

## FOUL & SURFACE WATER DRAINAGE STRATEGY

Plots 1 & 2, 97 Wentworth Road, Blacker Hill, Barnsley, S74 0RL  
Planning References: **2016/1409** and **2021 Variation: 2021/0634**

Prepared for:

Barnsley Metropolitan Borough Council  
Yorkshire Water Developer Services

Prepared by:

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97 Wentworth Road, Blacker Hill, Barnsley S74 0RL

Date: 10/05/2026

## DOCUMENT CONTROL

**Document Title** Foul & Surface Water Drainage Strategy – Plots 1 & 2, 97 Wentworth Road

Project Ref RW-DS-001

Prepared By Richard M Uttley

Status Final

Date 10/05/2026

## REVISION HISTORY

Revision	Date	Prepared By	Description of Change
0.1	23/09/2023	R. Uttley	Initial draft
0.2	09/05/2026	R. Uttley	Added invert measurement & route options
0.3	09/05/2026	R. Uttley	Added runoff calcs & YW connection wording
1.0	10/05/2026	R. Uttley	Final issue for planning condition discharge

## EXECUTIVE SUMMARY

This drainage strategy supports the discharge of drainage-related planning conditions for the development of two semi-detached dwellings at 97 Wentworth Road.

### Key Points

- BRE 365 porosity testing confirms **soakaways are not viable**.
- All surface water is **collected and retained within the site**.
- No surface water will discharge onto the **public highway**.
- A **gravity connection** is feasible: combined sewer invert measured at **1.22 m**.
- Foul + surface water will discharge to the **existing combined sewer** in Wentworth Road.
- Two connection options are viable:
- **Route 2:** New junction/saddle in front of the plots
- **Route 3:** Connection at/adjacent to **ACP2**
- Peak runoff is **very low** (~2–3 L/s).
- No drainage crosses third-party land.
- Fully compliant with planning conditions and Yorkshire Water S106 requirements.

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## FULL DRAINAGE STRATEGY

### 1. Introduction

This Drainage Strategy has been prepared to discharge the drainage-related planning conditions associated with planning permission 2016/1409 and its subsequent variation. It provides full foul and surface water drainage proposals, porosity test results, runoff calculations, and connection details for the existing combined sewer in Wentworth Road.

### 2. Planning Conditions

The relevant conditions require:

- Full foul and surface water drainage details prior to occupation
- Porosity testing to BRE 365
- Surface water must not discharge onto the highway
- The approved scheme must be implemented and retained

This document addresses each requirement.

### 3. Site Description

The site comprises two new dwellings with front drives and rear gardens on land adjacent to 97 Wentworth Road.

- Location: Appendix A
- Site layout: Appendix B
- Topography: Appendix B

The site falls north→south and east→west, directing natural runoff toward Wentworth Road.

### 4. Ground Conditions & Porosity Testing

A trial pit was excavated to approx. 1.9 m depth and filled with water. Over five days:

“Very little water soaked away.” (Appendix D)

The clay subsoil exhibits negligible infiltration.

#### Conclusion:

Soakaways do not meet BRE 365 criteria and are not viable.

## 5. Existing Drainage & Sewer Information

Yorkshire Water asset plans (Appendix E) show a combined sewer in Wentworth Road with access chambers including ACP2.

A dye test (Appendix F) confirmed flow direction east→west.

A site measurement recorded:

- Invert depth: 1.22 m below cover (Appendix H)

Gravity connection is feasible.

## 6. Proposed Foul Drainage

### 6.1 On-site foul drainage

- 110 mm uPVC foul drains
- Front inspection chambers (600 mm deep)
- Pipes laid at 1:40–1:60 gradient
- All foul drainage remains within the site

### 6.2 Off-site foul connection

A private lateral will run to the adopted highway and connect to the combined sewer.

Two feasible options (Appendix G):

- **Route 2:** New junction/saddle in front of the plots
- **Route 3:** Connection at/adjacent to ACP2

Yorkshire Water will confirm the preferred connection under the Section 106 process.

## 7. Proposed Surface Water Drainage

### 7.1 Sources

- Roofs
- Block-paved drives
- Hardstanding

### 7.2 On-site system

- Gutters/downpipes
- Gullies/linear drains
- All surface water retained within the site
- No discharge onto the highway

### 7.3 Disposal

Surface water will discharge to the combined sewer via the same private lateral as foul water.

