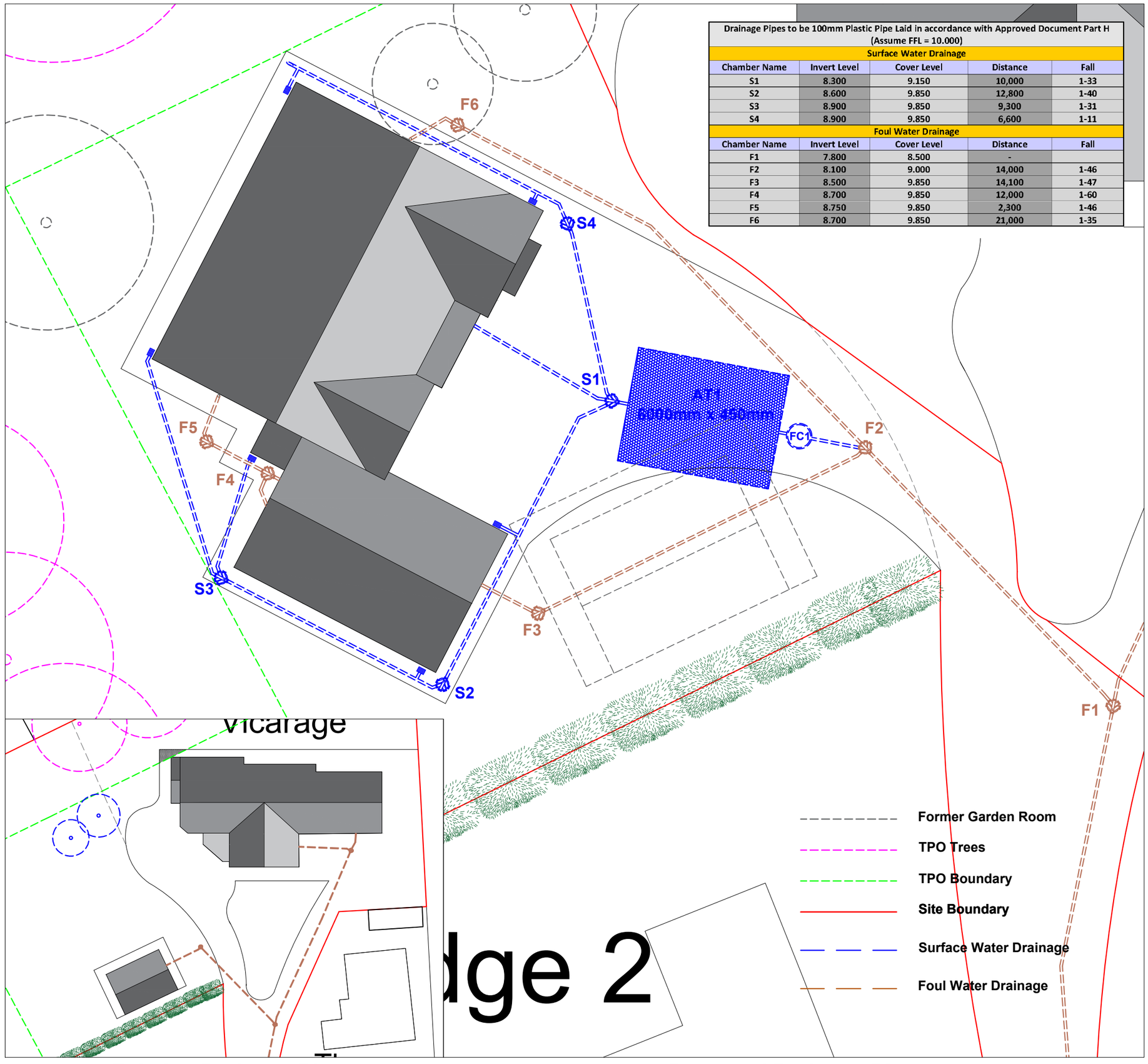
Drainage Pipes to be 100mm Plastic Pipe Laid in accordance with Approved Document Part H (Assume FFL = 10.000)				
Surface Water Drainage				
Chamber Name	**Invert Level**	**Cover Level**	**Distance**	**Fall**
S1	8.300	9.150	10,000	1-33
S2	8.600	9.850	12,800	1-40
S3	8.900	9.850	9,300	1-31
S4	8.900	9.850	6,600	1-11
Foul Water Drainage				
Chamber Name	**Invert Level**	**Cover Level**	**Distance**	**Fall**
F1	7.800	8.500	-	
F2	8.100	9.000	14,000	1-46
F3	8.500	9.850	14,100	1-47
F4	8.700	9.850	12,000	1-60
F5	8.750	9.850	2,300	1-46
F6	8.700	9.850	21,000	1-35



