EXPEDITE

DRAINAGE STATEMENT and SAB TECHNICAL NOTE

BLUE DRAGON SITE 2

Proposed Development

Drainage Statement and SAB Technical Note

Issued by:	Expedite 35 Southernhay East Exeter EX1 1NX
Client:	Cardiff 6th Form College
Project Reference:	ES21.22
Project Title:	Blue Dragon Site 2
Revision:	-
Date:	15th December 2022
Prepared by:	Paul Graham
Checked by:	Kris Tovey
Approved by:	Simon Lancaster

1.0 Introduction

1.1 This Drainage Statement and SAB Technical Note have been prepared on behalf of Cardiff 6th Form college by Expedite Engineering Services Ltd to describe the proposed drainage strategy and SAB requirements for a mixed-use development at Pierhead Street, Cardiff. This will comprise of leisure spaces, student accommodation, storage, and is part of an education facility.

2.0 Proposed Surface Water Drainage Strategy

Wales Government SuDS requirements

2.1 The proposed drainage strategy is set out in **Appendix A.**

2.2 The proposed scheme meets the requirements laid out in the Welsh Government's document 'Statutory Standards for Sustainable Drainage Systems'.

2.3 **S1).** The standards give a five-level priority list for the destination of surface runoff, which is as follows:

1. **Surface water runoff is collected for use**;

   The scheme involves a bioretention feature, which will allow the tree area at the rear of the scheme to utilise rainwater which flows off the elevated areas as part of the development.

2. **Surface water runoff is infiltrated to the ground**;

   At the time of writing, no infiltration testing has been carried out at the application site. However, due to the proximity of the dock, the area is known to not drain via infiltration. As well as this, the proposed structure covers a significant proportion of the site area, and achieving 5m from a foundation or boundary would refine the total suitable area to a size which would not be suitable for infiltration.

3. **Surface water runoff is discharged to a surface water body**;

   The closest surface water body is The Flourish to the west of the site. There is a 1500mm surface water sewer adopted by DCWW which passes in closer proximity to the site that discharges to this location. It is proposed that a connection to this dock feeder is agreed with DCWW via a S106. A direct connection would involve the crossing of several third-party land parcels.

4. **Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system**;

   There is a 1500mm diameter SW sewer located to the south of the application site, where the site will discharge as close as reasonably practicable to the controlled greenfield rate of 1l/s for all evnts up to the Q100 + 40% Climate Change event. This connection will be subject to a S106 application with DCWW. The greenfield rate has been calculated based on the site area of 0.362ha, with a Qbar rate of 0.2l/s. 1l/s has been chosen so that the orifice fitted to the network is more easily maintainable.

5. **Surface water runoff is discharged to a combined sewer.**

   Not applicable.

2.4 **S2).** In addition to the above hierarchy, the standard also gives a set of principles for SuDS schemes. For surface water hydraulic control, theses are as follows:

- To manage water on or close to the surface and as close to the source of the runoff as possible, a bioretention area will manage surface water as close as practicable.
- Interception of the first 5mm will be met by the provision of a bioretention feature.
- Runoff from the site will be limited to 1l/s which is as close as reasonably practicable to the Qbar greenfield rate for all events up to the Q100 + 40% Climate Change event (calculations provided within **Appendix B)**. This will provide significant betterment to the existing scenario where precipitation from the hard standing surfaces which cover the existing site, would drain towards the surrounding roads, and discharge to unknown sewers and highways systems at an uncontrolled rate with no water quality improvement features.
- Attenuation will be provided via a crate under the parking at the rear of the development. The bioretention feature will be provided in addition to the crated attenuation. Calculations are provided within **Appendix B** and layout and details are provided within **Appendix A.**
- Proposed impermeable areas equate to 2630m^2 and an attenuation volume of 230m^3 has been calculated. Refer to **Appendix B.**

2.5 **S3).** Water quality will be managed on site as follows:

- Interception of the first 5mm will be met by the provision of a bioretention feature.

- The pollution hazard level on the site does not exceed “Very Low” under the Simple Index Approach set out below as parking on site is undercroft only. All roof elevations are roof areas.

