTRACTOR IS TO UNDERTAKE A FULL CCTV SURVEY AT COMPLETION OF THE PROJECT TO DEMONSTRATE THAT THE DRAINAGE IS CLEAR. ANY DEFECTS ARE TO BE CORRECTED BY THE CONTRACTOR PRIOR TO HANDOVER OF THE SYSTEM TO THE CLIENT.
7. THE CONTRACTOR IS TO KEEP A RECORD SET OF THE AS INSTALLED DRAINAGE ON SITE AND PROVIDE THIS TO RENAISSANCE UPON COMPLETION OF THE WORKS TO ALLOW FOR PRODUCTION OF A FINAL CONSTRUCTION ISSUE DRAWING.
8. DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
9. THE CHAMBER SIZE OF PCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
10. MANHOLE COVERS ARE TO BE IN ACCORDANCE WITH BS EN 124 FOR THE RATING INDICATED IN THE MANHOLE SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAILS FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
11. ALL INTERNAL COVERS TO BE RECESSED AND TRIPLE SEALED.
12. COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOAD BEARING REDUCING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO REQUIRED SIZE.
13. ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WS 4-35-01).
14. ALL CONCRETE PIPES TO BE TO BS EN 1916 CLASS 120 (54kN/m).
15. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-0802 (TABLE A2).
16. IF PLASTIC PIPES ARE TO BE USED THEN THE FOLLOWING MUST APPLY:
A. BSI KITEMARK CERTIFIED TO BS EN 13476-1 AND WS 4-35-01.
B. PIPES LESS THAN OR EQUAL TO 500mm DIA.
C. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-0802 (TABLE A2).
17. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA. 40kN/m, 225mm DIA. 45kN/m AND 300mm DIA. 75kN/m.
18. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE - (CLASS 120 TO EN 1916BS5911-1 2002). PLASTIC PIPES SHOULD CONFORM TO WS 4-35-01 AND BS EN 13476-1.
19. SULPHATE RESISTANT CEMENT (C20-02C) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
20. SEWER PIPES TO BE LAID IN MAXIMUM 3 METER LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER PIPES, AND THIS IS AGREED BY THE CONTRACTOR WITH THE PIPE MANUFACTURER.
21. ALL FOUL AND SURFACE WATER BELOW GROUND SYSTEMS ARE TO BE VENTED WITHIN THE ABOVE GROUND DRAINAGE TO THE BUILDING SERVICES ENGINEERS DETAIL S.

1. ALL EXISTING BURIED SERVICES BELOW PROPOSED BUILDING TO BE IDENTIFIED AND GRUBBED OUT WITH EXCAVATIONS BACKFILLED WITH SUITABLE WELL-COMPACTED MATERIAL BEFORE COMMENCING CONSTRUCTION WORKS.
2. ALL PHASE 1 AND 1+GEO-ENVIRONMENTAL SURVEYS HAVE INDICATED THE PRESENCE OF COAL BENEATH THE SITE. A MORE EXTENSIVE GROUND INVESTIGATION IS REQUIRED TO VALIDATE THE PRESENCE OF ANY SHALLOW MINE WORKING.
3. THE GROUND INVESTIGATION REPORTS INDICATE HIGH GROUNDWATER LEVELS, WHICH ARE AS SHALLOW AS 0.85m BGL IN PLACES. RELATED RISKS INCLUDE INSTABILITY OF FOUNDATIONS AND GROUND SLABS TO RESIST ALLOWANCE FOR MANAGING THE GROUNDWATER DURING THE CONSTRUCTION STAGE.
4. THE HISTORICAL MAPS INDICATE RAILWAY LINES PREVIOUSLY RUNNING ACROSS THE SITE, WHERE ENCOUNTERED, THESE WILL NEED TO BE GRUBBED OUT WITH EXCAVATIONS BACKFILLED WITH SUITABLE WELL-COMPACTED MATERIAL.
5. CONTAMINATION MAY BE ENCOUNTERED DURING GROUNDWORKS. A MORE EXTENSIVE GROUND INVESTIGATION IS REQUIRED TO DETERMINE NECESSARY MITIGATION MEASURES.

