Land off A473
Talbot Green

Drainage Strategy
10461 DS – 001B

January 2026

PHOENIX DESIGN
Partnership Ltd.

Document Control:

Project Number: 10461

Project: Land off A473, Talbot Green

Client: Talbot Green Developments Ltd

Document Title: Drainage Strategy

Author: Nick Lewis

Revision: B

Status: Approval

Control date: 31/10/2025

Record of Issue:

Rev	Status	Author	Date	Check	Date	Authorised	Date
/	Draft	NL	31/10/25	RB	31/10/25	NL	31/10/25
A	Approval	NL	04/11/25	RB	04/11/25	NL	04/11/25
B	Approval	NL	29/01/26	JP	29/01/26	NL	29/01/26

Revision Details:

A - Number of proposed units revised.

B – Design Team comments

Contents

Introduction

This report has been prepared by Phoenix Design Partnership Limited on behalf of the Talbot Green Developments Ltd in support of their outline planning application for the redevelopment for the vacant parcel of land off the A473, Talbot Green. The proposal relates to a development of up to 180 residential units with associated infrastructure.

The purpose of this report is to demonstrate that the site can be drained in accordance with the Welsh Government document 'Statutory Standards for Sustainable Drainage Systems – Designing, Constructing, Operating and Maintaining Surface Water Drainage Systems 2018' as well as the CIRIA SuDS Manual (C753), Sewers for Adoption 7th Edition, Building & Regulations 'Part H'.

Site Location

The proposed development parcel is located to the south of Talbot Green with a grid reference of ST 03835 823390 (centre of site). The development parcel is irregular in shape and bounded by a Sainsburys supermarket to the north, Y Pant Comprehensive School to the south, Leeks Superstore and Cowbridge Road (A4222) to the west and brownfield which is currently allocated for commercial to the east.

A surface water drainage ditch runs along the southern boundary which forms a tributary to the Afon Clun which conveys from the development parcel, Leeks superstore and possibly parts of the Y Pant Comprehensive school – see figure 1 below

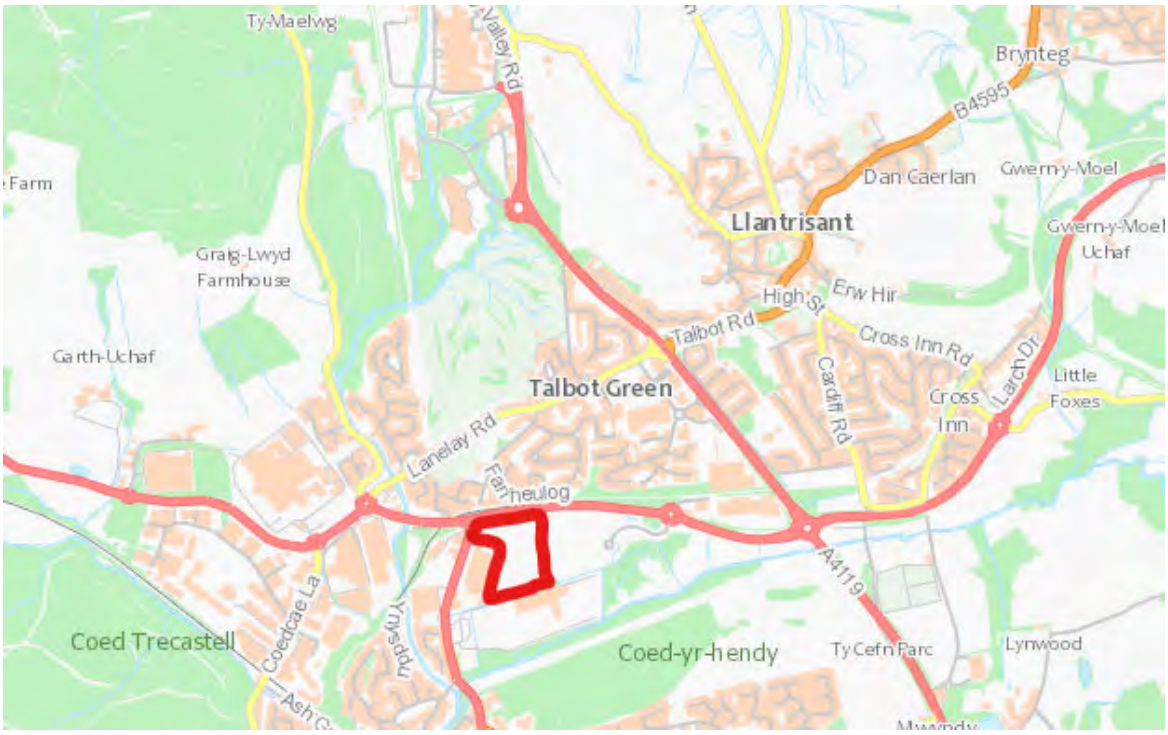


Figure 1 – Site Location

Site Topography

The site is of former industrial use, with remnants of its historic use still present on site such as concrete slabs, drainage and remains of the building wall, all of which have since become overgrown. The development parcel is classified as brownfield with vehicular access available off Cowbridge Road in addition to newly formed access off the A473 which is shared with Sainsburys supermarket.

The land parcel is irregular in shape with an area of approximately 4.7 Hectares (12 acres).

The site boundaries are typically defined by hedge lines interspersed with trees and low level 'scrub'. The boundary along Sainsburys boundary consist of mesh and timber fencing. The main development parcel predominantly falls from West to East with levels of 49.00m AOD falling to 46.50m AOD with a typical gradient of 1 in 125; however is found to be slightly steeper when the slabs are not considered.

A copy of the topographic survey can be found in Appendix A

Site Geology

The British Geological Survey (BGS) online maps indicate that the site is underlain by the South Wales Middle Coal Measures Formation, which is characterised as being mudstone, siltstone and sandstone. Superficial deposits of River Terrace Deposits which consist of sands and gravels.

The Soilscape online tool identifies the soils to be slowly permeable seasonally wet acid loamy and clayey soils. Whilst no desktop study or infiltration was available at the time of writing this report, the site walkover confirms the uppermost layers to be clay like in nature suggesting limited permeability.

During the school expansion works in 2014/15 infiltration testing was carried out within the indicating poor infiltration potential, thus positive drainage systems were considered the only viable option. Given the schools proximity to the development parcel, it is assumed that infiltration isn't a viable option, and for the purposes of this report will be considered as such.

As per Schedule 3 requirements, infiltration testing to BRE 365 will be carried out prior to detailed design.

Existing Drainage

Surface & Foul Water

The DCWW sewer records indicate that a 225mm foul sewer runs north to south from the south eastern corner of the Sainsburys car park. The sewer connects into the 525mm diameter combined sewer to the south which runs from east to west along the southern boundary of Y Pant Comprehensive School.

