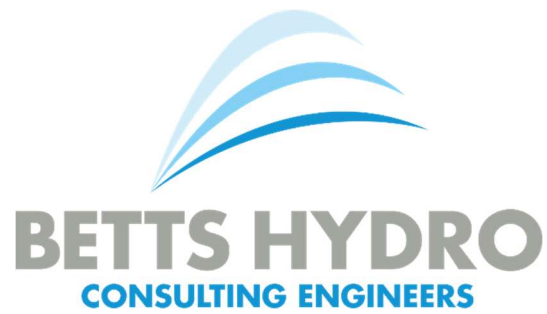




TURNPIKE CLOSE SEMINGTON

DRAINAGE MANAGEMENT STRATEGY



For

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AUGUST 2026

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TURNPIKE CLOSE SEMINGTON DRAINAGE MANAGEMENT STRATEGY

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EXECUTIVE SUMMARY

This Drainage Management Strategy was commissioned by Hollins Strategic Land LLP, referred to hereafter as 'the client'. This report has been prepared to support an outline planning application for the construction of 48no. residential dwellings and a village shop on land off Turnpike Close in Semington.

This assessment has been completed in accordance with National Planning Policy Framework and Planning Practice Guidance to consider the most appropriate sustainable drainage options for the proposals in line with the National Standards for Sustainable Drainage Systems (SuDS). There are five methods that have been reviewed for the management and discharge of surface water, these may be applied individually or collectively and should be applied in the order of priority.

Rainwater harvesting is not considered viable at plot or estate scale due to practical and financial constraints, although rainwater butts are recommended to encourage water reuse. Based on the ground conditions identified and Soakaway testing undertaken by Brownfield Solutions, it is understood that infiltration will not offer a suitable means of managing surface water generated by the site.

The nearest watercourse to the site is Semington Brook Main River, located 735m northeast of the site. At present, given the topography and lack natural drainage features, it is understood that surface water run-off generated drains informally to ground over an extended period, with overland flows generated in high rainfall events believed to drain informally to the highways drainage system within Turnpike Close.

Review of Wessex Water sewer records have identified a private surface water sewer within Turnpike Close to the east of the site. The right to form a connection to this private surface water sewer is upheld within the first schedule of the official 1982 conveyance. The proposals are therefore to discharge surface water flows generated by the site to this surface water sewer via MH6123.

In accordance with the SuDS Manual (CIRIA) and the National Standards for SuDS all sites should endeavour to achieve as close to pre-development greenfield rates as is viable. The LLFA have requested that a 30% betterment on the pre-development greenfield rate be utilised for the site. The pre-development greenfield rate (QBar) is calculated to be 5.3l/s (based on 3.3l/s/ha). The proposed rate of discharge for the development is therefore 4.0l/s. The LLFA (WC) will need to agree to this proposed discharge rate as part of their consultation.

The proposals are to discharge foul water generated by the site to the public foul water sewer system within Turnpike Close. Any offsite asset routing works will need to be considered in terms of consents with the relevant offsite landowners (Highways Authority). Consent for work to the public sewer network will be required from WW at an early stage, this includes consent for the proposed rates of discharge and the points of connection.

This Drainage Management Strategy has been prepared in consultation with the relevant interested parties. The report is commensurate with the scale and nature of the development, and the development is appropriate in accordance with the National Standards for SuDS.

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Specialist Software

-  MicroDrainage WinDES (v.2020.1.3) – Calculation of Greenfield run-off volumes, rates of rainfall and stormwater storage estimates.