EXTERNAL WORKS SETTING OUT
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SVP & RWP SETTING OUT
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ALL CONNECTIONS BETWEEN ABOVE GROUND DRAINAGE AND BELOW GROUND DRAINAGE TO BE SIZED TO SUIT ABOVE GROUND DRAINAGE.

METROLINK LINE
ALL DRAINAGE AND SURFACE FINISHES ADJACENT TO THE METROLINK LINE TO THE EAST OF THE SITE ARE TO FALL AWAY FROM THE EMBANKMENT TO PREVENT ANY IMPACTS ON ITS STABILITY.

PITCH DRAINAGE
THE PITCH AREAS HAVE BEEN INCLUDED WITHIN THE PROPOSED DRAINAGE DESIGN ALLOWING FOR THE FLOW RATES ADVISED BY THE SUDS SPECIALIST. THERE IS POTENTIAL FOR THE PITCHES TO BE DRAINED VIA AN INFILTRATION ONLY SYSTEM. THIS IS TO BE CONFIRMED ONCE ADDITIONAL INFILTRATION TESTING CAN BE CARRIED OUT UNDER THE FOOTPRINT OF THE EXISTING LEISURE CENTRE BUILDING.

KEY	
	PLANNING BOUNDARY
	DEVELOPMENT BOUNDARY
	PROPOSED SURFACE WATER DRAINAGE (100mm DIAMETER UNO)
	PROPOSED FOUL WATER DRAINAGE (100mm DIAMETER UNO)
	FOUL WATER RUN TO BE INSTALLED VIA GUIDED AUGER BORING - TO SPECIALIST DESIGN AND DETAIL SUBJECT TO APPROVAL BY METROLINK
	EXISTING SURFACE WATER CULVERT
	EXISTING COMBINED SEWER
	SURFACE WATER GULLY TO LANDSCAPE ARCHITECTS SPECIFICATION UNO
	FOUL WATER GULLY - GRATING TO ARCHITECTS SPECIFICATION
	INDICATES CHANNEL GRAD - COVER TYPE AND LOCATION TO LANDSCAPE ARCHITECTS DETAILS UNO
	RODDING EYE
	SOIL VENT PIPE
	STUB STACK
	RAIN WATER PIPE
	PROPOSED SURFACE WATER MANHOLE w/FLOW CONTROL DEVICE
	ATTENUATION WITHIN 20% PITCH BUILD-UP
	ATTENUATION UNDER PERMEABLE PAVING

C03

ISSUED WITH S73 APPLICATION

21.10.25

HW

PW

C02

MANHOLE REFS UPDATED

05.08.25

HW

PW

C01

CONSTRUCTION ISSUE

18.07.25

HW

PW

Rev:

Description:

Date:

By:

Chkd:

rennaissance

Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2QS

Project:

STAR RADCLIFFE ACADEMY, BURY

Drawing Title:

BELOW GROUND DRAINAGE PLAN - SHEET 2 OF 2

Status:

FINAL CONSTRUCTION

Size:

A0

Date:

JUN 24

Drawn by:

HW

Designed by:

HW

Checked by:

PW

Scale:

1:250

Project No:

2303-02

Project - Originator - Volume - Level - Type - Role - Number:

FS1013-REN-EX-00-D-C-5211

Revision:

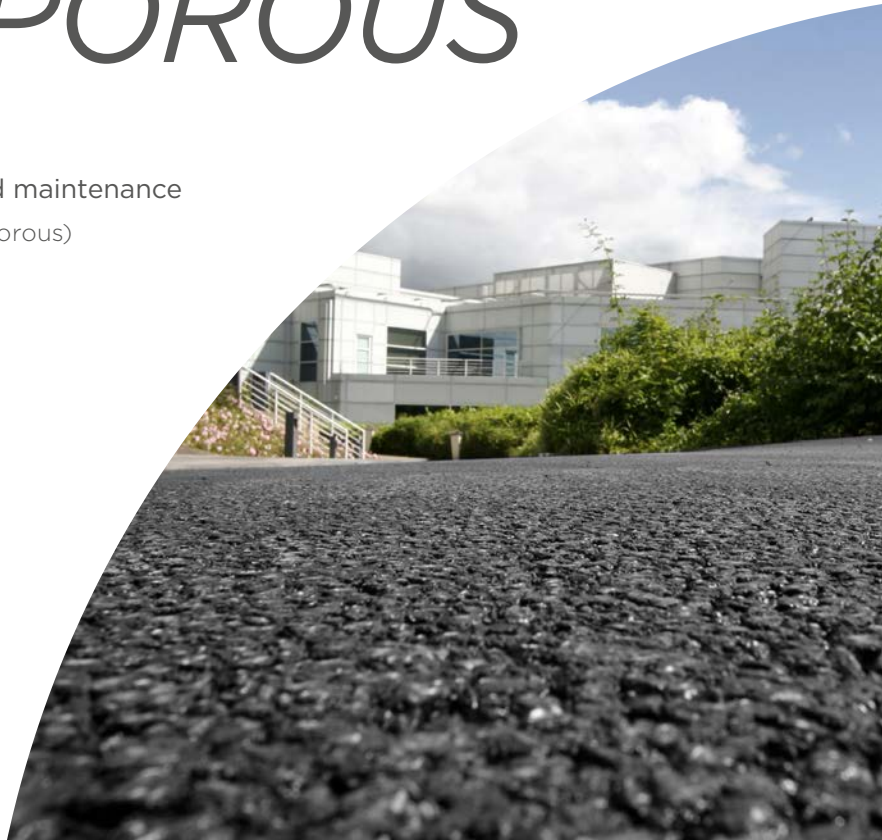
C03

APPENDIX B

PRODUCT MAINTENANCE SCHEDULES

ULTIPOROUS

System aftercare and maintenance
(including UltiColour Porous)





The long term performance of an ULTIPOROUS pavement relies on client awareness and good site practice. By preventing misuse and implementing some key house keeping measures, the system will perform effectively for many years.

Clients who have installed ULTIPOROUS systems are encouraged to return to Tarmac Contracting at any point to ask for support and guidance should they have concerns over any aspect of the system.

We advise the surface is not used or trafficked until it has cooled to ambient temperature. We recommend to achieve this that the area should be left for a minimum of 24 hours.

AFTER INSTALLATION

- Protect the system from construction and maintenance trades involving heavy plant and equipment.
- Prevent loose building and landscaping materials being dropped on the surface as these will clog the pores of the asphalt.
- Traditional pressure washing equipment should not be used as this forces dirt deeper into the asphalt.

NEW BUILDING WORK

- Any new building or landscaping works on site may place the system at risk, hence an effective protection method should be agreed with all trades using the system area, in particular those requiring heavy plant, equipment and materials which may damage or clog the surface.

EMERGENCY INTERVENTION

- Oil and fuel spillages can be cleaned up using absorbent cloths with any residues left for treatment within the pavement itself.
- High levels of spillage or long term deposits of oil and fuel may force minor repairs to the system layers. An experienced contractor should be employed.

ROUTINE MAINTENANCE

- Litter, leaves and spillages should be brushed or if possible vacuumed off the surface.
- Periodic use of a standard road sweeper is permitted.

WINTER MAINTENANCE

- Winter maintenance can be undertaken using BS 3247 Fine Grade 6.3mm rock salt however, effective dispersal across the surface is highly recommended and reduces clogging of the asphalt pores. As such, applicators or spreaders should be employed.
- Snow clearance by unmodified or general plant must be prohibited. All clearance equipment such as JCB type loading shovels or tractors should use either plastic/rubber ploughs or buckets protected with rubber sheaths to prevent damage to the surface.





ANNUAL ASSESSMENT OF SURFACE PERMEABILITY

- During a period of heavy rain, an annual assessment of the surface should be undertaken to identify any areas which over time begin to hold water. Should any areas of ponding begin to show over 50% of the total surface area, we would recommend Hydraulic Conductivity testing is undertaken and an appropriate course of cleaning agreed.
- Trials show that silts and detritus materials build up just 30-40mm from the surface, travelling no deeper. As such they can be easily removed by hydro cleaning, a specialist process detailed below.
- Any systems which comprise flow control devices and other related SUDS components should also be inspected to ensure they continue to operate free from litter or debris.