Attenuation can be added if required.

## 8. Connection Strategy

The private system:

- Collects foul + surface water
- Conveys flows to front inspection chambers
- Exits at the highway boundary
- Connects to the combined sewer via Route 2 or Route 3

No drainage crosses third-party land.

## 9. Maintenance & Management

- Private drainage maintained by property owners

- Public sewer maintained by Yorkshire Water
- Front inspection chambers provide access
- Gutters and gullies to be kept clear

## 10. Compliance Statement

This strategy:

- Demonstrates soakaway infeasibility
- Ensures no surface water reaches the highway
- Provides a gravity foul + surface water system
- Uses the combined sewer (invert 1.22 m)
- Avoids third-party land
- Meets planning conditions and S106 requirements

## 11. Impermeable Area & Runoff Calculations

Total impermeable area: **~160 m<sup>2</sup>**

Rainfall intensity: **50 mm/hr**

$Q = 0.05 \times 160 = 8 \text{ m}^3/\text{hr} \approx 2.2 \text{ L/s}$

**Peak runoff: 2–3 L/s**

This is a very small additional load on the combined sewer.

## 12. Appendices

### Appendix A – Site Location Plan

Figure A1 – Site Location Plan (Drawing Ref: A-01)

### Appendix B – Overall Site Plan

Figure B1 – Overall Site Plan (Drawing Ref: B-02-77-B02)

### Appendix C – Topography (if used)

Figure C1 – Topographical Levels Plan (Drawing Ref: C-01)

### Appendix D – Porosity Test

Trial Pit (Filled)

Trial Pit (After 5 Days)

### Appendix E – Yorkshire Water Asset Plan

Figure E1 – YW Combined Sewer Asset Plan (Drawing Ref: YW-CAS-245166)

### Appendix F – Dye Test

Figure F1 – Dye Introduced at ACP1

Figure F2 – Dye Observed at ACP2

### Appendix G – Proposed Drainage Routes

Figure G1 – Proposed Route 2 (Drawing Ref: DR-R2)

Figure G2 – Proposed Route 3 (Drawing Ref: DR-R3)


### Appendix H – Manhole Invert Measurement

Figure H1 – Combined Sewer Manhole (Open)

Figure H2 – Tape Measurement Showing 1.22 m Invert

## Appendix A – Site Location Plan

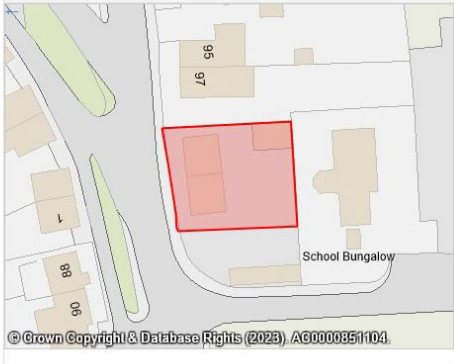
Figure A1 – Site Location Plan (Drawing Ref: A-01)



### Planning » Application Details

Summary Further Information Important Dates Appeals 0 Neighbours 10 Consultees 5 Documents 8 Back Print

#### Map



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#### Summary

Application Reference Number	2016/1409
Description	Erection of 2 no. semi detached dwellings (Resubmission).
Site Address	97 Wentworth Road, Blacker Hill, Barnsley, S74 0RL
Received Date	9 November 2016
Valid From	9 November 2016
Decision	Approve with Conditions
Status	Final Decision

## Appendix B – Overall Site Plan

Figure B1 – Overall Site Plan (Drawing Ref: B-02-77-B02)

