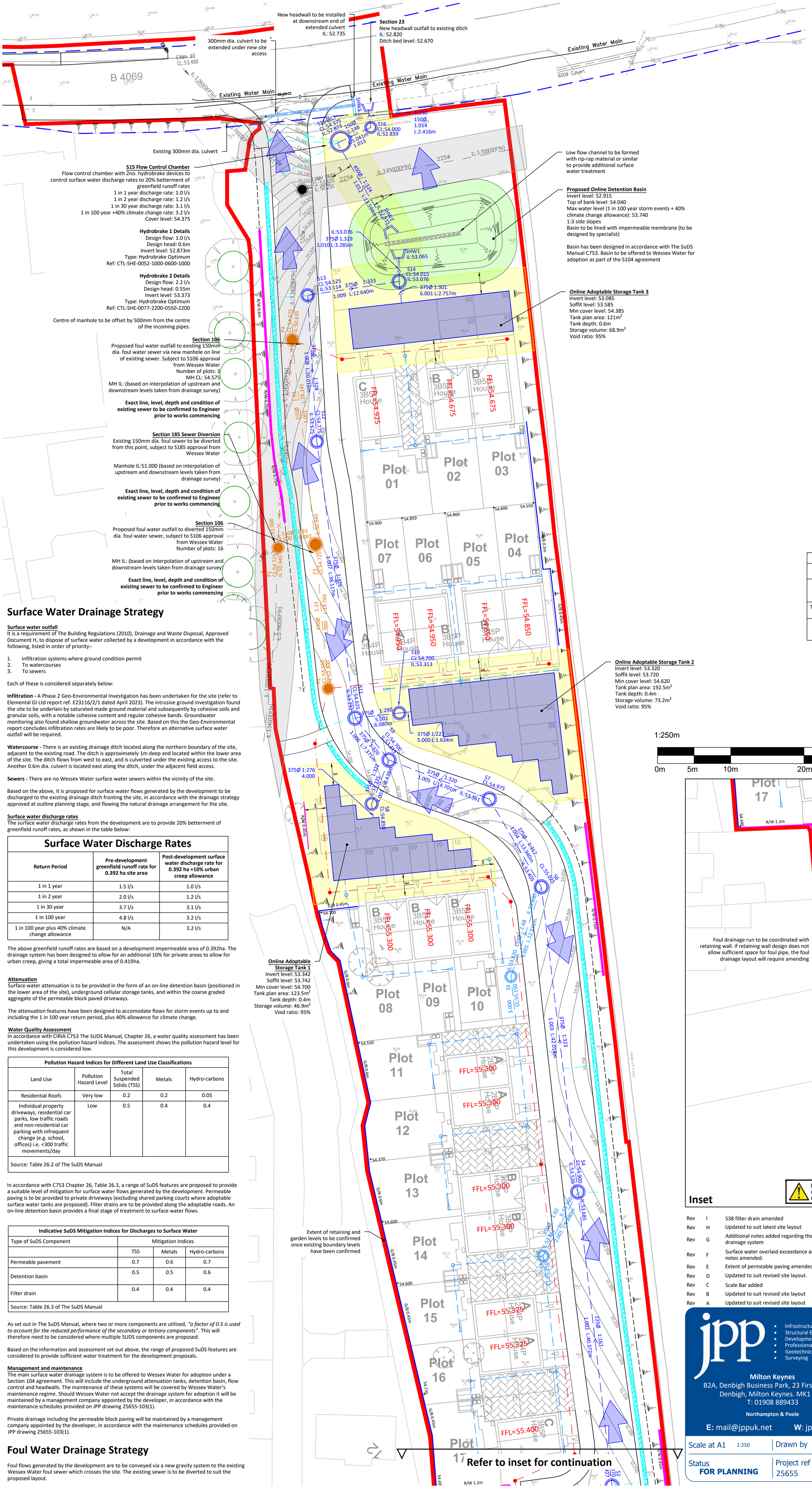

General notes

1. All dimensions are in meters unless otherwise stated.
2. All levels are in meters.
3. This drawing is to be read in conjunction with all relevant Engineers and Architect's drawings, Specifications, Reports and Engineering Details.
4. Do not scale from this drawing.