RESTORING PERMEABILITY THROUGH 'HYDRO' CLEANING

Under controlled pressure these machines jet water into the surface to agitate the solids back in to suspension and then under intense vacuum draws them out of the surface, restoring hydraulic conductivity levels some thirty times more than that required for a very heavy UK storm event.

Although the speed of silting is largely linked to the number of vehicle movements across the surface and end use, on most 'trafficked' sites cleaning is not anticipated until years eight, nine or ten. Experience thus far shows that even systems subject to constant aggregate spills and high vehicle movements, did not show signs of pooling until year six.

Although more specialist than a traditional road sweeper, this jetting plant is readily available for hire across the UK.

CLIENT FRIENDLY

The process is performed at walking pace with large areas cleaned in hours and with minimal impact on the client or users.





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TARMAC.COM

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Hydro International Warranty, Maintenance and COSHH Statement

This statement covers Hydro International Hydro-Brake® Optimum, Hydro-Brake®, Hydro-Brake® Basic-S Vortex Flow Control units (hereafter referred to as "Flow Control").

Defects Liability Period Warranty

The standard Hydro International warranty covers products for one year from date of purchase and will only be considered for those defects or faults reported directly to Hydro International in writing. Warranties will not be considered for defects or faults caused by accident, acts of vandalism or unauthorised repair/rectification. Please Contact Hydro International for more details.

Maintenance

Normally, little maintenance is required as there are no moving parts within the Flow Control. Experience has shown that if blockages occur they do so at the intake, and the cause on such occasions has been due to a lack of attention to engineering detail such as approach velocities being too low, inadequate benching, or the use of units below the minimum recommended size. The Flow Control (where applicable) is fitted with a pivoting bypass door, which allows the manhole chamber to be drained down should blockage occur. The smaller conical units, below the minimum recommended size, are also supplied with rodding facilities or vortex suppressor pipes as standard.

Following installation of the Flow Control it is vitally important that any extraneous material i.e. building materials are removed from the unit and the chamber. After the system is made live, and assuming that the chamber design is satisfactory, it is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required. If problems are experienced, please do not hesitate to contact the company so that an investigation may be made.

All Flow Control units are typically manufactured from grade 304 Stainless Steel, and if required they can also be manufactured in grade 316 Stainless Steel. Both materials have an estimated life span in excess of the design life of drainage systems.

COSHH

Flow Control units are manufactured from high density polyethylene which is not regarded as hazardous to health and exhibits no chemical hazard when used under normal circumstances for the stated applications.

Manual Handling

The handling of Flow Control units should be in accordance with the current legislation and regulations:

- The Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Manual Handling Operations Regulations 1992. All published and printed by the Health and Safety Executive.

