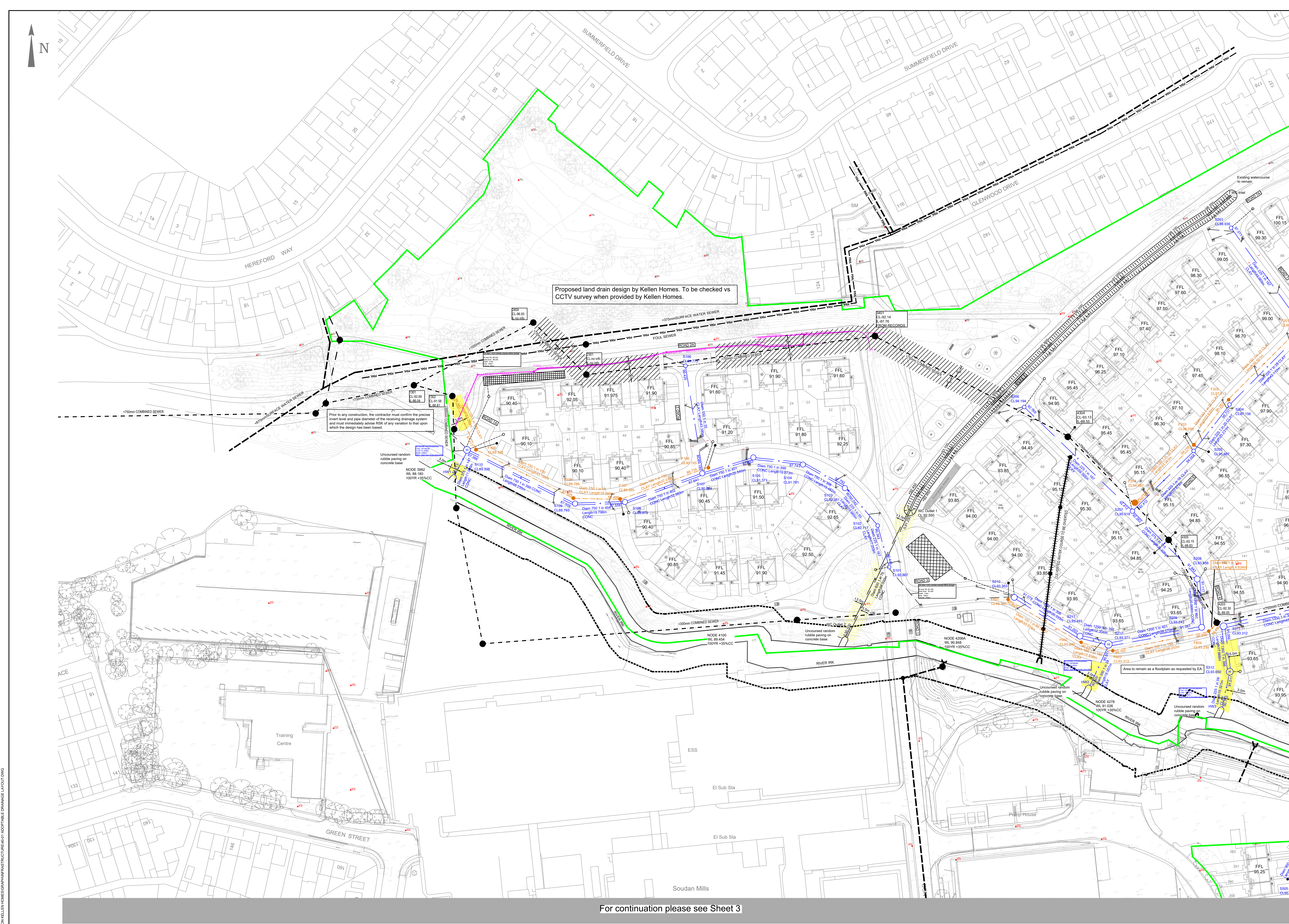




CIVIL / STRUCTURAL DESIGN RISK MANAGEMENT

Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-

RSK LDE LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing.

Abnormal or unusual residual risks may be shown above where it is considered that such risk may not normally be expected by competent persons engaged on work of this nature or type.