Abbreviations & Acronyms

BGS	British Geological Survey
WC	Wiltshire Council
DMS	Drainage Management Strategy
DCG	Design and Construction Guidance
EA	Environment Agency
FEH	Flood Estimation Handbook
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
QBAR	Mean Annual Flood
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance
QSE	Quick Storage Estimate
SuDS	Sustainable Drainage Systems
WW	Wessex Water

1.0 INTRODUCTION

1.1 Planning Policy Context

- 1.1.1 All forms of flooding and their impact on the natural and built environment are material planning considerations. The National Planning Policy Framework (NPPF) sets out the Government's objectives for the planning system, and how planning should facilitate and promote sustainable patterns of development, avoiding flood risk and accommodating the impacts of climate change.
- 1.1.2 Government policy with respect to development in flood risk areas is contained within the NPPF and the supporting Planning Practice Guidance (PPG) (refer to extracts in **Appendix A**). This Drainage Management Strategy (DMS) has been completed in accordance with NPPF/PPG to consider the most appropriate sustainable surface water and foul water drainage options for the proposals.
- 1.1.3 The purpose of this assessment is to ensure that there is no increased flood risk because of the development in line with the NPPF guidance. The use of Sustainable Drainage Systems (SuDS) to manage surface water run-off has also been considered as part of the assessment in line with the National Standards for SuDS.

1.2 Site Context

- 1.2.1 This DMS has been prepared to support an outline planning application for 48no. residential properties and a village shop on land off Turnpike Close in Semington. The DMS sets out broad principles for a drainage design. A detailed drainage design will be required as part of Reserved Matters application.

1.3 Consultation

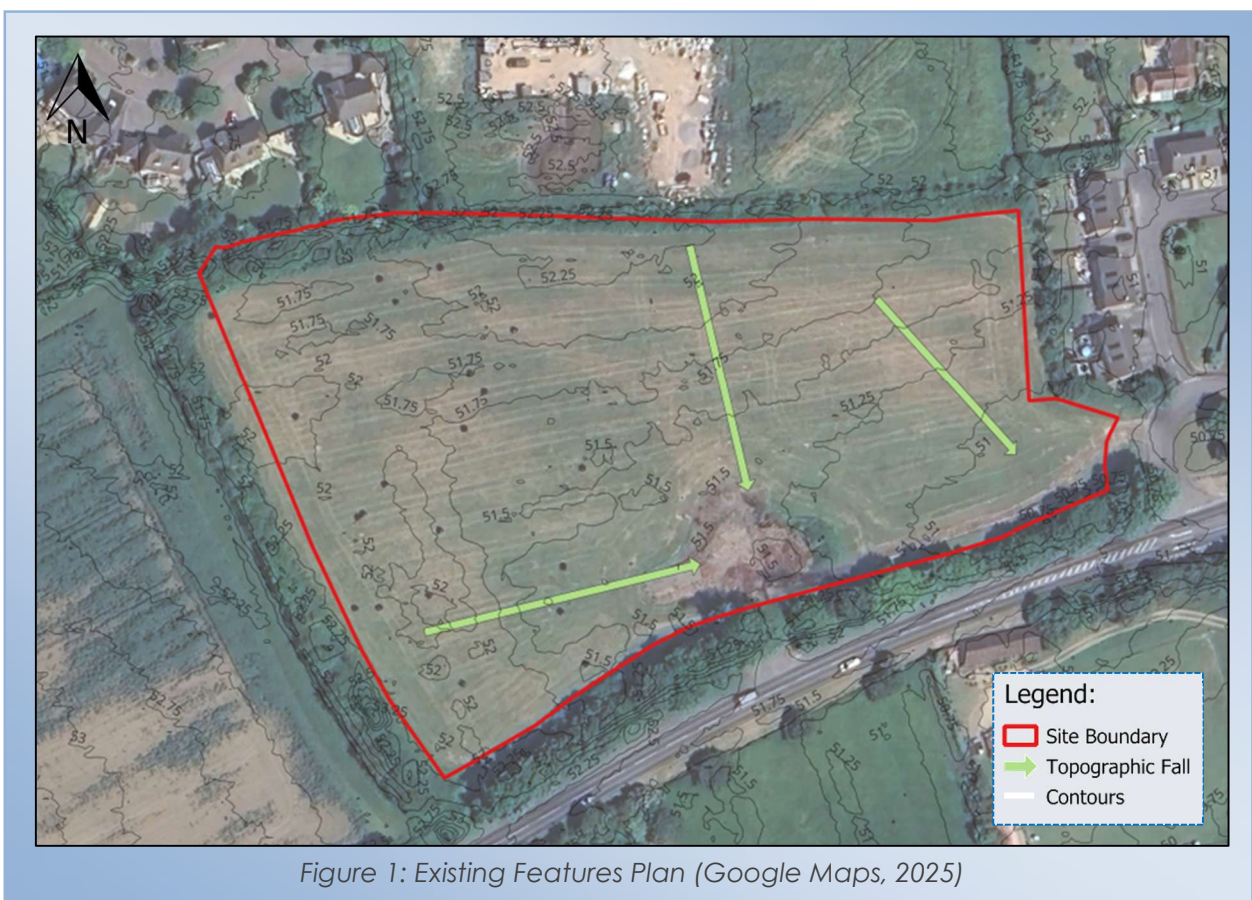
- 1.3.1 The preparation of this report has been undertaken in consultation with the Environment Agency (EA), Wessex Water (WW) and Wiltshire Council (WC). The consultation responses can be seen in **Appendix B, C and D** respectively.