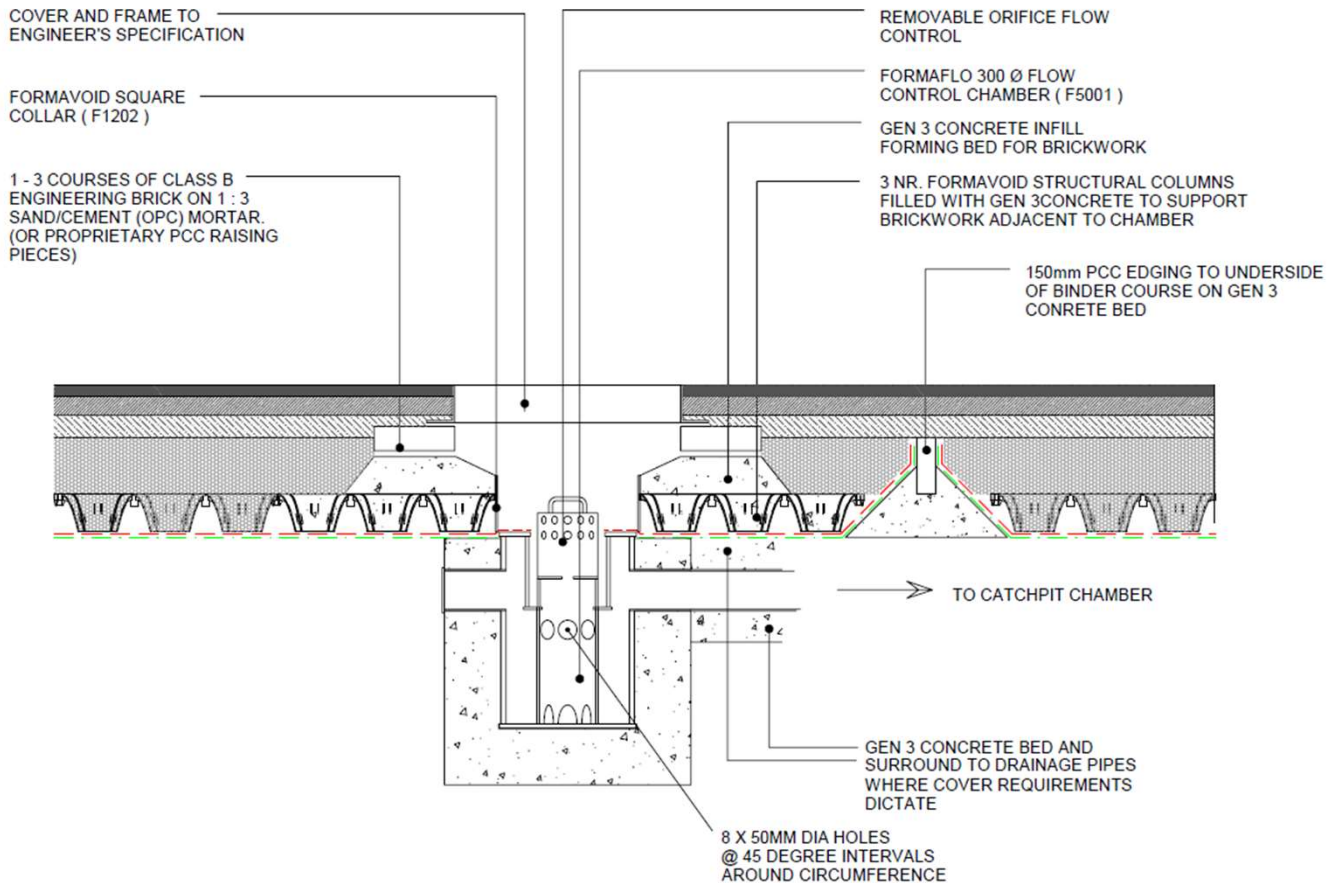
FORMAFLO flow control

PRODUCT INFORMATION – F5001



INTRODUCTION

The Formaflo flow control chamber is specially developed to control water discharge from a Formavoid raft using an upstream protected, removable orifice plate. The chamber is fully accessible for maintenance and situated below formation, terminating at formation level with a convenient rim for sealing membrane to. Stormwater flows directly from the Formavoid raft into the open top chamber, acting like a plughole.



FORMAFLO flow control

Product Code	F5001
Material	High Density Polyethylene
Diameter	300mmØ
Depth	525mm
Sump Depth	300mm
Nr Connection Spigots	2
Connection Spigot Diameter	110mm & 160mm
Orifice Type	Upstream Protected & Removable Plate

