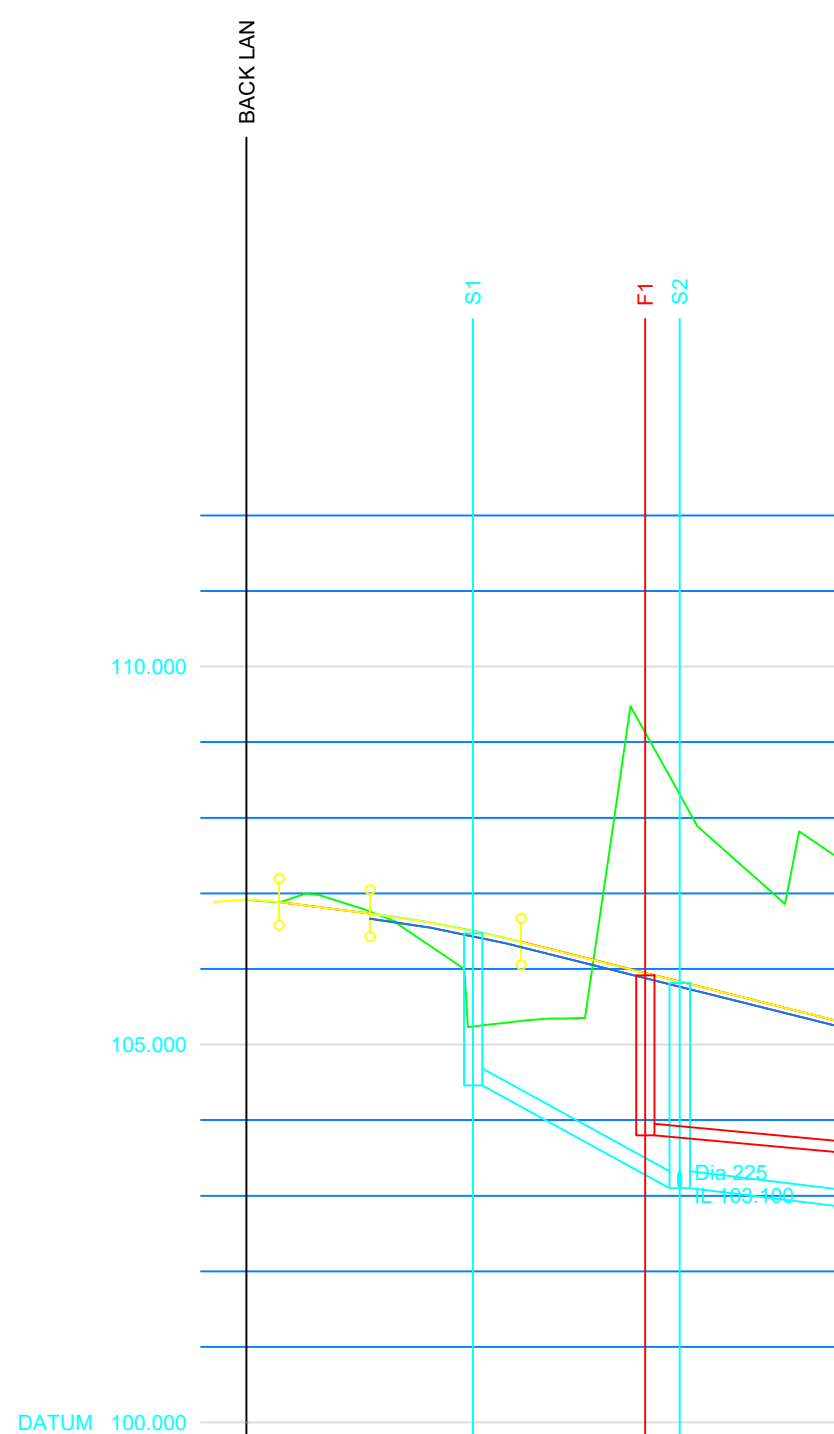


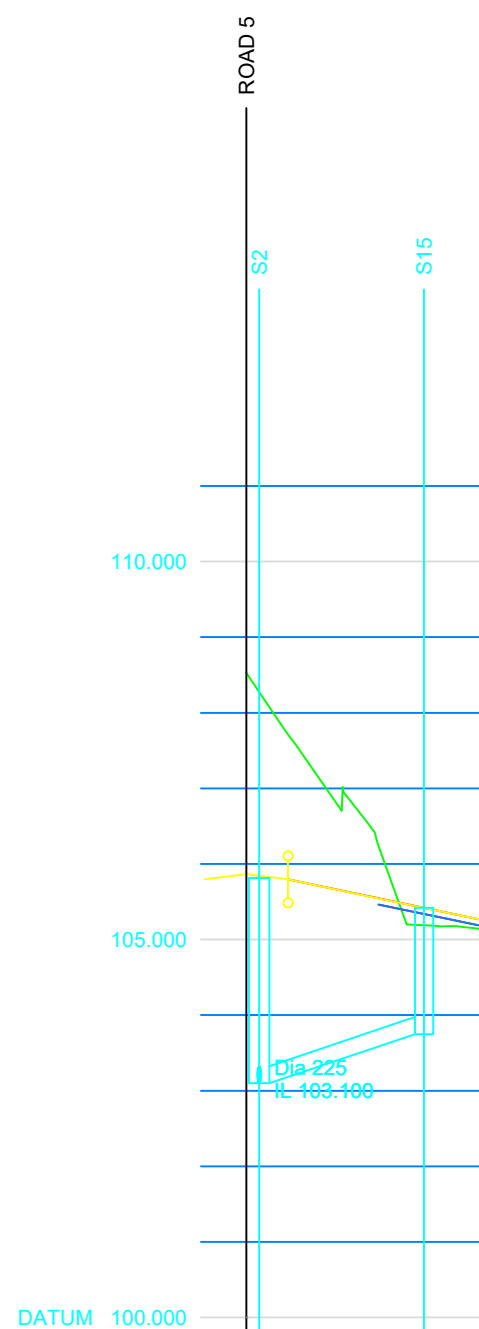
ROAD 4

PIPE STRENGTHS 100mm Clay = 40KN/m; 150mm Clay =40KN/m; 300mm Conc. = 36KN/m; 375mm Conc. = 45kn/m



ROAD 5

PIPE STRENGTHS 100mm Clay = 40KN/m; 150mm Clay =40KN/m; 300mm Conc. = 36KN/m; 375mm Conc. = 45kn/m.



ROAD 6

PIPE STRENGTHS 100mm Clay = 40KN/m; 150mm Clay = 40KN/m; 300mm Conc. = 36KN/m; 375mm Conc. = 45kn/m.

YORKSHIRE WATER SEWER NOTES

1. All adoptable sewer works and materials to be in accordance with Design and Construction Specification. The relevant British/European and Yorkshire Water's Standards Requirements/Addendum to the Mechanical and Electrical Specification and kitemarked.
2. Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124-1 1500mm deep for all highways.
3. Filled ground must be compacted and consolidated under the supervision of and to the satisfaction of Yorkshire Water before any sewer works are carried out.
4. Yorkshire Water is **not** obliged to accept filter drain/land drainage run-off into the public highway. If it is accepted, it will be at the discretion of Yorkshire Water as an alternative method of disposal of the land drainage run-off with therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with the regard to the disposal of the filter drain/land run-off.
5. Sewer pipes 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 should 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 the Concrete Slab Design Guide for details of how to design a slab to meet the requirements for the minimum load bearing slab opening sizes. As an alternative 600mm x 600mm access cover slabs are now available (must be kitemarked) and Yorkshire Water would accept without the need for the reduction in the reduced depth of the concrete slab.
6. Sulphate resisting cement (C20-DCE2) and pre-cast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
7. The adoptable sewers should be located a minimum of 1m and manholes 0.5m from kerb.
8. Sewers must have 5 metres clearance from trees and hedges (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to sewers).
