

Town and Country Planning Act 1990

Local Planning Authority Reference Number: 24/04176/FUL

Appeal by: Boningale Developments Ltd

Site at: Land to the East of Tilstock Road, Tilstock

Document: Flood Risk and Surface Water Drainage Statement on Behalf of the Appellant

Prepared by Enzygo Ltd, 16th May 2025

Drainage and Flood Risk

Final

Contents

1.	Background	Page 3
2.	Drainage Strategy	Page 5
3.	Flood Risk Betterment	Page 7
4.	Statutory Consultee Objections/Observations	Page 8
5.	Concerns Raised by Third Parties	Page 9
6.	Summary and Conclusions	Page 12

1. Background

- 1.1 The proposed site in discussion at this appeal, currently has no objections on flood risk and drainage grounds from the statutory consultees, Environment Agency, Severn Trent Water and the LLFA **[CD 16.1]**.
- 1.2 Severn Trent Water were consulted separately by the applicant's previous drainage consultant, with the resulting confirmation that Severn Trent Water would be satisfied with a foul connection to the separated foul system, and a surface water connection at 17.6 l/s **[CD 8.2B]**.
- 1.3 Eastwoods Consulting Engineers produced the following reports during the application period for a proposed residential development, at Tilstock Road, Tilstock:
- Flood Risk Assessment (FRA) (**CD 8.1A and CD.8.1B**) (Document Reference: 48888-ECE-XX-XX-RP-C-0001, dated 25th October 2024),
 - Drainage Assessment **[CD 8.2 and CD 8.2B]** was undertaken to consider suitable drainage locations for foul and surface water for the Site. This document contains the Causeway Flow Drainage Calculations.
 - Exceedance Routing **[CD 8.3]**,
 - Drainage Layout **[CD 8.4]**,
 - SuDS Applicability Map Location **[CD 8.5]**,
 - Surface water management plan (pro-forma) was completed and submitted **[CD 8.6]**.
 - Typical Basin and Retention Pond Cross Section **[CD 8.7]**,
 - Levels Strategy **[CD 8.8, revised in CD 8.15 in response to LLFA comments]**,
 - Drainage drawings including Drainage Areas **[CD 8.9 revised in CD 8.16 in response to LLFA comments]**,
 - Phase I Site Investigation **[Part 1 CD 8.11 and Part 2 CD 8.10, with supplementary Envirocheck data in CD 8.12]**,
 - Phase II Geotechnical and Geo-environmental Site Investigation Report including Exploratory Hole Location Plan **[CD 8.13]** and the main report **[CD 8.14]** which also demonstrated low infiltration test results.
- 1.4 On the 3rd December 2024, the LLFA responded to the planning officer **[CD 16.1]** not raising any objections to the drainage proposals but provided guidance on required information that could form the basis of proposed planning conditions.
- 1.5 The application was appealed by Boningale Developments Ltd on the 14th March 2025, the reason for the appeal being that the Local Planning Authority failed to give notice of its decision within the appropriate period (usually 8 weeks) on an application for permission or approval.
- 1.6 The purpose of this statement responds to third-party objections, to assist with an explanation as to why the proposed development complies with all national and local policies on drainage, demonstrating that the strategy is appropriate and should be allowed subject to appropriate conditions on surface water drainage. Flood risk and drainage is not an issue at this site, and the submitted evidence provides details on the rationale behind.
- 1.7 Within this statement we explain the compliance with national and local policies of the site's surface water management strategy as outlined below.

- 1.8 During preparation of this statement, we visited the Site and are familiar with the flooding and drainage issues within the local area (in particular on Hollins Lane and Tilstock Road/Tilstock Close), having reviewed the third-party responses and worked on similar flooding issues.
- 1.9 We have been instructed as a hydrological consultant to provide expert evidence with regard to the appeal site due to the original author being unavailable to attend the appeal and answer questions from the Inspector and any third parties.
- 1.10 Our brief is to review the information on drainage provided in support of the planning application and to provide my professional opinion on whether the information meets the requirements of the Local Planning Authority, Environment Agency and Local / National Guidance and regulations such that the planning application can be suitably conditioned in accordance with current planning policy guidelines in respect of flood risk and drainage. We were also asked to respond to concerns raised about flooding and drainage matters.