2.0 EXISTING SITE LOCATION

2.1 Location

2.1.1 The site is located off Turnpike Close in Semington. The nearest Ordnance Survey National Grid Reference is E: 389391, N: 160209 and the nearest postcode is BA14 6GY (see Location Plan in **Appendix E**). The whole site covers 2.6ha and is edged in red in **Figure 1**.

2.1.2 In terms of the surrounding land-use, the site is bound to the north by residential development. To the east is more residential development off Turnpike Close, this is illustrated in **Figure 1**. To the south of the site is the A361, and further south is undeveloped agricultural land. To the west, the site is bound by undeveloped agricultural land, with a commercial caravan storage area beyond.



2.2 Existing and Historical Land Use

2.2.1 The wider site is currently undeveloped agricultural land and comprises of low-density vegetation, with larger shrubs and trees located along the site boundaries. Mapping has identified a possible brick wall and a tarmac access from the south, with a dirt path alongside into the boundary. Review of historical mapping from 1888 to 1915 has identified no historical uses of the site other than agricultural.

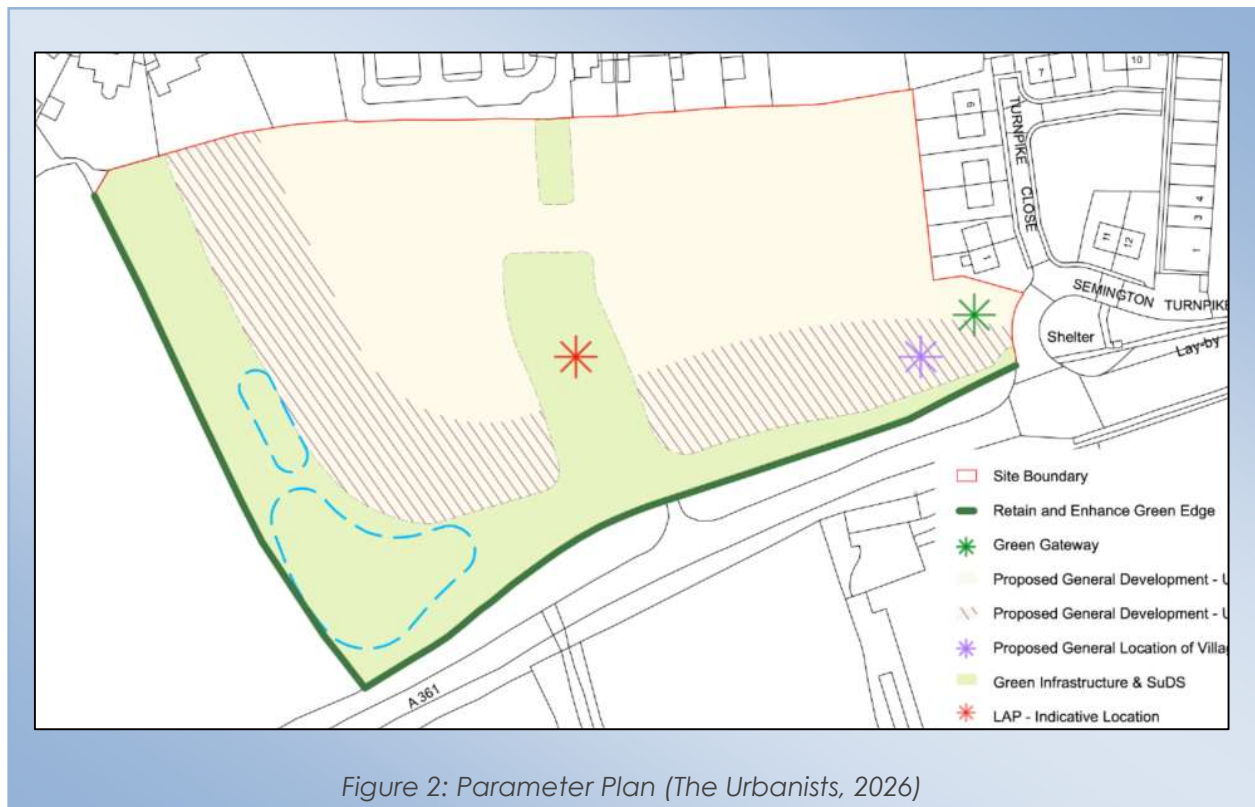
2.3 Topography

- 2.3.1 Generally the levels onsite fall from the north to south-east as illustrated in **Figure 1**; a topographical survey has been completed and is included in **Appendix F**. The highest point of the site is 52.035mAOD along the northern boundary and the lowest is 50.681mAOD in the south-eastern corner.
- 2.3.2 There is a small part of the site (north-western corner) which falls to the north-west away from the rest of the site. The patch of tarmac located along the southern boundary is at 51.453mAOD and lies at a slightly higher level than surrounding land. The arrows shown in **Figure 1** indicate the general falls across the site.

3.0 DEVELOPMENT PROPOSALS

3.1 Nature of the Development

- 3.1.1 This is an outline planning application is for development on land off Turnpike Close, Semington. The proposals comprise of residential development with 48no. dwellings. The Parameter Plan is included in **Figure 2** (see full plan in **Appendix G**).