Runoff Area Land Use Description	*Hazard Level*	Suspended Solids	Metals	Hydrocarbons
Commercial/Industrial roofing: Inert materials	Very low	0.3	0.2	0.05
Landuse Pollution Hazard Index	**Very low**	**0.3**	**0.2**	**0.05**

	Pollution Mitigation Indices		
SuDS Component Description	Suspended Solids	Metals	Hydrocarbons
Bioretention system (where the system is not designed as an infiltration component)	0.8	0.8	0.8

- The system will drain through the biorention area and storge will be provided via crated attenuation, where “the SuDs management train” requirements are met and all mitigation indices are met.

2.6 **S4)** Amenity value will be added to the site as follows:

- The bioretention area to the rear will create landscaping to provide amenity value.

2.7 **S5)** Planting of the bioretention area to the rear will be specified by a landscape architect as part of the Green Infrastructure Plan. This will allow Biodiversity Net Gain on site and ensure that S5 of SAB guidance is adhered to by adding biodiversity value.

2.8 **S6)** Operation and maintenance is further considered in Section 4.0 of the report.

3.0 Proposed Foul Water Drainage Strategy

3.1 Foul drainage shall be conveyed via gravity to the south of the site and connected to an existing foul sewer in Docks Lane. DCWW have provided confirmation that foul flow from

the site can be accommodated within the foul network downstream of ST19744606 through PPA0006629. Correspondence from DCWW is included within **Appendix C.**

4.0 Operation and Maintenance

4.1 Maintenance of SuDS features is essential to ensure that the surface water drainage system operates effectively and that flooding of the site and surrounding areas is prevented.

4.2 The maintenance and operation of the onsite SuDS features will fall within the maintenance operations of the college.

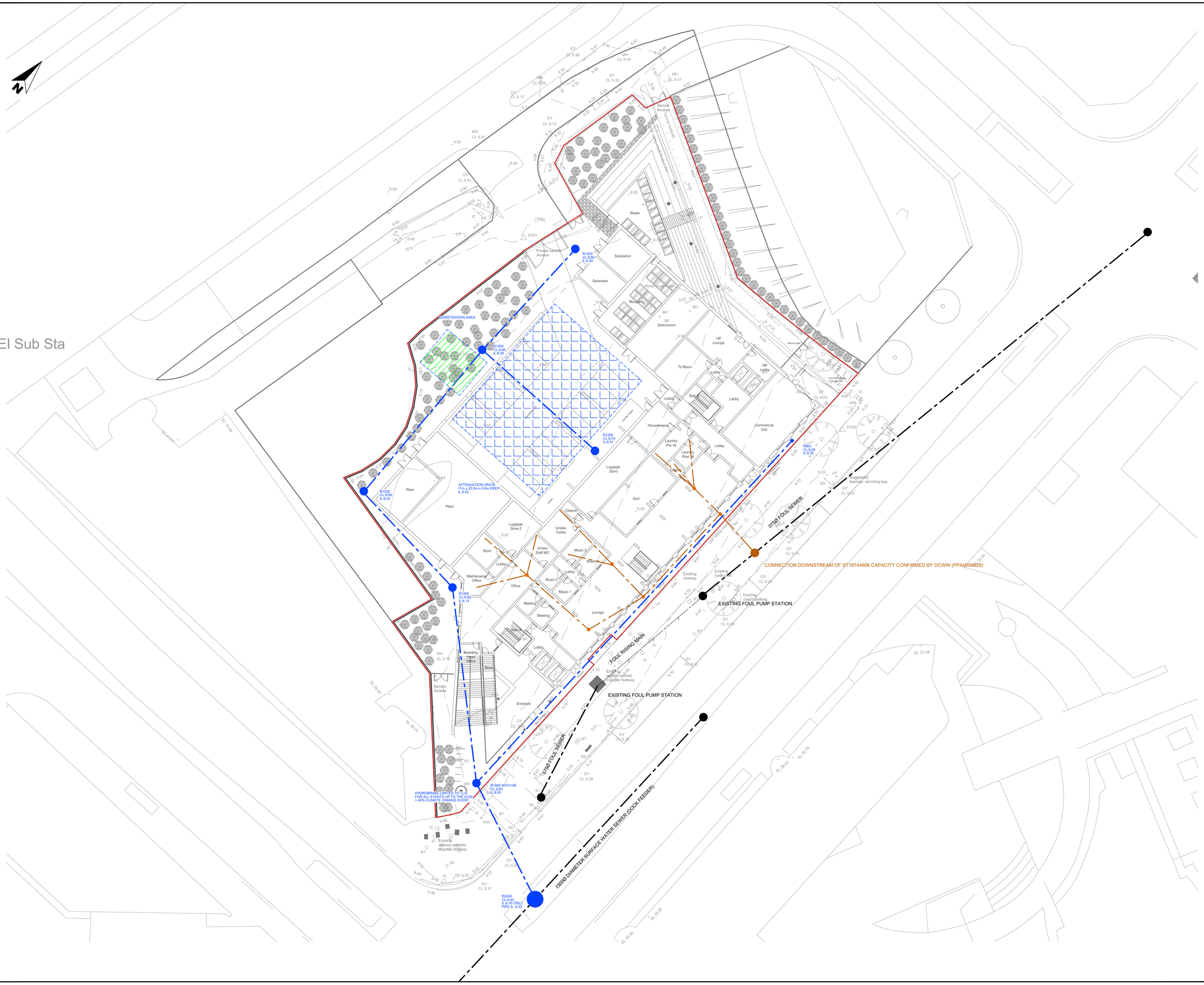
4.3 A full maintenance regime should be carried out to ensure that the drainage system remains operational over its lifetime. Table 1 summarises an initial maintenance plan for the drainage components proposed within this development. The SuDS Manual (CIRIA C753) and manufacturer's guidelines should be referred to for further information.