There is also a 225mm diameter combined sewers to the west of the development located within Cowbridge Road. See Appendix B for sewer plans

The storm drainage previously drained into a ditch which runs along the southern boundary between the school and development boundary. The ditch is approximately 600 – 750mm deep and 1m wide. The ditch discharges to the Afon Clun to the south via a network of culverts and ditches which cross the school grounds or runs along the eastern school boundary, see figure 2 below:

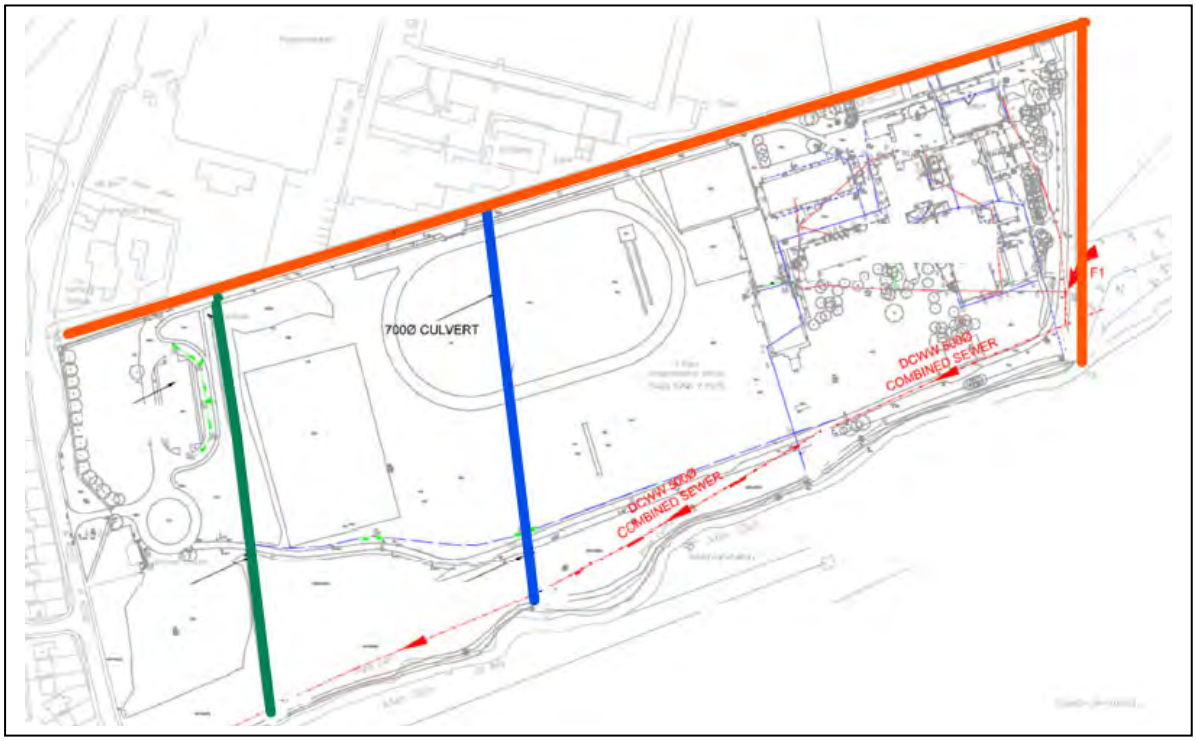


Figure 2 – Existing Storm Drainage

Figure 2 Key:

- The Orange line represents the existing ditch which runs along the southern boundary before turning south along the school boundary draining to the Afon Clun via a large pipe, circa 1m diameter.
- The Green line represents an open ditch running through the school grounds prior to draining into the Afon Clun
- The Blue line represents a 700mm diameter culvert which runs through the school grounds draining to the Afon Clun

Development Proposals

The proposed development will accommodate up to 180 dwellings including all relevant infrastructure (carriageways, footpaths, car parking etc). A copy of the masterplan can be found in Appendix C.

Following legislation enforcing Schedule 3 in January 2019 the proposed surface water system will be designed at ground level in accordance with best practice and the Ciria SuDS Manual; thus the layout needs to allow for such features.

Schedule 3 (Flood and Water Management Act 2010) and the Sustainable Drainage Approval Body (SAB)

Under Schedule 3, all developments in Wales over 100m² now require surface water drainage to be designed in accordance with the statutory standards for Sustainable Drainage Systems Standards for Wales (SDSSfW) produced by Welsh Government. It is the role of each councils SAB team to assess and approve the design proposals which are reviewed against these standards.

The standards aim to mimic the natural drainage characteristics of a site to help control the volume and rate of run off from the proposed development. This is achieved by managing the runoff at or close to the surface and as close to the sources as possible while also providing additional benefits such as biodiversity and amenity.

There are six standards that need to be met as follows:

- S1 – Surface Water runoff destination
- S2 – Surface Water runoff hydraulic control
- S3 – Water Quality
- S4 – Amenity
- S5 – Biodiversity
- S6 – Design of drainage for construction, operation and maintenance

S1 – Surface Water Runoff Destination

The hierarchy of outfall solutions within the Welsh Government guideance is as follows;

A. Surface water runoff is collected for use
B. Surface water runoff is infiltrated to ground
C. Surface water runoff is discharged to a surface water body
D. Surface water runoff is discharged to a surface water sewer, highway drain or another drainage system
E. Surface water runoff is discharged to a combined sewer

A. Runoff Collection for Use

Collecting runoff for re-use usually comes in the form of rainwater harvesting systems such as tanks. It is widely accepted that these systems are not commercially viable on residential projects due to their cost, reliability and future maintenance. It is therefore not proposed to install these systems.

It is proposed that the developer shall install rainwater butts to the rear of each property where practicable to allow for rainwater reuse.

B. Runoff Infiltrated to the Ground

Given ancedotal information availible at this stage, coupled with the obervations on site; it is deemed that the ground charactistics are unlikley to provide sufficent infiltration to provide an ‘end solution’. For the purposes of this report, all infiltration techniques have been discounted, instead focusing upon a positive discharge.

As stated above, BRE 365 testing will be carried out at a later stage to acertain permability of the ground.

C. Surface Run off Discharged to Water Body

The proposed development will drain into the ditch that runs along the southern boundary as per the existing scenario; albeit flows will be controlled at greenfield rates, whereas historically it would appear that flows to the ditch were unrestricted.

Consequently, S1 will be deemed to have been met via discharge to a surface water body.

S2 – Surface water runoff hydraulic control

As stated above, the proposed development will drain into ditch running along the southern boundary at QBAR rate which we have calculated using the FEH Statistical Method (2025), a copy of the calculations can be seen in **Appendix D**. The calculated flow for the development is calculated as follows:

Storm	(l/s)
Qbar	15.4
30	29.4
100	36

The proposed flows to the ditch will be controlled to 15.4l/s offering a significant betterment on historic flows and attenuated on site via basins. We have calculated that 2,391 cubic metres of storage is required as can be seen in **Appendix D.**

Proposed SuDS Features

Given the early stages of the development, the following SuDS features are proposed to accommodate the requirements of the SAB.