FORMAFLO flow control

PRODUCT INFORMATION – F5001

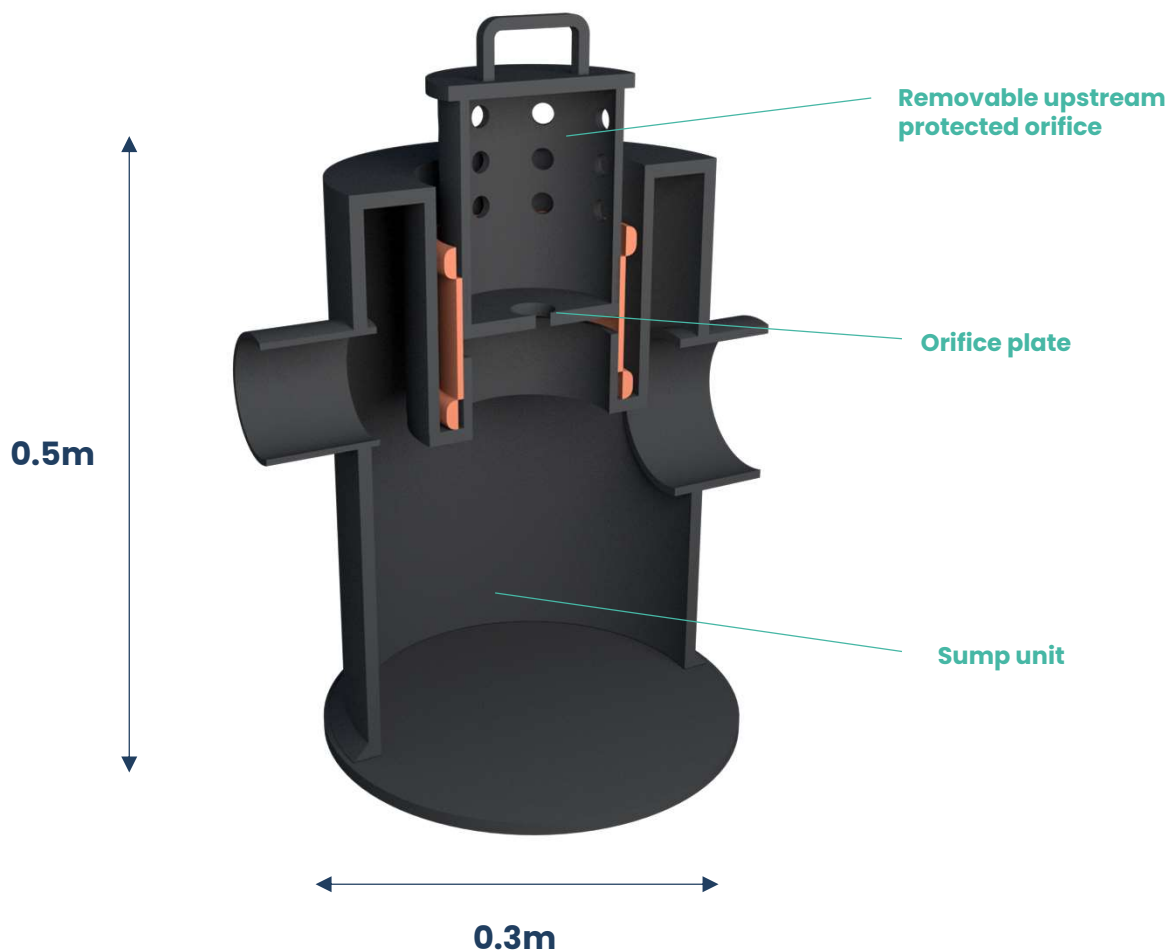


MAINTENANCE

It is recommended to inspect Formaflo flow control chambers at least every three months, and when standing water is present for prolonged period of time.

Appropriate removal/remedial action should be taken if excess silts or debris are identified during inspection.

Further to the above, it is recommended to evacuate chambers every 12 months.



- ✓ Fully compatible with the standard range of Formaliner impermeable geomembrane liners.
- ✓ Compatible with Formavoid raft design.

