

Technical Note

Project: The Eagle at Barrow, Clitheroe

Subject: Surface Water and Foul Water Drainage

Client:	Fence Gate Limited		
Project No:	08336	Version:	B
Document Ref:	08336-TN-01	Author:	Charlotte Turner
Date:	03/02/2025	Approved:	Kerry Whitehouse

I Introduction

- 1.1.1 PJA has been commissioned by Fence Gate Limited to undertake a surface water drainage strategy and foul water drainage strategy to support a full planning application for a two-storey, 38 bedroom hotel located within the car park of the existing pub 'The Eagle at Barrow', Clitheroe.
- 1.1.2 This Technical Note sets out the proposed surface water drainage strategy and foul water drainage strategy for the Site in accordance with local and national guidance.

2 Site Context

2.1 Site Location

- 2.1.1 The Site is approximately 0.42ha in size and brownfield in nature, located within Clitheroe. The Site is bound by Clitheroe Road to the east, beyond which lies existing residential development and Whalley Industrial Estate. Furthermore, residential development bounds the Site to the north, whilst an existing carpark for the pub is situated to the south. Agricultural fields bound the Site to the west, beyond which lies an existing railway line.
- 2.1.2 A Site Location Plan is available in Figure 1.

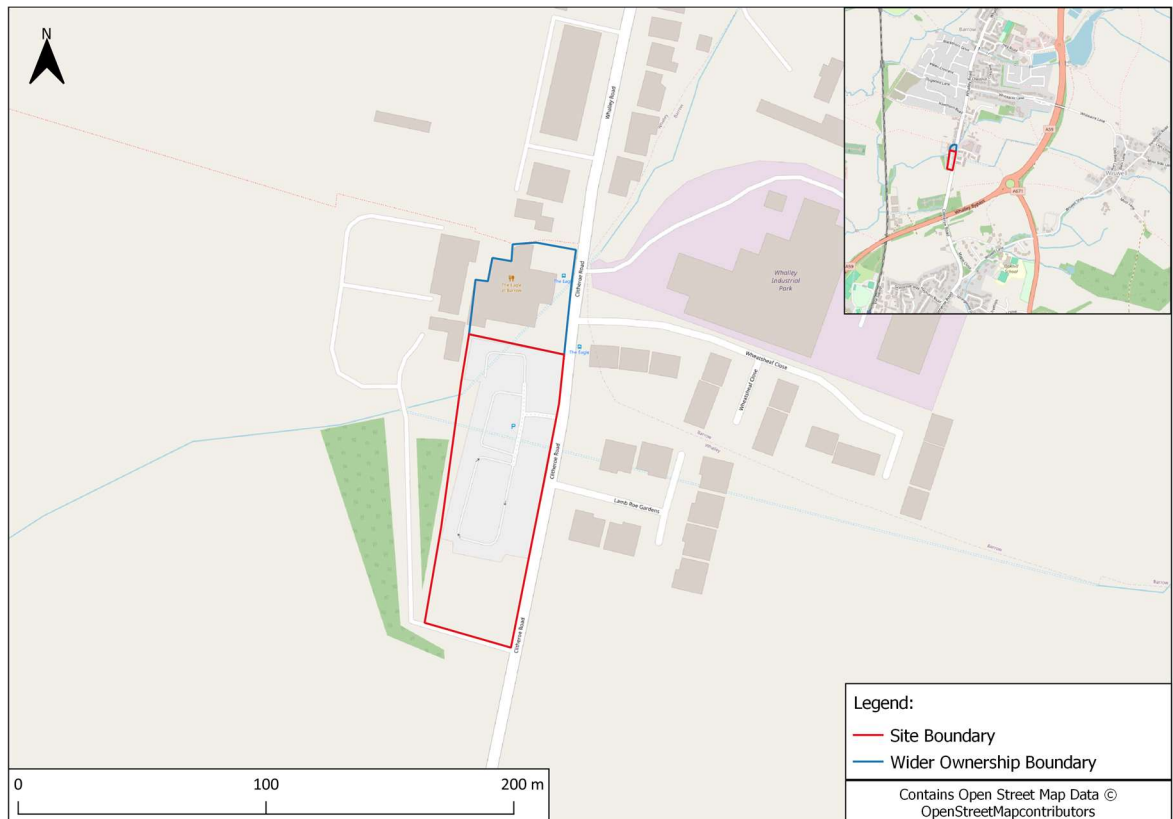


Figure 1: Site Location Plan

2.2 Site Topography

- 2.2.1 From a review of the Site-Specific topographic survey undertaken by CTE Surveying in January 2019, the Site generally slopes from north to south towards the existing carpark and Clitheroe Road.
- 2.2.2 The highest elevation is approximately 68.45m AOD and situated to the north of the Site by 'The Eagle' Pub. The lowest elevation is approximately 66.90m AOD and is situated to the south of the Site within the existing carparking area.
- 2.2.3 The Site-Specific Topographic Survey is available in Appendix A.
- 2.2.4 An extract of the publicly available 1m DTM LiDAR, that shows the general fall of the Site is available in Figure 2.