1.0. Permeable Surfaces

Permeable surface systems are efficient at managing surface water at source by intercepting and storing runoff in the substructure which helps to slow down the flows but also provides a medium where treatment can take place. Permeable surface systems have been proven to decrease concentrations of a range of surface water pollutants such as heavy metals, oils and sediment.

Permeable surfaces to be block paviour construction.

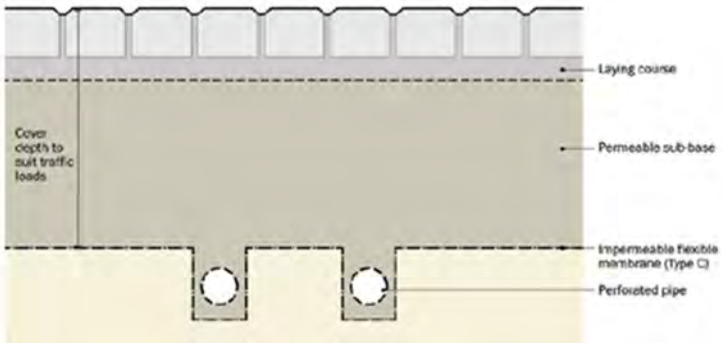


Figure 3 – Typical Permeable Paving System

2.0. Macro Pervious Paving Systems

Macro pervious paving' systems consist of traditional tarmac/ block paving surface layers overlaying a no fines subbase (4-20mm aggregate as used in typical permeable surfaces), the key difference between 'macro pervious' systems and permeable paving is how the water is conveyed to the subbase. In this instance, water will be captured by traditional systems such as linear drainage or gullies which discharge directly to the subbase by means of distribution units. The water cleaning measures are consistent with traditional permeable surfaces as stated in the Ciria SuDS Manual heading 20.1.6.

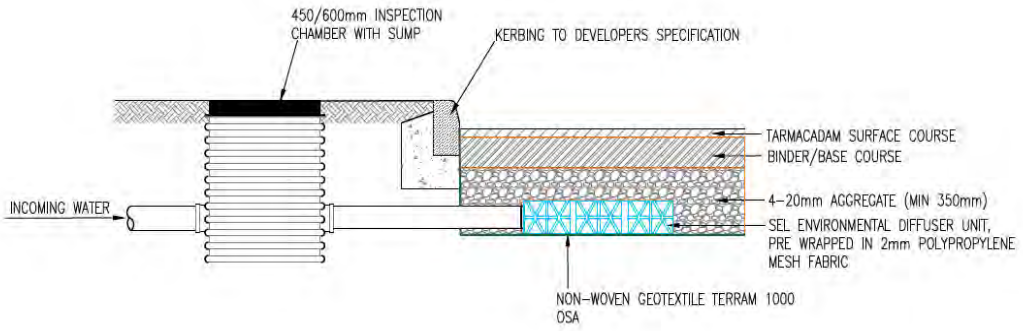


Figure 4 – Typical Macropervious Paving

3.0. Bioretention Verges

Bioretention systems are proposed alongside main access routes as build outs or verges. Bioretention verges are shallow areas or depressions that can be landscaped to help treat pollution and inherently slow down the flows.

These systems are effective at providing interception for the frequent rainfall events. The systems will include an element of storage in the soil make up allowing surface water to both evapotranspiration and be used by the planting within them.

Water quality is provided by sediment being captured at surface level while the base media removes associated pollutants such as nutrients, oils and metals.

Biodiversity is provided through the planting / landscaping used. The systems are flexible and can have a variety of base media mixes used.

The bioretntion verges will be designed using the SuDS Manual as well as ‘Designing Bioretention verges: A Practical Guide’ by Urban Design London (UDL).

Figure 5 – Typical Bioretention System/ Rain Garden

4.0 Detention Basins

These systems are used as ‘above ground’ attenuation which store water when discharge rates are restricted. These are vegetated systems that will provide another level of treatment and slow down flows with shallow gradients. Basins will normally be dry and in frequent rainfall events water levels will not be significant.

Figure 6 – Typical detention basin

The main water quality benefits of detention basins come from the removal of sediment and buoyant material. The longer water takes to leave the basin the higher level of treatment provided.

Detention basins can also double up as amenity space. Biodiversity is provided through the planting/landscape used. Detention basins can often also incorporate permanent pools/ponds.

4.0. Swales/ Ditches

These systems may be used in conjunction with the detention basins as a means of conveyance at various points throughout the site. Swales & ditches tend to be shallow with a flat base which when laid at shallow gradients provides a conveyance method that can handle much larger flows than tradition piped systems.

Water quality can be provided through the planting/landscaping used however the gradient is key to this in reducing the flow velocity and allowing contaminated to be filtered out.

Figure 7 – Newly formed Swale

Where steeper gradients (1:15+) occur on this development, check dams will be provided along the ditch length in order provide adequate interception.

Biodiversity is provided through the planting/landscaping used.

All systems will be designed to accommodate the 1 in 100 year + climate change event.

Interception Criteria

The SDSSfW states that '*when rainfall takes place on greenfield sites there is, for the majority of rainfall events during the year, no discernible surface water runoff to receiving water bodies. The rainwater normally 'evapotranspires', or in winter it can result in river base flow replenishment and/or groundwater recharge. However, impermeable surfaces generate runoff from virtually all rainfall events, and this change in runoff characteristics can have a negative impact on the morphology and ecology of receiving water bodies. Interception aims to mimic greenfield runoff conditions'*.

To comply with S2 of the standards, sufficient SAB features need to be incorporated within the layout to prevent the first 5mm of rainfall leaving the site. PDP aim to work with the architect to ensure that the layout is designed around sufficient drainage features that secure appropriate allowance of bioretention verges, basins, swales/ conveyance ditches have been allowed for.

S3 Water Quality

The proposed SAB features specified on site are to ensure that water quality meets the requirements of S3 of the SDSSfW which refers to the Water Quality Management section of the SUDS Manual. The 'Pollution Hazard Level' for each of the surfaces (Roofs, driveways, shared surfaces & Roads) are categorised in Table 26.2 of the SuDS Manual. Once the areas are identified, Table 26.3 of the SuDS Manual is used to identify the pollutants removal along the drainage train.

Using typical SAB features it is anticipated that water quality will meet the required treatment levels.

S4 - Amenity

The sustainable urban drainage proposals for the site will form an integral part of the wider amenity strategy for the development. The most prominent components of the system, from a resident's perspective, will be the bioretention verges & basins. Bioretention verges line the main roads and will be experienced by residents on a daily basis. The prominent treatment of water at surface level, directly outside homes, maximises legibility of the wider drainage system while providing a visually attractive element to the roadway that breaks up hard surfacing with green boarders along the street frontage. The visibility of water as it travels

through the landscape, and the personal-scale ecosystems created will provide a resource for local environmental education and opportunities for social cohesion.