Drawing key

- Application Site Boundary
- Abandoned Foul Sewer
- Adoptable Surface Water Sewer
- Adoptable Foul Water Sewer
- Adoptable Headwall
- Private Surface Water Drainage Run with 450Ø inspection chamber. 600mmØ inspection chamber required for 225mmØ and 300mmØ pipework
- Private Rodding Eye
- Private Foul Water Drainage Run with 450Ø inspection chamber
- S38 Filter Drain
- S38 Gully and Connection
- Permeable Paving (lined with impermeable membrane, course graded aggregate stone layer to be 0.6m min thickness to provide surface water attenuation)
- Surface water attenuation tank
- S104 Easement
- Detention Basin Extents
- Banking
- 29.200 Road Contours
- FFL=29.250 Finished Floor Levels (+/- 0.5m subject to detailed design)
- R/W 0.75m Indicative Retaining Wall
- G/B 0.3m Indicative Gravel Board
- +54.700 Proposed Ground Level
- ×54.02 Existing Ground Level
- Surface Water Overlaid Exceedance Arrows

Existing Drainage key

- EXMH 0602 225ø CL: 53.820 IL: 50.250 Existing Foul Water Sewer
- Existing Culvert
- Existing Water Main
- Existing Drainage Easement

Surface Water Drainage Strategy

Surface water outfall
It is a requirement of The Building Regulations (2010), Drainage and Waste Disposal, Approved Document H, to dispose of surface water collected by a development in accordance with the following, listed in order of priority:-

1. Infiltration systems where ground condition permit
2. To watercourses
3. To sewers

Each of these is considered separately below:

Infiltration - A Phase 2 Geo-Environmental Investigation has been undertaken for the site (refer to Elemental GI Ltd report ref. E23116/2/1 dated April 2023). The intrusive ground investigation found the site to be underlain by saturated made ground material and subsequently by cohesive soils and granular soils, with a notable cohesive content and regular cohesive bands. Groundwater monitoring also found shallow groundwater across the site. Based on this the Geo-Environmental report concludes infiltration rates are likely to be poor. Therefore an alternative surface water outfall will be required.

Watercourse - There is an existing drainage ditch located along the northern boundary of the site, adjacent to the existing road. The ditch is approximately 1m deep and located within the lower area of the site. The ditch flows from west to east, and is culverted under the existing access to the site. Another 0.6m dia. culvert is located east along the ditch, under the adjacent field access.

Sewers - There are no Wessex Water surface water sewers within the vicinity of the site.

Based on the above, it is proposed for surface water flows generated by the development to be discharged to the existing drainage ditch fronting the site, in accordance with the drainage strategy approved at outline planning stage, and flowing the natural drainage arrangement for the site.

Surface water discharge rates
The surface water discharge rates from the development are to provide 20% betterment of greenfield runoff rates, as shown in the table below:

Surface Water Discharge Rates

Return Period	Pre-development greenfield runoff rate for 0.392 ha site area	Post-development surface water discharge rate for 0.392 ha +10% urban creep allowance
1 in 1 year	1.5 l/s	1.0 l/s
1 in 2 year	2.0 l/s	1.2 l/s
1 in 30 year	3.7 l/s	3.1 l/s
1 in 100 year	4.8 l/s	3.2 l/s
1 in 100 year plus 40% climate change allowance	N/A	3.2 l/s

The above greenfield runoff rates are based on a development impermeable area of 0.392ha. The drainage system has been designed to allow for an additional 10% for private areas to allow for urban creep, giving a total impermeable area of 0.419ha.

Attenuation
Surface water attenuation is to be provided in the form of an on-line detention basin (positioned in the lower area of the site), underground cellular storage tanks, and within the coarse graded aggregate of the permeable block paved driveways.

The attenuation features have been designed to accomodate flows for storm events up to and including the 1 in 100 year return period, plus 40% allowance for climate change.

Water Quality Assessment
In accordance with CIRIA C753 The SUDS Manual, Chapter 26, a water quality assessment has been undertaken using the pollution hazard indices. The assessment shows the pollution hazard level for this development is considered low.