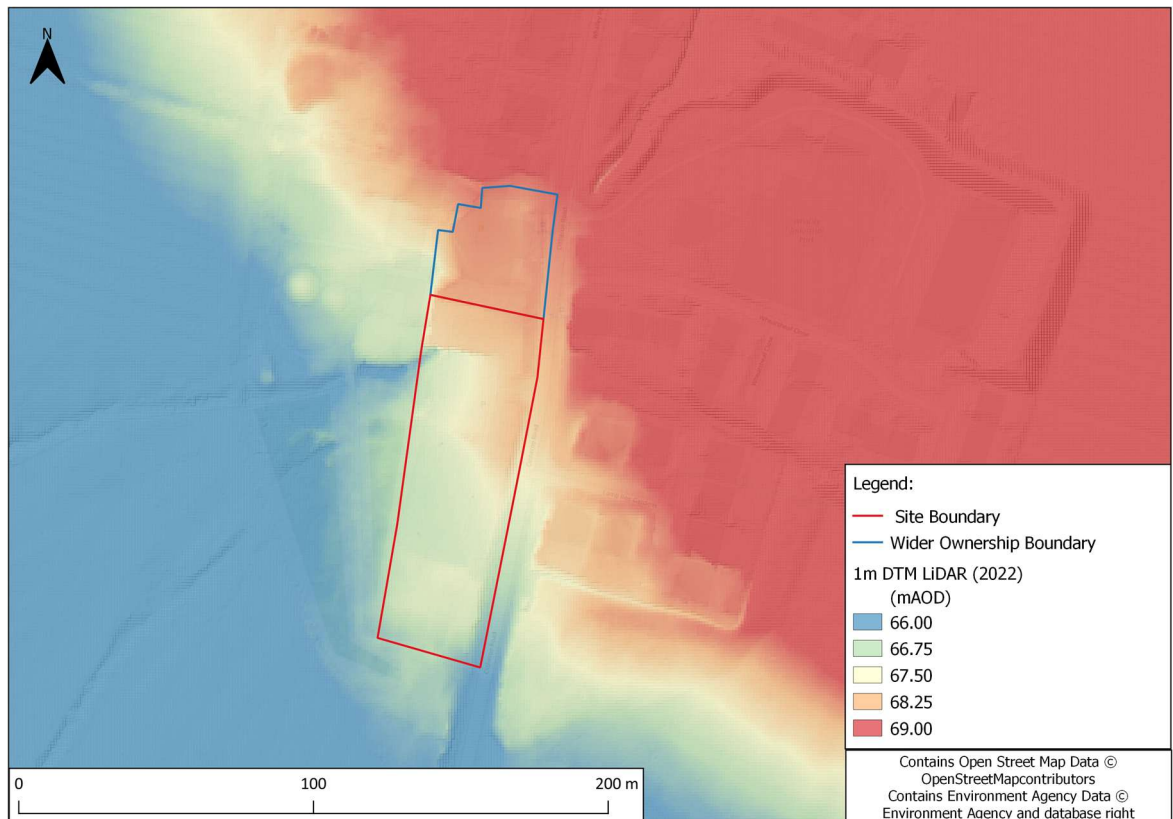


Figure 2: 1m DTM LiDAR Extract

2.3 Existing Drainage Features

- 2.3.1 From a review of the available United Utilities asset mapping, a private combined sewer bisects the wider ownership boundary to the north, before discharging into an existing United Utilities public combined sewer to the west.
- 2.3.2 Furthermore, an existing private surface water sewer bisects the Site from east to west, before discharging to an Unnamed Ordinary Watercourse which originates within the Site along the western boundary.
- 2.3.3 The Unnamed Ordinary Watercourse is assumed to flow in a westerly direction, confluent with the River Calder, approximately 1.5km west of the Site.
- 2.3.4 Existing United Utilities public foul water sewers are situated along Clitheroe Road to the east, serving existing commercial and residential development.
- 2.3.5 An extract of the existing drainage features is available below in Figure 3.