- 3.1.2 The total site covers 2.156ha and is understood to be 100% permeable at present. Based on the outline proposals, the development area covers a smaller 1.75ha, of which approximately 55% will be impermeable post-development (0.963ha). An additional 10% allowance for urban creep has been added with the estimated impermeable areas equating to 65% of the development area at 1.138ha.
- 3.1.3 Betterment in the form of permeable surfaces opposed to external hardstanding should also be considered where feasible to reduce the surface water run-off. Opportunities to provide soft landscaping on the site would provide added benefits to water quality and ecology.
- 3.1.4 National and local policy identifies that SuDS should be incorporated into new development where feasible to manage surface water run-off generated by new development.

4.0 SURFACE WATER MANAGEMENT

- 4.0.1 In accordance with national and local drainage policies, the principal focus of this assessment is on the effective management of surface water run-off generated by the proposed development. Surface water runoff management options have been assessed in accordance with the sustainable drainage hierarchy, as outlined within the National Standards for SuDS (July 2025).
- 4.0.2 The aim of the National Standards for SuDS is to provide information to support the design of surface water drainage systems for new infrastructure and development. The standards are noted below and are discussed in turn within this section of the report.
- Standard 1 - Runoff Destinations*
 - Standard 2 - Management of Everyday Rainfall*
 - Standard 3 - Management of Extreme Rainfall and Flooding*
 - Standard 4 - Water Quality*
 - Standard 5 - Amenity*
 - Standard 6 - Biodiversity*
 - Standard 7 - Design of Drainage for Construction, Operation, Maintenance, Decommissioning, and Structural Integrity*
- 4.0.3 Standard 1 is a hierarchy standard, and this provides the criteria for determining the final runoff destination. The remaining standards (Standards 2 – 7) detail the minimum design criteria that all surface water drainage systems should meet.