9. Sewers to be laid with Class 'B' Bedding (150mm granular bed and surround). Where depth of cover to top of sewer is less than 1.2m in highways and verges (or less than 900mm in non vehicular areas), then a concrete slab should be provided above the granular bed and surround.
10. Bedding and backfilling material to conform to the requirement of Water Industry Specification 4-06/02 (Table A2).
11. The chamber size of manholes with more than one connection in them may need to be increased to accommodate the connections and bedding.
12. Yorkshire water policy is not to accept Type 'c' brick manholes and 1050mm diameter drains. Instead it is preferred that you use a type 'B' manhole with 1200mm dia or 1500mm dia chambers with the opening sized over the channel where depth of cover to pipe offset is 1.1-1.5m. This can be achieved by using 1500mm dia concrete for the chamber to WIS 4-30/01 (BSEN13476). Adoptable plastic sewer pipes to be laid in 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 channels in manholes. We have found that concrete is often used in manholes in concrete because they float and a satisfactory finish cannot be obtained on the bedding.
14. The minimum crushing strength for clay pipes should be as follows:- 100mm dia pipes - 40N/mm², 400mm dia pipes - 25N/mm². For concrete pipes to WIS 4-30/01 (BS EN13476) crushing strength for concrete pipes should be - (Class 120 in ELO/BSEN911-1:2002). Crushing pipes should conform to WIS 4-35/01 and BS EN13476.
15. Where a B125 cover and frame has been approved, this MUST NOT be coated in plastic as this will have lifting eyes which will usually need to accommodate standard lifting keys. Screw down covers are not acceptable.

BIG CITY CO. MD

Job Title

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Drawing Title	HIGHWAYS AND DRAINAGE
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ROAD AND SEWER LONG SECTIONS (2 OF 3)

Scale 1:500H/100V@A1	Date JAN 2023	Drawn HM	Checked JB
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