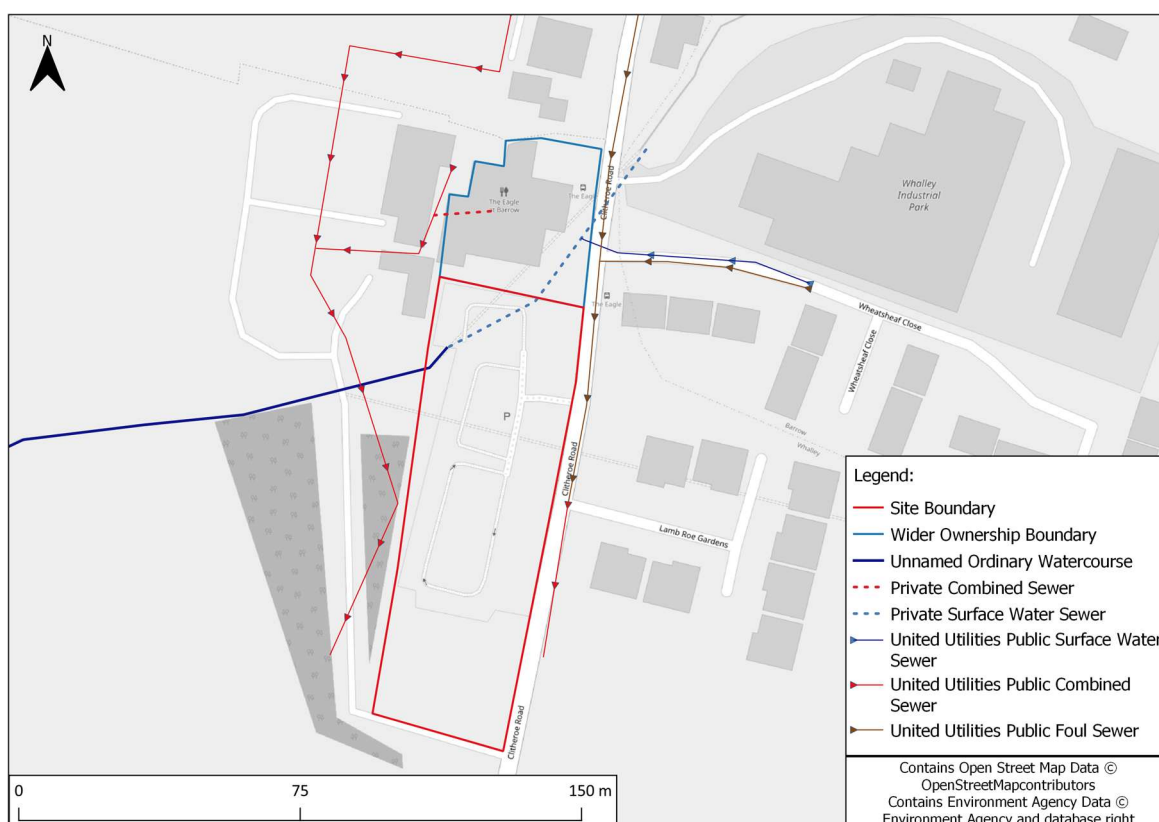


Figure 3: Existing Drainage Assets

2.4 Surface Water Flood Risk

- 2.4.1 From a review of the publicly available, Long-Term Flood Risk Information, Flood Risk from Surface Water Map, the Site is predominantly identified to be at very low risk from potential surface water flooding.
- 2.4.2 Surface water flow routes are identified along the eastern and western boundaries of the Site and are assumed to be associated with localised topography and an existing unnamed ordinary watercourse. The surface water flow route to the east of the proposed development, flows in a southerly direction along Clitheroe Road in accordance with the existing topography shown within the 1m DTM LiDAR (2022). Furthermore, the existing surface water flow route to the west of the Site, flows in a south-westerly direction in accordance with the Unnamed Ordinary Watercourse which originates within the Site.
- 2.4.3 An extract of the Long-Term Flood Risk Information, Flood Risk from Surface Water mapping is available in Figure 4.

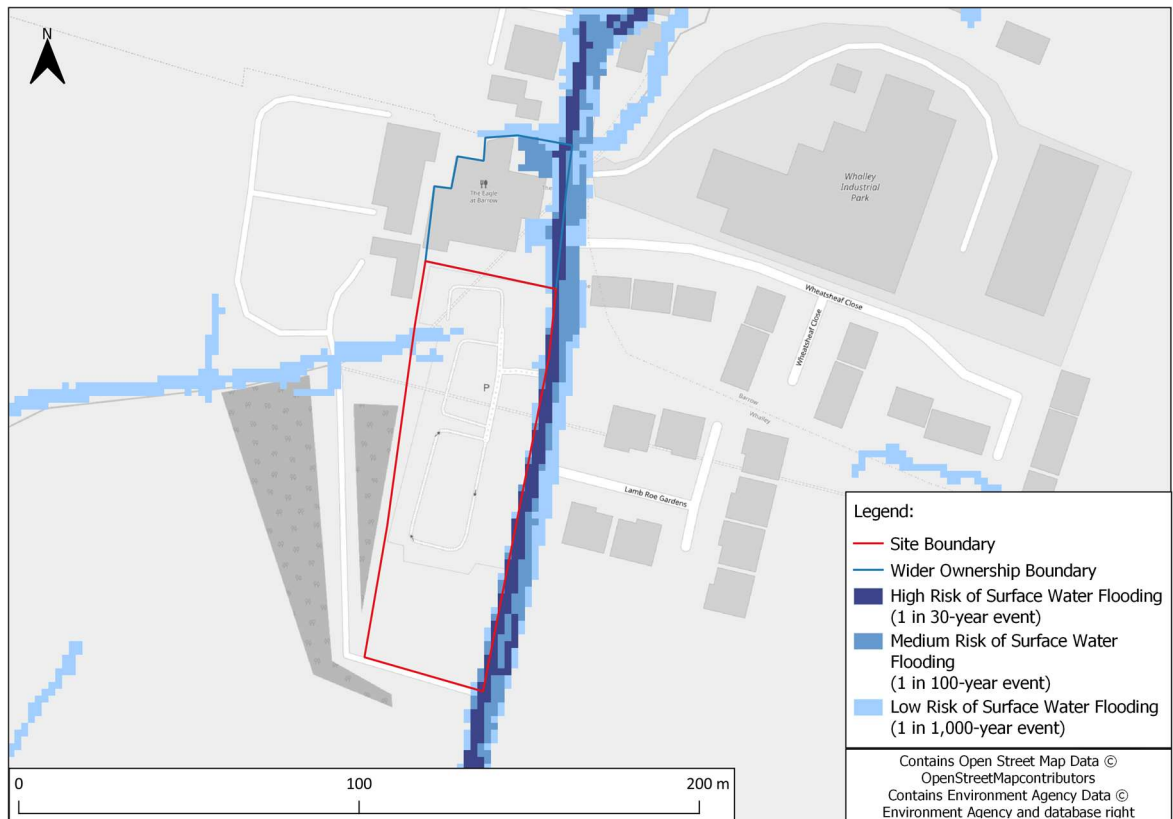


Figure 4: Long-Term Flood Risk Information, Flood Risk from Surface Water Mapping

3 Surface Water Drainage Strategy

3.1.1 A Surface Water Drainage Strategy outlining the means of surface water management and disposal from the proposed development Site has been produced largely in line with the latest guidance as follows:

- CIRIA C753 “The SuDS Manual”, (CIRIA, 2015);
- CIRIA document C522 Sustainable Drainage Systems – design manual for England and Wales;
- CIRIA document C635 Designing for exceedance in urban drainage;
- Rainfall Runoff Management for Developments – SC030219 (Environment Agency, 2013);
- Environment Agency’s pollution prevention guidelines (PPGs); and
- Sewerage Sector Guidance – Design & Construction Guidance v2.2 (Water UK, June 2022).

- 3.1.2 The proposed Surface Water Drainage Strategy aims to sustainably manage surface water runoff without increasing flood risk to on- or off-Site, nor adversely impacting on water quality through the use of Sustainable Drainage Systems (SuDS).
- 3.1.3 SuDS aim to mimic the natural processes of surface water drainage by allowing water to flow along natural flow routes ensuring that runoff rates and volumes during storm events are not increased above the Greenfield values. SuDS also aim to provide water treatment, biodiversity, and amenity benefits within blue and green corridors.
- 3.1.4 There are typically three design storm events which should be considered when designing the SuDS system and managing flows and volumes:
- 1 in 1 year storm event, on sloping Sites without basements, where surcharging above soffits of any surface water drainage pipework is not permitted.
 - 1 in 30 year storm event, where surface water flooding of the site does not occur at this frequency.
 - 1 in 100 year storm event with allowances for future climate change, where runoff from the site should be controlled to the greenfield rate using SuDS attenuation features to manage flows and volumes within the extents of the development Site.
- 3.1.5 Further to this, dedicated overland flow routes should be identified through the development to convey any exceedance flows in events greater than the 1 in 100-year plus climate change event or in the event of system failure.