2. Drainage Strategy

Site Description

- 2.1 The 4.05-hectare (ha) development is comprised of agricultural land, falling in a southerly direction.
- 2.2 A Phase I Geoenvironmental report was undertaken [CD 8.11 and 8.10] which identified that the site is underlain by glaciofluvial deposits (i.e. sand and gravel) atop Mudstone of the Lias Group. As was demonstrated in the following Phase II site investigation [CD 8.14], perched groundwater on top of the mudstone would sit within the mapped sand and gravel (as well as Clay also found in trial holes). This would create the reported waterlogging issues in local objector comments at times of extended rainfall periods during winter. It also explains mapped surface water ponding risk at the Site in Environment Agency mapping.
- 2.3 There are no known ditches or watercourses in or near the site. Current drainage likely relies on infiltration into the sub-soil and superficial deposits where conditions allow, and overland flow (exceedance) to the south where saturation exceeds the capacity of underlying soils and geology in periods of prolonged rainfall/heavy saturation of the subsoils and superficial geology.
- 2.4 The proposed residential use is classified as more vulnerable. More vulnerable uses are considered acceptable in terms of flood risk in Flood Zone 1 (low risk). Surface water flooding on site is to be controlled through a robust SuDS strategy comprised of multi-stage treatment and attenuation in a detention basin, as demonstrated by the Drainage Assessment and associated drawings and calculations [CD 8.2, 8.2B, 8.4, 8.6 and 8.16].

Surface Water Drainage Strategy

- 2.5 In accordance with requirement H3 of the Building Regulations 2010, rainwater runoff must discharge to one of the following, listed in order of priority:
- An adequate soakaway or some other adequate infiltration system: The use of infiltration-based SuDS is not considered feasible due to the ground conditions.
 - A watercourse: There are two onsite watercourses which cross the site and discharge under the railway, they would be utilised for site drainage.
 - A sewer: Not required for surface water drainage.
- 2.6 The submitted detailed drainage strategy is surface water will, via a multi-stage treatment process, be attenuated in a detention basin, discharging to the Severn Trent Water surface water sewer located to the south of the Site on Tilstock Lane. The development proposals will provide a betterment by reducing the uncontrolled surface water discharge from the site.
- 2.7 Runoff from the site will be discharged at a rate of 5 litres/second/hectare (17.61 l/s) as agreed with Severn Trent Water [CD 8.2 and 8.2B], for all storms up to the 1 in 100-year event plus an allowance of 45% for climate change.
- 2.8 In summary the surface water drainage strategy is as follows:
- The proposed development will increase the area of impermeable surfaces and therefore increase the amount of runoff if a drainage strategy is not proposed.
 - Surface water runoff from the development will be discharged to the Severn Trent Water surface water sewer to the south of the Site at an agreed rate (5 l/s/ha), which offers a

betterment to existing conditions with uncontrolled runoff across all return periods. In short this means that runoff from the site will be reduced from the current predevelopment position.

- A SuDS drainage scheme is proposed to manage excess runoff from the development, comprising a multi-stage treatment process including lined permeable paving, swales and a detention basin (potentially lined to prevent groundwater ingress), with their associated water quality benefits, and an outfall to the public surface water sewer.
- A SuDS treatment train will improve water quality. A maintenance and management plan will ensure the effectiveness of the drainage strategy during the operation phase.
- Implementation of a Construction Environmental Management Plan (CEMP) during the construction phase will manage surface water and foul drainage, thereby mitigating the potential for impacts on hydrology, flood risk, and water quality.

Surface Water Flooding

- 2.9 The mapped surface water flooding, likely created by the confirmed underlying superficial and bedrock geology **[CD 8.14]**, occurs as ponding only and would be controlled by the proposed SuDS strategy.