53.51255, -1.444526

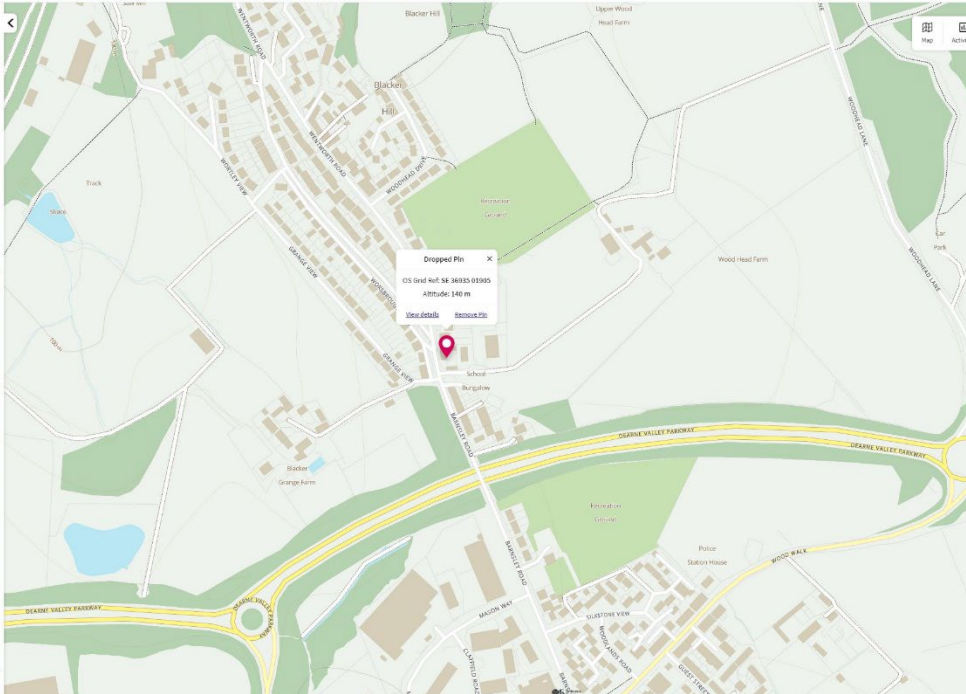
S74 0RL

OS Grid Ref SE 36923 01906 Altitude 145 m Longitude 1°25'41"W Latitude 53°30'47"N