3.2 United Utilities: Existing Drainage and Advice

- 3.2.1 United Utilities are the statutory water authority in the area. Sewer asset mapping has been reviewed to understand the existing sewer network within the vicinity of the Site.
- 3.2.2 An existing private surface water sewer bisects the Site westerly, before discharging to an Unnamed Ordinary Watercourse which originates within the Site along the western boundary.
- 3.2.3 From a review of the available United Utilities asset mapping, a private combined sewer bisects the wider ownership boundary to the north, before discharging into an existing United Utilities public combined sewer to the west.
- 3.2.4 Existing United Utilities public foul water sewers are situated along Clitheroe Road to the east, serving existing commercial and residential development.

3.2.5 A pre-development enquiry was submitted to United Utilities to determine whether the existing public combined sewer network has capacity for the proposed development at 2.0l/s. A response was received on the 26th November 2024, stating that United Utilities would expect surface water flows to be pumped to the nearby watercourse, however should the above be exhausted and a connection to the public sewerage system is required, they have no objections in principle to 2.0l/s discharging to the combined sewer. A copy of the pre-development enquiry is available in Appendix D.

3.3 Discharge Locations

3.3.1 In accordance with the national and local guidance, the surface water drainage hierarchy has been reviewed in order of priority to determine the more suitable drainage location as identified in Table 3-1.

Table 3-1: Drainage Hierarchy

Discharge Location	Suitability	Comments
Collect for Re-Use	✓ / ×	Water butts and rainwater harvesting systems can collect rainwater for non-potable uses e.g. within gardens and other non-potable uses. The potential to incorporate rainwater harvesting and re-use measures may be assessed during the detailed design stage.
Infiltration	×	The underlying bedrock geology within the Site is identified in the BGS Mapping as Clitheroe Limestone Formation and Hodder Mudstone Formation (undifferentiated) – Mudstone and may not be suitable for an infiltration-led design.
Watercourse	✓	An existing Unnamed Ordinary Watercourse is present to the north west of the Site, flowing in a south westerly direction under the existing railway line before confluenting with the River Calder 1.5km downstream. As the Site topographically falls north to south, a pumped solution would need to be utilised to discharge surface water runoff via the existing Unnamed Ordinary Watercourse on-Site.
Surface Water Sewer	✓	From a review of the United Utilities Asset Mapping, a private surface water sewer bisects the Site north east to south west, discharging into the existing Unnamed Ordinary Watercourse.
Combined Sewer	✓	A private combined sewer bisects the wider ownership boundary before discharging into an existing public United Utilities combined water sewer to the west.

- 3.3.2 In accordance with the above sequential approach to the disposal of surface water, it is proposed to discharge attenuated surface water runoff to the existing Unnamed Ordinary watercourse within the Site, utilising a pumped solution.

3.4 Pre-Development Surface Water Runoff Rates

- 3.4.1 Greenfield runoff rates for the Site have been calculated using HR Wallingford Greenfield Runoff Rate Estimation Tool, the results of which are contained within Table 3-2 are available in Appendix B.

Table 3-2: Greenfield Runoff Rates

Event	0.3ha
1 in 1 Year	2.24
QBar	2.57
1 in 30 Year	4.37
1 in 100 Year	5.35

- 3.4.2 Based on the Site topography, the Site has been split into 3 drainage catchments, illustrated on the Surface Water Drainage Strategy drawing contained in Appendix C. As the majority of the car park within the redline boundary will not be impacted by the proposals, this is not considered in the catchments. Only the footprint of the hotel and the additional hardstanding areas created by the car park is included in the calculations.

- 3.4.3 As surface water runoff is proposed to be pumped from the Site to the Unnamed Ordinary Watercourse, a discharge rate of 2.0l/s has been proposed given the small proposed impermeable area and in accordance with the rate acceptable to United Utilities for discharge to the combined sewer.

Catchment	Proposed Developable Area [ha]	Proposed Developable Area [m2]	Proposed Discharge Rate [l/s]
A	0.04	400	2.0
B	0.016	160	
C	0.046	460	
Total	0.102	1,020	2.0

- 3.4.4 To ensure that the maximum peak discharge of surface water from the Site is maintained to 2.0l/s, on-Site attenuation will be required. The required storage volume to attenuate the 1 in 100-year plus 50% climate change event (design standard) has been calculated for each drainage catchment, assuming each catchment is 100% impermeable

- 3.4.5 The location of the indicative proposed attenuation feature (Geocellular Tank), associated drainage catchment and assumed outfall point are shown together with their estimated required capacity in the Indicative Foul & Surface Water Drainage Layout included within Appendix C.
- 3.4.6 A summary table of the volume of attenuation required for each catchment is provided in Table 3-3. This is based on an assumed impermeability factor of 100%.

Table 3-3: Summary of Attenuation Requirements

Drainage Catchment	Proposed Discharge Rate (l/s)	Proposed Impermeable Area (ha)	Proposed Attenuation Volume Required in 1 in 100-Year plus 50% Climate Change (m3)
A	2.0	0.04	65.21
B		0.016	
C		0.046	
Total	2.0	0.102	65.21

- 3.4.7 As attenuated surface water runoff at the Site is proposed to be pumped to the north, additional pump storage will be required in case of an emergency. In accordance with the Design and Construction Guidance, additional pump storage has been provided in a separate attenuation tank, ensuring 125m³ of storage has been provided per 1ha of impermeable area.

4 Foul Water Drainage Strategy

- 4.1.1 United Utilities are the statutory water authority for foul drainage in the area. Sewer asset mapping has been reviewed to understand the existing foul drainage network within the vicinity of the Site.
- 4.1.2 From a review of the available United Utilities asset mapping, a private combined sewer bisects the wider ownership boundary to the north, before discharging into an existing United Utilities public combined sewer to the west.
- 4.1.3 A pre-development enquiry was submitted to United Utilities to determine whether the existing public sewer network has capacity for the proposed development. A response was received on the 26th November 2024, stating that foul water flows from the Site will be allowed to drain into the existing stub, providing that topographic levels allow a gravity-led connection. A copy of the pre-development enquiry is available in Appendix D.
- 4.1.4 An Indicative Foul Water & Surface Water Drainage Strategy (Ref. 08336-WR-0500) has been prepared which implements measures to discharge foul water from the proposed development.