4.0 Standard 1 – Runoff Destinations

- 4.1.1 Standard 1 as noted, sets out the surface water drainage hierarchy, in order of priority. Surface water runoff generated by the proposed development is to be discharged to the final destinations, to the maximum extent practicable. The five levels, in order of priority, are:
- Priority 1: Collected for Non-Potable Use.*
 - Priority 2: Infiltrated to Ground.*
 - Priority 3: Discharged to an Above Ground Surface Water Body.*
 - Priority 4: Discharged to a Surface Water Sewer, or Another Piped Surface Water Drainage System.*
 - Priority 5: Discharged to a Combined Sewer.*

Priority 1: Collected for Non-Potable Use

- 4.1.2 The National Standards for Sustainable Drainage Systems (SuDS) require that the potential for rainwater re-use is considered as the first destination for surface water run-off. In accordance with this hierarchy, the feasibility of incorporating rainwater harvesting (RWH) within the proposed residential development has been assessed.
- 4.1.3 The proposed development comprises a traditional housing estate with standard domestic water demands. Whilst rainwater harvesting can offer benefits in certain circumstances, its use at plot or estate scale is not considered viable for this type of development due to financial and practical constraints.

- 4.1.4 Rainwater harvesting systems require significant additional capital investment, including storage tanks, pumping equipment, filtration systems, dual pumping networks, and ongoing maintenance. For individual dwellings, these costs are disproportionate to the limited potable water savings typically achievable, while communal systems introduce further cost, operational complexity and long-term management and liability issues.
- 4.1.5 Industry guidance and experience indicate that rainwater harvesting for low-to-medium density housing is generally not cost-effective when assessed on a whole-life basis and is associated with long payback periods. This is especially the case where alternative SuDS measures can achieve the required surface water management objectives without introducing mechanical systems or maintenance burdens for future occupants.
- 4.1.6 Whilst traditional rainwater harvesting systems are not practical, it is recommended that rainwater butts are included within the rear garden of the proposed dwellings to encourage collection of non-potable water for re-use. It is however, noted that this will not offer a full drainage solution for the proposed development, and therefore alternative drainage destinations have also been assessed.

