



- Adoptable Drainage Notes**
- All adoptable sewer works and materials to be in accordance with "Codes for Adoption", the Relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
 - Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 - Cover slabs must carry the BS1 Kitemark or will be rejected by Yorkshire Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame a load bearing slab shall be fitted above the cover slab to bring the size down to 600mm X 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued Autumn 2004 for Kitemarked cover slab opening sizes.
 - Filled ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
 - The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
 - The chamber size of manholes with more than one connection in them may need to be increased to accommodate connections and bends.
 - Manhole schedule setting out depicts notional pipe intersection points. Manhole chambers are to be positioned in a manner to provide minimum benching/landing requirements.
 - Sewers must have 5 metres clearance from trees and hedges.
 - The minimum crushing strength for clay pipes should be as follows: 100mm dia 4.0kN/m², 150mm dia 4.0kN/m², 225mm dia 4.5kN/m² and 300mm dia 7.2kN/m². The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1:2002). Plastic pipes should conform to WIS 4-35-01 and BS EN13476.
 - Bedding and backfill material is to conform to the requirements of Water Industry Specification 4-08-02 (Table A2).
 - LOCATION AND LEVEL OF EXISTING SEWERS AND SERVICES, INCLUDING CONNECTION POINTS, THAT ARE TO REMAIN ON LINE OF PROPOSED SEWERS ARE TO BE TRIAL, HOLED AND RECORDED PRIOR TO COMMENCEMENT OF DRAINAGE WORKS AND THE PROPOSED SEWER LONG-SECTION VERIFIED.
 - Yorkshire Water policy is not to accept Type 'C' brick manholes and 1050mm dia manhole rings. Instead it is preferred that a Type 'B' manhole with 1200mm dia or 1500mm dia rings used, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
 - No land drainage, watercourses or drainage from retaining walls should be connected to the adopted sewer either directly or indirectly.
 - Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - Sewers to be laid in Class "S" bedding (150mm granular bed & surround). Where depth of cover to top of the sewer is less than 1.2m in highways & verges (or less than 900mm in none vehicular access areas) then a concrete slab should be provided above granular bed & surround.
 - Yorkshire Water is not obliged to accept filter/land drainage run-off into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage run-off will therefore be required & you will have to liaise with the local Authority Land Drainage Section with regard to the disposal of the filter-drain/land drainage run-off.
 - Adoptable plastic sewer pipes to be BS1 Kitemarked (certified to WIS 4-35-01 and BS EN13476). 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 Yorkshire Water would prefer clayware channel in manholes. We have found plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the benching.
 - 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.
 - The clearance on the crossover points (min 300mm) between the surface water, foul sewers, rising main and other services should be sufficient clearance to provide 150mm granular bed and surround around both pipes.
 - New connections to the public sewer should be connected soffit-soffit unless stated otherwise.
 - All levels of existing sewers have been checked on site and are correct as shown.

PRELIMINARY

Rev.	Content	Date
P12	Lateral pipe from S13 revised	04.03.21
P11	Private drainage network omitted, levels revised following detailed road design	05.02.21
P10	Revised to suit changes to drainage design	15.01.21
P9	Service strips shown, drainage repositioned to suit	03.12.20
P8	Roads 3 & 4 revised, private drainage revised, Flood rout arrows removed	10.11.20
P7	Lateral MHS FW1 & SW1 revised, MH F1a added	10.11.20
P6	Lateral MH FW4 revised to 1200mm due to depth	23.09.20
P5	Lateral drains shown adopted, MH levels confirmed	22.09.20
P4	Redrawn to suit planning layout Rev S, MH F3 revised	06.03.20
P3	Road 2 storage revised, Flow control information added	26.11.19
P2	Revised to suit changes to SW storage design	31.10.19
P1	Preliminary issue	17.10.19

SAFETY, HEALTH AND ENVIRONMENTAL (SHE) INFORMATION

In addition to hazard/risk normally associated with the types of work detailed on this drawing, note the following:

Construction:-

- Adequate shoring of trenches.
- Open trenches to be fenced off.
- Check weights of pre fabricated elements in respect to man handling.
- Hand protection against wet concrete and mortar.
- Adequate site survey to established position of existing live services on & around the site.
- High standard of personal hygiene when working live sewers.

Maintenance/Cleaning:-

- All sewers to be jetted clean on completion of the works.
- Sewers, gullies, drainage channels and storm water storage, may need periodic jetting to remove silt.
- Pumping Station to be on an annual service contract.

Decommissioning/Demolition:-

- Connection to live sewer to be adequately bunged.
- Precast concrete units to be lifted out of the ground.
- Concrete possibly could be crushed for re-use as bulk fill.

Client	Orion Homes Ltd				
Project	Mount Vernon Road, Barnsley				
Title	Section 104 Plan - Sheet 1				
Drawn	MT	Date	17.10.19	Dr. No.	7861/022
Scale	1:250 @ A1	Checked	JL	Rev.	P12

CoDa Structures
 Consulting Civil & Structural Engineers
 14 Springfield Court
 Guiseley
 Leeds LS20 8FD
 Tel: 01943 872567
 Fax: 01943 870824