

**RHOS STREET, RUTHIN**  
**RESIDENTIAL DEVELOPMENT**  
**DRAINAGE STRATEGY**

**1.0 INTRODUCTION**

**1.1 Background**

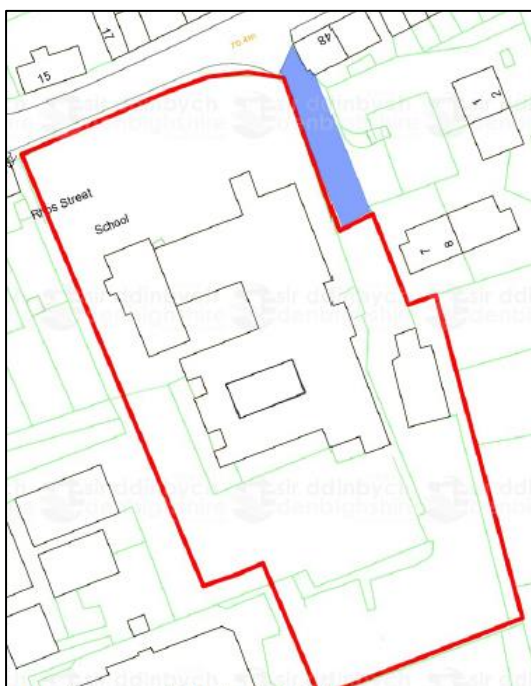
1.1.1 A planning application is being submitted for the redevelopment of the disused school site on Rhos Street, Ruthin.

1.1.2 Caulmert has been appointed to prepare a drainage strategy for surface water and foul drainage from the development, and this report sets out the approach that will be taken.

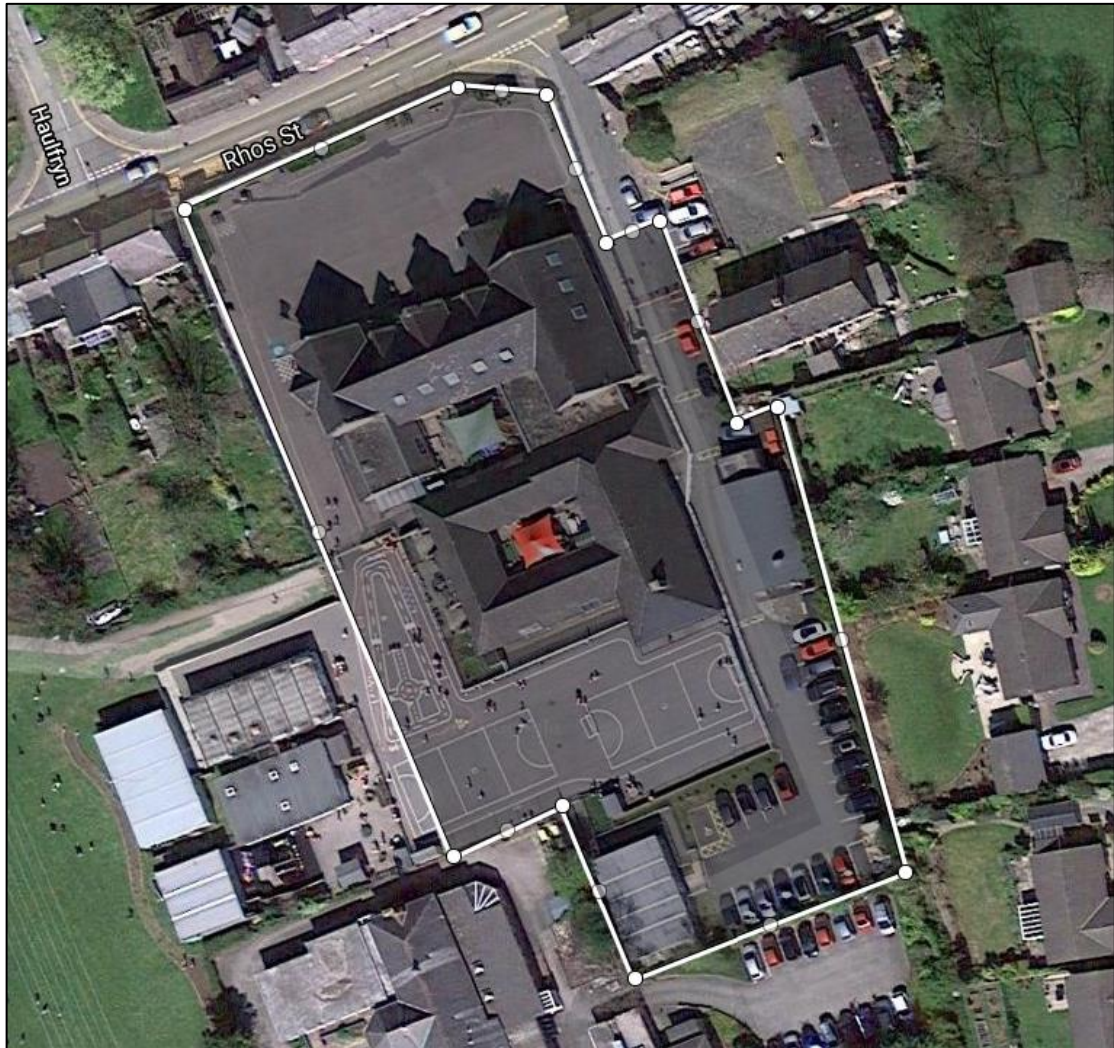
1.1.3 The report describes the existing drainage regime and how it is proposed the development will meet the planning policy requirements in respect of sustainable drainage (SuDS). In addition to seeking planning approval, an application for a consent also needs to be made to the SuDS Approving Body (SAB). This document provides a high-level outline of the SuDS drainage proposals to support the planning application. Further detail is provided with the application to the SAB.

**1.2 Existing Site Features and Drainage**

1.2.1 The site lies to the south of Rhos Street, close to the centre of Ruthin. To the west and east are residential properties. To the south is the hospital and beyond it open space. A site boundary plan is shown below.