Drainage Component	Required Action	Typical Frequency
Pipework, manholes, chambers, catch pits and silt traps	Stabilise adjacent areas	As required
	Remove weeds	As required
	Clear any poor performing structures.	As required
	Inspect all structures for poor operation	Six monthly, 48 hours after large storms in first six months
	Monitor inspection chambers. Inspect silt accumulation rates and determine silt clearance frequencies	Annually
Rainwater Garden	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch	As required
	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
	Replace any plants, to maintain planting density	As required
	Remove litter and surface debris and weeds	Quarterly (or more frequently for tiredness or aesthetic reasons)
	Inspect outlets and inlets for blockage	Quarterly
	Assess plants for disease infection, poor growth, invasive species etc. and replace as necessary	Quarterly
	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in	Quarterly

	underlain (if appropriate) to determine if maintenance is necessary	
	Check operation of underdrains by inspection of flows after rain	Annually
Cellular Storage	Check upstream silt traps	Monthly and after large storms
	Jet and clean storage device	Every three years, or as required

Table 1 - Operation and Maintenance Summary

Appendix A



NOTES:

1. DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS ARE IN METRES, UNLESS STATED OTHERWISE.
2. DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, REPORTS AND SPECIFICATIONS. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER 5 WORKING DAYS IN ADVANCE OF UNDERTAKING ANY WORK.
3. ALL SW PIPES 225Ø UNO. ALL FOUL PIPES 150Ø UNO

KEY

- EXISTING DCWW SEWER
- PROPOSED SW SEWER
- PROPOSED FOUL SEWER
- ATTENUATION CRATE
- BIORETENTION AREA

REV:	DESCRIPTION:	BY:	DATE:
P1	First Issue	PG	15.12.22

FOR APPROVAL

EXPEDITE
Exeter
The Design Studio
35 Southernhay East
Exeter
EX1 1NX
t: 01392 691 631
www.expediteps.com

CLIENT: CARDIFF 6TH FORM COLLEGE

SITE: CARDIFF 6TH FORM BLUE DRAGON SITE 2

TITLE: DRAINAGE PLAN

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:250	DEC 2022	PG	KT

PROJECT NO:	DRAWING NO:	REVISION:
ES21.22	20.01	P1

Appendix B

ICP SUDS Mean Annual Flood

Input

Return Period (years)	1	Soil	0.150
Area (ha)	0.362	Urban	0.000
SAAR (mm)	1012	Region Number	Region 9

Results l/s

QBAR Rural	0.2
QBAR Urban	0.2
Q1 year	0.2
Q1 year	0.2
Q30 years	0.4
Q100 years	0.5

