



- Notes:**
- To be read in conjunction with Eastwood Consulting Engineers drawings 4867
 - All pipes shall be either:
 - A - Verified clay to BS EN 256 with a minimum crushing strength as follows -
10000 da - 40 N/m²
 - 225 da - 43 N/m²
 - 300 da - 72 N/m²
 - B - PVC (permitted to BS 4350-1 & BS EN 13476)
 - C - Class 120 concrete to BS EN 12058-1 & BS EN 12058-2
 - All pipes should always connect to a stiff unless noted otherwise.
 - All sewers to have BS1 Kitemark manholes (verified to BS 5301 & BS EN 13476). Minimum pipe length to be 3m. Plastic channel sections in manholes are not acceptable. Clay channel sections shall be used.
 - Sewers to be laid in Class 2" bedding (100mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highway and/or less than 1.0m in a reserved vehicle access area then a concrete slab should be provided above granular bed and surround. Bedding and backfill concrete to conform to the requirement of BS 5301:1 (2002) Table A2.
 - Manholes covers shall have a clear opening of 600mm and shall be class D400 to BS EN 124 with 150 deep frames in highways.
 - Pipes entering manholes and road gullies shall have a flexible joint within 600mm of the inside the manhole or gully jointing with a short rocker pipe.
 - The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerbs faces and service margins.
 - Sewers must have 5m clearance from trees and hedges or the width of the canopy at mature height.
 - All trenches in roads and paved areas shall be backfilled with Type 1 DOT granular sub-base material or other granular material approved by the highway authority.
 - Filled ground must be filled and consolidated under the supervision and to the satisfaction of ICOSA. Water before any sewer works are carried out.
 - All inlets concrete to be designated into F400 to BS 8000-1 unless agreed otherwise.
 - The invert levels at the proposed points of connection to existing public sewers shall be checked before any new drains are constructed. Any variation to the levels shown on the drawing shall be notified to Eastwood Consulting Engineers.
 - The chamber size of manholes with more than one connection to them may need to be increased to accommodate the connections and beds.
 - Cover levels are indicative only. Covers to be set to suit camber/gradients of existing and proposed roads.
 - Cover slabs must carry the BS1 Kitemark or will be accepted by ICOSA Water Inspector. Where the clear opening of the manhole product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the ICOSA Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued Autumn 2004 for Kitemarked cover slab opening sizes.
 - All foul lateral sewers and drains to be 150mm unless noted otherwise.
 - Manholes covers shall have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 - Where a B125 cover and frame has been approved this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
 - All adoptable sewer works and materials to be in accordance with 'Code for Adoption'. The relevant British Standards and ICOSA Water's Standard Requirements Code Practice for the Adoption of Small Submersible Foul and Surface Water Pumping Stations and Kitemarked.
 - ICOSA Water is not obliged to accept the drainage run-off into the public sewer network or adoptable drainage system directly or indirectly. An alternative method of disposal of the load drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with regard to the disposal of the rain drainage run-off.
 - Subsided resistant cement (S104-C2) and precast concrete products must be used or a laboratory report provided proving that such products are not necessary.
 - Adoptable plastic sewer pipes to be BS1 Kitemarked (verified to BS 5301 and BS EN 13476) Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and ICOSA Water would prefer clayware channel in manholes.
 - There must be enough clearance at coverovers to accommodate bedding to both pipes, approx. 300mm. If coverover is near the road then the clearance needed may need to be increased.
 - All adoptable laterals to be 150mm and PVC unless stated otherwise.
 - All FFLs to be a minimum 150mm above external levels and drainage cover levels.

KEY

- Proposed adoptable surface water sewer
- Proposed adoptable foul water sewer
- Foul pumping main
- Foul pumping main
- Proposed gully
- Proposed adoptable surface water lateral
- Proposed adoptable foul water lateral
- Existing foul water sewer
- Existing surface water sewer
- Diversion covered under S185 submission
- Site boundary
- Easement
- Sewer to be abandoned

REV	DESCRIPTION	SIG	CHK	DATE
P14	F40 and S51 details amended with updated road 4.	AT	CH	28.10.2025
P13	Easements added at all laterals and removed from attenuation tanks in line with the S104 submission.	AT	CH	24.10.2025
P12	Minor updates to laterals to suit latest plot drainage.	AT	CH	12.09.2025
P11	Drainage updated to suit LLFA requirements, S104 comments and Foul Water southern diversion.	AT	PNW	29.08.2025
P10	Manhole S50 invert level fixed. Tank and Pipe 1,020 slackened.	AT	CH	03.07.2025
P09	Manhole S50 invert level lifted.	AT	PNW	27.06.2025
P08	S60 Outlet pipe size increased to 2250.	AT	CH	19.06.2025
P07	Manholes F44, F45, F48, S56 & S57 cover levels revised. S60 backdrop invert level amended.	AT	PNW	06.06.2025
P06	S104 Layout updated to suit amended drainage model.	AT	PNW	30.05.2025
P05	Pipe Material Amended from Clay to PVC.	JR	CH	24.05.2025
P04	Revised to suit latest drainage layout.	GT	PNW	24.02.2025
P03	Revised to suit latest site layout (Rev X)	TB	CH	18.12.2024
P02	Easements added.	DAB	TB	26.06.2024
P01	First Issue.	GT	TB	06.06.2024

HARRON HOMES

MERCHANT FIELDS

S104 DRAINAGE LAYOUT SHEET 2 OF 2

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwood.co.uk
www.eastwood.co.uk

ECE PROJECT No: **4867** SCALE AT A0 STATUS: **SO** SUITABLE FOR: **Initial**

DRAWING NUMBER: **4867 - ECE - XX - XX - DR - C - 0002** REV: **P13**

Project Originator Zone Level Type Role Number