Pollution Hazard Indices for Different Land Use Classifications

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydro-carbons
Residential Roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change (e.g. school, offices) i.e. <300 traffic movements/day	Low	0.5	0.4	0.4
Source: Table 26.2 of The SuDS Manual				

In accordance with C753 Chapter 26, Table 26.3, a range of SuDS features are proposed to provide a suitable level of mitigation for surface water flows generated by the development. Permeable paving is to be provided to private driveways (excluding shared parking courts where adoptable surface water tanks are proposed). Filter drains are to be provided along the adoptable roads. An on-line detention basin provides a final stage of treatment to surface water flows.

Indicative SuDS Mitigation Indices for Discharges to Surface Water

Type of SuDS Component	Mitigation Indices		
	TSS	Metals	Hydro-carbons
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Filter drain	0.4	0.4	0.4
Source: Table 26.3 of The SuDS Manual			

As set out in The SuDS Manual, where two or more components are utilised, *"a factor of 0.5 is used to account for the reduced performance of the secondary or tertiary components"*. This will therefore need to be considered where multiple SUDS components are proposed.

Based on the information and assessment set out above, the range of proposed SuDS features are considered to provide sufficient water treatment for the development proposals.

Management and maintenance
The main surface water drainage system is to be offered to Wessex Water for adoption under a Section 104 agreement. This will include the underground attenuation tanks, detention basin, flow control and headwalls. The maintenance of these systems will be covered by Wessex Water's maintenance regime. Should Wessex Water not accept the drainage system for adoption it will be maintained by a management company appointed by the developer, in accordance with the maintenance schedules provided on JPP drawing 25655-103(1).

Private drainage including the permeable block paving will be maintained by a management company appointed by the developer, in accordance with the maintenance schedules provided on JPP drawing 25655-103(1).

Foul Water Drainage Strategy

Foul flows generated by the development are to be conveyed via a new gravity system to the existing Wessex Water foul sewer which crosses the site. The existing sewer is to be diverted to suit the proposed layout.

1:250m
0m 5m 10m 20m 50m

This drawing has been based/developed using the following external drawings

Type	Company	Drawing date	Drawing title	Date received	Rev
Site Layout	James Garner Architect	17.07.2025	22072 0102-P15 Proposed Site Layout	22.07.2025	P15
Topographical survey	Utility Mapping	10.10.2023	UM23-2208-MIN Sutton Benger-Topo	13.11.2023	-
OS Map	James Garner Architect		22072 001-P05 Feasibility Site Layout_Model Space	04.10.2023	-

Drawing is not to be used for construction until status is CONSTRUCTION

Rev	I	S38 filter drain amended	By EM	Checked LC	13.08.2025
Rev	H	Updated to suit latest site layout	By AD	Checked LC	07.08.2025
Rev	G	Additional notes added regarding the maintenance responsibilities for the drainage system	By EM	Checked LC	03.04.2025
Rev	F	Surface water overlaid exceedance arrows added. FFLs amended. Basin notes amended.	By EM	Checked LC	05.11.2024
Rev	E	Extent of permeable paving amended.	By AD	Checked LC	09.10.2024
Rev	D	Updated to suit revised site layout.	By GM	Checked LC	28.05.2024
Rev	C	Scale Bar added	By AD	Checked SH	04.01.2024
Rev	B	Updated to suit revised site layout	By AD	Checked LC	24.11.2023
Rev	A	Updated to suit revised site layout	By AD	Checked LC	20.11.2023

jpp
- Infrastructure Design
- Structural Engineering
- Development Planning
- Professional Advice
- Geotechnical & Environmental
- Surveying

Milton Keynes
B2A, Denbigh Business Park, 23 First Avenue, Denbigh, Milton Keynes. MK1 1DN
T: 01908 889433
Northampton & Poole
E: mail@jppuk.net **W:** jppuk.net

Client	Minster Property Group (Sutton Benger) Ltd & Curo Finance Limited
Project	Proposed Residential Development at Land off Main Road, Sutton Benger
Title	Preliminary Drainage Strategy

Scale at A1	1:250	Drawn by	AD	Checked by	LC	Date	October 2023
Status **FOR PLANNING**		Project ref 25655		Drawing no. 101		Revision H	