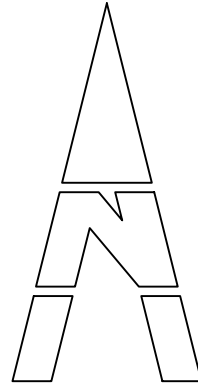


PRELIMINARY ONLY

DRAINAGE DESIGN IS SUBJECT TO FULL
TECHNICAL APPROVAL BY UNITED
UTILITIES/CHOSEN NAV AND THE LLFA.



ENGINEERING LAYOUT NOTES

1. All adoptable drainage works have been designed and are to be constructed in accordance with "Sewerage Factors Guidance Appendix C: Design and Construction Guide v1.7" and United Utilities Guidance. Where specification conflict, the LLFA guidelines shall take precedence.
2. All day pipe work shall be extra strength dayware to BS 296 and BS595 (SR only).
3. All sewer concrete pipework shall be to Class 125 in accordance with BS5951 Part 1, BS EN 1916 and bear the BS Mark.
4. All adoptable drainage to be bedded in Class 5 granular surround unless otherwise stated on the drawings.
5. All concrete manholes and soakaway rings, and concrete cover seats to be manufactured to BS EN 1917 and BS591 Part 3.
6. Ringing must be to black polyethylene pipes complying to BS EN 12242 2 Polyethylene fittings, including fusion joints, and electro-fusion fittings shall comply with BS EN 12242 2.
7. All levels made to Ordnance Datum. Contractor to ensure that this drawing is made in conjunction with the site specific topographical survey provided to United Utilities and the LLFA.
8. This drawing is to be read in accordance with all other relevant drawings.
9. The contractor shall be responsible for ensuring that any existing street levels indicated on the drawings are correct before work commences.
10. All proposed connections to the sewer shall be 1500 unless stated otherwise.
11. All proposed house drainage shall be 1000 and all drop and stop connections shall be 1000 at a minimum gradient of 1:80 unless otherwise stated, and laid in accordance with Part 4 of the Building Regulations.
12. Runoff from private surfaces shall not discharge across the highway. Gullies or channels shall be provided as appropriate to prevent this.
13. From crossings shall be provided at the lowest points of all junctions.
14. Pipes shall be protected from concentrated loading by construction traffic during the construction period when insufficient cover to the pipe may make them vulnerable to damage.
15. Road GSI levels of the road formation level are to be carried out to determine the depth of pavement construction required. This is to be approved by St Helens Borough Council prior to construction of the road pavements.
16. Groundwater to ensure that plot drainage be within the curbside of the plot they serve where possible and inspection covers kept well handstanding where possible.
17. Contractor to provide United Utilities with sufficient notice prior to commencement of sewer works on their inspection telephone number.
18. Contractor to obtain all necessary highway opening notices from St Helens Borough Council; obtain approval to work on United Utilities Drainage System; obtain approval to install manholes from the Environment Agency under the Local Land Flood Authority for any works affecting a watercourse.

ENGINEERING KEY

- S100 S104 Adoptable Surface Water Manhole and Sewer, 100 & 104 reference and final sewer depths subject to final approved detailed drainage design.
- F1 S104 Adoptable Foul Water Manhole and Sewer, 100 & 104 reference and final sewer depths subject to final approved detailed drainage design.
- Surface water lateral drain. Final lateral drain depths subject to final approved detailed design.
- Foul water lateral drain. Final lateral drain depths subject to final approved detailed design.
- ESR adoptable manhole gully.
- Adopted proposed S104 Sewer Extension.
- Proposed Adoptable Foul Water Pumpstation. Providing emergency storage and sewerage treatment as required within DCC Design and Construction Guidance Approved version 2.3 published 11 May 2023.
- Adopted Proposed Adoptable Foul Water Pump Station.
- Street Name Plate.
- Lead required temporarily by the developer and developer's contractor in order to complete initial works.

SURE GAS
ASSUMED
ENT EITHER

HIGH PRESSURE GAS
MAIN WITH ASSUMED
6M EASEMENT EITHER
SIDE.

Network 1- Basin 3
Approx. Bed Level: 154.90m AOD
Approx. Top of Bank: 166.50m AOD
Approx. Total S/W Volume: 812m³

Network 1- Basin 2
Approx. Bed Level: 157.25m AOD
Approx. Top of Bank: 166.95m AOD
Approx. Total S/W Volume: 2179m³

Network 1- Basin 1
Approx. Bed Level: 160.125m AOD
Approx. Top of Bank: 161.925m AOD
Approx. Total S/W Volume: 1331m³

Upper Flow Control-Net 1 MH S143
Design Max Flow=47.39 l/s

SW Network 1
Original Estimated Total Storage Volume Required
from Quick Storage Est:
1in30yr = 1894m³ Rqd
1in100yr = 2643m³ Rqd
1in100yr+45CC = 4157m³ Rqd

Network 1-Western Detention Basins 1-3

Designed as C
path lengths as
guidance.
Surface Water
these 3no. bas

Additional Flow Control required for
impermeable area of emergency
access, situated lower than proposed
attenuation basin. Nominal additional
SW attenuation in oversized pipes
Max Flow=47.39 l/s

PROPOSED ROAD
LOCATION

PROPOSED WESTERN OUTFALL
Proposed new SW outfall route
and associated 8 metre easement
to existing reservoir. Flow-rates
to be agreed with LLFA.
*RISK- THROUGH BOTH THIRD
PARTY LAND AND UNREGISTERED
LAND- LAND DEPT TO ADVISE.

Additional Flow C
impermeable are
access, situated
attenuation basin
SW attenuation i
Max Flow=47.39

SW Network 2
Original Estimated Total Storage
Volume Rqd from Quick Storage Est:
1in30yr = 245m³ Rqd
1in100yr = 348m³ Rqd
1in100yr+45CC = 520m³ Rqd
Surface Water Attenuation is provided
in Basin 4. 521m Provided.

Basin 4
Approx. Bed Level: 156.50m AOD
Approx. Top of Bank: 168.1m AOD
Approx. Total volume: 521m³

Flow Control-Net 2
Design Max Flow=10.0 l/s

Revision	Description	Date	Design By
P06	MHs 103, 108, 116, 128 have been amended to catch pit MHs. Dump levels have been added to every catch pit MH.	Nov 24	LB
P05	Included the most recent planning layout showing the revised proposed access track.	Oct 24	LB
P04	Drainage runs, FFLs, plot drainage and drag-outs amended to the new planning layout. In order to ensure that the pipes and ducts are sized correctly, the storm simulations were modelled in info drainage and will be refined at final approved detailed design.	Jun 24	LB
P03	Revised to New Layout. Drawing reference changed.	15.03.24	SPG
A	Amendments to drainage runs, FFLs, plot drainage and drag-outs. In order to ensure that the pipes and ducts are sized correctly, the storm simulations were modelled in info drainage.	04.04.23	RB