On-plot landscaping consists of predominantly evergreen shrub species and turf, providing all year colour. Shrubs of varying heights/forms with different foliage structures and flowering seasons are used to enhance visual interest. Shrubs which provide scent are included adjacent to footpath routes.

The scheme will be designed so that, on reaching maturity, shrubs will require minimal maintenance/management and will not become too big for their location.

Generally, small, low growing shrubs have been used adjacent to footpaths with larger shrubs located at the backs of shrub beds away from pedestrian routes.

S5 – Biodiversity

The most prominent feature of the wider SuDS proposals will be the bioretention verges units which will be created along the main roads and shared drives. The vegetated bioretention verges will create habitat for invertebrates including pollinators, potential refuge and dispersal features for amphibians and foraging for birds.

The bioretention verges will provide connectivity across the site for a range of species offering safe dispersal routes away from access roads and will also allow rainwater to be soaked up and filtered by the plants within the gardens, decreasing the amount of surface water runoff experienced across the site. This natural filtration will also contribute towards the provision of cleaner water into the wider environment. The borders of the bioretention verges will be planted with a range of grasses and wildflowers which are tolerant of dry conditions with occasional inundation.

The attenuation basin will be planted with a variety of wildflower seed mixes. The basin will provide potential habitat for invertebrates including pollinators, foraging, perching and nesting habitat for birds and foraging habitat for bats, and will allow the attenuation of surface water run-off. The improved water quality provided by the SuDS scheme will allow important habitats to flourish and support a wide range of species. Additional planting of damp tolerant marginal species will further increase the biodiversity benefits by providing a diverse range of habitats across the scheme, including the provision of shelter and foraging potential for species of reptile and amphibians.

S6 - Design of drainage for construction, operation and maintenance

The site is to be constructed in line with the guidance set out in Ciria C768. A specific Construction Management Plan will be prepared by the developer at detailed design stage.

Maintenance will be caried out in line with the following schedules taken from the Ciria SuDS Manual.

TABLE 18.3 Operation and maintenance requirements for bioretention systems

Maintenance schedule	Required action	Typical frequency
Regular inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
Regular maintenance	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly to biannually
Occasional maintenance	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch	As required
Remedial actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years

TABLE 20.15 Operation and maintenance requirements for pervious pavements

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Foul Water Drainage

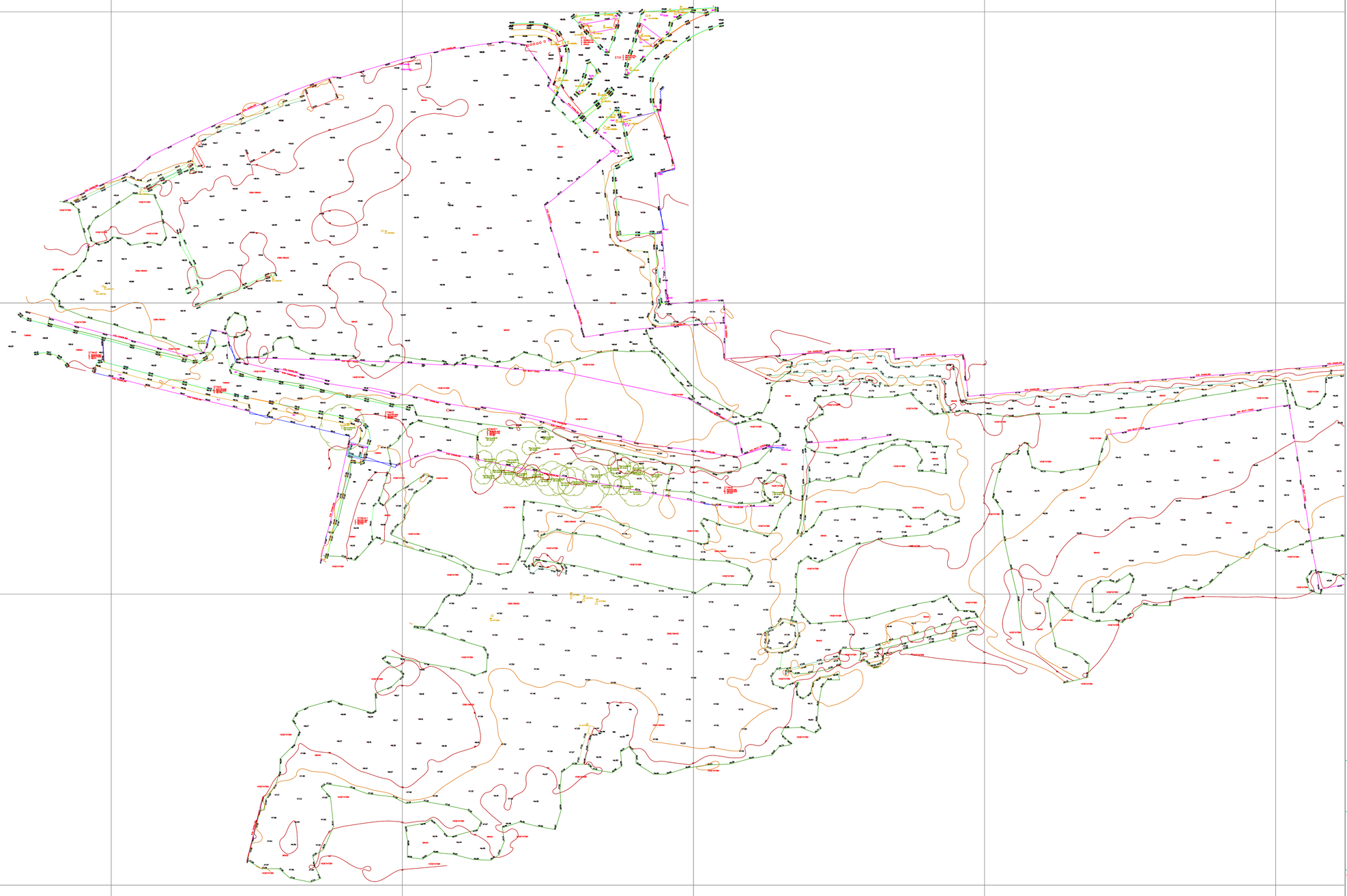
As described above, there is a foul sewer located to the east of the residential installed as part of the enabling works several years ago. The pipe diameter of 225mm is deemed sufficient to accommodate the residential development in addition to the commercial parcels proposed. Based upon topographic levels, it is assumed that a gravity connection to the public sewer is achievable.

DCWW have confirmed that there is sufficient capacity within the public network to accommodate foul flows from the proposed development. A copy of the DCWW can be seen in Appendix B.