3 **Flood Risk Betterment**

- 3.1 The proposed development currently falls in a southerly direction, and due to the superficial ground conditions (i.e. soils and superficial clay, sand and gravels), runoff is predominantly uncontrolled overland flow, with limited infiltration, particularly during extended periods of rainfall.
- 3.2 The proposed drainage strategy [**CD 8.2, 8.2B, 8.4, 8.6 and 8.16**], proposes discharging water from the site to the Severn Trent Water surface water sewer system on Tilstock Lane, in line with the Drainage Hierarchy, resulting in a betterment to downslope properties, highways and infrastructure, as the existing uncontrolled runoff is then managed, reducing flood risk to the surrounding area.
- 3.3 Furthermore, extended public sewer mapping shows the Severn Trent Water surface water sewer discharging to an unnamed watercourse running parallel to Steel Road, ~815m south of the Site [**CD 8.17**]. This is some distance downstream of flooding issues on Hollins Lane, and downstream of any surface water sewers conveying water from the junction of Tilstock Road and Tilstock Close. Therefore, the development will not have a detrimental impact on the existing flooding issues affecting Tilstock, and betterment will be experienced by water previously flowing from the site in an uncontrolled manner being discharged to a sewer at a reduced rate for extreme events.
- 3.4 Therefore, all rainfall events from the annual flood up to the 100-year plus an allowance for climate change would be controlled to the agreed rate with Severn Trent Water, providing a demonstrable betterment from the current uncontrolled situation.
- 3.5 As per the Drainage Assessment [**CD8.2 Appendix 6**] the accepted discharge rate for the Site developable area is the same as the calculated greenfield rate (17.61 l/s or 5 l/s/ha). Therefore, it is evidently clear that discharging for all storms on the site at 5 l/s/ha will create betterment across all return periods between the 1 in 1-year and 1 in 100+45%CC event.

Table 3.1. Runoff Rates

Return Period	Greenfield runoff (l/s)	Proposed Site Runoff (l/s)	Difference (l/s)
Q_{Bar}	20.01	17.61	-2.4
Q_1	17.61	17.61	0.0
Q_{30}	35.62	17.61	-18.01
Q_{100}	43.62	17.61	-26.01
$Q_{100+45\%CC}$	63.25	17.61	-45.64

Summary

- 3.6 The October 2024 FRA [**CD 8.1A and 8.1B**] demonstrates that the proposed development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of national and local policy and guidance.
- 3.7 The drainage design measures as part of the development will provide the opportunity to introduce betterment to flood risk outside of the development [**CD 8.2, 8.2B, 8.4, 8.6 and 8.16**].
- 3.8 The development should not therefore be precluded on the grounds of flood risk, as well as surface water drainage.

4. Statutory Consultee Objections/Observations

Severn Trent Water

- 4.1 Severn Trent Water raised no concerns in their consultation response. Consultation with Severn Trent Water resulted in agreed discharges for both surface water and foul water to the public sewer system **[CD 8.2 an 8.2B]**.
- 4.2 Surface water is to be managed in accordance with the SUDS hierarchy, noting that Severn Trent Water would not accept any surface water discharges to the foul sewer.

Lead Local Flood Authority

- 4.3 The Lead Local Flood Authority (LLFA) raised no objection to the scheme, and provided a series of conditions **[CD 16.1]**.

Environment Agency

- 4.4 The Environment Agency were not consulted by the LPA on matters of flood risk at the Site.

Summary

- 4.5 Therefore, there are no statutory objections, and it is agreed that a drainage solution is possible and that this can be secured by conditions as drafted by statutory consultees.

5. Concerns Raised by Third Parties

- 5.1 We have, below, drawn out common themes raised by third parties in relation to flood risk and drainage matters concerning the proposed development and provide responses to those comments in turn.