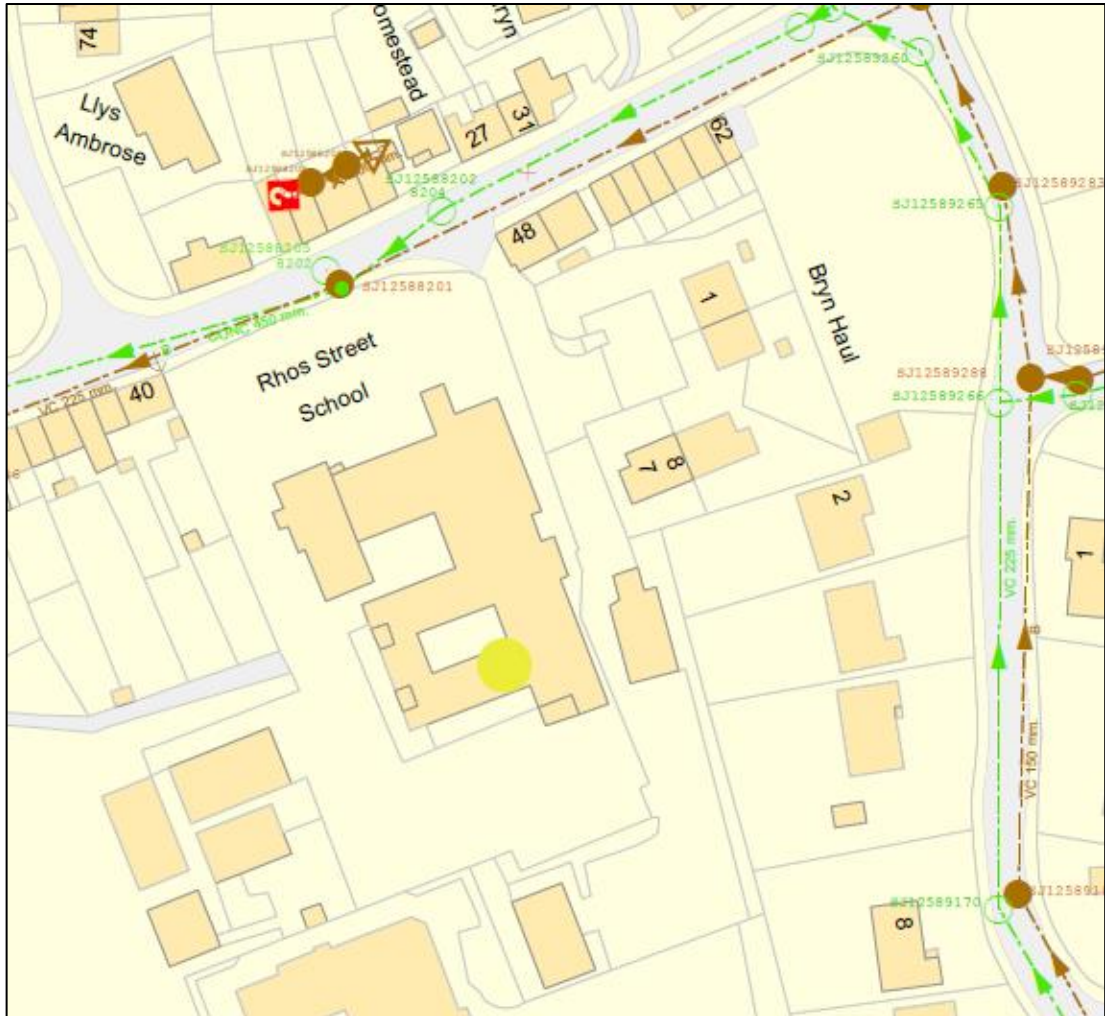


- 1.2.2 The site is currently 98% impermeable, comprising either roof or hard-standing for parking / playground and very small areas of grass. The Google Earth image below shows the current site



- 1.2.3 The site slopes from the south east to the north west and falls approximately 5m over 120m. On the site some of this level difference is taken up by a retaining wall. The frontage to Rhos Street comprises a retaining wall retaining ground approximately 1.2m higher than the footway level. A topographical survey of the site is included in Appendix 1.
- 1.2.4 A survey of the site drainage has been undertaken. This confirms it drains to separate surface water and foul systems. The foul drainage discharges to the west into a pipe not recorded on the water company sewer records. Surface water discharges from the site in two locations, one adjacent to the foul at the west of the site, and a second outfall to the north in Rhos Street. A drawing showing the site drainage is included in Appendix 2.

- 1.2.5 The existing surface water runoff rate from the 0.54ha site based on 50mm/hr rainfall rate is 73l/s. Of this 0.15ha drains to the north, which on the same basis would result in a discharge of 21l/s.
- 1.2.6 An extract from the Dwr Cymru Welsh Water (DCWW) sewer records is presented below. This shows both surface water and foul public sewers in Rhos Street.



### 1.3 Proposed Development

- 1.3.1 The development proposal is shown below. A larger version of the drawing is included as Appendix 3.





- 1.3.2 Access onto the site will be gained via an improved junction with Rhos Street. An adoptable highway will be formed within the site with a turning head. A mix of property types will be constructed on both sides of the access road. An area of public open space will be formed at the north of the site, accessible from the footway. A footway link to the west will be formed from the turning head area.

## **2.0 FOUL DRAINAGE**

### **2.1 Connection to Public Sewer Network**

- 2.1.1 It is proposed that the development will be serviced by a network of adoptable foul sewers constructed within the access road. Private drains from the properties will connect to the proposed sewer with lateral connections that will be offered for adoption by DCWW from each property demise.
- 2.1.2 The topography of the site lends itself to forming a new connection to the public foul sewer in Rhos Street. This would be agreed with DCWW through a Section 106 agreement.
- 2.1.3 Initial dialogue with DCWW has confirmed they have adequate networks and treatment capacity for them to accept flows from the proposed development. A copy of their pre-planning response is included I Appendix 4.

### 3.0 PROJECT APPROACH TO SUSTAINABLE DRAINAGE

#### 3.1 SuDS Standards

3.1.1 This section summarises the design for the disposal of surface water from the site. The approach outlined in the Sustainable Drainage Systems Standards for Wales (SuDS Standards) and the CIRIA SuDS manual seek to manage the quality and quantity of rainwater runoff close to where it falls and to allow its use in a manner which provides amenity benefits to site users and also encourages biodiversity.

3.1.2 Initial consultation has been carried out with Denbighshire SAB in respect of acceptable discharge rates, and this has helped inform the strategy.