Foul water flows from the south of the Site will discharge via gravity to an existing United Utilities public combined sewer, situated along the western boundary of the Site.

- 4.1.5 It is recommended that the proposed foul water strategy is reviewed in accordance with United Utilities' advice alongside earthworks, masterplanning and phasing at the next stage of design.

5 Conclusions

- 5.1.1 PJA has been commissioned by Fence Gate Limited to prepare a to undertake a surface water drainage strategy and foul water drainage strategy to support a full planning application for a two-storey, 38 bedroom hotel located within the car park of the existing pub 'The Eagle at Barrow', Clitheroe.
- 5.1.2 This drainage technical note has been undertaken in accordance with current national and local drainage policy requirements.
- 5.1.3 A Surface Water Drainage Strategy has been prepared to demonstrate that a sustainable drainage solution can be provided for the proposed development. The Surface Water Drainage Strategy has been designed largely in accordance with currently sustainable development best practice and meets the requirements of Lancashire County Council (as the LLFA).
- 5.1.4 The proposed surface water drainage system will pump attenuated surface water runoff to the north of the proposed development, discharging to the unnamed ordinary watercourse at 2.0l/s in accordance with the advice outlined by United Utilities via a pre-development enquiry. Attenuation storage will be provided in the form of geocellular tanks, including addition storage in case of pump failure.
- 5.1.5 A pre-development enquiry was submitted to United Utilities to determine whether the existing public sewer network has capacity for the proposed development. A response was received on the 26th November 2024, stating that foul water flows from the Site will be allowed to drain into the existing stub, providing that topographic levels allow a gravity-led connection.
- 5.1.6 Foul water flows from the south of the Site will discharge via gravity to an existing United Utilities public combined sewer, situated along the western boundary of the Site.
- 5.1.7 This report demonstrates that the proposed development may be undertaken in a sustainable manner without increasing the flood risk either at the Site or to any third-party land in line with NPPF requirements.

Appendix A Topographic Survey



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Appendix B Greenfield Runoff Rates

Calculated by: Nicholas Raddings

Site name: The Eagle at Barrow

Site location: Proposed Site

Site Details

Latitude: 53.83303° N

Longitude: 2.40414° W

Reference: 273432258

Date: Aug 28 2024 13:40

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.

Runoff estimation approach

IH124

Site characteristics

Total site area (ha): 0.3

Methodology

Q_{BAR} estimation method: Calculate from SPR and SAAR

SPR estimation method: Calculate from SOIL type

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

Hydrological characteristics

	Default	Edited
SAAR (mm):	1143	1143
Hydrological region:	10	10
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	1.7	1.7
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

(3) Is SPR/SPRHOST ≤ 0.3?

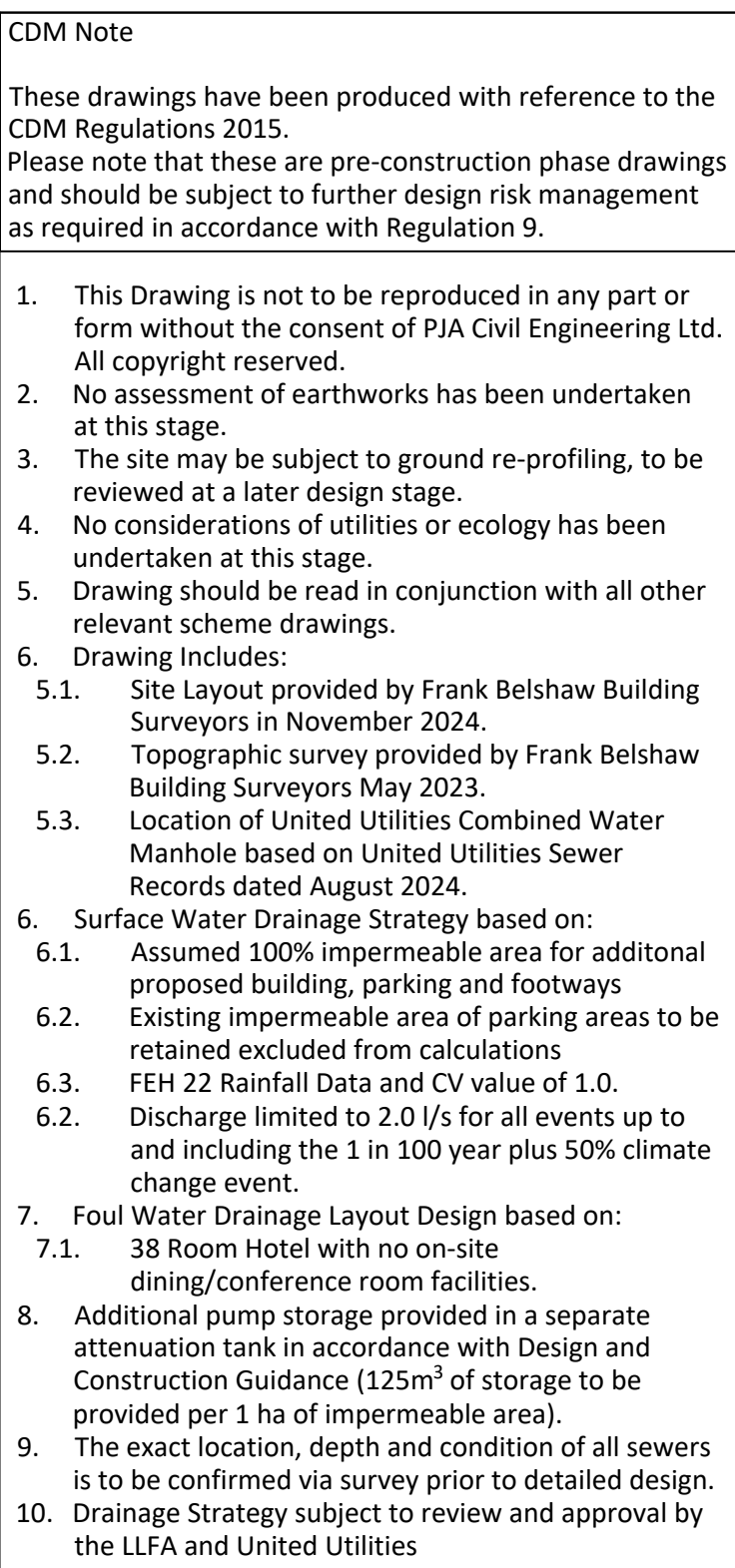
Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.