Legend

- Proposed foul water sewer and manhole by Developer
- Proposed surface water sewer and manhole by Developer
- Proposed highway drain sewer and manhole by Developer
- Proposed land drainage design by Kellen Homes
- Existing Foul water sewer and manhole
- Existing Combined water sewer and manhole
- Existing culverted watercourse to be removed
- Watercourse diversion open channel
- Watercourse diversion piped system
- Proposed S104 Drainage Easement
- Existing S104 Drainage Easement
- Proposed Watercourse diversion Easement
- FFL 102.85 Finished Floor Level

- Notes**
- All adoptable sewer works and material to be in accordance with Sewers for Adoption 6th Edition, The Relevant British/European and Icosia Water Standards/Requirements/Addendum and Kitemarked.
 - Manhole covers shall have a minimum clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 - Filled ground must be filled and consolidated under the supervision and to the satisfaction of Icosia Water before any sewer works are carried out.
 - Icosia Water is not obliged to accept filter drain/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 and 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.
 - Cover slabs must carry the BSI Kitemark or will be rejected by Icosia Water Inspector. Where the clear opening of the Kitemarked 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 Icosia Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued Autumn 2004 for Kitemarked cover slab opening sizes.
 - Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
 - Sewers must have 6 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).
 - Unless noted otherwise, sewers are to be laid in Class S bedding in accordance with Icosia Water standard details. Refer to RSK drawing 40-17 for pipe embedment details. Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in more vehicular access areas) then a concrete bed and surround shall be provided.
 - Icosia Water policy is not to accept Type 'C' brick manholes and 1050mm dia manhole rings. Instead it is preferred that you use a type 'B' manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1 - 1.5m.
 - All lateral drains to be 150mm dia.

For continuation please see Sheet 2

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
P14	23.11.22	Updated to latest drainage design	DS	MS	
P13	01.09.22	Updated to Icosia Water comments	KD		
P12	08.09.22	Updated to Client comments	DS	MS	

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Client: **Kellen Homes**

Project Title: **Don Street Middleton**

Status: **DETAILED DESIGN**

Drawing Title: **Adoptable Drainage Layout Sheet 1 of 3**

Drawing Title					
Adoptable Drainage Layout Sheet 1 of 3					
Drawn	Date	Checked	Date	Approved	Date
EP	JULY 21	MS	JULY 21		
Scale		Orig Size		Dimensions	
1:500		A0		m	
Project No				Drawing File	
882333					
Drawing No					Rev
40-01-01					P14
Scale 1:500					
					

FFL's and Dragout's subject to change following completion of external works and private drainage designs.

The details provided on this drawing are subject to comments by all the relevant approving authorities. Until such time as all comments have been received and incorporated onto the drawings, all the information provided and costings, are used at Kellen Homes risk and no liability will be accepted by RSK. Scheme based on Kellen Homes Sketch Scheme site plan REV AW

Drainage Statement - Surface Water

- Offline 100 year + 40% climate change storage to be maintained by private maintenance company.
- System designed not to flood in 30yrs and surcharge in 2yrs. Climate allowance of 40% as per FRA.
- 10% Urban Creep has been allowed for calculations
- The use of Plastic pipework must be requested from Icosia Water.
- All networks have been modelled vs 100 year surcharge Outfalls subject to EA / Icosia Water consent.
- Networks 1,2 and 5- discharge is based on Browfield discharge for the catchment for the existing 30yr flow with 50% betterment achieved. Network 3 and 4- discharge is based on Greenfield Obor pro-rata rate for the catchment of 6.77 l/s/ha, refer to FRA.

Drainage Statement - Foul Water

- Foul by gravity to existing foul manholes or online of existing sewer.
- Receiving drain may require CCTV investigation/further investigation to prove condition of receiving pipework or Manholes.
- Pipe bridge crossing required - subject to structural design and EA / Icosia Water approval
- Existing sewers have been recently surveyed and Client has confirmed layout is to be amended to accommodate sufficient easement clearances

Level Statement

- FFL's are all set more than 600mm above 1% AEP flood level.
- Larger retaining wall requirement are located adjacent to EA Main River - Easement yet to be determined
- Any flood storage loss by development platform may need to be compensated as to not increase flood levels and volumes.