3.1.3 The SuDS Standards have standards which need to be addressed. These are:

- S1. Surface water runoff destination
- S2. Surface water runoff hydraulic control
- S3. Water Quality
- S4. Amenity
- S5. Biodiversity

3.1.4 Subsequent paragraphs of this section of the report outline how these objectives can be achieved within the drainage design for the development.

3.1.5 A plan showing the proposed drainage layout is included in Appendix 5.

#### 3.2 S1. Surface Water Runoff Destination

3.2.1 The Welsh Government standard has five priority levels for surface water runoff. These are:

- Priority 1: Surface water runoff collected for use.
- Priority 2: Surface water runoff is infiltrated to ground.
- Priority 3: Surface water runoff is discharged to a surface water body.
- Priority 4: Surface water runoff is discharged to a surface water sewer, highway drain or another drainage system.
- Priority 5: Surface water runoff is discharged to a combined sewer.

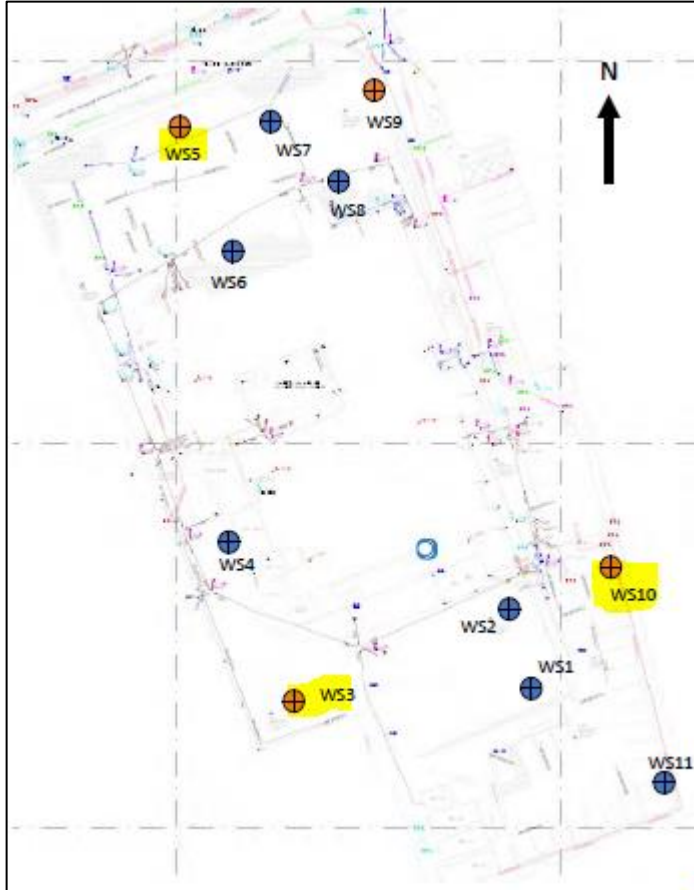
Information has been gathered specific to the proposed development and is considered against these priorities below.

##### *Priority 1: Runoff Collected for Use*

3.2.2 No rainwater harvesting is proposed for domestic use within the houses. This is because there are no capacity issues and it is not cost effective. However space will be provided for water butts. These will provide local water storage for garden irrigation and other outside uses.

##### *Priority 2: Infiltration to Ground*

3.2.3 A desktop review of ground conditions indicated a likelihood of reasonable ground permeability. Ground investigation was carried out and included falling head tests at the three highlighted locations as indicated below:



3.2.4 The results from the falling head tests are presented below. The lowest permeability recorded is  $1.6 \times 10^{-6} \text{ m/s}$ . Ground water was not encountered.

TP Ref.	Response Zone (m bgl)	Response Zone Strata	Infiltration Rate (m/s)
WS3	0.5-1.0	Residual Soils/Kinnerton Sandstone	$7.6 \times 10^{-6}$
WS5	0.5-1.0	Residual Soils/Kinnerton Sandstone	$1.60 \times 10^{-6}$
WS10	0.8-1.8	Residual Soils/Kinnerton Sandstone	$2.4 \times 10^{-5}$

3.2.5 Based on these results it is proposed that significant areas of the site can drain via infiltration. Using the poorest infiltration rate and a factor of safety of 5 it is estimated that the rear roofs from all the properties could drain to infiltration crates which have a plan area of  $6 \text{ m}^2$  and are 1m deep. Only the unit at the site entrance does not have sufficient garden space to facilitate this approach.

3.2.6 It is proposed that front roof areas will drain to Type 3 sub base stone beneath porous driveways. Careful coordination with adoptable foul drainage is required as DCWW will not

adopt drainage where it may be affected by SuDS features. The area and depth of stone in the parking areas will allow for the management by infiltration of most rainfall events, however an overflow to the piped site system will be required for more extreme rainfall.

3.2.7 Whilst falling head tests in granular material do provide a good indication of the ground porosity further testing to BRE 365 will be required at locations around the site to give a good spread of results from which the storage for each property can be confirmed.

3.2.8 Road construction will be to the Highway Authority's adoption requirements. This allows the DCWW adoptable sewer to be laid under the road. Further infiltration of runoff can take place under the public open space area at a depth where it will not affect the adjacent retaining wall.

*Priority 3: Discharge to a Surface Water Body*

3.2.9 There are no surface water bodies in the vicinity of the site.

*Priority 4: Discharge to a Surface Water Sewer*

3.2.10 Despite significant areas of the site draining to infiltration there will remain a requirement for residual surface water to continue to discharge to the public surface water sewer. This will be via the existing connection in the north west corner of the site.

*Priority 5: Discharge to a Combined Sewer*

3.2.11 Not applicable

### **3.3 S2. Surface Water Runoff Hydraulic Control**

3.3.1 The control of runoff to the soakaways is achieved by the sizing of the storage tanks and the area draining to each of them

3.3.2 Discharge from the site into the public sewer will be significantly reduced compared with existing. At present it is estimated that peak runoff from the site is in the order of 73l/s. Of this approximately 21l/s is associated with the northern outfall. It is proposed to reduce this rate by 50%, so the peak runoff from the whole site is 10.5l/s. The flow would be limited to that rate for a 1 in 100 rainfall event with an allowance of 30% for climate change. A flow control chamber at the downstream end of the detention basin will control the flow rate.

3.3.3 To facilitate this reduction storage in the public open space area of approximately 60m<sup>3</sup> will be required. This figure ignores any infiltration that takes place.