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1949 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	9.124	0.124	0.0	1.0	1.0	57.6	O K
30 min Summer	9.170	0.170	0.0	1.0	1.0	79.1	O K
60 min Summer	9.222	0.222	0.0	1.0	1.0	103.3	O K
120 min Summer	9.278	0.278	0.0	1.0	1.0	129.4	O K
180 min Summer	9.310	0.310	0.0	1.0	1.0	144.4	O K
240 min Summer	9.332	0.332	0.0	1.0	1.0	154.4	O K
360 min Summer	9.363	0.363	0.0	1.0	1.0	168.9	O K
480 min Summer	9.383	0.383	0.0	1.0	1.0	178.5	O K
600 min Summer	9.398	0.398	0.0	1.0	1.0	185.2	O K
720 min Summer	9.408	0.408	0.0	1.0	1.0	190.0	O K
960 min Summer	9.421	0.421	0.0	1.0	1.0	196.1	O K
1440 min Summer	9.429	0.429	0.0	1.0	1.0	199.8	O K
2160 min Summer	9.425	0.425	0.0	1.0	1.0	197.7	O K
2880 min Summer	9.416	0.416	0.0	1.0	1.0	193.9	O K
4320 min Summer	9.395	0.395	0.0	1.0	1.0	184.0	O K
5760 min Summer	9.373	0.373	0.0	1.0	1.0	173.7	O K
7200 min Summer	9.350	0.350	0.0	1.0	1.0	163.0	O K
8640 min Summer	9.324	0.324	0.0	1.0	1.0	151.0	O K
10080 min Summer	9.299	0.299	0.0	1.0	1.0	139.0	O K
15 min Winter	9.139	0.139	0.0	1.0	1.0	64.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	118.632	0.0	49.8	26
30 min Summer	81.689	0.0	67.6	41
60 min Summer	53.779	0.0	100.6	70
120 min Summer	34.128	0.0	126.8	130
180 min Summer	25.701	0.0	141.3	190
240 min Summer	20.845	0.0	149.9	250
360 min Summer	15.537	0.0	156.7	368
480 min Summer	12.588	0.0	155.4	488
600 min Summer	10.680	0.0	153.1	606
720 min Summer	9.333	0.0	150.8	726
960 min Summer	7.534	0.0	146.9	964
1440 min Summer	5.559	0.0	140.4	1440
2160 min Summer	4.090	0.0	279.0	1820
2880 min Summer	3.284	0.0	286.2	2196
4320 min Summer	2.406	0.0	263.1	2992
5760 min Summer	1.932	0.0	363.7	3856
7200 min Summer	1.630	0.0	383.2	4688
8640 min Summer	1.419	0.0	399.7	5464
10080 min Summer	1.262	0.0	413.5	6256
15 min Winter	118.632	0.0	55.8	26

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	9.191	0.191	0.0	1.0	1.0	88.7	O K
60 min Winter	9.249	0.249	0.0	1.0	1.0	116.0	O K
120 min Winter	9.313	0.313	0.0	1.0	1.0	145.6	O K
180 min Winter	9.350	0.350	0.0	1.0	1.0	162.7	O K
240 min Winter	9.374	0.374	0.0	1.0	1.0	174.1	O K
360 min Winter	9.409	0.409	0.0	1.0	1.0	190.5	O K
480 min Winter	9.433	0.433	0.0	1.0	1.0	201.6	O K
600 min Winter	9.450	0.450	0.0	1.0	1.0	209.5	O K
720 min Winter	9.463	0.463	0.0	1.0	1.0	215.4	O K
960 min Winter	9.479	0.479	0.0	1.0	1.0	223.1	O K
1440 min Winter	9.493	0.493	0.0	1.0	1.0	229.4	O K
2160 min Winter	9.489	0.489	0.0	1.0	1.0	227.8	O K
2880 min Winter	9.477	0.477	0.0	1.0	1.0	222.1	O K
4320 min Winter	9.449	0.449	0.0	1.0	1.0	208.8	O K
5760 min Winter	9.416	0.416	0.0	1.0	1.0	193.8	O K
7200 min Winter	9.382	0.382	0.0	1.0	1.0	177.8	O K
8640 min Winter	9.345	0.345	0.0	1.0	1.0	160.8	O K
10080 min Winter	9.302	0.302	0.0	1.0	1.0	140.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	81.689	0.0	74.2	41
60 min Winter	53.779	0.0	112.5	70
120 min Winter	34.128	0.0	140.5	128
180 min Winter	25.701	0.0	153.5	186
240 min Winter	20.845	0.0	158.1	246
360 min Winter	15.537	0.0	157.0	362
480 min Winter	12.588	0.0	154.7	478
600 min Winter	10.680	0.0	152.7	596
720 min Winter	9.333	0.0	151.1	712
960 min Winter	7.534	0.0	148.5	942
1440 min Winter	5.559	0.0	145.2	1390
2160 min Winter	4.090	0.0	301.7	2020
2880 min Winter	3.284	0.0	295.6	2304
4320 min Winter	2.406	0.0	273.2	3240
5760 min Winter	1.932	0.0	407.3	4152
7200 min Winter	1.630	0.0	428.9	5056
8640 min Winter	1.419	0.0	447.1	5968
10080 min Winter	1.262	0.0	462.6	6760