Conclusions

- Foul flows are to drain via gravity to a the public foul sewers to the east
- Under Schedule 3 of the Flood and Water Management Act 2010 the surface water proposals will need to be reviewed and approved by RCT SAB team.
- The proposed surface water flows will drain to the existing ditch at Qbar.
- Permeable paving, macro pervious surfaces, bioretention verges and detention basins will provide treatment of surface water flows. These systems will also reduce flow velocities, surface water volumes and provide additional biodiversity to the area.
- All systems will be designed for the 1 in 100 year + climate change events.

Appendix A
Topographical Survey



Rev	Amendments	Date	By

NOTES:

1. SITE GRID AND LEVELS ARE BASED UPON ORDNANCE SURVEY VIA THE ACTIVE GPS NETWORK.

KEY

	BOTTOM OF BANK		VERGE
	TOP OF BANK		
	CONTOURS	△ ST1	SURVEY STATION
CAB	CABINET	JTH=50.09	TREE HEIGHT
	TREE	PB	POST BOX SQUARE
		PB	POST BOX ROUND
FH	FIRE HYDRANT	GRILL	GRILL SQUARE
BT	BRITISH TELECOM	GRILL	GRILL ROUND
CATV	CABLE TV	BL	BOLLARD ROUND
	OVERHEAD LINE	BL	BOLLARD SQUARE
GV	GAS VALVE	BDY	BIN SQUARE
1.05K	BRICK WALL	BDY	BIN ROUND
1.05L	BLOCK WALL	98.32	SPOT LEVEL
1.05ST	STONE WALL	ASP	ASPHALT
	VEGETATION	GR	GRASS
2.0 CB	CLOSE BOARD	GRAV	GRAVEL
1.6 PR	POST RAIL FENCE	H/S	HARDSTANDING
1.8 H	HERAS FENCE	BB	BELISHA BEACON
2.0 PW	POST WIRE FENCE	RS	ROAD SIGN
	DROPPED KERB	TS	TRAFFIC SIGNAL
	KERB CHANNEL	IC	INSPECTION COVER
	TOP OF KERB	MH	MANHOLE SQUARE
FL=46.12	RIDGE LEVEL	MH	MANHOLE ROUND
EL=43.88	EAVE LEVEL	MP	MARKER POST
FFL=40.55	FINISHED FLOOR LEVEL	TP	TELEGRAPH POLE
FR=42.99	FLAT ROOF LEVEL	LC	LIGHTING COLUMN
		G	GULLY
		WM	WATER METER
		SV	SLUICE VALVE
		ST	STOP TAP

TOTAL SURVEYING SOLUTIONS Ltd.

CLIENT
MASKA GROUP

PROJECT
TALBOT GREEN.

Surveyed by	MH	Date	16/12/2025
Drawn	MH	Date	12/01/2025
Scales	1:500@A0	Checked	PCH
Project Reference No.	TTS/0287		
Drawing Number	TAL01		

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Rev	Amendments	Date	By

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	TOP OF BANK	△ ST1	SURVEY STATION
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CATV	CABLE TV	BL	BOLLARD ROUND
	OVERHEAD LINE	BL	BOLLARD SQUARE
GV	GAS VALVE	BIN	BIN SQUARE
1.03R	BRICK WALL	BIN	BIN ROUND
1.03L	BLOCK WALL	28.32	SPOT LEVEL
1.05T	STONE WALL	ASP	ASPHALT
		GR	GRASS
	VEGETATION	GRAV	GRAVEL
2.0 CB	CLOSE BOARD	H/S	HARDSTANDING
1.6 PR	POST RAIL FENCE	BB	BELISHA BEACON
1.8 H	HERAS FENCE	RS	ROAD SIGN
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		WM	WATER METER
		SV	SLUICE VALVE
		ST	STOP TAP

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PROJECT
TALBOT GREEN.

Surveyed by	MH	Date	16/12/2025
Drawn	MH	Date	12/01/2025
Scales	1:500@A0	Checked	PCH
Project Reference No.	TTS/0287		
Drawing Number	TAL02		

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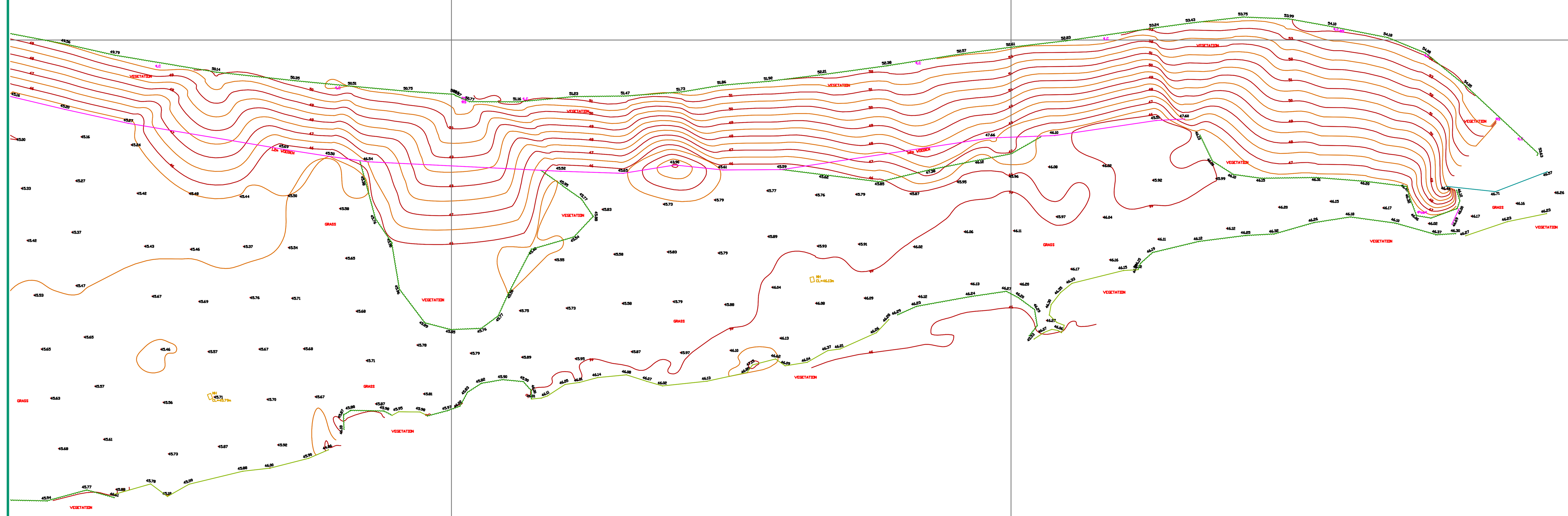