3.3.4 A detention basin with overall dimensions 18m x 12m, 1.2m deep and with 1 in 4 side slopes will provide a storage volume of approximately 60m<sup>3</sup>, with 300mm freeboard.

3.3.5 Microdrainage storage estimate calculations are provided in Appendix 5.

### **3.4 S3. Water Quality**



3.4.1 Roof areas will drain through raingardens to the rear of the properties and into permeable parking sub base at the front of properties. This will manage the pollution from the low risk roof areas

3.4.2 Driveways will have permeable paving where DCWW sewer adoption requirements permits.

3.4.3 The access road will drain to two swales on the east side of the road where water will be collected by a higher level gully grating before it is conveyed to the detention basin for further treatment before any residual flow is discharged at a controlled rate off site.

### **3.5 S4. Amenity and S5. Biodiversity**

3.5.1 These two standards will be met in several ways. The provision of raingardens in property gardens will be landscaped to provide both biodiversity and amenity benefit.

3.5.2 The highway swales will break up the visual impression of the site and in so doing will provide amenity benefit.

3.5.3 The detention basin with its shallow slopes will be incorporated into the wider public open space. It will provide an area for residents of the developments and others to enjoy, and will be planted to provide biodiversity benefits.

### **3.6 S6. Design of Drainage for Construction, Operation and Maintenance**

3.6.1 The SuDS proposed for the development are readily manageable. Much of the SuDS will be retained and maintained by individual house owners. Beyond this the SuDS will be adoptable by the SAB. The SuDS components used are easily accessed for inspection and maintenance.

#### 4.0 EXCEEDANCE FLOW PATHS

##### 4.1 Flood Risk

- 4.1.1 Based on NRW on-line flood mapping the site is not predicted to be at risk for fluvial flooding.
- 4.1.2 Flood mapping indicates there is surface water flood risk on Rhos Street abutting the north of the site. There is no flooding indicated on the site.
- 4.1.3 On the extract from NRW flood mapping below, fluvial flooding of the Afon Clwyd is indicated in blue. Surface water flooding is indicated in shades of purple.



##### 4.2 Exceedance Routing

- 4.2.1 Exceedance routing refers to the overland flow rainwater would take in the event that the drainage system is overwhelmed either by extreme rainfall, blockage or a combination of factors. The arrows on the plan below indicate the overland flow route such exceedance water would take. Building floor levels will be raised 150mm above surrounding ground to allow flow paths between buildings.



## 5.0 CONCLUSION

### 5.1 Foul Drainage

5.1.1 The development will generate domestic foul flows, which will be connected to the public sewer in Rhos Street.

### 5.2 Sustainable Drainage

5.2.1 The table below summarises how the drainage strategy will address the standards and priorities contained in the Sustainable Drainage System Standards for Wales.

Standard	Comments
<b>S1 – Destination</b>	
Priority 1 – Re-use	<ul style="list-style-type: none"> <li>Limited demand for non-potable water</li> <li>No stress on supply mains</li> <li>Rainwater harvesting not cost effective</li> <li>Irrigation use for gardens via water butts</li> </ul>
Priority 2 – Infiltration	<ul style="list-style-type: none"> <li>Significant use will be made of infiltration in the form of cellular tanks in rear gardens and porous block driveways</li> <li></li> </ul>
Priority 3 – Discharge to surface water body	<ul style="list-style-type: none"> <li>There are no water bodies close to the site</li> </ul>
Priority 4 – Discharge to surface water sewer	<ul style="list-style-type: none"> <li>Discharge through one of the existing surface water outfalls will be retained.</li> </ul>
Priority 5 – Discharge to combined sewer	<ul style="list-style-type: none"> <li>Not required</li> </ul>
<b>S2 – Runoff Hydraulic Control</b>	
	<ul style="list-style-type: none"> <li>The runoff from the site will be controlled to 10.5l/s. A reduction of over 85% in peak flow from the site, and 50% reduction from the northern outfall</li> <li>Attenuation will be provided to soakaways and at the detention basin to balance the incoming and outgoing flows.</li> </ul>
<b>S3 – Water Quality</b>	
	<ul style="list-style-type: none"> <li>Use of rain gardens and porous pavements provides sufficient mitigation for low levels of potential pollution anticipated for low risk areas.</li> <li>Swales will manage most highway runoff, and the discharge from the site will pass through a detention basin prior to discharge.</li> </ul>
Standard	Comments
<b>S4 – Amenity &amp; S5 - Biodiversity</b>	
	<ul style="list-style-type: none"> <li>Rain gardens in most properties will provide biodiversity and amenity benefit</li> </ul>



	<ul style="list-style-type: none"> <li>• The detention basin within an area of public open space will be landscaped and planted to provide appropriate benefits.</li> </ul>
<b>S6 – Construction, Operation &amp; Maintenance</b>	
	<ul style="list-style-type: none"> <li>• Detailed design to be approved by SAB</li> <li>• Simple drainage components will minimize maintenance</li> <li>• Drainage remaining within each property demise will be the responsibility of householders. Beyond that the drainage will be adopted by the SAB.</li> </ul>

### 5.3 Flood Risk

5.3.1 No significant flood risk has been identified on the site.

5.3.2 Exceedance routes direct flow past properties, which are raised 150mm above the surrounding ground.

Prepared by	Jonathan Sykes	14 <sup>th</sup> December 2021
Checked by	Chris Roberts	17 <sup>th</sup> December 2021
Approved by	Jonathan Sykes	22 <sup>nd</sup> December 2021
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Status	Issued for Planning	

## Appendices

- 1 Topographical Survey
- 2 Existing Site Drainage
- 3 Development Proposal
- 4 DCWW Pre-Planning Response
- 5 Proposed Drainage

## REVISION HISTORY

Rev No	Date	Paragraph	Change History
P1	14/12/2021	-	Internal within team for comment
C1	23/12/2021		Draft for checking
C2	25/01/2022		Site plans amended. Issued for PAC

**APPENDIX 1**

**TOPOGRAPHICAL SURVEY**





Site Grid North

Symbols/Abbreviations (Where Applicable):