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.304	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.263

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.088	4	8	0.088	8	12	0.088

Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 9.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	490.0	0.0	0.501	0.1	0.0
0.500	490.0	0.0			

Hydro-Brake® Optimum Outflow Control

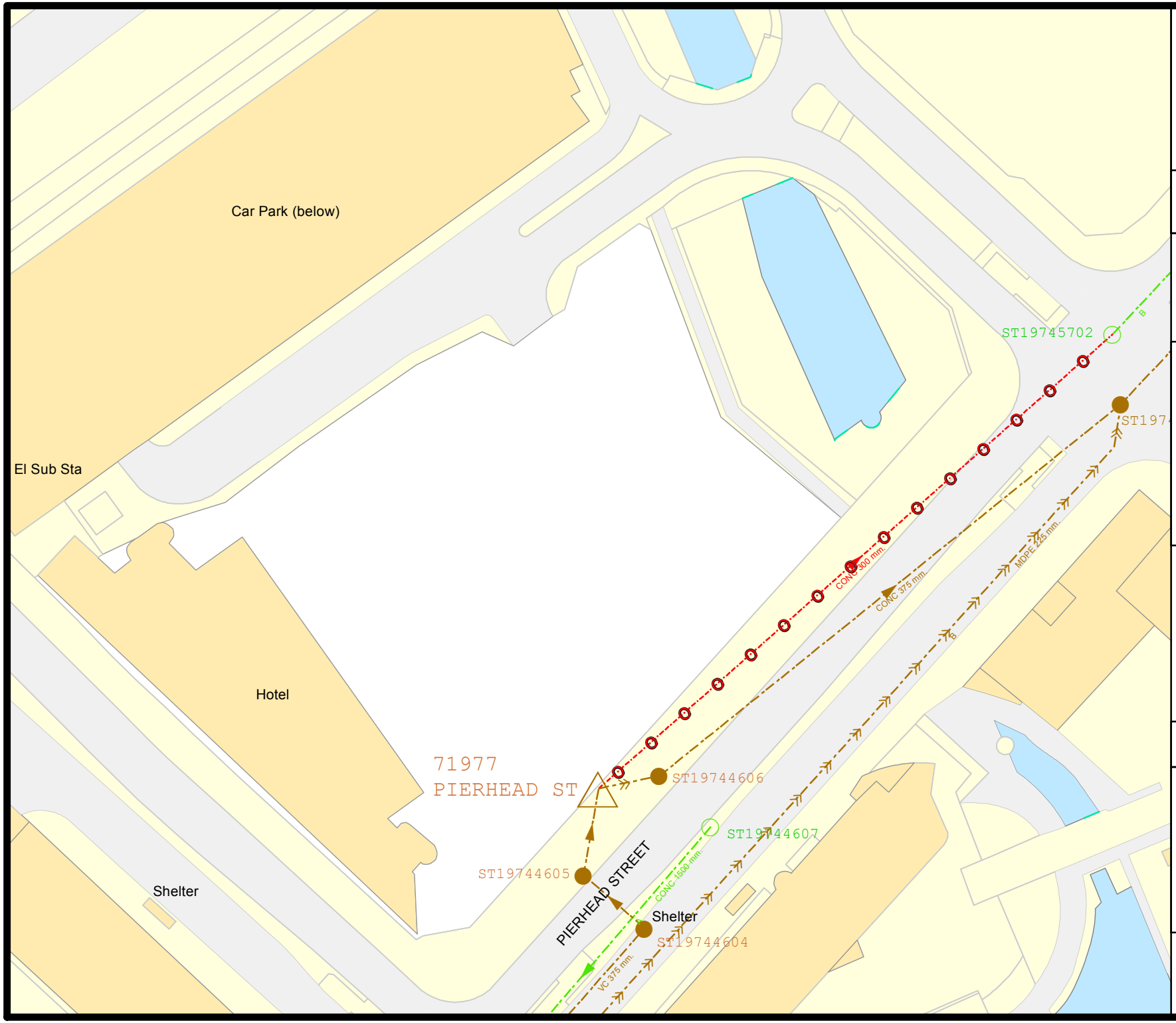
Unit Reference	MD-SHE-0054-1000-0500-1000
Design Head (m)	0.500
Design Flow (l/s)	1.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	54
Invert Level (m)	9.000
Minimum Outlet Pipe Diameter (mm)	75
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.500	1.0
Flush-Flo™	0.151	1.0
Kick-Flo®	0.332	0.8
Mean Flow over Head Range	-	0.9