Priority 2: Discharged to Ground

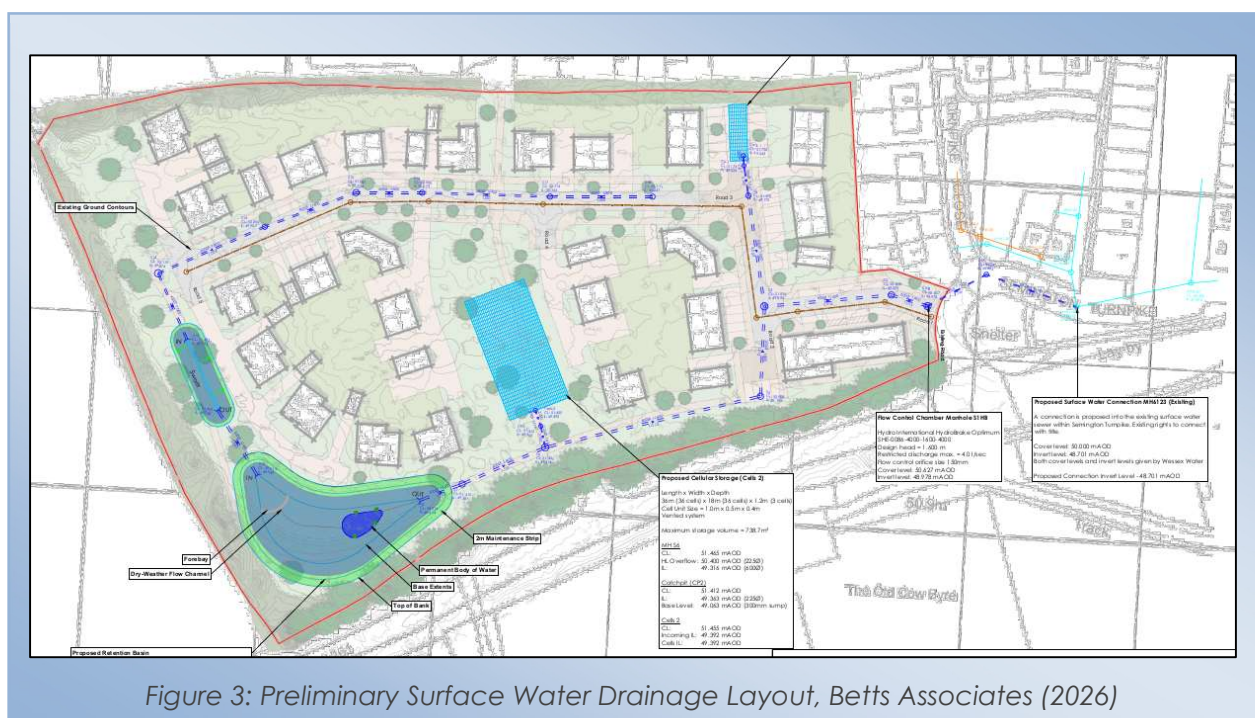
- 4.1.7 Any impermeable areas that can drain to soakaway or an alternative method of infiltration would significantly improve the sustainability of any new surface water systems. The published online datasets have been reviewed to assess how favourable the underlying strata are for a potential infiltration-based solution for the development proposals.
- 4.1.8 The British Geology Survey (BGS) mapping data indicates that the bedrock geology consists of Cornbrash Formation - Limestone. The underlying strata (noted above) appear to suggest that underlying permeability is medium to high.
- 4.1.9 The Cranfield Soil and AgriFood Institute (CSAI), Soilscape viewer identifies the soils to be 'shallow lime-rich soils over chalk or limestone'. An FEH soil factor of 0.388 suggests that the underlying soils have a medium-low permeability (0.1 is very high and 0.5 is very low).
- 4.1.10 To confirm whether infiltration would offer a viable means of managing surface water for the development, soakaway testing was undertaken by Brownfield Solutions in May 2026. The results can be seen in **Appendix H** and concluded that infiltration rates on the site were poor, with the highest rate recorded to be 1.51×10^{-7} m/s. It was also concluded that none of the tests drained past the 25% effective depth and as such, could not be considered BRE 365 compliant.
- 4.1.11 Regardless, the proposals are to utilise permeable surfaces in private, non-adoptable areas where an engineerable solution can be achieved, even if a full infiltration solution is not viable. The permeable surfaces can be designed to allow for natural losses to occur and the first 5mm of rainfall to be dealt with at source, with a connection to the proposed main drainage serving the development proposals. Detailed design will be required in due course to confirm the specifics.

Priority 3: Discharged to an Above Ground Surface Water Body

- 4.1.12 As rainwater collection, and discharge to ground will not provide a full drainage solution, this assessment has considered the next option in accordance with the surface water drainage hierarchy.
- 4.1.13 The next method is to discharge surface water run-off to a nearby watercourse/ waterbody. The nearest watercourse to the site is Semington Brook (Main River), located 735m northeast of the site. Discharge to watercourse is there considered un-viable given the proximity of the nearest watercourse from the site and the surrounding development.

