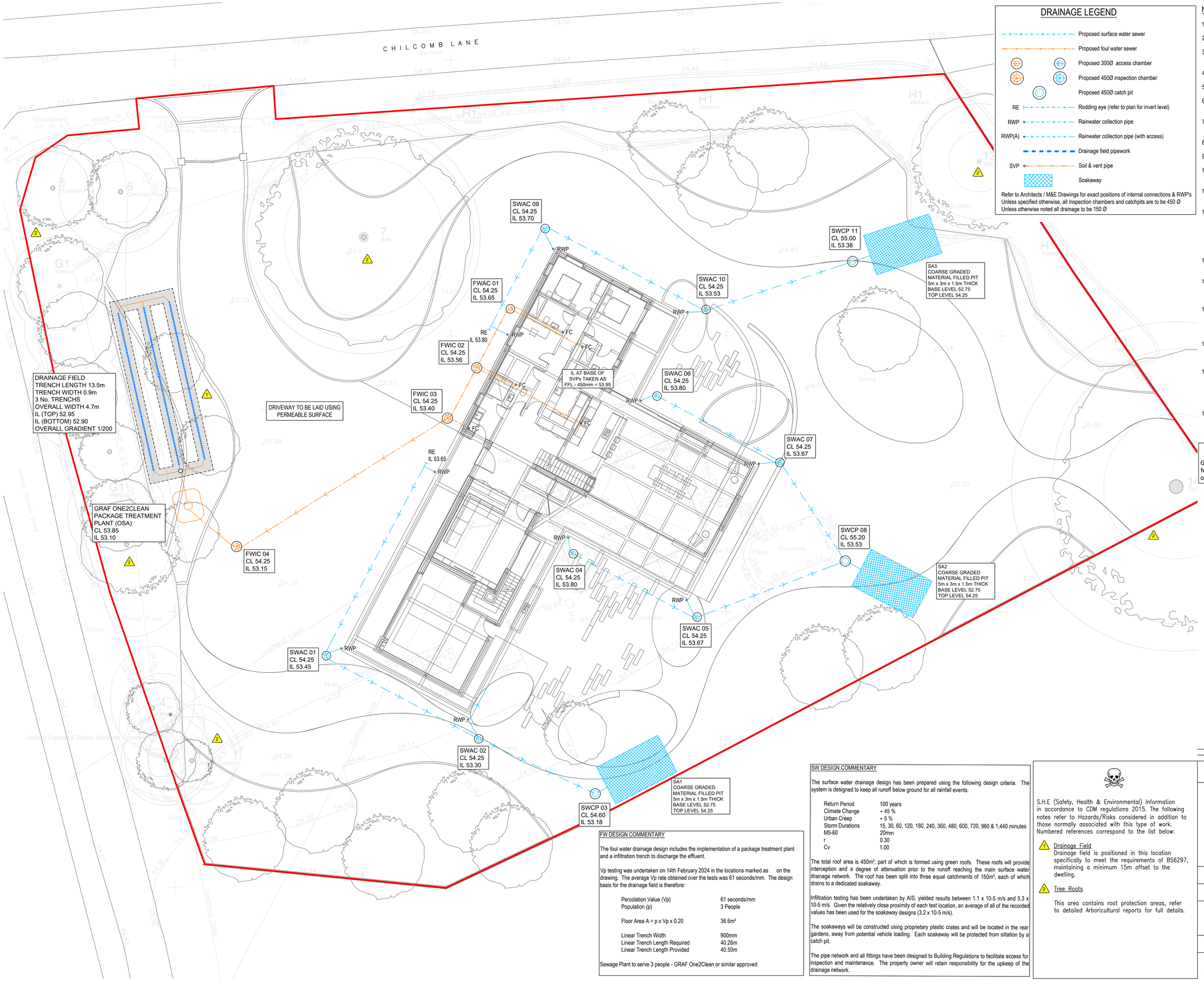

DRAINAGE LEGEND

- Proposed surface water sewer
- Proposed foul water sewer
- Proposed 300Ø access chamber
- Proposed 450Ø inspection chamber
- Proposed 450Ø catch pit
- RE — Rodding eye (refer to plan for invert level)
- RWP — Rainwater collection pipe
- RWP(A) — Rainwater collection pipe (with access)
- Drainage field pipework
- SVP — Soil & vent pipe
- Soakaway

Refer to Architects / M&E Drawings for exact positions of internal connections & RWP's
Unless specified otherwise, all Inspection chambers and catchpits are to be 450 Ø
Unless otherwise noted all drainage to be 150 Ø