Highway Surface Water Flooding in Tilstock

“This Application fails to address already severe Drainage and Flooding Issues in Tilstock - Within the vicinity of the proposed site there are significant flooding issues (at the “S” shaped bend as you enter Tilstock and in Hollins Lane that is in proximity). Hollins Lane is not capable of accepting any further drainage adding to its already severe flooding issues, yet the plans suggest the drainage is linked into Hollins Lane which will not cope. I attach photographs and also have video evidence of this if required.”

- 5.2 Surface water flood mapping (as reported in the FRA **[CD 8.1A and 8.1B]** and in the recently updated Environment Agency mapping) shows areas of surface water ponding on the highway at locations on Hollins Lane and Tilstock Road as described by objectors. The flooding issues already exist and sit on the line of an existing watercourse (Hollins Lane) or topographic depression (Tilstock Road). The issues already exist without the proposed development and will exist at no greater level following development..
- 5.3 Surface water from the development site is to be disposed of as per the Severn Trent Water consultation appended to the submitted Drainage Assessment **[CD 8.2 and 8.2B]** to a public surface water sewer at Manhole 4805. This will be achieved via a S106 sewer connection in the public highway. The surface water sewer routes south, away from Tilstock, does not flow near Tilstock Road or Hollins Lane in Tilstock central and discharges ~815m south of the site into an unnamed watercourse which flows south parallel to Steel Road **[CD 8.17]**.
- 5.4 Furthermore, the proposed development will handle rainfall within the application boundary, and release at the Severn Trent Water agreed discharge rate across the 1 in 1 to 1 in 100-year plus climate change rainfall events **[CD 8.2 and 8.2B]**. Therefore, betterment will occur as a result, with water controlled in extreme events.

Drainage Crossing Third Party Land

“Additionally, the main conceptual issue that renders the drainage scheme not viable as proposed is that i understand not all of the land required to achieve connection from the south east corner of the development to Tilstock Lane is in the ownership of Boningale and belongs to a third-party land owner. (Refer to note 9 on the Drainage layout drawing 002 P02).

- 5.5 A draft title transfer agreement with the landowner for the section of land where drainage will be located for routing utilities from the site to Tilstock Lane to the south is available for review **[CD 13.2]**.

Drainage Agreements During and Post-application

“I also note that the drainage strategy and aforementioned Drainage Layout Drawing state that although the discharge rate is agreed with Severn Trent that this is subject to further approval). There have been many issues with the surface water drainage assets in the village where serious localised flooding has occurred both on Tilstock Road and Tilstock Lane. I believe the

proposed development will exacerbate these issues further and careful consideration to the impact of proposals based on actual prevailing conditions and not purely on design guides should be given as 70 additional houses outside those identified and built under SAMDev represents a doubling of the additional burden placed on the drainage infrastructure.”

- 5.6 Further approval of the surface water discharge arrangement is a formality related to the Section 106 connection agreement which can only be undertaken once the application is approved and any drainage related planning conditions discharged. The detail provided in the drainage strategy information **[CD 8.2, 8.2B, 8.4, 8.6 and 8.16]** is sufficient for the level of application (full) to allow a positive decision in favour of the development on drainage grounds. The LLFA has presented no objections to the proposed drainage scheme **[CD 16.1]**.

Topography and Geology

“Drainage? The contours of the land in the area would mean that there is no natural way for surface water nor house-hold water to be absorbed into the ground. Covering the good absorbing ground with hard surfaces would not benefit the area.”

- 5.7 The following points responds to this comment:
- The site has low infiltration recorded **[CD 8.14]**.
 - Site topography/contours do not govern infiltration on land.
 - Household water will connect to the public foul system as agreed with Severn Trent Water **[CD8.2B]**.

Tilstock New-Build Flooding Incidents

“Tilstock has had many new developments over the last few years and each site has been flooded in some way leavening people buying new houses with big problems.”