Priority 4: Discharged to a Surface Water Sewer, or Another Piped Surface Water Drainage System

- 4.1.14 At present, small volumes of surface water are believed to infiltrate to ground over time, with flows thought to informally enter the highways drainage with Turnpike Close during high rainfall events.
- 4.1.15 Review of Wessex Water sewer records have identified a private surface water sewer within Turnpike Close to the east of the site. The right to form a connection to this private surface water sewer is upheld within the first schedule of the official 1982 conveyance, whereby Wiltshire Council purchased land for the construction of Semington Turnpike (as a private and sensitive document, this is available upon request from the client).
- 4.1.16 As the highest available priority destination, the proposals are to discharge surface water flows generated by the proposals to the private surface water sewer network via a connection at MH6123. A Preliminary Surface Water Drainage Layout has been completed to demonstrate the viability of the proposals and can be seen within **Figure 3** below (see full plan in **Appendix I**).



- 4.1.17 Whilst these works have not determined specific ground and finished floor levels, they demonstrate that a gravity connection to the private surface water sewer is viable, with sufficient stormwater storage capacity provided onsite. The drainage proposed to serve this development will utilise a below ground pipe network and above ground swale feature for conveyance. Stormwater storage is to be provided via an above ground retention basin and below ground cellular storage.
- 4.1.18 Bioretention areas are proposed along the highway, these will likely be in the form of tree pits and/or raingardens, although the specifics are to be determined at the detailed design stage as part of a reserved matters application following further discussion with Wiltshire Council Highways regarding design requirements for adoption.
- 4.1.19 Regardless, the proposals are to utilise permeable surfaces in private, non-adoptable areas where an engineerable solution can be achieved, even if a full infiltration solution is not viable. The permeable surfaces can be designed to allow for natural losses to occur and the first 5mm of rainfall to be dealt with at source, with a connection to the proposed main drainage serving the development proposals. Detailed design will be required in due course to confirm the specifics.
- 4.1.20 The proposals are to form a connection to the private surface water sewer for which routing through the highway will be required. Consultation should be carried out with Wiltshire Councils Highways team to obtain consent for the works. These discussions will also highlight the presence of any existing assets which will need to be accounted for as part of the works, with any appropriate offsets maintained or diversions agreed where applicable.

Priority 5: Discharged to a Combined Sewer

- 4.1.21 The location of the nearest combined sewer system is unknown at this stage. Regardless, given that a higher priority destination is achievable, there are no proposals at this time to discharge surface water generated post-development to the public combined sewer network.

4.2 Standard 2: Management of Everyday Rainfall (Interception)

- 4.2.1 Standard 2 of the National Standards for SuDS identifies that source control measures should be applied, such that at least the first 5mm of rainfall for most rainfall events is intercepted. A SuDS approach should be adopted, to ensure this is delivered alongside water quality improvement, amenity value, and biodiversity benefits (Standards 4, 5, and 6).
- 4.2.1 The proposals are to utilise permeable surfaces in private, non-adoptable areas where an engineerable solution can be achieved, even if a full infiltration solution is not viable. The permeable surfaces can be designed to allow for natural losses to occur and the first 5mm of rainfall to be dealt with at source, as required by Standard 2.
- 4.2.2 Bioretention areas are proposed along the highway, these will likely be in the form of tree pits and/or raingardens, although the specific are to be determined at the detailed design stage as part of a reserved matters application following further discussion with Wiltshire Council Highways regarding design requirements for adoption.

4.3 Standard 3: Management of Extreme Rainfall and Flooding

- 4.3.1 The total site covers 2.16ha and is understood to be 100% permeable at present. Based on the outline proposals, the development area covers a smaller 1.75ha. At present, it is thought that surface water would drain to ground over an extended period, with any run-off generated during high rainfall events entering the highways drainage within Turnpike Close given topography of the site.