NOTES

1. This drawing is to be read in conjunction with all relevant architects, engineers and specialist sub-contractors drawings and specifications.
2. All setting out to be in accordance with the Architects drawings. Dimensions must no be scaled from the drawing.
3. All private drainage is to be in accordance with BS EN 752-1-2-3-4, BS EN 1295-1, BS EN 1610 and all relevant sections of Approved Document H of the Building Regulations (2015 Edition).
4. Where drainage pipework is to be flexibly jointed extra strength vitrified clay it should be to BS EN 295-1, Hepworth 'Supersleve' or equivalent.
5. Where drainage pipework is plastic i.e. pvc-u it shall be to BS EN 1401-1 (class SN8 OSMA or equivalent.
6. All concrete pipework shall be to BS EN 1916 and BS 5911-1 (Load class M unless indicated otherwise). Manholes and fittings shall be to BS 5911 parts 3 and 4 and BS EN 1917.
7. Where drains pass through foundations or connect to manholes, flexible pipe joints are to be provided within 150mm of the face of the structure and within a further 600mm to form a rocker pipe.
8. Where pipes pass through screen walls, footings or retaining walls, lintels are to be provided.
9. Where pipelines pass within 1m of buildings or walls the foundations are to be taken down below the bottom of the pipe trench.
10. Where connections are to be made to existing manholes/sewers, invert levels, pipe sizes and orientation should be checked prior to the commencement of the works ar any variance reported to the engineer immediately.
11. The contractor is to ensure that protective measures are taken to ensure that drainage pipework and fittings are not damaged by site traffic prior to oversite filling operations being completed around buildings.
12. All pipework connections are to be arranged to direct flows down or into the main channel in the direction of the main flow. Where necessary 3/4 bends are to be usec on oblique connections inside the manhole benching where sufficient room exists or on oblique pipeline connections outside the chamber in order to divert flows down th main channel. Connections brought in perpendicular to the main channel are not acceptable. Where possible the main channel flow shall be from any connections wi WC's to ensure a flush flow through the main channel.
13. Where preformed polypropylene manhole bases are used, they are to be orientated such that the main flow is through the main channel of the base. This should be achieved by incorporating long radius bends outside of the manhole.
14. Any connection into a public sewer is to be inspected by the local Water Company and carried out fully in accordance with their requirements. The contractor is to allow for submitting the appropriate Section 106 'Connection to a Public Sewer' applicatio forms and paying all necessary fees.
15. The contractor is to allow for obtaining the appropriate Road Opening licenses from the local Highway Authority and paying all necessary fees for any works associated with off-site sewer connections and highway works. All reinstatement works within th public highway are to be carried out in accordance with the requirements of the local Highway Authority.
16. The contractors attention is drawn to the need to ensure that any trenches excavate through previously compacted filled areas, in particular under the building footprint and immediately around the outside, are re-compacted to ensure localised differenti settlement does not occur.
17. Drainage channel(s) to be ACO Multidrain or equivalent across driveways and footpaths, ACO doorway drain across level accesses or equivalent. For installation guidance refer to the manufacturer's specification. Refer to Landscape Architects details for surfacing treatments around units where applicable. Where channels are indicated as in-built falls the relevant units are to be incorporated to provide the necessary length of channel gradient from the head of the run to the sump unit.
18. Where both invert levels and gradients are given for a pipe run, the gradients are indicative only and the specified invert levels take precedence.

DO NOT USE FOR SETTING OUT

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NOT FOR CONSTRUCTION

FW DESIGN COMMENTARY

The foul water drainage design includes the implementation of a package treatment plant and a infiltration trench to discharge the effluent.

Vp testing was undertaken on 14th February 2024 in the locations marked as on the drawing. The average Vp rate obtained over the tests was 61 seconds/mm. The design basis for the drainage field is therefore:

Percolation Value (Vp)	61 seconds/mm
Population (p)	3 People
Floor Area A = p x Vp x 0.20	36.6m²
Linear Trench Width	900mm
Linear Trench Length Required	40.26m
Linear Trench Length Provided	40.50m

Sewage Plant to serve 3 people - GRAF One2Clean or similar approved

SW DESIGN COMMENTARY

The surface water drainage design has been prepared using the following design criteria. The system is designed to keep all runoff below ground for all rainfall events.

Return Period	100 years
Climate Change	+ 45 %
Urban Creep	+ 5 %
Storm Durations	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960 & 1,440 minutes
M5-60	20mm
r	0.30
Cv	1.00

The total roof area is 450m², part of which is formed using green roofs. These roofs will provide interception and a degree of attenuation prior to the runoff reaching the main surface water drainage network. The roof has been split into three equal catchments of 150m², each of which drains to a dedicated soakaway.

Infiltration testing has been undertaken by AIS, yielded results between 1.1 x 10-5 m/s and 5.3 x 10-5 m/s. Given the relatively close proximity of each test location, an average of all of the recorded values has been used for the soakaway designs (3.2 x 10-5 m/s).

The soakaways will be constructed using proprietary plastic crates and will be located in the rear gardens, away from potential vehicle loading. Each soakaway will be protected from siltation by a catch pit.

The pipe network and all fittings have been designed to Building Regulations to facilitate access for inspection and maintenance. The property owner will retain responsibility for the upkeep of the drainage network.

S.H.E (Safety, Health & Environmental) Information in accordance to CDM regulations 2015. The following notes refer to Hazards/Risks considered in addition to those normally associated with this type of work. Numbered references correspond to the list below:

1. Drainage Field
Drainage field is positioned in this location specifically to meet the requirements of BS6297, maintaining a minimum 15m offset to the dwelling.

2. Tree Roots
This area contains root protection areas, refer to detailed Arboricultural reports for full details.

Rev	Date	Revision Description	Issued by
P02	04.03.24	Soakaways amended to rubble filled	JHW
P01	29.02.24	First Issue - For Coordination	JHW

Drawing Status: S1 - Suitable for Co-ordination

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Client: Mr & Mrs Smith

Project: Range Cottage, Chilcomb

Drawing Title: Foul & Surface Water Drainage Layout

Scale: 1:125 @ A1 Drawn: JHW Checked:

Project-Originator-Zone-Level-Type-Role: 23837-GAP-XX-XX-DR-C Drawing No.: 9000 Revision: P02