

PR/PWAH/45117-001-Issue 1

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Jaguar Estates
Thurnscoe Bridge Lane, Thurnscoe.
(Phase 2)
Drainage Strategy Statement

Existing site

The site is located off Thurnscoe Bridge Lane, Thurnscoe, centred on grid reference 445647, 404904.

The site is bounded by Thurnscoe Bridge Lane to the West, Phase 1 development to the North and a disused railway to the East and South. The site is currently unused scrub land.

The site slopes from north to South, ranging from approximately 43.7m AoD to 38.5m AoD.

The site is currently undeveloped, except for the new sewerage mentioned below.

Proposed development

Proposals are to develop the site for residential use, with 22 plots on the current layout.

Existing drainage

Plans show a 150 mm surface water sewer within the Western boundary and an existing flow control chamber and tank sewer, along with a foul sewage pumping station on the northern boundary. These serve Phase 1, to the North. It is understood all these are nearing adoption under a Section 104 agreement with Yorkshire water.

It is understood that the surface water sewer discharges to a watercourse, to the West of the site.

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Ground conditions

Ground investigation was undertaken in 2012 by Eastwood and Partners. The following is an extract from report 35077-001 – Phase 1 desk study, which covered Phase 1, to the North. The Geological Survey maps, Sheet 87 (1:50,000 scale) and 275 SE (1:10,560 scale), shows the site to be underlain by Carboniferous strata, comprising sandstones, mudstones and shale of the Middle Coal Measures.

SuDS options

SuDS methods are considered in line with the hierarchy proposed in the SuDS Manual (CIRIA C753). The principal methods and their suitability for the site are noted in the accompanying SuDS checklist.

Based on soakaway testing undertaken in 2013, soakaways are not a viable option.

Other SuDS methods may be applicable and their use is summarised in the appended SuDS checklist (Appendix 2).

Surface water drainage proposals

See drawing 45117/SK1 rev D at appendix 1.

Surface water discharge for Phase 2 shall be to the 150 mm surface water sewer located inside the Western boundary of the site.

Surface water discharge should be attenuated to the practical minimum of 3.0l/s, unless additional flows can be agreed with Yorkshire Water.

Attenuation storage for rainfall events up to the 1 in 100 year plus 30% climate change can be provided in an open basin, on the southern boundary.

Assuming a discharge rate of 3.0 l/s, the storage volume for the 1 in 100 year plus 30% climate change event will be approximately 200 m³.

As flows in the existing 150mm surface water sewer are entirely from Phase 1 and are attenuated upstream to 5.0 l/s, the new flow control chamber could be constructed on

line, and the existing 5.0 l/s given free passage through the new flow control device. The new device would therefore be sized to allow 8.0 l/s total discharge.

Foul drainage proposals

Foul water should drain to the existing inlet pipework to the foul pumping station on the northern boundary. Further investigation will be required of the pump capacity, and additional emergency storage will be required, but this can be accommodated within the existing easements and sterile land inside the Northern boundary. A gravity outfall can be achieved, based on the minimum finished floor levels shown on drawing 45117/SK1 Rev D.

Appendix

1. Drawing 45117/SK1 Rev D
2. Eastwood and Partners – SuDS Checklist
3. Yorkshire Water sewer record drawing

Appendix 1

Appendix 2

Appendix 3