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0	1.200	1.5	3.000	2.2	7.000	3.4
0.200	1.0	1.400	1.6	3.500	2.4	7.500	3.5
0.300	0.9	1.600	1.7	4.000	2.6	8.000	3.6
0.400	0.9	1.800	1.8	4.500	2.7	8.500	3.7
0.500	1.0	2.000	1.9	5.000	2.8	9.000	3.8
0.600	1.1	2.200	1.9	5.500	3.0	9.500	3.9
0.800	1.2	2.400	2.0	6.000	3.1		
1.000	1.4	2.600	2.1	6.500	3.2		

Appendix C



Dŵr Cymru
Welsh Water

PPA0006629

N
W E
S

LEGEND(Representative of most common features)

Waste network:

- Foul chamber
- Surface water chamber
- Combined chamber
- Combined sewer overflow
- Special purpose chamber
- Treatment works
- Pumping station
- Outfall
- Lamphole
- Storm Overflow
- Rising main
- Gravity sewer
- Private sewer
- Private sewer subject to Sect. 104 adoption agreement
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

NB: Sewer symbol colour indicates the type.

RED - Combined
GREEN - Surface Water
BROWN - Foul
Purple - Former S24 sewers (for indicative purposes only)

Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF) . It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Dŵr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus. The onus of locating apparatus before carrying out any excavations rests entirely on you. The information which is supplied by the Company, is done so in accordance with statutory requirements of sections 198 and 199 of the Water Industry Act 1991 which is based upon the best information available and, in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclose the existence of a water main, service pipe, sewer, lateral drain or disposal main and any associated apparatus laid before 1 September 1989, or, if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the Company's right to be compensated for any damage to its apparatus.

Service pipes are not generally shown but their presence should be anticipated.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

Map Ref:	319440,174719
Map scale:	1:750
Printed by:	Sara Edwards
Printed on:	28 Apr 2022

Dŵr Cymru
Welsh Water

Developer Services
PO Box 3146
Cardiff
CF30 0EH

Tel: +44 (0)800 917 2652
Fax: +44 (0)2920 740472
E.mail: developer.services@dwrcymru.com

Gwasanaethau Datblygu
Blwch Post 3146
Caerdydd
CF30 0EH

Ffôn: +44 (0)800 917 2652
Ffacs: +44 (0)2920 740472
E.bost: developer.services@dwrcymru.com

Mr Gavin Swift
Expedite Engineering Services Ltd
35, Southernhay East
Exeter
Devon
EX1 1NX

Date: 27/04/2022
Our Ref: PPA0006629

Dear Mr Swift

Grid Ref: 319431 174717
Site Address: Pierhead Street, Cardiff
Development: Student Accommodation

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

APPRAISAL

Firstly, we note that the proposal relates to 424 bed student accommodation on Pierhead street and acknowledge that the site comprises of a potential windfall development with no allocated status in the Local Development Plan (LDP). Accordingly, whilst it does not appear an assessment has been previously undertaken of the public sewerage system, we offer the following comments as part of our appraisal of this development.

