

Waterygate
Syerscote Lane
Wigginton
Staffs
B79 9ES

16th March 2016

Dear Mr Allinson,

Re. 14/00516/OUTMEI - Construction of up to 1000 homes, primary school, local centre, public open space, landscaping and associated infrastructure, Arkall Farm, Ashby Road, Tamworth, Staffordshire

Thank you for your letter of 5th February 2016, inviting me to comment on the above development. Whilst I appreciate that the consultation period has now ended, I wish to register my strong objection to the planning application because I have serious concerns over the Developer's proposals for surface water management.

I live at Waterygate Cottage on Syerscote Lane in a location that is subject to surface water flooding. I am concerned that, should the development go ahead as proposed, we would be subject to more frequent and more extreme surface water flooding events that would affect access to my home, prevent our sewerage system from working effectively, and may cause damage to my property.

I attach some photographs to illustrate some recent effects of surface water flooding on Syerscote Lane. The photographs were taken from Waterygate, on Wednesday 9th March 2016 after an unremarkable rainfall event.

My objection relates to the proposed Surface Water Management Strategy for the development, which is based on the Flood Risk Assessment (FRA) provided by PBA (May 2014). There appear to be several serious shortcomings with the FRA, which means that the proposed Surface Water Management Strategy does not adequately address the effects of the development and would result in more frequent and more serious surface water flooding affecting land, access and property on Syerscote Lane. The FRA report:

1. uses out of date rainfall data to calculate the required storage volume

PBA have used FSR rainfall. FEH rainfall is more up to date and normally produces a greater depth of rainfall than FSR for any given return period/duration event.

2. fails to manage the additional volume of runoff that will be generated by the development proposals

PBA has stated that they have limited runoff to the greenfield 1 in 100 yr rate, which is different to what the EA guidance normally recommends. Limiting to the 1 in 100 yr greenfield rate will control the max rate but not the overall volume of runoff generated; developers following EA guidance usually limit the overall discharge rate to the 1 in 2 year

greenfield rate (QBAR) or 2l/s/ha, whichever is greater. In addition, PBA state that they have an agreement to do this (i.e. discharge at the higher 1 in 100yr greenfield rate) but I cannot find any evidence of this in the FRA.

3. does not consider the contribution from off-site sources of surface water

Off-site sources could take up some of the storage volume meaning that there is less available for managing runoff from the new development. The FRA does not account for off-site sources of water, such as the approved development of 165 houses at Browns Lane, which drains into the 'west ditch' affected by the proposed Arkall Farm development.

4. underestimates the volume of surface water storage required

When the required surface water storage volume is re-calculated using the same software as PBA, but updated with FEH rainfall, the correct impermeable areas and corrected permissible discharge rates that are based on QBAR to allow for the additional volume generated, the average storage volume required is 24025 m³, i.e. **PBA have underestimated the average required storage volume by approximately 1000 m³**. (Calculations are attached).

5. does not consider what happens to the road drainage in an event more extreme than 1 in 30 years

it is unlikely that the road drainage system will have a capacity any greater than 1 in 30yrs so the Developer needs to demonstrate that exceedence flows between 1 in 30 yrs and 1 in 100 yr + climate change will be safely conveyed into the storage areas and not leave the site in an uncontrolled manner.

They also need to consider exceedence flows for events greater than 1 in 100yr + climate change. The overland flow routes for these events need to be no different to existing and surface flows on site should be managed in a way that is safe for pedestrians and traffic.

Yours sincerely,

Hannah Kirkham MSc, MCIWEM C.WEM, CSci
Waterygate, Syerscote Lane, Wigginton B79 9ES

Enclosed:

1. EA Surface Water Flood Map showing location of photographs
2. Photographs of Flooding on Syerscote Lane taken 9/3/16,
3. MicroDrainage Quick Storage Estimate calculations