KEY

	BOTTOM OF BANK		VERGE
	TOP OF BANK	ST1	SURVEY STATION
	CONTOURS	TH=50.09	TREE HEIGHT
CAB	CABINET	PB	POST BOX SQUARE
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BT	BRITISH TELECOM	GRILL	GRILL ROUND
CATV	CABLE TV	BL	BOLLARD ROUND
	OVERHEAD LINE	BL	BOLLARD SQUARE
GV	GAS VALVE	BIN	BIN SQUARE
1.0BR	BRICK WALL	BIN	BIN ROUND
1.0BL	BLOCK WALL	38.32	SPOT LEVEL
1.0ST	STONE WALL	ASP	ASPHALT
	VEGETATION	GR	GRASS
2.0 CB	CLOSE BOARD	GRAV	GRAVEL
1.6 PR	POST RAIL FENCE	H/S	HARDSTANDING
1.8 H	HERAS FENCE	BB	BELISHA BEACON
2.0 PW	POST WIRE FENCE	RS	ROAD SIGN
	DROPPED KERB	TS	TRAFFIC SIGNAL
	KERB CHANNEL	IC	INSPECTION COVER
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EL=43.88	EAVE LEVEL	MP	MARKER POST
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FR=42.99	FLAT ROOF LEVEL	LC	LIGHTING COLUMN
		G	GULLY
		WM	WATER METER
		SV	SLUICE VALVE
		ST	STOP TAP

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TOTAL SURVEYING SOLUTIONS Ltd.

CLIENT
MASKA GROUP

PROJECT
TALBOT GREEN.

Surveyed by	MH	Date	16/12/2025
Drawn	MH	Date	12/01/2025
Scales	1:500@A0	Checked:	PCH
Project Reference No.	TTS/0287		
Drawing Number	TAL03		

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Appendix B

DCWW Sewer Records & Correspondence

Dŵr Cymru
Welsh Water

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CF30 0EH

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

Mr Nick Lewis
Phoenix Design
Pontypridd
RCT
CF37 5BS

Date: 03/11/2025
Our Ref: PPA0009705

Dear Mr Lewis

Grid Ref: 303851 182333
Site Address: Talbot Green RCT
Development: Residential

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 residential development of 170 Units at Llantristant and acknowledge that the site makes up part of a site that is allocated (Ref: SSA 8) within the Local Development Plan (LDP) for a total of 500 units. In reference to our representations during the LDP consultation process, we can confirm that an assessment has been undertaken of the public sewerage and watermains systems to accommodate development and informs our appraisal as follows.

PUBLIC SEWERAGE NETWORK

The proposed development site is located in the immediate vicinity of a predominantly combined public sewerage system which drains to Colech 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 preferring infiltration (PL2) and, where infiltration is not possible, disposal to a surface water body (PL3), in liaison with the Lead Local Flood Authority and/or Natural Resources Wales, or surface water sewer or highway drain (PL4) in liaison with the riparian owner and/or Local Highways Authority.

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 and our Developer Services website at https://developers.dwrcymru.com/en/help-advice/regulation-to-be-aware-of/sustainable-drainage-systems.

In the absence of an accompanying surface water drainage strategy, it is recommended that the developer engage in consultation with Rhondda Cynon Taf Council, as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please be advised that due to capacity constraints with the downstream public sewerage network, under no circumstances would we allow surface water runoff highway run-off from the proposed development to communicate directly or indirectly with the public combined sewerage system. In addition, please note, no amount of land drainage run-off is permitted to discharge directly or indirectly into the public sewerage system.

Furthermore, Planning Policy Wales (PPW) acknowledges that discharge of surface water to foul sewers is prohibited and highlights that any additional surface water from new developments should not be discharged to combined systems because of the risk of pollution when combined systems overflow (Para 6.6.3). Moreover, PPW recognises the challenges faced from rainfall intensity causing surface water flooding and diffuse pollution (Para 6.6.14) along with the importance of well-maintained sewerage networks (Para 6.6.15), particularly as a result of run-off from built surfaces and the sewage discharges from overloaded sewers (Para 6.6.16).

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 combined sewer at or downstream of manhole ST04822105 located to the south of the site.

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 Waste Water Treatment Works for the treatment of domestic discharges from this site.

POTABLE WATER SUPPLY

The water supply system in the immediate vicinity has insufficient capacity to serve the development and will also cause detriment to existing customers' water supply. A hydraulic modelling assessment is required to establish the scope of any reinforcement works to be completed at the same time as the provision of new water mains to serve the new development under Section 41 and Section 51 of the Water Industry Act (1991).

Information relating to our Hydraulic Modelling Assessment process is available on our website and within our guidance notes. The area planning officer will also be able to provide you within information relating to this process.

The proposed development is crossed by a trunk/distribution watermain, the approximate position being shown on the attached plan. Dwr Cymru Welsh Water as Statutory Undertaker has statutory powers to access our apparatus at all times. I enclose our Conditions for Development near Watermain(s). It may be possible for this watermain to be diverted under Section 185 of the Water Industry Act 1991, the cost of which will be re-charged to the developer. The developer must consult Dwr Cymru Welsh Water before any development commences on site.

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,

Matthew Lord
Planning Liaison Manager
Developer Services

<u>Please Note</u> 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.