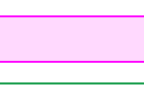

Greenfield runoff rates	Default	Edited
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Q_{BAR} (l/s):	2.57	2.57
1 in 1 year (l/s):	2.24	2.24
1 in 30 years (l/s):	4.37	4.37
1 in 100 year (l/s):	5.35	5.35
1 in 200 years (l/s):	6.09	6.09

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

**Appendix C Surface Water and Foul Water Drainage Strategy
Drawing**



Key:	
	Site Boundary
	Proposed Foul Water Sewer
	Proposed Surface Water Sewer
	Proposed Attenuation Tank
	Additional Pump Storage Attenuation Tank
	Private Package Pumping Station
	Proposed Gully
	Proposed Headwall
	Proposed Foul Manhole
	Proposed Surface Water Manhole
	Existing Watercourse
	Private Surface Water Sewer
	United Utilities Combined Water Sewer
	Catchment A- 400m2
	Catchment B- 160m2
	Catchment C- 460m2

P2	13/01/2025	Revised Key	CT	KW	KW	
P1	07/01/25	Updated site plan & Drainage Strategy	AB	KW	KW	
P0	12/11/24	FIRST ISSUE	GC	KW	KW	
Rev	Date	Revision Note	Drw	Chk	App	

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Client		
Mr. K. Berkins		
Project		
The Eagle at Barrow Clitheroe Road, Clitheroe		
Title		
Indicative Foul & Surface Water Drainage Layout		
Drawing Issue Status For Planning		
PJA Ref	Scale @ A1	Date
08336	1:200	07/01/2025
Drawing No. 08336-WR-0500		Revision P2
Primary Contact kerry.whitehouse@pja.co.uk		



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SW01	0.046	5.00	66.910	450	373494.006	437462.544	1.425
SW02	0.016	5.00	67.200	450	373503.003	437504.934	1.974
TANK	0.000	5.00	67.050	1200	373498.981	437517.751	1.910
SW05	0.000	5.00	67.010	1200	373491.734	437519.419	1.890
SW03	0.040	5.00	66.840	450	373487.086	437508.462	1.350
SW04	0.000		67.290	450	373505.159	437515.824	2.130
Outfall			67.140	450	373486.736	437551.993	0.420

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	SW01	SW02	43.334	0.600	65.485	65.226	0.259	167.0	225	5.72	50.0
1.001	SW02	SW04	11.086	0.600	65.226	65.160	0.066	167.0	225	5.90	50.0
1.003	TANK	SW05	7.000	0.600	65.140	65.120	0.020	350.0	225	6.24	50.0
1.002	SW04	TANK	7.000	0.600	65.160	65.140	0.020	350.0	225	6.07	50.0
2.000	SW03	SW02	16.303	0.600	65.490	65.301	0.189	86.3	150	5.25	50.0
1.004	SW05	Outfall	32.955	0.600	65.120	66.720	-1.600	-20.6	225	6.79	50.0


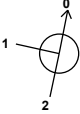
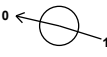




Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.009	40.1	8.3	1.200	1.749	0.046	0.0	69	0.797
1.001	1.009	40.1	18.5	1.749	1.905	0.102	0.0	107	0.987
1.003	0.693	27.6	18.5	1.685	1.665	0.102	0.0	135	0.742
1.002	0.693	27.6	18.5	1.905	1.685	0.102	0.0	135	0.742
2.000	1.083	19.1	7.3	1.200	1.749	0.040	0.0	64	1.010
1.004	1.000	39.8	18.5	1.665	0.195	0.102	0.0	225	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	43.334	167.0	225	Circular	66.910	65.485	1.200	67.200	65.226	1.749
1.001	11.086	167.0	225	Circular	67.200	65.226	1.749	67.290	65.160	1.905
1.003	7.000	350.0	225	Circular	67.050	65.140	1.685	67.010	65.120	1.665
1.002	7.000	350.0	225	Circular	67.290	65.160	1.905	67.050	65.140	1.685
2.000	16.303	86.3	150	Circular	66.840	65.490	1.200	67.200	65.301	1.749
1.004	32.955	-20.6	225	Circular	67.010	65.120	1.665	67.140	66.720	0.195

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	SW01	450	Manhole	Adoptable	SW02	450	Manhole	Adoptable
1.001	SW02	450	Manhole	Adoptable	SW04	450	Manhole	Adoptable
1.003	TANK	1200	Manhole	Adoptable	SW05	1200	Manhole	Adoptable
1.002	SW04	450	Manhole	Adoptable	TANK	1200	Manhole	Adoptable
2.000	SW03	450	Manhole	Adoptable	SW02	450	Manhole	Adoptable
1.004	SW05	1200	Manhole	Adoptable	Outfall	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW01	373494.006	437462.544	66.910	1.425	450				
						0	1.000	65.485	225
SW02	373503.003	437504.934	67.200	1.974	450		1	2.000	65.301
						2	1.000	65.226	225
						0	1.001	65.226	225
TANK	373498.981	437517.751	67.050	1.910	1200		1	1.002	65.140
						0	1.003	65.140	225
SW05	373491.734	437519.419	67.010	1.890	1200		1	1.003	65.120
						0	1.004	65.120	225
SW03	373487.086	437508.462	66.840	1.350	450		0	2.000	65.490
						0	2.000	65.490	150
SW04	373505.159	437515.824	67.290	2.130	450		1	1.001	65.160
						0	1.002	65.160	225
Outfall	373486.736	437551.993	67.140	0.420	450		1	1.004	66.720
						1	1.004	66.720	225



Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440	2160
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	0	0	0
100	50	0	0

Node SW05 Online Pump Control

Flap Valve	x	Design Depth (m)	1.910	Switch off depth (m)	0.000
Replaces Downstream Link	✓	Design Flow (l/s)	2.0		
Invert Level (m)	65.120	Switch on depth (m)	0.200		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.001	0.000	0.200	2.000	0.500	2.000	1.000	2.000	1.500	2.000	1.910	2.000

Node TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	65.140
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	88.0	0.0	0.800	88.0	0.0	0.801	0.0	0.0	1.910	0.0	0.0



Results for 2 year Critical Storm Duration. Lowest mass balance: 98.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW01	10	65.548	0.063	7.2	0.0101	0.0000	OK
600 minute summer	SW02	360	65.345	0.119	3.5	0.0189	0.0000	OK
600 minute summer	TANK	360	65.345	0.205	3.3	17.3337	0.0000	OK
600 minute summer	SW05	360	65.344	0.224	2.0	0.2538	0.0000	OK
15 minute summer	SW03	10	65.551	0.061	6.3	0.0097	0.0000	OK
600 minute summer	SW04	360	65.345	0.185	3.4	0.0294	0.0000	OK
15 minute summer	Outfall	1	66.720	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW01	1.000	SW02	7.0	0.508	0.175	0.6100	33.9
600 minute summer	SW02	1.001	SW04	3.4	0.306	0.084	0.3112	
600 minute summer	TANK	1.003	SW05	2.0	0.153	0.073	0.2718	
600 minute summer	SW05	Pump	Outfall	2.0				
15 minute summer	SW03	2.000	SW02	6.2	0.948	0.324	0.1067	
600 minute summer	SW04	1.002	TANK	3.3	0.447	0.121	0.2549	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW01	10	65.589	0.104	18.2	0.0166	0.0000	OK
480 minute summer	SW02	312	65.522	0.296	7.7	0.0470	0.0000	SURCHARGED
480 minute summer	TANK	312	65.521	0.381	7.2	32.3027	0.0000	SURCHARGED
480 minute summer	SW05	312	65.521	0.401	3.0	0.4536	0.0000	SURCHARGED
15 minute summer	SW03	10	65.602	0.112	15.9	0.0177	0.0000	OK
480 minute summer	SW04	312	65.521	0.361	7.3	0.0575	0.0000	SURCHARGED
15 minute summer	Outfall	1	66.720	0.000	2.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW01	1.000	SW02	17.9	0.618	0.446	1.2158	53.5
480 minute summer	SW02	1.001	SW04	7.3	0.363	0.182	0.4409	
480 minute summer	TANK	1.003	SW05	3.0	0.131	0.110	0.2784	
480 minute summer	SW05	Pump	Outfall	2.0				
15 minute summer	SW03	2.000	SW02	15.8	1.082	0.825	0.2462	
480 minute summer	SW04	1.002	TANK	7.2	0.563	0.262	0.2784	

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	SW01	328	65.616	0.131	4.2	0.0208	0.0000	OK
480 minute summer	SW02	328	65.616	0.390	9.4	0.0620	0.0000	SURCHARGED
480 minute summer	TANK	328	65.615	0.475	9.0	40.2762	0.0000	SURCHARGED
480 minute summer	SW05	328	65.615	0.495	3.5	0.5600	0.0000	SURCHARGED
15 minute summer	SW03	11	65.747	0.257	19.9	0.0409	0.0000	SURCHARGED
480 minute summer	SW04	328	65.616	0.456	9.1	0.0724	0.0000	SURCHARGED
15 minute summer	Outfall	1	66.720	0.000	2.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	SW01	1.000	SW02	4.2	0.314	0.105	1.3804	61.3
480 minute summer	SW02	1.001	SW04	9.1	0.385	0.226	0.4409	
480 minute summer	TANK	1.003	SW05	3.5	0.131	0.126	0.2784	
480 minute summer	SW05	Pump	Outfall	2.0				
15 minute summer	SW03	2.000	SW02	19.1	1.107	1.000	0.2870	
480 minute summer	SW04	1.002	TANK	9.0	0.580	0.327	0.2784	

Results for 100 year +50% CC Critical Storm Duration. Lowest mass balance: 98.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW01	11	66.033	0.548	34.2	0.0871	0.0000	SURCHARGED
480 minute summer	SW02	368	65.910	0.684	13.3	0.1088	0.0000	SURCHARGED
480 minute summer	TANK	360	65.910	0.770	12.9	65.2065	0.0000	SURCHARGED
480 minute summer	SW05	360	65.909	0.789	2.6	0.8928	0.0000	SURCHARGED
15 minute summer	SW03	11	66.337	0.847	29.9	0.1346	0.0000	SURCHARGED
480 minute summer	SW04	368	65.910	0.750	13.0	0.1192	0.0000	SURCHARGED
15 minute summer	Outfall	1	66.720	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW01	1.000	SW02	32.3	0.813	0.806	1.7234	
480 minute summer	SW02	1.001	SW04	13.0	0.409	0.324	0.4409	
480 minute summer	TANK	1.003	SW05	2.6	0.122	0.093	0.2784	
480 minute summer	SW05	Pump	Outfall	2.0				65.8
15 minute summer	SW03	2.000	SW02	27.8	1.582	1.455	0.2870	
480 minute summer	SW04	1.002	TANK	12.9	0.639	0.467	0.2784	

Appendix D United Utilities Pre-Development Enquiry

PJA Ltd

Park Point
High Street, WSP UK Ltd
Birmingham, The Mailbox
B31 2UQ

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: 08336 Eagle at the Barrow
Our Ref: UUPS-ORD-595526
Date: 28/08/2024**

Dear Sirs

Location: THE EAGLE AT BARROW CLITHEROE ROAD, BARROW, CLITHEROE, BB7 9AQ

I acknowledge with thanks your request dated 20/08/2024 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