Today 16°C Upcoming Days: Mon 12°C, Tue 11°C, Wed 14°C, Thu 14°C, Fri 14°C

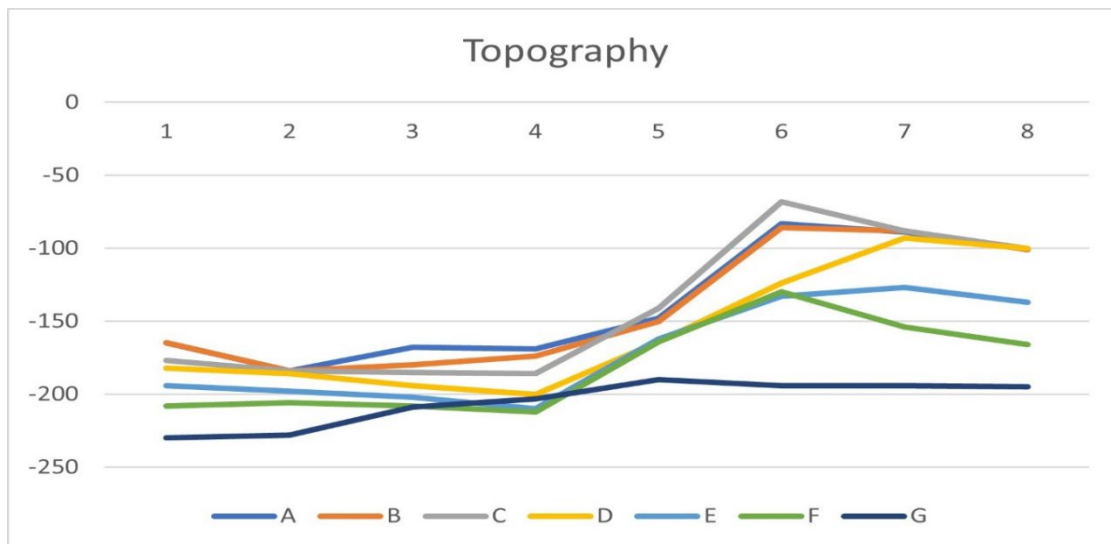
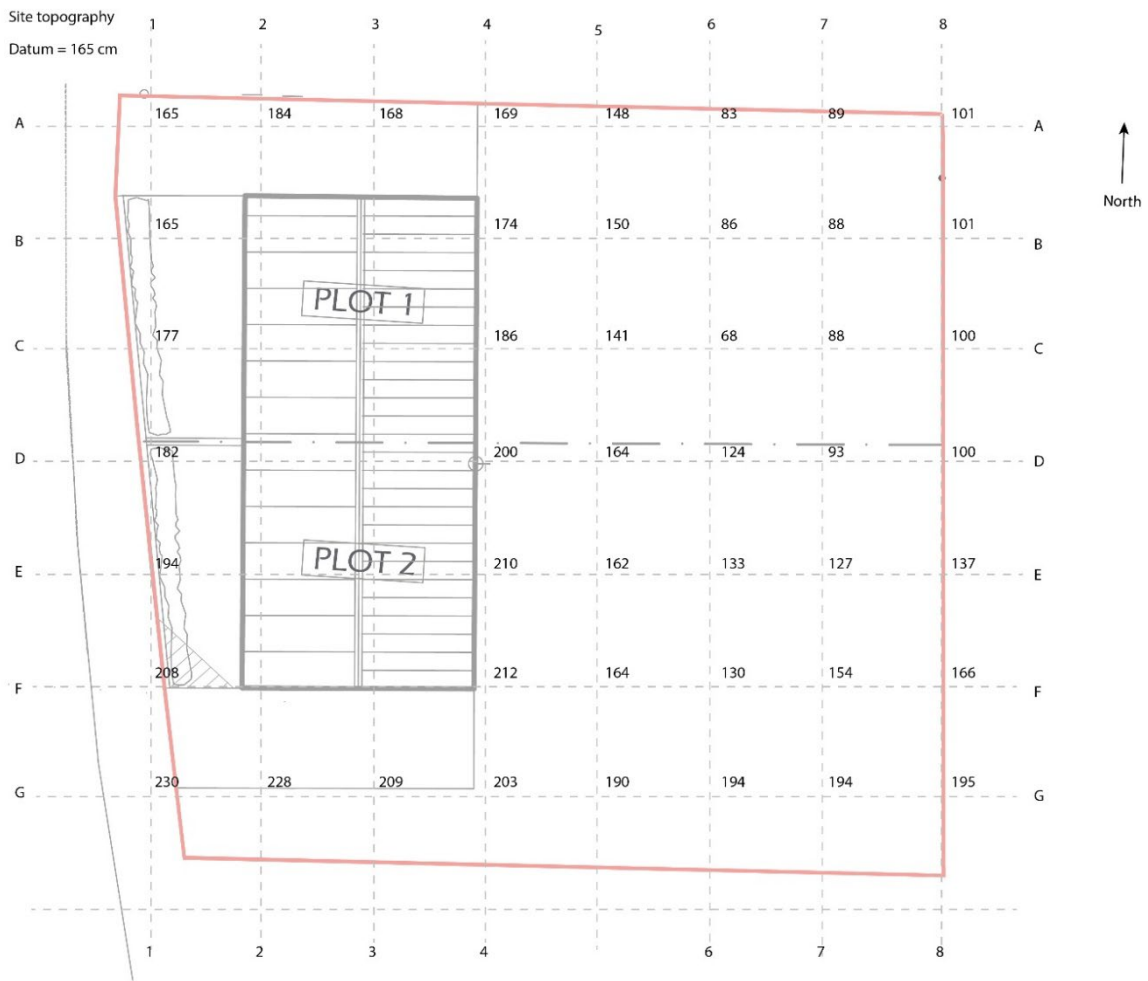
Looking for routes in this area? Discover them by going to the Find Routes button below.

GO TO FIND ROUTES



### Appendix C – Topography (if used)

Figure C1 – Topographical Levels Plan (Drawing Ref: C-01)