Please note, notwithstanding the following assessment, we would advise there is also a mandatory requirement to undertake pre-application consultation with all 'Specialist Consultees', including Dwr Cymru Welsh Water as the statutory water and sewerage undertaker, in accordance with Schedule 4 of Town & Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016. As a major development, amounting to more than 10 units, you will be statutorily required to consult Welsh Water and a substantive response will be issued within 28 days from the date of the notice as per the requirements of Article 2E.

Public Sewerage Network

The proposed development site is located in the immediate vicinity of a separate sewerage system, comprising of foul and surface water public sewers, which drains to Cardiff Bay Wastewater Treatment Works (WwTW).

You are also advised that some public sewers and lateral drains may not be recorded on our maps of public sewers because they were originally privately owned and were transferred into public ownership by nature of the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The presence of such assets may affect the proposal. In order to assist you may contact Dwr Cymru Welsh Water on 0800 085 3968 to establish the location and status of the apparatus in and around your site. Please be mindful that under the Water Industry Act 1991 Dwr Cymru Welsh Water has rights of access to its apparatus at all times.

Surface Water Drainage

As of 7th January 2019, this proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. As highlighted in these standards, the developer is required to explore and fully exhaust all surface water drainage options in accordance with a hierarchy which states that discharge to a combined sewer shall only be made as a last resort. Disposal should be made through the hierarchical approach, preferring infiltration and, where infiltration is not possible, disposal to a surface water drainage body in liaison with the Land Drainage Authority and/or Natural Resources Wales.

It is therefore recommended that the developer consult with Cardiff Council, as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please note, DCWW is a statutory consultee to the SAB application process and will provide comments to any SuDS proposals by response to SAB consultation. Please refer to further detailed advice relating to surface water management included in our attached Advice & Guidance note.

In addition, please note that no highway or land drainage run-off will be permitted to discharge directly or indirectly into the public sewerage system.

Foul Water Drainage – Sewerage Network

We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public sewerage system. We advise that the flows should be connected to the foul sewer at or downstream of manhole ST19744606 located in the footpath.

Should a planning application be submitted for this development we will seek to control these points of communication via appropriate planning conditions and therefore recommend that any drainage layout or strategy submitted as part of your application takes this into account. However, should you wish for an alternative connection point to be considered please provide further information to us in the form of a drainage strategy, preferably in advance of a planning application being submitted.

You may need to apply to Dwr Cymru Welsh Water for any connection to the public sewer under Section 106 of the Water industry Act 1991. However, if the connection to the public sewer network is either via a lateral drain (i.e. a drain which extends beyond the connecting property boundary) or via a new sewer (i.e. serves more than one property), it is now a mandatory requirement to first enter into a Section 104 Adoption Agreement (Water Industry Act 1991). The design of the sewers and lateral drains must also conform to the Welsh Ministers Standards for Foul Sewers and Lateral Drains, and conform with the publication "Sewers for Adoption"- 7th Edition. Further information can be obtained via the Developer Services pages of www.dwrcymru.com.

Foul Water Drainage – Sewage Treatment

No problems are envisaged with the Wastewater Treatment Works for the treatment of domestic discharges from this site.

Potable Water Supply

The proposed development is in an area where there are water supply problems for which there are no improvements planned within our current Capital Investment Programme AMP7 (years 2020 to 2025). In order to establish what would be required to serve the site with an adequate water supply, it will be necessary for the developer to fund the undertaking of a hydraulic modelling assessment on the water supply network. For the developer to obtain a quotation for the hydraulic modelling assessment, we will require a fee of £250 + VAT.

I trust the above information is helpful and will assist you in forming water and drainage strategies that should accompany any future planning application. I also attach copies of our water and sewer extract plans for the area, and a copy of our Planning Guidance Note which provides further information on our approach to the planning process, making connections to our systems and ensuring any existing public assets or infrastructure located within new development sites are protected.

Please note that our response is based on the information provided in your enquiry and should the information change we reserve the right to make a new representation. Should you have any queries or wish to discuss any aspect of our response please do not hesitate to contact our dedicated team of planning officers, either on 0800 917 2652 or via email at **developer.services@dwrcymru.com**. Please quote our reference number in all communications and correspondence.

Yours faithfully,

Owain George
Planning Liaison Manager
Developer Services

***Please Note** that demands upon the water and sewerage systems change continually; consequently, the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.*