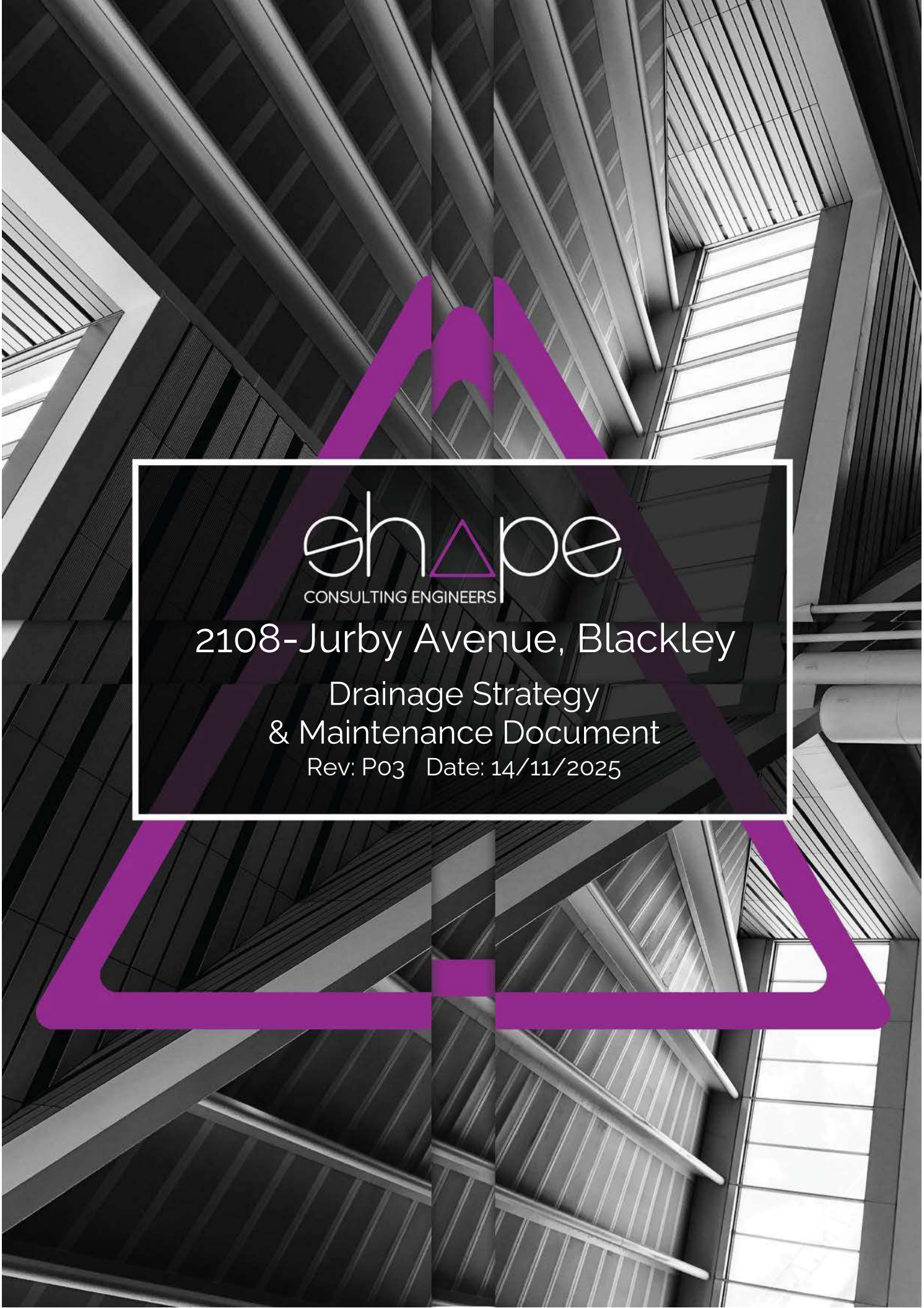


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CONSULTING ENGINEERS

2108-Jurby Avenue, Blackley

Drainage Strategy & Maintenance Document

Rev: P03 Date: 14/11/2025

1. Assessment of appropriate drainage outfall

The site has been assessed for the suitability of infiltration type surface water drainage systems in accordance with BRE Digest 365, as recorded in the Phase 1&2 Geo-environmental Report prepared by Caulmert Limited. One infiltration test was conducted and failed, after an initial drop, with the water remaining at the same level after one hour and twenty minutes on test. Infiltration drainage via soakaways is therefore not considered suitable for the proposed development.