Last Revised January 2025

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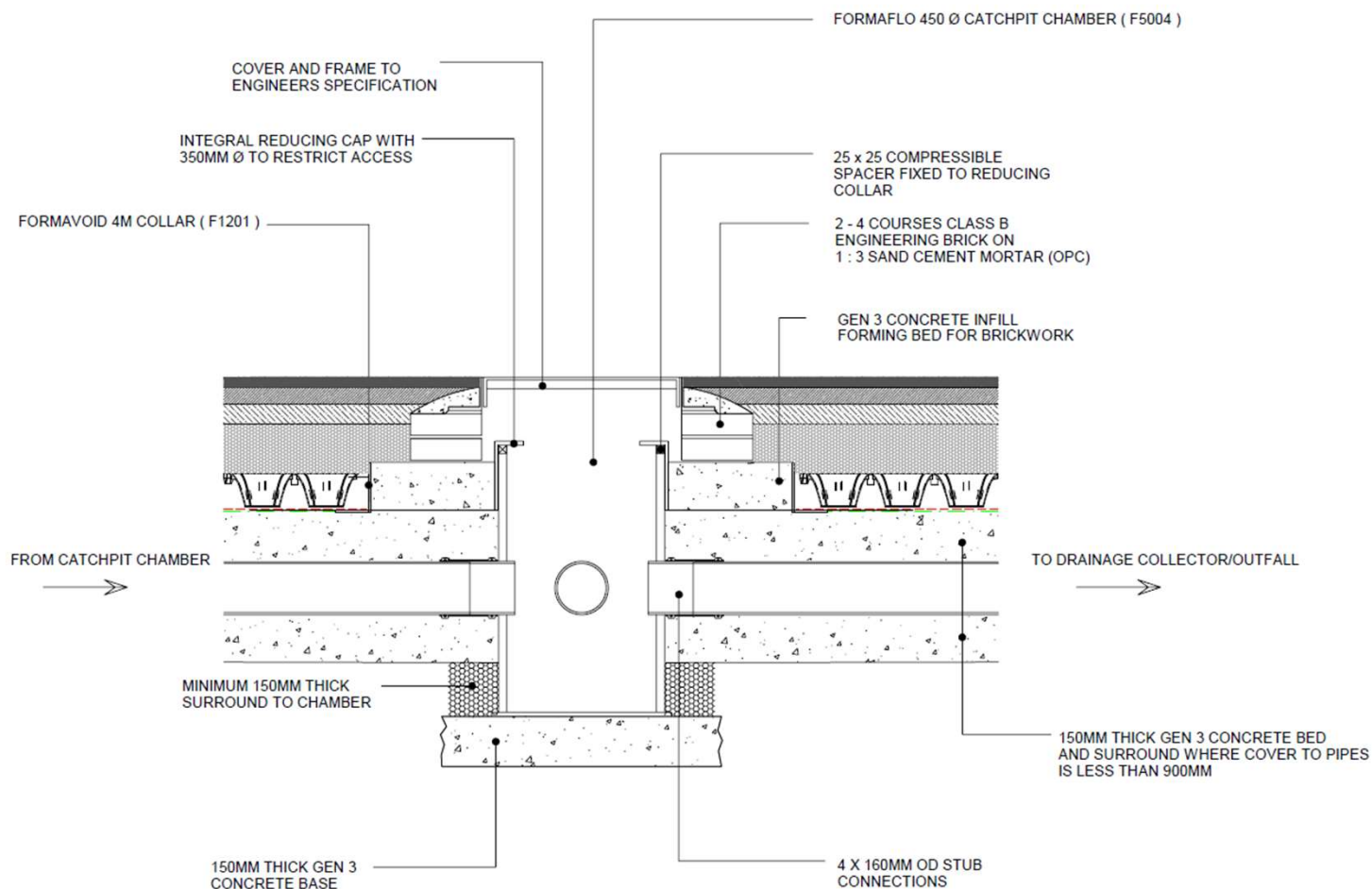
FORMAFLO 450Ø catchpit

PRODUCT INFORMATION – F5400



INTRODUCTION

The Formaflo catchpit chamber is specially developed to sit within a Formavoid raft with a seamless membrane sealing detail to the *F1201* collar. Supplied with a reducing cap accompanied with a compressible spacer.



FORMAFLO catchpit

Product Code	F5400
Material	High Density Polyethylene
Diameter	450mmØ
Depth	1500mm (cut down on site to required depth)
Sump Depth	300mm
Nr Connection Spigots	4
Connection Spigot Diameter	110mm to 160mm (to be specified)

FORMAFLO 450Ø catchpit

PRODUCT INFORMATION – F5400



MAINTENANCE

It is recommended to inspect Formaflo catchpit chambers at least every three months.

Appropriate removal/remedial action should be taken if an excess silts or debris are identified during inspection.

Further to the above, it is recommended to evacuate chambers every 12 months.

- ✓ Fully compatible with the standard range of Formaliner impermeable geomembrane liners.
- ✓ Compatible with Formavoid raft design.

Last Revised January 2025

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