- +AV: AIR VALVE
- +BB: BELISHA BEACON
- ⊙ BH: BOREHOLE
- +BM: BENCHMARK
- BOL: BOLLARD
- +CAM: CAMERA
- B/S: BUS STOP
- +CS: CABLE STAY
- ⊙ CATV: CATV INSPECTION CHAMBER
- +CBOX: ELECTRICITY BOX, CABLE BOX, ETC.
- ⊙ CCTV: C.C.T.V. CAMERA
- +C.PIT: CATCH PIT
- ⊙ EC: ELECTRICITY COVER
- ⊙ EP: ELECTRICITY POLE
- +ER: EARTH ROD
- +FH: FIRE HYDRANT
- ⊙ FP: FLAG POLE
- ⊙ G: GULLY
- ⊙ G: GULLY (ROUND)
- +GV: GAS VALVE
- ⊙ IC: INSPECTION COVER (SQUARE)
- ⊙ IC: INSPECTION COVER (ROUND)
- +IL: INVERT LEVEL
- +KO: KERB OUTLET
- ⊙ LB: LETTER BOX
- ⊙ LC: LIGHTING COLUMN
- ⊙ LP: LAMP POST
- ⊙ LP/BS: LAMP POST/BUS STOP
- ⊙ MH: MANHOLE (SQUARE)
- ⊙ MH: MANHOLE (ROUND)
- +MKR: MARKER
- P: POST
- +RE: RODDING EYE
- +R/S: ROAD SIGN
- +S/P: SIGN POST
- +SNP: STREET NAME PLATE
- +ST: STOP TAP
- +SV: STOP VALVE
- +TCB: TELEPHONE CALL BOX
- +TL: TRAFFIC LIGHT
- ⊙ TP: TELEGRAPH POLE
- ⊙ TP/EP: TELEGRAPH POLE/ELECTRIC POLE
- +T/C: TELECOM INSPECTION COVER
- +WO: WATER OUTLET
- +WM: WATER METER
- ⊙ GATE
- ⊙ DEFINED POINT
- ⊙ CONTROL POINT
- ⊙ TREE (CONIFEROUS)
- ⊙ TREE (DECIDUOUS)
- ⊙ FOLIAGE
- ⊙ HEDGE
- DPC 99.99m DAMP PROOF COURSE LEVEL
- EL 99.99m EAVES LEVEL
- FL 99.99m FLOOR LEVEL
- RL 99.99m RIDGE LEVEL
- SL 99.99m SOFFIT LEVEL
- TL 99.99m THRESHOLD LEVEL

FENCE DESCRIPTIONS:

- B/W: BARBED WIRE FENCE
- C/B: CLOSE BOARDED FENCE
- C/L: CHAIN LINK FENCE
- C/P: CHESTNUT PALING FENCE
- CONC/P: CONCRETE PANEL FENCE
- I/R: IRON RAILING FENCE
- P/R: POST AND RAIL FENCE
- P/W: POST AND WIRE FENCE
- P/C: POST AND CHAIN FENCE
- S/PAL: STEEL PALISADE FENCE
- S/B: SAFETY BARRIER
- T/PAL: TIMBER PALISADE FENCE



Revision Information

Rev	Date	Description

INFORMATION

- 1) Distance Survey co-ordinates and level are derived from OSN 15 and OSGM 15, transformed from WGS84.
- 2) Only services located during the site survey are shown on this plan. Further investigation may be required to ascertain the full extent of the site services.
- 3) Copyright of this drawing remains the property of PM Surveys UK Ltd. Do not scale from this drawing. In the event of any discrepancy, refer only to PM Surveys UK Ltd.

NOTES

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Client Info

Caulmert  
 Units 21&22  
 Glynwyr Innovations Ltd  
 St Asaph

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Project

Rhos Street School  
 Topographical Survey

Project No	Sheet	Surveyed By
PMS21184	A0	DJ
Dwg	Scale	Drawn By
PMS21184-01	1:200	JW
		Approved By
		PM
		Issued
		19/08/21