## Appendix D – Porosity Test

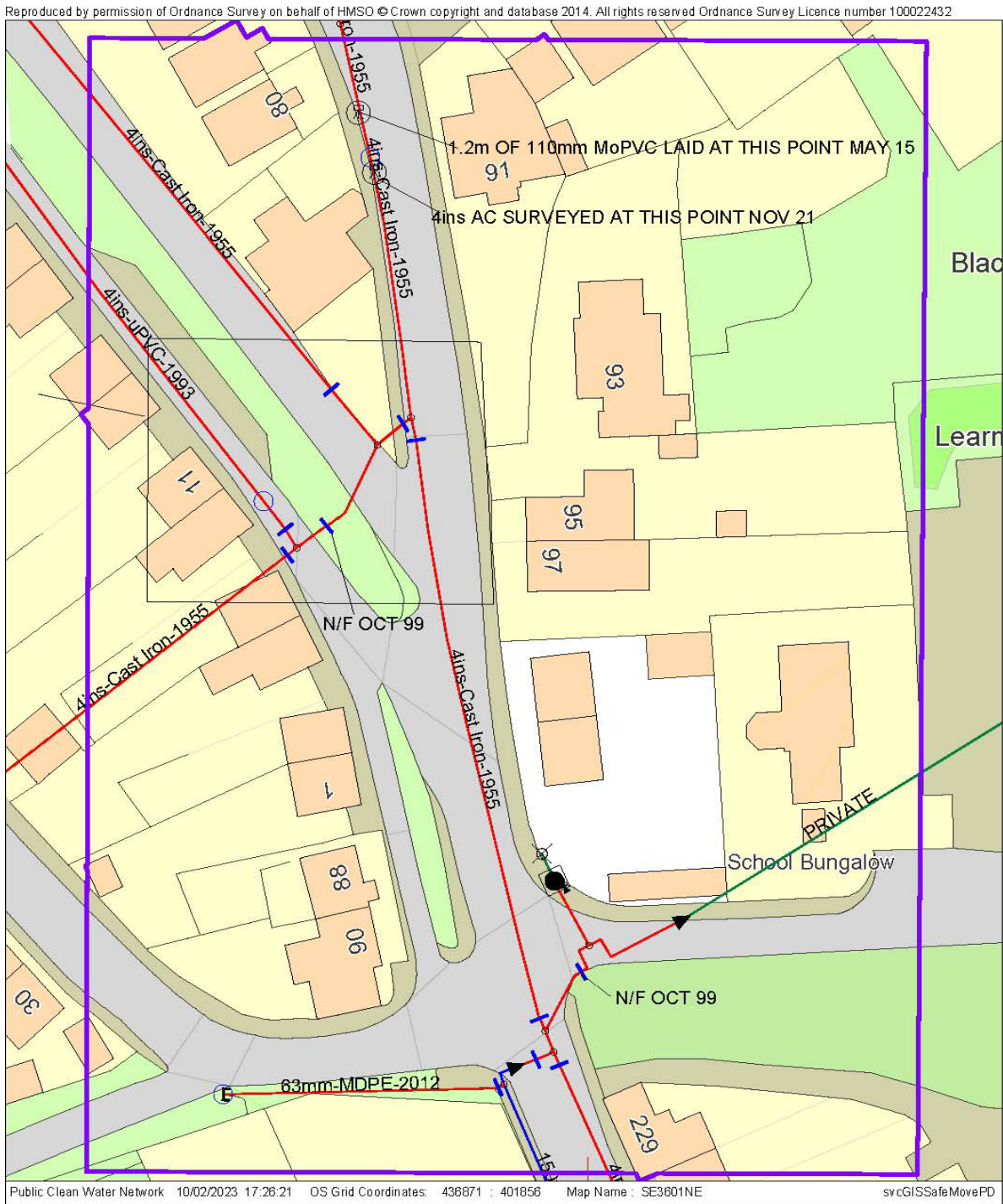
Trial Pit (Filled)

Trial Pit (After 5 Days)