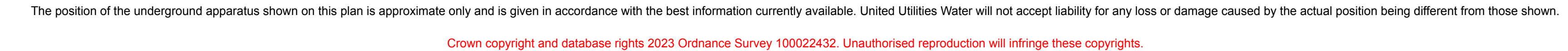
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

THE EAGLE AT BARROW CLITHEROE ROAD,
BARROW,
CLITHEROE,
BB7 9AQ

Sheet: 1 of 1

Printed by: Property Searches



Water for the North West

FW: 06662810 -PDE - Proposed Development Land South of The Eagles, Clitheroe

From Kerry Whitehouse <kerry.whitehouse@pja.co.uk>

Date Mon 13/01/2025 10:38

To Charlotte Turner <Charlotte.turner@pja.co.uk>



Kerry Whitehouse
Associate

Birmingham

T. 0121 387 7940 M. 07525 279748

Park Point, High Street, Longbridge, Birmingham, B31 2UQ, UK

www.pja.co.uk

From: seweradoptions@uuplc.co.uk <seweradoptions@uuplc.co.uk>

Sent: Tuesday, November 26, 2024 11:34 AM

To: Greg Cunningham <Greg.Cunningham@pja.co.uk>

Cc: Kerry Whitehouse <kerry.whitehouse@pja.co.uk>

Subject: RE: 06662810 -PDE - Proposed Development Land South of The Eagles, Clitheroe

Good Morning,

Thank you for your WW PDE application, please see our reply below:

UU REF 0666360 - WW PDE – Burnage Cricket Club, Manchester

We have carried out an assessment of your application which is based on the information provided. This pre-development advice on your drainage strategy will be valid for 12 months. Your drainage strategy will need to be reviewed by other competent authorities as part of the planning process, and we advise that you carry out the necessary site investigations to confirm the viability of your proposals.

If your investigations require access to our public sewer network, we ask that you contact our network engineers with a request for an access certificate via our main contact telephone number 0345 6723 723 or refer to the link below:

<https://www.unitedutilities.com/builders-developers/working-near-our-assets/>

Foul Water

Foul flow from this site will be allowed to drain into the existing stub, provided that this communicates with the combined sewer

Surface Water

All surface water flow from the proposed development should drain in-line with the drainage hierarchy, as outlined in Paragraph 80, (Reference ID: 7-080-20150323), of the National Planning Practice Guidance. We also recommend you prioritise the use of multi-functional sustainable drainage systems for the management of surface water in accordance with national planning policy.

Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.

This is outlined as follows, in order of priority:

1. **into the ground (infiltration);**
2. **to a surface waterbody;**
3. **to a surface water sewer or highway drain;**
4. **to a combined sewer.**

For guidance, The [North West SuDS Pro-Forma](#) provides information on the appropriate evidence required at each stage of the hierarchy, to demonstrate how each level has been discounted.

The Lead Local Flood Authority has responsibility for all surface water drainage concerns and their input to your proposal is critical. You should also consider whether it is necessary to discuss your proposal with the Environment Agency, or Internal Drainage Board (if operating in your area).

The Local Planning Authority are the determining authority for any application for planning permission and the appropriate authority for determining cost viability of a proposed drainage scheme, such assessments are outside of the jurisdiction of United Utilities.

I would expect the surface flows to be pumped to the nearby watercourse, however should the above be exhausted and a connection to the public sewerage system is required we have no objections in principle to 2 l/s communicating with the existing stub provided this communicates with the combined sewer

Public Sewers:

There are several sewers located within / close proximity of the combined network, these sewers will not be permitted to be built over and will require easements being met.

Regards

Anthony



Anthony Laithwaite
Ww Engineer
Developer Services & Metering
Customer Services

T: 01925 429090
unitedutilities.com

----- Original Message -----

From: seweradoptions@uuplc.co.uk [seweradoptions@uuplc.co.uk]

Sent: 21/11/2024 12:40

To: greg.cunningham@pja.co.uk

Cc: kerry.whitehouse@pja.co.uk

Subject: 06662810 -PDE - Proposed Development Land South of The Eagles, Clitheroe

Good Afternoon,

**PRE DEVELOPMENT APPLICATION AT LAND SOUTH OF THE EAGLES, CLITHEROE: – UU
Ref 06662810**

Please accept this email as receipt of your application received on 19/11/2024 for the above development. This has now been logged on our system and the job reference is 06662810 we would ask that you quote this reference in all future correspondence.

I have reviewed your application (and attachments) and can confirm this is suitable to be passed to Gulshan Seetulparsad for technical assessment. You will receive their response on or before 10/12/2024.

Kind regards



Freya Littlemore
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated



Visit: <https://unitedutilities.thewowawards.co.uk/nominate>

----- Original Message -----

From: Greg Cunningham [greg.cunningham@pja.co.uk]

Sent: 19/11/2024 12:51

To: seweradoptions@uuplc.co.uk

Cc: kerry.whitehouse@pja.co.uk

Subject: [PJA: 08336] Wastewater pre-development enquiry - Proposed Development Land South of The Eagles, Clitheroe

To whom it may concern

Good Afternoon

Please find attached a waste predevelopment enquiry for a proposed hotel development on the existing car park and land to the south of The Eagles at Barrow, located off Clitheroe Road.

Attached is the completed form and supporting information as noted in the form.

We're currently exploring connecting the Foul and Surface Water discharge from the site to the United Utilities combined sewer that runs along the site boundary. This is due to the current car park drainage connecting to the sewer (the existing drainage connection is in the process of being confirmed) and based on ground levels at the site, the development would be unable to discharge to the watercourse under gravity.

I trust the above and attached information is as required but if there is anything further you need, please do not hesitate to contact us to discuss.

Kind regards

Greg

Greg Cunningham

Water Resources

Birmingham

T. 0121 387 7940

Park Point, High Street, Longbridge, Birmingham, B31 2UQ, UK

www.pja.co.uk

Registered Office Address: Park Point, 17 High Street, Longbridge, Birmingham, West Midlands, B31 2UQ

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