Attachment 1: EA Risk of Flooding from Surface Water Map

The screenshot shows the Environment Agency's 'Risk of Flooding from Surface Water' interactive map. The browser address bar shows the URL: http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?lang=_e&topic=ufmfs. The page title is 'Risk of Flooding from Surface Water'. Below the title, there is a search bar with the text 'Enter a postcode or place name:' and a 'Go' button. A dropdown menu is set to 'Risk of Flooding from Surface Water'. The map itself is titled 'Map of B79 9ES at scale 1:20,000'. It shows a river network with shaded areas indicating risk levels. A legend on the left side of the map lists the risk levels: High (dark blue), Medium (medium blue), Low (light blue), and Very Low (white). There are also checkboxes for 'Other national environmental organisations', 'Natural Resources Wales Area of responsibility', and 'Scottish Environment Protection Agency Area of responsibility'. The map includes several red annotations: 'Location of photographs' pointing to a specific area, 'Browns Lane development (165 houses)' pointing to a red-outlined area, and 'Approx. Arkall development site (proposed)' pointing to another red-outlined area. The map also shows various landmarks and farms, such as Wigginton Fields Farm, Sycroft Manor, and Watergate Cottage. The bottom of the page shows the Environment Agency logo and a copyright notice: 'Customers in Wales - From 1 April 2013 Natural Resources Wales (NRW) will take over the responsibilities of the Environment Agency in Wales. © Crown Copyright. Ordnance Survey. 2014. © Ordnance Survey. All rights reserved. Environment Agency. 100076100'.

Attachment 2: Surface Water Flooding on Syerscote Lane, at Waterygate (9/3/16). From south to north:





Attachment 3: MicroDrainage Quick Storage Estimate Re-calculations

'West Catchment':

The screenshot shows the 'Quick Storage Estimate' dialog box with the 'Variables' tab selected. The interface includes a sidebar with navigation options: Variables, Results, Design, Overview 2D, Overview 3D, and Vt. The main area contains the following input fields and values:

Parameter	Value
FEH Rainfall	FEH Rainfall
Return Period (years)	100
Site Location	GB 421400 306650 SK 21400 0665
Cv (Summer)	0.750
Cv (Winter)	0.850
Impervious Area (ha)	6.400
Maximum Allowable Discharge (l/s)	24.96
C (1km)	-0.029
D3 (1km)	0.264
D1 (1km)	0.368
E (1km)	0.314
D2 (1km)	0.274
F (1km)	2.415
Infiltration Coefficient (m/hr)	0.00000
Safety Factor	2.0
Climate Change (%)	30

Buttons at the bottom: Analyse, OK, Cancel, Help.

Footer text: Enter Maximum Allowable Discharge between 0.0 and 999999.0

The screenshot shows the 'Quick Storage Estimate' dialog box with the 'Results' tab selected. The sidebar navigation options are the same as in the previous screenshot. The main area displays the following results:

Global Variables require approximate storage of between 4938 m³ and 6042 m³.

These values are estimates only and should not be used for design purposes.

Buttons at the bottom: Analyse, OK, Cancel, Help.

Footer text: Enter Maximum Allowable Discharge between 0.0 and 999999.0

'East Catchment':

The screenshot shows the 'Quick Storage Estimate' dialog box with the 'Variables' tab selected. The interface includes a sidebar with navigation options: Variables, Results, Design, Overview 2D, Overview 3D, and Vt. The main area contains the following fields and values:

Parameter	Value
FEH Rainfall	FEH Rainfall
Return Period (years)	100
Site Location	GB 421400 306650 SK 21400 0665
Cv (Summer)	0.750
Cv (Winter)	0.850
Impemeable Area (ha)	21.600
Maximum Allowable Discharge (l/s)	84.2
C (1km)	-0.029
D3 (1km)	0.264
D1 (1km)	0.368
E (1km)	0.314
D2 (1km)	0.274
F (1km)	2.415
Infiltration Coefficient (m/hr)	0.00000
Safety Factor	2.0
Climate Change (%)	30

Buttons at the bottom: Analyse, OK, Cancel, Help.

Footer text: Enter Area between 0.000 and 999.999

The screenshot shows the 'Quick Storage Estimate' dialog box with the 'Results' tab selected. The main area displays the following text:

Global Variables require approximate storage of between 16673 m³ and 20397 m³.

These values are estimates only and should not be used for design purposes.

Buttons at the bottom: Analyse, OK, Cancel, Help.

Footer text: Enter Area between 0.000 and 999.999