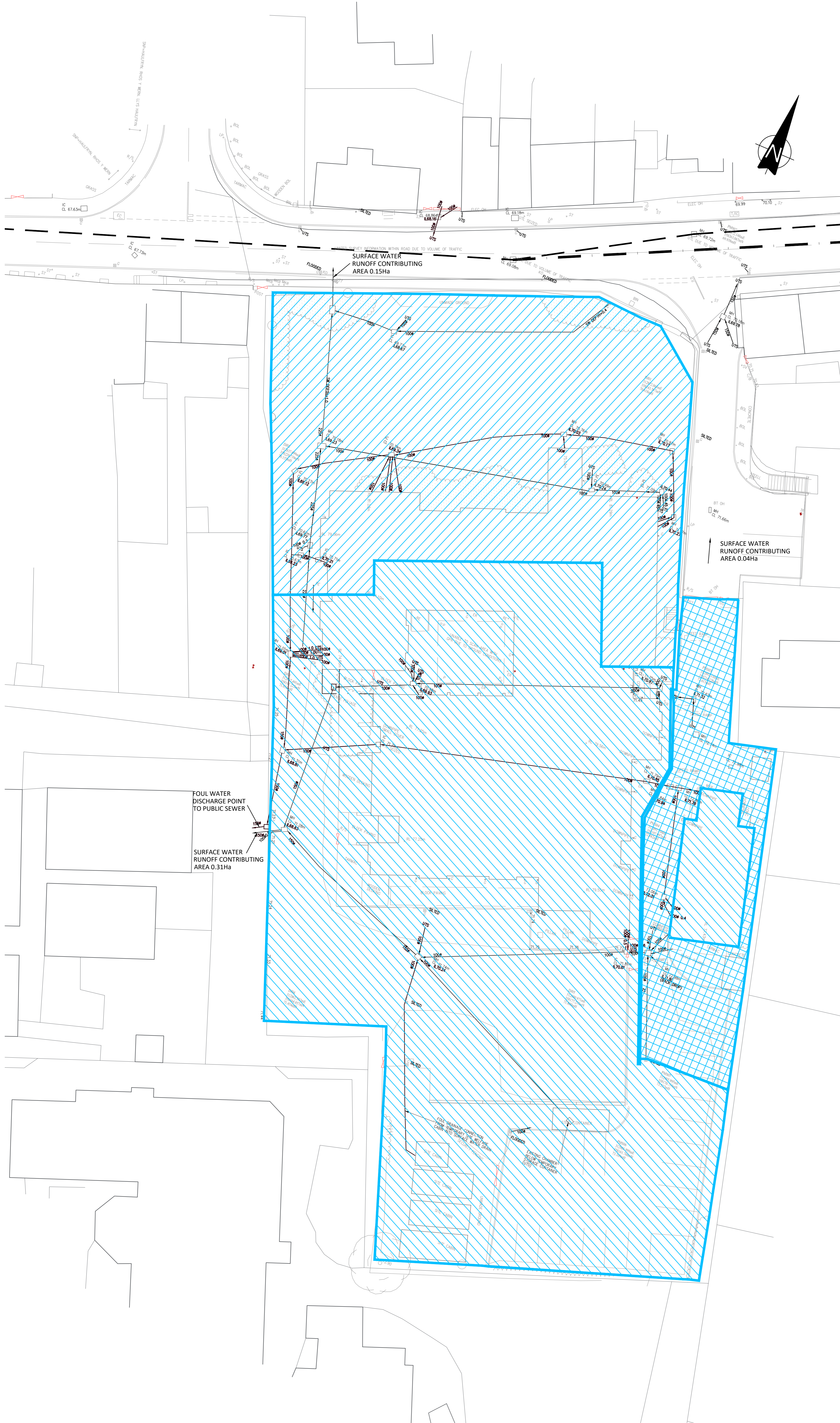
**APPENDIX 2**

**EXISTING DRAINAGE SURVEY DRAWING**



**NOTES**

- DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.



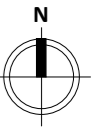
P01	FOR COMMENT	NWO	JES - 01/09/21
REV	MODIFICATIONS	BY	RE AP DATE
PURPOSE OF ISSUE			STATUS
DRAFT			SO
CLIENT:			
PROJECT:			
RHOS STREET RUTHIN			
TITLE:			
EXISTING DRAINAGE LAYOUT			
DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY
NWO	NWO		
DATE	SCALE @ A1	JOB REF:	REVISION
01/09/21	1:200	4863	P01
DRAWING NUMBER			
4863-CAU-XX-XX-DR-C-0101			
engineering environmental planning			

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**APPENDIX 3**  
**DEVELOPMENT PROPOSAL**



**KEY**

- APARTMENTS (AFFORDABLE)
- 4P2B PRIVATE
- 5P3B PRIVATE
- 5P3B SIDE ENTRY PRIVATE
- 7P4B PRIVATE

**1 | PROPOSED PLOT MIX**  
SCALE: 1 : 250

B	REVISED AFFORDABLE UNITS AND SITE FENCING	20.01.22	NG
A	HOUSE KEY ADDED	12.01.22	IO
REV	DESCRIPTION	DATE	BY

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**PROJECT**  
**RHOS STREET**  
**for MEDRA**

DRAWING TITLE  
**SITE LAYOUT PLAN**

SCALE	DATE	DRAWN	CHECKED
As indicated @A1	06/01/22	IO	SV
DRAWING STATUS	PRELIMINARY		

JOB No	DRAWING No	REVISION
C1083	005	B



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**APPENDIX 4**

**DCWW PRE-PLANNING RESPONSE**

# PLANNING AND NEW DEVELOPMENT

## Pre-Planning Advice & Next Steps



Dŵr Cymru  
Welsh Water

Dŵr Cymru Welsh Water has a key role to play in the town and country planning process as the services provided are at the forefront of public health and protection of the environment.

Our engagement in the planning process allows us to ensure that we can suitably service new development from a clean water and sewerage treatment perspective, but also provides us with the controls to enable us to mitigate any potential negative impact that new development is likely to have on the performance of our infrastructure, the service we provide to customers, and the wider environment. Crucially, the planning process also enables us to identify where new development and growth is planned so that we are able to target investment in our existing infrastructure within these areas.

### Our Pre Planning Advice to you

You have now received our pre-planning advice which will provide you with information regarding the impact of your proposed development upon our assets and apparatus. Our letter will advise whether the local network can support the proposal, whether off-site water mains and/or sewers will need to be provided, and whether there are any apparatus located within the land you wish to develop and the requirements for these apparatus.

However, in some circumstances we may require further information from you to fully evaluate the impact of your development. If this is the case please proceed to submit the required detail as requested in the letter. Upon receipt of the

information we can consider our position and provide you with an updated pre-planning response.

Please note that the advice provided is valid for a period of 12 months from the date of issue and will help us inform our response to the planning application for the development.

### Next Steps....

You may now be proceeding to submit your planning application to the Local Planning Authority. Our preference is to see that drainage matters are resolved at pre-planning stage which will allow us to provide positive comments at planning consultation stage. In light of our pre-planning advice to you, it may therefore be in your interest to:

- Consider the drainage requirements and how the installation of new water mains/ sewers shapes the layout of your development. You will need to ensure that the design of the drainage layout will (where relevant) meet the appropriate standards for formal adoption by us (see further advice provided overleaf regarding Connecting to our Networks)
- Consider how your site layout ensures that any assets/ apparatus that may be located at the site are protected in line with the requirements set out in our letter
- Submit further information and/ or drainage plans so that we can review your proposal in greater detail
- Where further assessments are recommended, to commission those before the planning

application is submitted to avoid any delays (see further advice provided overleaf on Network Modelling/WwTW Feasibility Studies)

- Provide a copy of our pre-planning enquiry response to the Local Planning Authority as part of your planning application submission to demonstrate you have considered drainage aspects of your development at pre-application stage, and that we are aware of your proposal.

### Our Involvement in the Planning Application Process

We provide Local Planning Authorities with advice on the ability of our assets to accommodate proposed development. Our comments are crucial in providing comfort to the Local Authority that new development sites can be effectively drained and can be supplied with clean water.

When sites can be accommodated in our networks we will recommend drainage related planning conditions which may seek to control the point of communication with our networks and the type of discharges that we may permit. We may also recommend conditions to secure the submission of further details, such as drainage plans and strategies (please note that we will resist the physical communication to our networks until drainage related conditions have been discharged)

However, there are instances where further assessments are required and we will seek to work collaboratively with you and the Local Planning Authority to establish a positive outcome for all parties.

# PLANNING AND NEW DEVELOPMENT

## General Advice and Guidance

Our pre-planning response will provide advice dedicated to your development. However, we also offer the following general advice around drainage matters and communicating to our networks.