- 5.8 We cannot refer to any evidence of such flooding on any new developments within Tilstock. On the matter of Tilstock flood history, the Local Flood Risk Management Strategy **[CD 8.19]** contains a list of the top 10 rural and top 10 urban communities at risk of flooding in Shropshire. Tilstock does not feature in either list. Furthermore, there are no Section 19 Flood Investigation Reports published on the Shropshire Council website for Tilstock. We have consulted Shropshire Council for any such reports related to Tilstock and they were unable to forward any such reports concerning Tilstock **[CD 8.18]**.
- 5.9 New developments approved within the last decade would need to provide a similar level of SuDS to this proposed scheme, thus in our professional opinion, its unlikely there is a blanket flooding problem across all new developments in Tilstock built in the last few years.
- 5.10 Furthermore, we are aware of flooding related to infrastructure failure rather than design limitations of drainage in new developments, with a water main burst causing flooding on Hawkstone View, Tilstock in 2009.

Groundwater

“There is an underlying issue regarding the rising level of the water table in the area and uncontrolled unjustified development will undoubtedly increase flooding on the roads and surrounding area.”

- 5.11 We provide information in this statement on known groundwater conditions and the antecedent conditions leading to the waterlogging of the development site and possible exceedance water flowing south from the site.
- 5.12 The FRA [CD8.1, Appendix 7] contains Envirocheck risk mapping which shows the Site is at negligible risk of on-site groundwater flooding (Geosmart Information), with the risk assessed having a potential flooding of property below ground level (BGS Groundwater Flooding Susceptibility).
- 5.13 The proposed drainage strategy [CD 8.2, 8.2B, 8.4, 8.6 and 8.16], with a lined detention basin, will be resilient to any issues with shallow groundwater and control and release rainwater that would currently exacerbate this issue, captured by the proposed drainage system and discharged at an agreed rate to the surface water sewer system downstream of the known areas with flood issues in Tilstock.

Sewer Capacity

“Infrastructure unable to cope with extra sewage.”

- 5.14 On the matter of foul sewer capacity, consultation was undertaken with Severn Trent Water on an agreed number of dwellings/care home size that can connect to the public foul sewer located on Tilstock Lane, south of the Site [CD 8.2B]. Severn Trent Water have agreed flows equivalent to 50 dwellings and a 60 bed care home can connect to the 150mm diameter foul sewer located on Tilstock Lane at manhole reference MH1903. This will be subject to necessary details being presented as part of a Section 106 sewer connection application, to be made following approval of the planning application. This can be secured by an appropriately worded planning condition if necessary. Any shortfall in sewer capacity for foul flows in Tilstock and the wider area at present, is the statutory responsibility of Severn Trent Water to improve.

School Playing Field Flooding

“The school field [...] regularly floods”

- 5.15 This issue would likely experience betterment as any surface water currently running off the site towards Tilstock Primary School playing fields would be captured and controlled at the agreed rate by the proposed SuDS scheme.

6. Summary and Conclusion

- 6.1 The FRA demonstrates that the proposed development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of national and local policy and guidance. The incorporated design measures as part of the development have provided the opportunity to introduce a measurable betterment to offsite flood risk.
- 6.2 A SuDS drainage strategy is proposed to manage the potential impact of the development on surface water runoff rates post-development. This will be achieved through discharge to the public surface water sewer system within the public highway, at an agreed restricted discharge rate with Severn Trent Water and appropriately sized attenuation (i.e. detention basin/lined permeable paving).
- 6.3 The surface water drainage strategy during the construction phase would need to be integrated into a Construction Environment Management Plan (CEMP). The quality of surface water runoff from the proposed development during the operational phase will be improved through the adoption of a SuDS drainage strategy. A maintenance and management plan (carried out by a private maintenance company) will ensure the effectiveness of the drainage strategy for the lifetime of the development. Details can be managed through a condition.
- 6.4 Current consultee comments, as noted by the Local Planning Authority can be adequately dealt with by condition, as is indeed drafted by the LLFA.
- 6.5 In our professional opinion the proposed site in discussion at this appeal, with regard to Flood Risk and Drainage, complies with National and Local Policies and should not be precluded on these grounds.