# Appendix E – Yorkshire Water Asset Plan

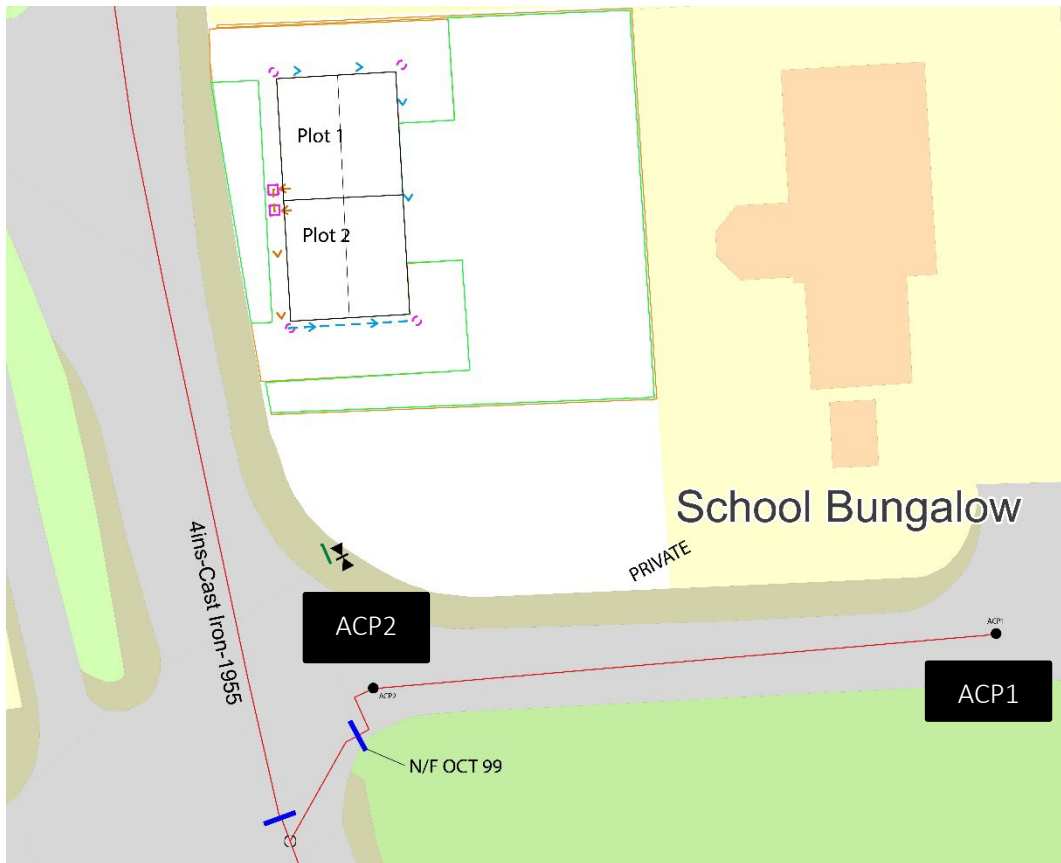
## Figure E1 – YW Combined Sewer Asset Plan (Drawing Ref: YW-CAS-245166)



## Appendix F – Dye Test

Dye Introduced at ACP1

Dye Observed at ACP2



## Appendix G – Proposed Drainage Routes

Figure G1 – Proposed Route 1 (Drawing Ref: DR-R1)

