

This drawing is subject to Planning and Building Regulations approval.

Drainage strategy - surface water

- Ground conditions at the site are reworked bedrock of coal measures (sandstone, siltstone and mudstone), generally recovered as clay, unsuitable for soakaways.
- The surface water drainage infrastructure at the site was designed and constructed to accommodate the 1 in 30 year storm, with an off site attenuation pond controlling onward flows to the downstream Owlre Dyke to the 1 in 1 year greenfield discharge rate of 120 l/s as agreed with the Environment Agency at the time.
- The existing surface water sewer was designed for a total of 37,067sqm of impermeable surfacing on this plot, split between two connection points: one to the West of the site in the access, the second on the Northern boundary. Areas assumed to connect were 20,592sqm to the West and 16,475sqm to the North, and the modelled peak flows in the 1 in 1 year, 1 in 30 year and 1 in 100 year storm events for this plot were calculated to be:-
 - Western connection 279 l/s (1 year) 624 l/s (30 year) 724 l/s (100 year)
 - Northern connection 240 l/s (1 year) 587 l/s (30 year) 761 l/s (100 year)In order to achieve the required 30% reduction in flows, peak flow rates to the sewer have been adopted of:-
 - Western connection 195 l/s (1 year) 437 l/s (30 year) 507 l/s (100 year)
 - Northern connection 168 l/s (1 year) 411 l/s (30 year) 533 l/s (100 year)
- The proposed design has a total of 35,330sqm of impermeable surfacing. In order to balance the areas connecting to each sewer connection the drainage areas are to be split as follows:-
 - Western connection - roof and car parking areas for Unit 1, totalling 19,190sqm
 - Northern connection - service yard for Unit 1, roof and yard for units 2-5, totalling 16,140sqm
- Roof areas and yard / car park areas are to be served by separate drainage systems, with service yards and car park drainage being equipped with fuel separators where swales are not provided.
- In order to reduce peak flows to the required levels, a mix of swales and below ground attenuation is proposed, with sizes and volumes to be determined through detail design.

Drainage strategy - foul water

- The foul water drainage will connect direct to the public sewers within the Business Park, with two connection points, one to the North and one to the West.
- Unit 1 will connect to the connection to the West, with Units 2-5 utilising the connection to the North.

-	Issued for planning	AG	AG	04/15
Rev	Description	Drm	Vfd	Date
In accordance with CDM Regulations 7, 11 and 18, any significant risks (as defined in the Approved Code of Practice paragraph 133) relating to the design features shown on this drawing have been identified and are annotated thus: 				
☒ No significant risks have been identified.				
☐ Significant risks have been identified - refer to notes on drawing for information on residual risks and any control measures to be employed.				
Refer to the current Designer's Risk Assessment sheets for further details.				
Designer's Signature AG		Date 04/15		

Drawing Status	PLANNING
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Project	Proposed Industrial Development, Ashroyd Business Park, Plot 2, Barnsley.		
Client	Ackroyd & Abbott Ltd		
Title	Drainage Strategy		
Drawn AG	Date Apr 2015	Scale 1:500	@ A1
Discipline Civils	Project Number 9018	Drawing Number (D)1001	Revision -