



KEY:

Surface Water Disposal Hierarchy

To Ground Via Infiltration
 Not appropriate due to ground conditions and gradient increasing chance of seepage onto third party land.
 Refer to Rogers Geotechnical Services Ltd Soakaway Report dated 21 July 2015.

To Watercourse
 Clough Beck located approximately 130m to the south of the site. Kirklees Council to agree location of outfall and restricted discharge rate assumed as 5.0 litres per second.
 An existing drain from Scitehouse Meadows connects to Clough Beck and could be used as surface water outfall point.
 The Developer is to secure the rights to construct surface water sewers to the outfall location by private agreement or Formal Sewer Requisition.

To Sewer
 As Above.

Surface Water Attenuation Size using Microdrainage Source Control Quick Storage Estimate

Impermeable Area	- 3116m ²
Return Period	- 1 in 100 years
Rainfall M5-60(mm)	- 19.000
Ration R	- 0.323
Discharge Rate	- 3.0 litres per second
Climate Change	- 30%
Safety Factor	- 2.0
Approximate Storage Required = 160 to 230m ³	

Surface Water Storage Provided by concrete pipes manholes

1.2 x 1.80m box culvert - 63.5m long
 Storage = 2.16m² x 63.5m = 137.16m³

2.4m Ø Concrete manholes - 5 nr
 Storage = (4.52m² x 1.5m) x 5 = 33.90m³

Approximate Overall Surface Water Storage
 137.16 + 33.90 = 171.06m³

- Drainage Key:**
- Proposed surface water sewer to be adopted by Yorkshire Water
 - Proposed surface water lateral to be adopted by Yorkshire Water
 - Proposed foul water sewer to be adopted by Yorkshire Water
 - Proposed foul water lateral to be adopted by Yorkshire Water
 - Surface Water Exceedance Flow
 - Proposed Easement minimum 3m each side of adopted sewer Minimum overall width 6.0m

The proposed sewers indicated on the drawing are for planning purposes only and have been prepared to confirm how the foul and surface water will be drained and discharged off site.

The proposed sewers indicated on the drawing are preliminary only and will be subject to detailed design and Section 104 Application with Yorkshire Water

- Existing Yorkshire Water surface water sewer
- Existing Yorkshire Water foul water sewer
- Existing Yorkshire Water combined water sewer
- Existing watercourse (Clough Beck)

Foul Water Disposal Hierarchy

Yorkshire Water preplanning enquiry referenced R010116 dated 6 July 2015.

Foul water domestic waste should discharge to the 375mm diameter public combined sewer recorded in Halifax Road at a point to the North of the site.

A Gravity connection to the combined sewer in Halifax Road cannot be achieved without extensive ground works (lifting the site) on site.

Existing 225mm diameter Foul Sewer Runs to the South of the site and is connected with an existing drain from Scitehouse Meadows.

The new foul water drainage system is to connect into the existing foul water drains from Scitehouse Meadows.

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Client	Swift Properties	Project Title	Residential Development Halifax Road, Hightown	Drawing Title	Drainage Proposals	Scale	1:250	Drawn By	IE
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						Drawing Number	8731-002	Rev	C