Existing Drainage Plan

Proposed Drainage Plan

DRAINAGE

General arrangement

Provide separate foul and surface-water networks within the plot. Foul drainage shall bypass attenuation. Roof water shall discharge through AT1 and FC1 before joining the private combined sewer at F2, discharging onwards via F1. Verify receiving-sewer levels, condition, capacity and connection rights before construction.

Above ground

Provide nominal 100mm soil discharge stacks with appliance branches, traps and cleaning points complying with Approved Document H. Size wastes for their appliance discharge, length and ventilation requirements. Open ventilation terminals shall finish at least 900mm above openings within 3m, with unrestricted ventilating covers. Size gutters and downpipes for their effective roof catchments.

Below ground

Provide proprietary 110mm outside-diameter plastic drainage pipes and compatible fittings, increasing diameters where hydraulic calculations require. Lay to verified gradients on suitable granular bedding and surround, compacted to manufacturer's instructions. Provide engineered protection where cover or vehicle loading requires it. Coordinate wall penetrations, movement allowance, structural support and trench excavations with the foundation design.

Inspection chambers

Provide accessible chambers at junctions and changes of direction, gradient or diameter. Use 450mm chambers where appropriate to depth and maintenance requirements; deeper installations require suitable restricted access or manholes. Covers shall suit their loading. Retain access for rodding, inspection and cleaning.

All chamber cover and invert levels shall reference a verified survey datum; identify upstream and downstream connections and show flow directions on plan.

Roof-water attenuation AT1

Reserve an indicative geocellular tank envelope of 6000 × 4500 × 800mm, giving 21.60m³ gross volume** and approximately **20.52m³ nominal storage at 95% voids. This excludes bedding, lining, excavation and cover.

The allowance assumes a 186m² roof catchment, increased by 10% to 204.6m². An illustrative 100mm rainfall depth produces 20.46m³ without discharge credit. This is a preliminary volume check, not a verified design-storm calculation.

Confirm actual roof catchments, site-specific rainfall, critical durations, climate-change allowances, live storage and operating levels before construction. Assess 1-in-30-year and 1-in-100-year performance, downstream surcharge and blocked-outfall conditions. Storage below the outlet or above maximum operating level shall not count towards required live capacity.

Provide impermeable lining, protective geotextile, sealed penetrations, ventilation, upstream silt interception and maintenance access. Heavy clay was observed; allow no infiltration. Design for cover, vehicle loading, groundwater and flotation, protecting foundations, services and retained-tree rooting areas.

Flow-control chamber FC1

Provide an accessible proprietary vortex controller or equivalent engineered device limiting surface-water discharge to a proposed maximum **5.0l/s** across the design operating range. Obtain acceptance of the discharge rate and combined-sewer connection. Select using the verified head/discharge curve, with blockage protection and cleaning access. No unrestricted bypass is permitted. Any non-return valve is separate; account for outfall closure hydraulically.

Permeable paving

Provide a proprietary permeable-sett system with open-graded joints, bedding and storage sub-base. On non-infiltrating clay, provide a lined, underdrained pavement with calculated storage and a positive outlet. Exclude paving from AT1 only where independently managed. Where pavement drainage shares AT1 or FC1, include its runoff and storage in the combined hydraulic assessment.

Exceedance and maintenance

Grade surfaces away from buildings and prevent uncontrolled runoff onto neighbouring land or the highway. Protect safe access routes. Inspect and test before concealment; clean and commission before occupation. The dwelling owner shall inspect gullies quarterly, flow controls six-monthly and tank access annually, and after significant storms. Remove sediment and retain operating instructions and maintenance records.

Address	**The Old Vicorage, Frizington, Curmbria, CA26 3SU**		
Project	**Proposed Single Detached Dwelling Proposed & Existing Drainage Plans**		
	TOV-BM-007	**Rev**	**-**
Scale	**1/500 & 150**	**Date**	**10th Oct 2026**
Client	**Mr & Mrs Macleod**		**Paper Size A3**