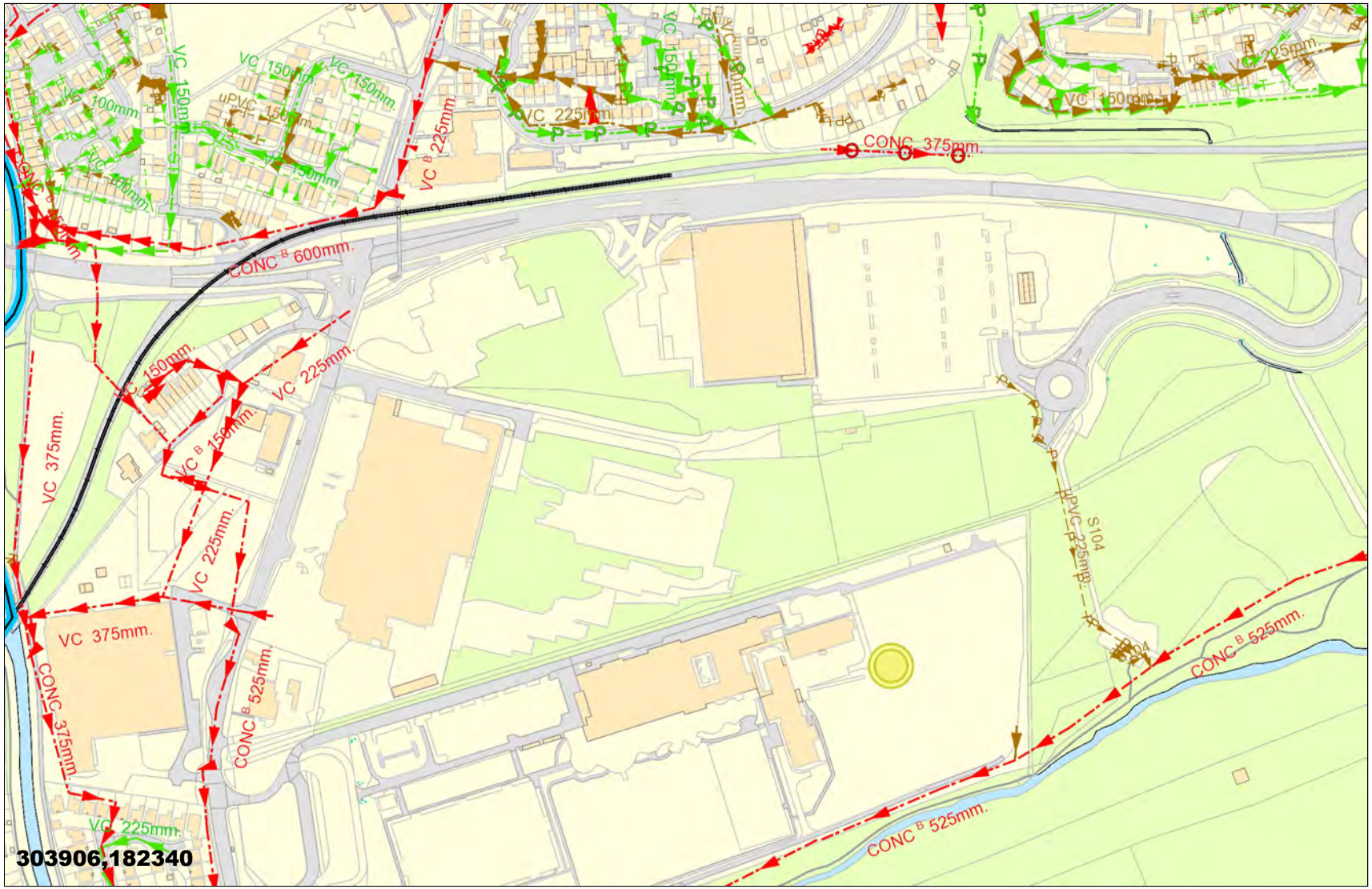
FURTHER CONTACT

If you have any questions about the above response, please contact Bethan Davies who is the Development Planning Officer for Rhondda Cynon Taf at developer.services@dwrcymru.com or on 0800 917 2652. They will be happy to assist you further.

Dŵr Cymru
Welsh Water

30/10/2025

Scale: 1: 4177



LEGEND

Clean Water

- Sluice Val
- Air Val, SINGLE
- Tap
- Pressure Reducing Valve
- Meter
- BULK Meter
- FH
- Cap
- Existing Main
- NON COMPANY

Sewerage External

- Foul
- Surface Water
- Combined
- Rising Main
- Private
- Treatment Works
- Pumping Station
- Special Purpose
- Unknown End
- Change, Combined Overflow
- Outfall, FOUL
- Lamp Hole, Foul
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

Dwr 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.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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

Appendix C
Masterplan

1 **Illustrative Masterplan**
1 : 1250

N

10 0 10 20 30 40 50
SCALE 1:1250 m

Rev.	Status	Date	Check	Description
P01	S0	28/01/26	SS	ISSUED FOR PAC

HolderMathias architects

T +44 (0) 20 7287 0735
www.holdermathias.com
London Cardiff Munich

Project
Land off A473
Talbot Green
Talbot Green Developments Ltd

Title
Illustrative Masterplan

Job No	Scale at A1	Classification	Status	Revision
4599	1 : 1250	PM_40_40_34	S0	P01

Project Code - Originator - Functional Breakdown - Spatial Breakdown - Form - Discipline - Number
TLBG-HMA-ZZ-00-D-A-00020

Appendix D

Greenfield Run off Rates & Attenuation

Greenfield runoff rate estimation tool

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

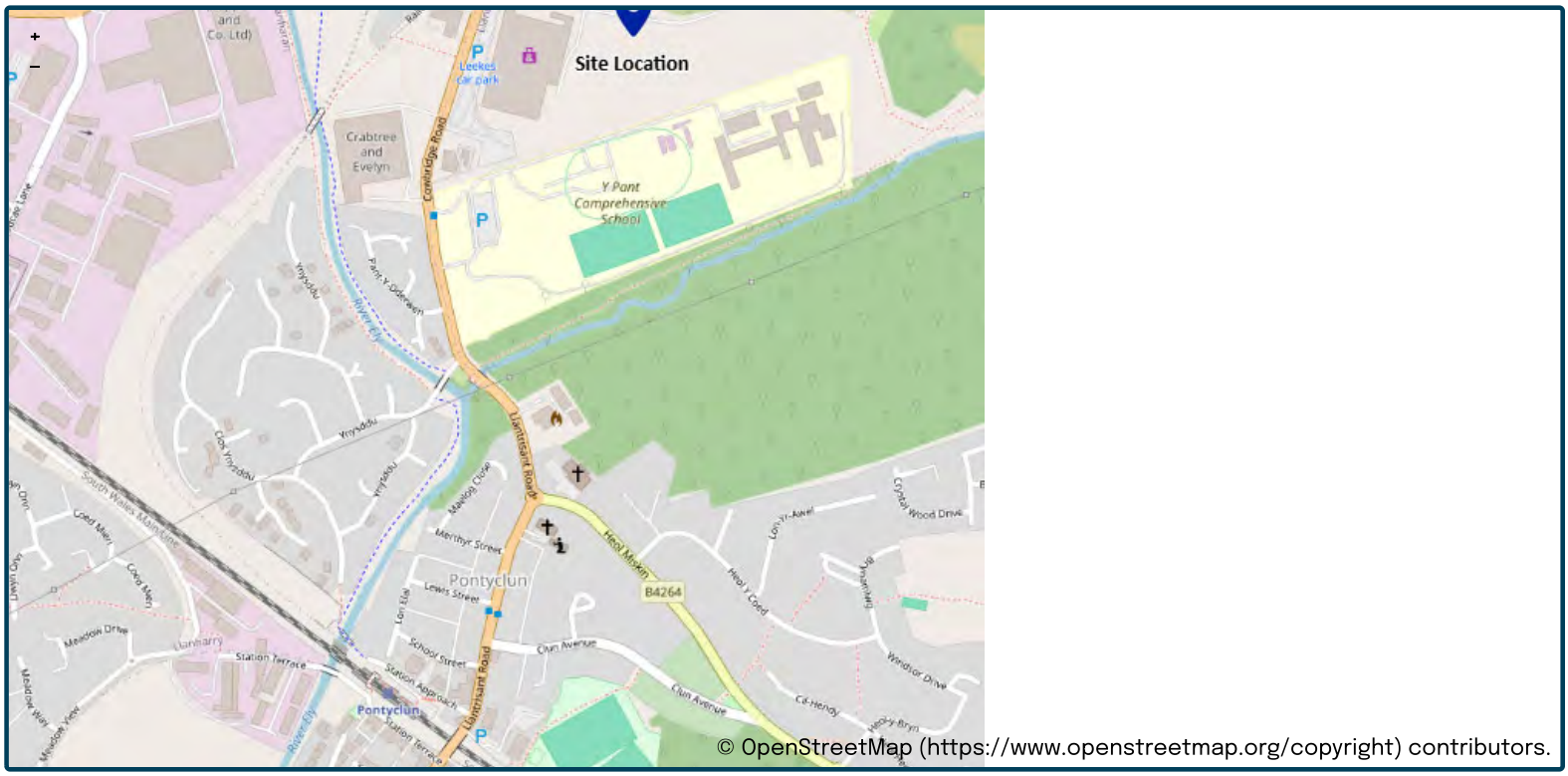
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015).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