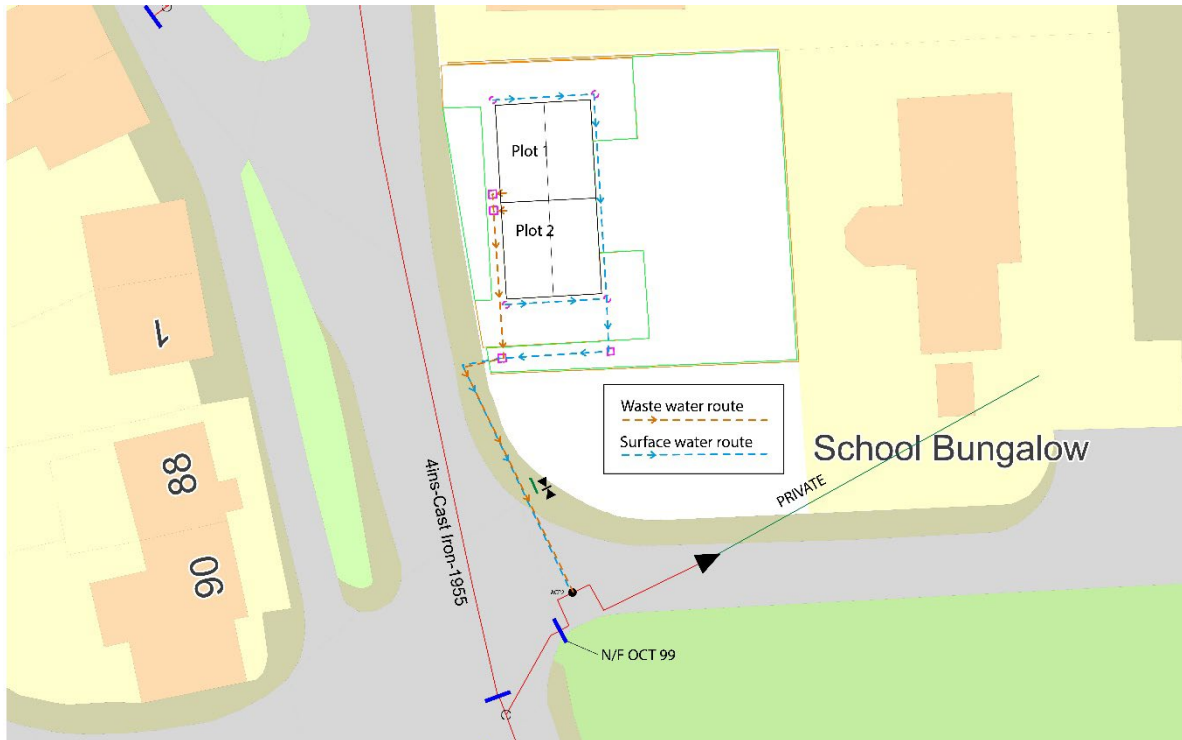
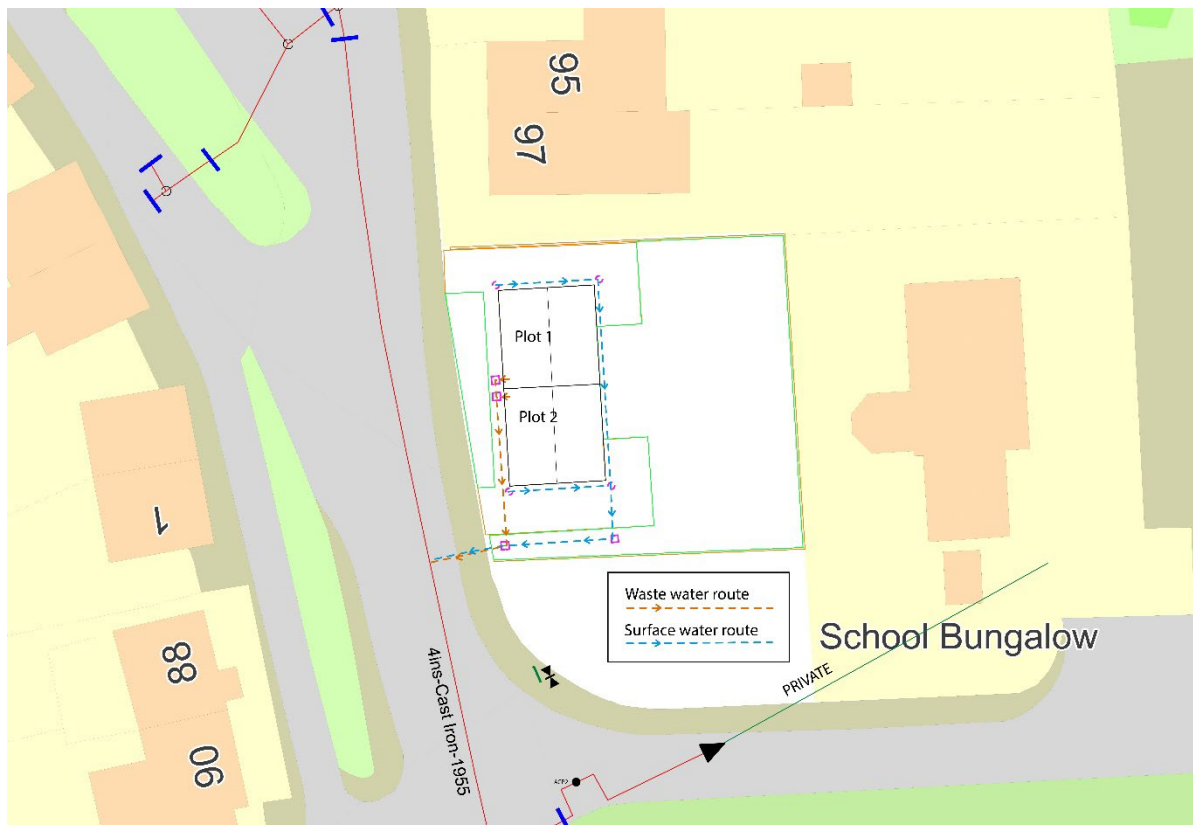


Figure G2 – Proposed Route 2 (Drawing Ref: DR-R2)



Appendix H – Manhole Invert Measurement

Figure H1 – Combined Sewer Manhole (Open)



Figure H2 – Tape Measurement Showing 1.22 m Invert