### Managing Surface Water at your Development Site

As with all new development sites, you will need to consider how to deal with the surface water runoff from new buildings and hard standings. Traditionally, surface water has been managed by installing new pipes and large storage tanks to take flow away from land as quickly as possible. However, Dŵr Cymru actively encourage the use of Sustainable Urban Drainage Systems (SUDS), which is an approach to managing surface water run-off by imitating natural drainage systems and retaining water on or near the site.

SUDS involve a range of techniques including green roofs, rainwater harvesting, permeable pavements, etc. SUDS offer significant advantages over conventional piped drainage systems in reducing flood risk by attenuating the rate and quantity of surface water run-off from a site, promoting groundwater recharge, and improving water quality and amenity. The variety of SUDS techniques available means that virtually any development should be able to include a scheme based around these principles. Good justification would be required not to incorporate a SUDS scheme on the site.

All new developments will therefore be expected to consider surface water management techniques and

fully exhaust all technical options outlined under Sections 3.2 and 3.4 of Part H of the publication 'Building Regulations 2000'. These regulations ensure that disposal should be made through the hierarchical approach, preferring infiltration and, where infiltration is not possible, disposal to watercourses in liaison with the Land Drainage Authority and/or Natural Resources Wales or the Environment Agency in England. Discharge of surface water to the public sewer is only to be made as a last resort. The management of highway or land drainage run off will also need to be considered as these flows will not be allowed to discharge directly or indirectly into the public sewerage system.

### Network Hydraulic Modelling/ WwTW Feasibility Studies

Our pre-planning advice will provide you with an indication of whether our networks can accommodate your development. However there may be instances where our assets cannot at present service your site.

Our aim is to support economic development and growth within our operational area and we do not want to resist new development where possible. However we must be mindful of our assets, existing customers and the environment. In areas where there are issues either on our network or at the Wastewater Treatment Works (WwTW), we may already have proposals in place to address these concerns and to create capacity within the network for new developments.

However, there may be instances where you intend to develop your site in advance of Dwr Cymru

undertaking improvements. If this is the case, to ensure there is no detriment to our existing customers you may be required to implement solutions identified by an assessment of either the network or Wastewater Treatment Works. Please note that you will not be expected to resolve any operational issues that exist.

Where further assessments are recommended, please be advised that you will need to allow sufficient time in your development program for these studies to be undertaken and for any improvements to be implemented, as in some circumstances we will not permit a communication to our networks until these works are completed.

Where possible, we will seek to control the delivery of any solutions as part of the planning process. Dependent on the progress of the assessment, we may be in a position to recommend appropriate planning conditions so that the outcomes of the assessment can be delivered as part of any planning permission. This approach allows us to support the progression of the site through the planning process, however in the absence of a completed assessment and known solutions we may need to work with you and the Local Planning Authority until the assessment is completed and the outcomes are known.

# PLANNING AND NEW DEVELOPMENT

## Making Connections to our Networks

### Installing Your Drainage System and Making Connections to the Public Sewer

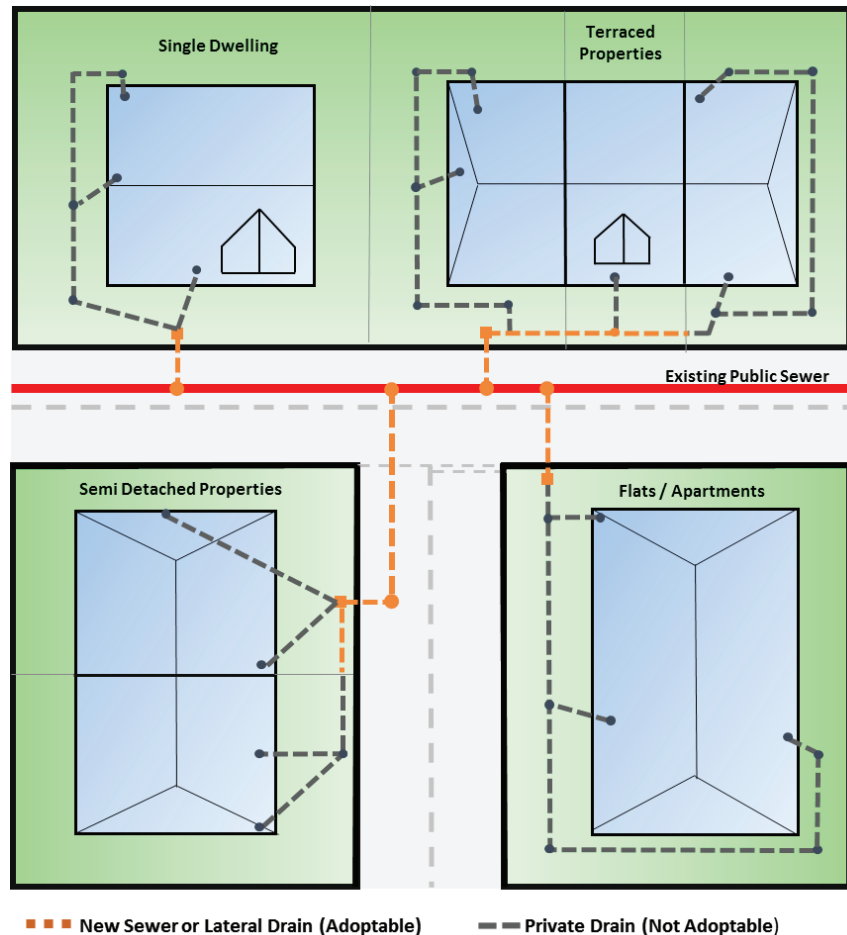
You will need to apply to us to make a connection to the public sewer, and depending on the layout of the drainage system you are proposing for your site, you may also be required to enter into an Adoption Agreement with us.

If your 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) with us.

The design of the sewer and lateral drain must also conform to the Welsh Ministers Standards for Gravity Foul Sewers and Lateral Drains, and conform with the publication "Sewers for Adoption"- 7th Edition.

Please be advised that we will not enter into a sewer adoption agreement for any sewer or lateral drain which is constructed in advance of the adoption agreement being in place. Further information on whether you will require a Section 104 Adoption Agreement and the adoption process can be obtained by contacting us.