Project details

Date	13/10/2025
Calculated by	
Reference	
Model version	2.2.1

Location

Site name	Talbot Green
Site location	



Site easting (British National Grid)	303859
Site northing (British National Grid)	182294

Site details

Total site area (ha)	4.72 ha

Greenfield runoff

Method

Method	FEH statistical (2025)

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	1294 mm		
BFIHOST19scaled	0.726		
QMed-QBar conversion	1.075		1.075
QMed (l/s)	15.4 l/s		
QBar (FEH statistical 2025) (l/s)	16.5 l/s		

Growth curve factors

	My value		Map value
Hydrological region	9		9
1 year growth factor	0.88		
2 year growth factor	0.93		
10 year growth factor	1.42		
30 year growth factor	1.78		
100 year growth factor	2.18		
200 year growth factor	2.46		

Results

Method	FEH statistical (2025)	
Flow rate 1 year (l/s)	14.5	l/s
Flow rate 2 year (l/s)	15.4	l/s
Flow rate 10 years (l/s)	23.5	l/s
Flow rate 30 years (l/s)	29.4	l/s
Flow rate 100 years (l/s)	36.0	l/s
Flow rate 200 years (l/s)	40.7	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

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

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	98.490	0.490	16.5	582.5	O K
30 min Summer	98.674	0.674	16.5	824.5	O K
60 min Summer	98.879	0.879	16.5	1109.3	O K
120 min Summer	99.088	1.088	16.5	1417.6	O K
180 min Summer	99.194	1.194	16.5	1581.0	O K
240 min Summer	99.267	1.267	16.5	1696.0	O K
360 min Summer	99.360	1.360	16.5	1845.4	O K
480 min Summer	99.414	1.414	16.5	1934.5	O K
600 min Summer	99.446	1.446	16.5	1988.1	O K
720 min Summer	99.464	1.464	16.5	2018.4	O K
960 min Summer	99.473	1.473	16.5	2033.8	O K
1440 min Summer	99.451	1.451	16.5	1995.4	O K
2160 min Summer	99.414	1.414	16.5	1934.9	O K
2880 min Summer	99.381	1.381	16.5	1880.2	O K
4320 min Summer	99.307	1.307	16.5	1759.4	O K
5760 min Summer	99.226	1.226	16.5	1630.5	O K
7200 min Summer	99.141	1.141	16.5	1498.0	O K
8640 min Summer	99.050	1.050	16.5	1360.7	O K
10080 min Summer	98.943	0.943	16.5	1201.8	O K
15 min Winter	98.546	0.546	16.5	655.1	O K
30 min Winter	98.751	0.751	16.5	929.1	O K
60 min Winter	98.978	0.978	16.5	1253.0	O K
120 min Winter	99.208	1.208	16.5	1603.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	114.303	0.0	606.1	26
30 min Summer	81.230	0.0	862.0	40
60 min Summer	55.250	0.0	1172.6	70
120 min Summer	36.050	0.0	1530.5	128
180 min Summer	27.428	0.0	1747.0	188
240 min Summer	22.560	0.0	1917.2	246
360 min Summer	17.069	0.0	2174.6	364
480 min Summer	13.970	0.0	2373.9	484
600 min Summer	11.943	0.0	2537.3	602
720 min Summer	10.499	0.0	2604.7	722
960 min Summer	8.553	0.0	2591.4	960
1440 min Summer	6.386	0.0	2536.3	1224
2160 min Summer	4.751	0.0	3632.8	1608
2880 min Summer	3.856	0.0	3932.8	2020
4320 min Summer	2.876	0.0	4397.8	2856
5760 min Summer	2.339	0.0	4768.7	3696
7200 min Summer	1.996	0.0	5089.3	4536
8640 min Summer	1.756	0.0	5368.1	5360
10080 min Summer	1.577	0.0	5629.2	6152
15 min Winter	114.303	0.0	679.2	26
30 min Winter	81.230	0.0	965.4	40
60 min Winter	55.250	0.0	1313.8	70
120 min Winter	36.050	0.0	1715.5	126

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

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
180 min Winter	99.327	1.327	16.5	1792.6	O K
240 min Winter	99.410	1.410	16.5	1928.5	O K
360 min Winter	99.518	1.518	16.5	2109.9	O K
480 min Winter	99.585	1.585	16.5	2223.6	O K
600 min Winter	99.627	1.627	16.5	2297.6	O K
720 min Winter	99.655	1.655	16.5	2345.5	O K
960 min Winter	99.680	1.680	16.5	2391.1	O K
1440 min Winter	99.670	1.670	16.5	2373.3	O K
2160 min Winter	99.610	1.610	16.5	2268.2	O K
2880 min Winter	99.563	1.563	16.5	2186.7	O K
4320 min Winter	99.447	1.447	16.5	1989.4	O K
5760 min Winter	99.316	1.316	16.5	1774.7	O K
7200 min Winter	99.177	1.177	16.5	1555.0	O K
8640 min Winter	99.022	1.022	16.5	1319.0	O K
10080 min Winter	98.816	0.816	16.5	1020.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
180 min Winter	27.428	0.0	1956.9	184
240 min Winter	22.560	0.0	2147.2	242
360 min Winter	17.069	0.0	2436.1	358
480 min Winter	13.970	0.0	2612.9	474
600 min Winter	11.943	0.0	2614.0	590
720 min Winter	10.499	0.0	2606.6	704
960 min Winter	8.553	0.0	2590.5	928
1440 min Winter	6.386	0.0	2569.5	1354
2160 min Winter	4.751	0.0	4070.0	1696
2880 min Winter	3.856	0.0	4401.9	2164
4320 min Winter	2.876	0.0	4713.4	3108
5760 min Winter	2.339	0.0	5340.0	3992
7200 min Winter	1.996	0.0	5698.4	4904
8640 min Winter	1.756	0.0	6015.8	5792
10080 min Winter	1.577	0.0	6302.1	6456