Drawing not to be used for construction work

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 Lovell's risk and no liability will be accepted by RSK. Scheme based Site Layout 1973-010 Rev G.

Notes

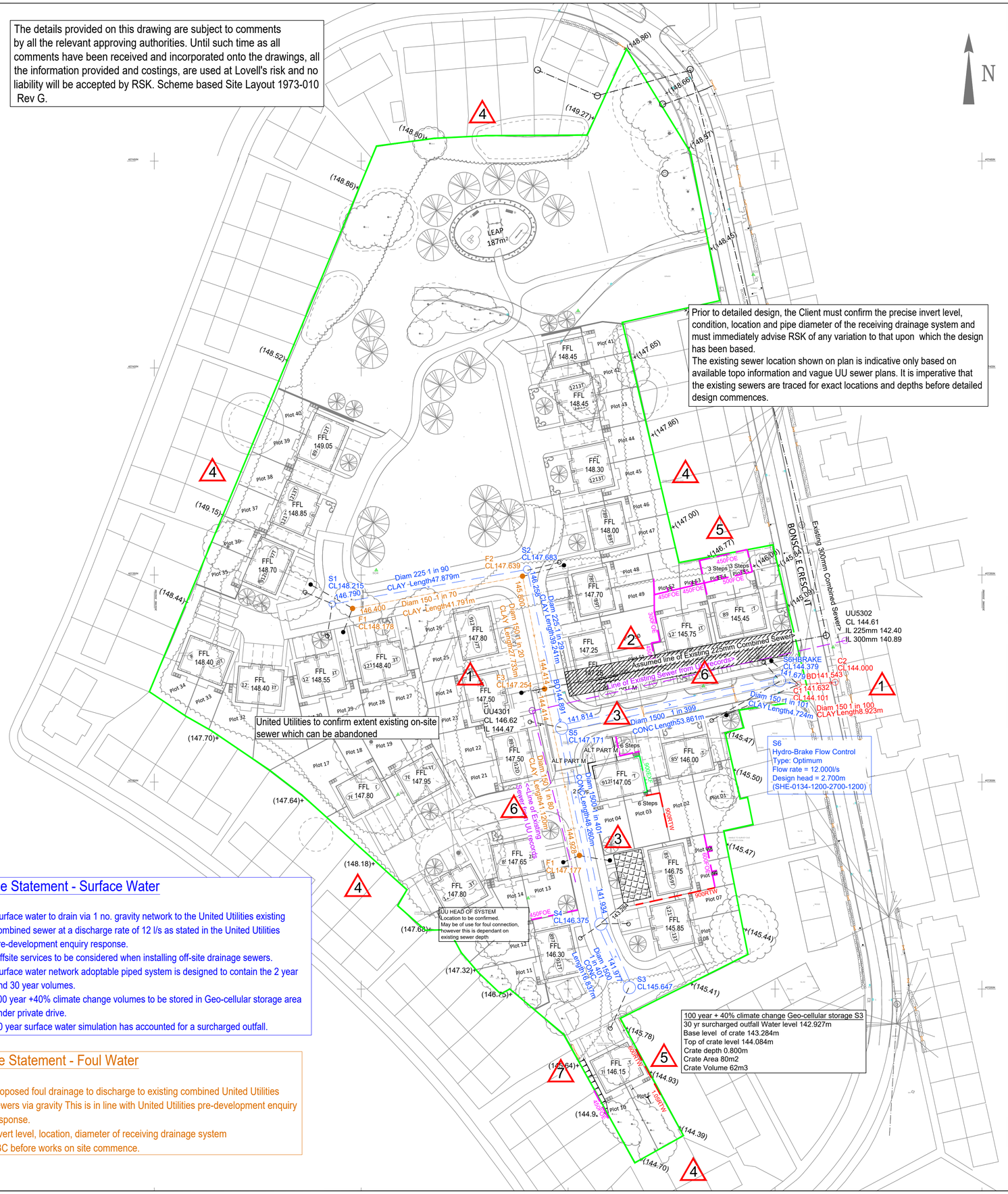
- All adoptable sewer works and material to be in accordance with Sewers for Adoption 6th Edition, The Relevant British/European and United Utilities' Standards/Requirements/Addendum and Kitemarked.
- Manhole covers shall have a minimum clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
- Filled ground must be filled and consolidated under the supervision and to the satisfaction of United Utilities before any sewer works are carried out.
- United Utilities is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or in-directly). 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 United Utilities 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 United Utilities 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 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).
- Unless noted otherwise, sewers are to be laid in Class S bedding in accordance with United Utilities standard details.Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular access areas) then a concrete bed and surround shall be provided.
- Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2) and in accordance with United Utilities standard embedment details.
- United Utilities 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.

Retaining features based on 1:15 max garden gradient as specified by the Client

Client has confirmed properties not to be stepped

Consideration for bin store locations is required due to retaining requirements and step proposals

Design Information Identification	
1	Existing sewer to be surveyed to confirm outfall level, location and pipe condition
2	Plot to be relocated due to existing sewer
3	Deep proposed sewers. Health and safety measurements to be considered
4	Proposed development to tie in with adjacent existing development
5	Large retaining wall requirement due to existing steep site topography and tie in levels.
6	Existing United Utilities sewer crossing the site. Position to be confirmed before detailed design works commence. To be determined whether to remain or abandoned by UU.
7	Turning head to be looked at in this area. Foul drainage might not fit through space between back of footpath and third party land.



Drainage Statement - Surface Water

- Surface water to drain via 1 no. gravity network to the United Utilities existing combined sewer at a discharge rate of 12 l/s as stated in the United Utilities pre-development enquiry response.
- Offsite services to be considered when installing off-site drainage sewers.
- Surface water network adoptable piped system is designed to contain the 2 year and 30 year volumes.
- 100 year +40% climate change volumes to be stored in Geo-cellular storage area under private drive.
- 30 year surface water simulation has accounted for a surcharged outfall.

Drainage Statement - Foul Water

- Proposed foul drainage to discharge to existing combined United Utilities sewers via gravity This is in line with United Utilities pre-development enquiry response.
- Invert level, location, diameter of receiving drainage system TBC before works on site commence.

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 adoptable foul water sewer and manhole
- Proposed adoptable surface water sewer and manhole
- Proposed adoptable combined water sewer and manhole
- Existing Combined water sewer and manhole
- FFL 148.75 — Finished Floor Level
- +(148.00) — Existing site boundary level
- Existing S104 Drainage Easement

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
P2	19.11.2020	Updated to suit new site layout Rev G	JW	MS	
P1	18.03.2020	First Issue	EC	MS	

RSK
LAND & DEVELOPMENT ENGINEERING LTD
Spring Lodge
172 Chester Road
Helsby
Cheshire, WA6 0AR
United Kingdom
Tel: +44 (0) 1928 726006
Fax: +44 (0) 1928 725633
Email: lde@rsk.co.uk
Web: www.rsk.co.uk

Client: Lovell

Project Title: Bonscale Crescent Langley

Status: Appraisal

Drawing Title: Engineering Appraisal

Drawn	Date	Checked	Date	Approved	Date
JW	NOV 2020	MS	NOV 20		

Scale	Orig Size	Dimensions
1:500	A1	m

Project No.: 882050

Drawing File:

Drawing No.: 10-01

Rev.: P2

Scale 1:500
0 5 10 15 20 25m