To make the physical communication to the public sewer you will need to apply under Section 106 of the Water Industry Act 1991. An application pack can be obtained from our website and as part of the submission you will need to demonstrate that an adoption



agreement (if applicable) is in place, and that you have the relevant planning permissions in place for your development. Please be advised that if your site is subject to an Adoption Agreement we will not permit your communication until the agreement is in place.

### Your New Water Supply

Our pre-planning advice will indicate whether your site can be adequately serviced by our clean water network. If new connections are required, we would invite you to submit an application to us at [www.dwrcymru.com](http://www.dwrcymru.com) under Developer Services. Here you will find information about the services we have available and all

our application forms and guidance notes. You can complete forms online and also make payments via our website.

Upon approval of your Application and Water Regulations Notification we will notify you accordingly, send you a quotation for our estimated cost of your connection and a plan advising you of the work you need to carry out.

Our quotation is valid for 6 months. If payment is not received during this period you will need to re-submit a new application plus application fee if you wish to continue.



# PLANNING AND NEW DEVELOPMENT

## Requisitions and Asset Protection



### Requisition a Water Main or Public Sewer

As the Statutory Water and Sewerage Undertaker we have a duty under the Water Industry Act 1991 to comply with a Requisition Notice served on us for the provision of a water main and/or public sewer to serve the development site.

Two main reasons exist for the person(s) exercising the rights to serve Notice. The first is where a person(s) wishes us to lay water mains and/or sewers in private land (by us serving Notice under Section 159 (WIA91) so that a communication with an existing watermain or public sewer can be achieved; the second is where, as a consequence of the provision of the new watermain/public sewer, reinforcement of the existing network is required to ensure that the development, and the local area, has an effective system (refer to Section 37 (water) and Section 94 (sewers) of the Water Industry Act 1991)

Under the provisions of the WIA 1991, we are entitled to recover the costs we incur in providing a requisitioned watermain or sewer. This includes, among other things, the reasonable costs of design, labour, plant, materials, reinstatement, land purchase (if applicable), compensation, and quality testing, inspection, supervision, administration and overhead costs.

Further information on the Requisition process can be obtained by contacting our team of dedicated Engineers or by visiting the Developer Services pages of our

website.

### Assets Located at your Development Site

Our pre-planning advice letter may have drawn your attention to assets and/or apparatus located within your development site. It is important to note that under section 159 of the Water Industry Act 1991, Welsh Water has rights of access in order to inspect, maintain adjust repair or alter any asset or apparatus at all times.

### Locating an Asset

Our pre-planning letter will be accompanied by water main and sewer extract plans, providing you with an indication of the asset location within the site. However, we provide this information as general guidance only and on the strict understanding that it is on the best information available (see notes within our plans for further information). The onus of locating the apparatus before carrying out any excavation rests entirely with you. To accurately locate any assets, please contact our team of planning officers for further guidance.

### Protecting an Asset

The presence of an asset within the development site will have an impact on the layout and general arrangement of the site. Our pre-planning advice letter will provide you with the requirements for the protection of the asset(s) and you will need to ensure that the layout incorporates these requirements. Our recommendation is that our assets are incorporated into any site layout plan that is submitted as part of any planning application, so that

we and the Local Planning Authority can be satisfied that you have acknowledged the presence of such assets and have taken the necessary steps to protect them at the site.

### Diverting a Water Main or Public Sewer

If you have concluded that the asset located within the site could not be incorporated within the layout of the new development, or our rights of access to the asset may be hindered by your proposal, you may request the alteration or removal, including diversion of that apparatus to accommodate a proposed improvement of that land (e.g. development or change of use). This provision is provided under Section 185 of the Water Industry Act 1991. Further information on diverting an asset can be obtained by contacting our team of dedicated Engineers or by visiting the Developer Services pages of our website.

### Contact Us

For more information, contact Welsh Water's Planning team:

Email: [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)

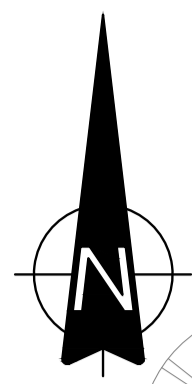
Visit: [www.dwrcymru.com](http://www.dwrcymru.com)

Tel: 0800 917 2652

**APPENDIX 5**

**PROPOSED DRAINAGE**





- NOTES**
- DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
- LEGEND**
- 2250 - - - - - EXISTING FOUL WATER SEWER
  - 4500 - - - - - EXISTING SURFACE WATER SEWER
  - 1000 - - - - - PROPOSED FOUL WATER SEWER TO BE ADOPTED
  - 1000 - - - - - PROPOSED SURFACE WATER DRAIN TO BE ADOPTED BY SAB
  - 1000 - - - - - PROPOSED PRIVATE FOUL WATER DRAIN
  - 1000 - - - - - PROPOSED PRIVATE SURFACE WATER DRAIN
  - PROPOSED FOUL WATER CHAMBER TO BE ADOPTED
  - PROPOSED SURFACE WATER CHAMBER TO BE ADOPTED
  - PROPOSED PRIVATE FOUL WATER CHAMBER
  - PROPOSED PRIVATE SURFACE WATER CHAMBER
  - PROPOSED RAIN WATER GARDEN / ATTENUATION TANK
  - PROPOSED SOAKAWAY
  - PROPOSED CELLULAR STORAGE
  - PROPOSED POROUS PAVING
  - PROPOSED BLOCK PAVING TO BE ADOPTED BY SAB
  - RWP - - - - - PROPOSED RAIN WATER PIPE
  - G - - - - - PROPOSED ROAD GULLY
  - WB - - - - - 100 LITRE RAINWATER BUTT, ON STAND, HYDROSURE SLIMLINE OR SIMILAR
  - PROPOSED RAIN GARDEN

PO1	ISSUED FOR PRE-APPLICATION CONSULTATION	LJ	JES	JES	14.01.22
REV	MODIFICATIONS	BY	RE	AP	DATE
	ISSUED FOR PLANNING			S4	
CLIENT:					
PROJECT:					
RHOS STREET, RUTHIN					
TITLE:					
PROPOSED DRAINAGE LAYOUT					
DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY		
JES	DA	CR	JES		
DATE	SCALE @ A1	JOB REF:	REVISION		
15.12.21	1:200	4863	P01		
DRAWING NUMBER					
4863-CAU-XX-XX-DR-C-1600					
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WWW.CAULMERT.COM					

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