The site has been assessed for the viability of a surface water connection to an existing local watercourse. There is no local watercourse within the vicinity of the site therefore connection into a watercourse is not viable.

The site is greenfield but is already served by a positive sewer network, located within the sites existing access. Copies of the United Utilities (UU) sewer records have been obtained but were found to be inaccurate following CCTV and drainage survey conducted by Team Drainage UK (now defunct).

The UU sewer record shows a 225mm diameter combined water sewer running from a manhole within Jurby avenue outside house no. 12 down to the southeast towards the French Barn Lane Allotments. The CCTV and drainage survey however found the line of the existing sewer to change direction at a manhole located at the back of the edging kerb at the end of Jurby Avenue, where it was then traced to run eastwards towards Plant Hill Park.

Additionally, a sewer connecting from the west into the manhole at the end of Jurby Avenue (not shown on the UU sewer records) was traced during the CCTV and drainage survey. This sewer, when investigated was found to be dry and appeared to be in an abandoned condition and to have been private. This conclusion is supported by historic evidence attained from a 1963/64 map extract which illustrates that the existing sewer must have served the former terrace housing development that resided there but has since been demolished.

Furthermore, a desktop assessment of both the pipe size and cover levels of the UU apparatus to the west of this sewer demonstrated that the sewer cannot have been served by this infrastructure. Contact was made with UU to inform them of these findings, to which UU have agreed their validity. This section of sewer will therefore be grubbed out to facilitate the developments construction.

Considering the size of development proposed and its associated impermeable area, this live combined water sewer, which runs from the end of Jurby Avenue towards the east, is considered to be a suitable outfall for both the foul water effluent and surface water flow generated on site. It is therefore determined that drainage connections, for both foul and surface water from the proposed development should be routed to this sewer.

A S106 application will be undertaken in accordance with the Water Industry Act to United Utilities to establish suitable sewer connection arrangements.

2. Proposed drainage strategy

Details of the proposed drainage are shown on the following drawing:

2108-SCE-00-00-DR-C-0001-T03 – Drainage Strategy

The main sewerage for the development will be kept private with foul and surface water connecting to the existing combined sewer network via one proposed combined sewer gravity connection on-site. No foul and surface water drainage shall be offered for adoption, with all drainage owned and maintained by the client or management company. United Utilities and the Lead Local Flood Authority are to be consulted to agree a 5.0 l/s discharge rate from the onsite surface water drainage to the public combined water sewer.

The surface water sewer system has been designed in accordance with Sewers for Adoption 8th Edition and therefore includes the design for attenuation of flows for up to a 1 in 100 year + 40% climate change storm events without flooding. The outflow to the public sewer will be controlled by a hydrobrake device installed within the final downstream manhole.

Attenuation has been provided in the form of cellular storage. This attenuates up to and including the 1 in 100 year + 40% CC return period for the sites impermeable area of 0.156 ha. The hydrobrake has been designed to restrict surface water flows to a discharge rate of 5.0 l/s. Details of the hydrobrake can be found in the Causeway Flow calculations and within the hydro-international details.

It is to be agreed with united utilities that the foul drainage will discharge with an assumed free discharge to the existing foul sewer surrounding the site.

A proposed maintenance plan shown in Table 1 (overleaf) breaks down the maintenance responsibility and regimes of the other various assets.

3. Drainage management & maintenance

Table 1: Proposed Maintenance (in accordance with best practice and CIRIA C753 – The SuDS Manual).

Drainage Asset	Responsible Organization	Maintenance Work	Frequency
Pipework / Manholes	Private Ownership / Management Company	Inspect pipe work and clear blockages	Annually or after severe storms.
		Inspect manholes and clear blockages	
		Repair any defects in network	
Hydro brake	Management Company	Inspect structure and remove any debris/litter on structure	Six monthly or after severe storms.
Catchpits prior to attenuation	Management Company	Inspect structure and remove any debris/litter on structure	Three monthly or after severe storms.
Cellular Storage	Management Company	Inspect structure and remove any debris/litter on structure	Annually or after severe storms.
Gulleys & ACO Channel Drains	Management Company	Inspect structure and remove any debris/litter on structure.	Annually or after severe storms

*Repair any defects in the drainage network and replace any malfunctioning parts or structures as required. This is the responsibility of the appointed management company.