Pre-Development Greenfield Rates

- 4.3.2 The peak rates and volumes of run-off generated by the site have been calculated for the peak events shown in **Table 1**. The surface water run-off rates have been calculated using the FEH Method (2025), utilising the proposed post-development impermeable area as requested by WC.
- 4.3.3 The peak rates and volumes of run-off generated by the site have been calculated for the peak events shown in **Table 1**. The surface water run-off rates have been calculated using the FEH Method. The full calculations in **Appendix J** are based on an area of 1ha, and these rates and volumes are calculated pro-rata for the proposed development area of 1.75ha.

Table 1: Pre-Development Surface Water Run-Off Rates (Betts Hydro, 2026)

Dev. Area	Run-Off Rates				Run-Off Volumes	
	1 In 1yr	1 In 30yr	1 In 100yr	QBar	1 In 1yr	1 In 100yr
1.75ha	4.6l/s	11.2l/s	14.0l/s	5.8l/s	169.4cu.m	488.6cu.m

Post-Development Runoff Rates

- 4.3.4 Due to the nature of the development proposals, it is understood that the impermeable areas of the site will increase. We have estimated that the post-development impermeable areas will cover to 55% of the development area (this equates to 0.963ha). In accordance with WC's requirements, an additional 10% allowance has also been added to the proposed impermeable area as part of this assessment to account for urban creep (totalling 1.138ha).
- 4.3.5 These proposed impermeable areas will however be defined as part of the detailed drainage design work at RM stage. The unrestricted post-development run-off rates generated by the assumed impermeable area are detailed in **Table 2**.

Table 2: Post-Development Un-Restricted Run-Off Rates (Betts Hydro, 2026)

Proposed Imp. Area (Plus 10% UC)	Run-Off Rates (l/s)			Run-Off Volumes (cu.m)	
	1 In 1yr	1 In 30yr	1 In 100yr + 45% CC	1 in 1yr	1 in 100yr
1.138ha	57.3	110.7	210.2	274.4	761.8

- 4.3.6 In accordance with national and local planning policies, it is necessary to restrict surface water run-off rates, where at all practical, to mimic a pre-development greenfield situation. The pre-development greenfield runoff rates are detailed in **Table**

2 (shown previously). Full details on the proposed rates of discharge can be found in subsequently.

Proposed Discharge Rates

- 4.3.7 In accordance with the SuDS Manual (CIRIA) and the National Standards for SuDS all sites should endeavour to achieve as close to pre-development greenfield rates as is viable. Wiltshire Councils drainage policy indicates the rainfall methodology which produces the worst-case rainfall model for the site should be used, in this instance the FEH is the conservative model.
- 4.3.8 The LLFA have requested that a 30% betterment on the pre-development greenfield rate be utilised for the site. The pre-development greenfield rate (QBar) is calculated to be 5.3l/s (based on 3.3l/s/ha). The proposed rate of discharge for the development is therefore 4.0l/s. The LLFA (WC) will need to agree to this proposed discharge rate as part of their consultation.
- 4.3.9 Restricting the rate of discharge will generate a requirement to provide onsite stormwater storage for the extreme rainfall events. Hydraulic calculations have been provided as part of the Preliminary Surface Water Drainage Layout works (see **Appendix I**). Detailed design in due course will determine with accuracy the attenuation requirements considering engineering constraints and hydraulics.
- 4.3.10 The surface water scheme for the development will need to be designed to cater for the surface water run-off generated in the events up to and including the 1 in 100yr return period event with 45% allowance for climate change. The hydraulic calculations discussed previously indicate this is achieved within the design.
- 4.3.11 A below ground pipe network and above ground swale feature will be utilised for conveyance. The required onsite attenuation will be provided within an above ground retention basin and below ground geo-cellular crates. The specific means are to be determined during the detailed design stage.

Climate Change Allowance

- 4.3.12 In light of the future uncertainties Climate Change should be accounted for within the design of all new developments. Climate change factors have been considered and any increase in the level of flood risk (to the site) from climate change is likely to be related to the increase in rainfall intensity and duration and its impact upon the surface water drainage system.
- 4.3.13 In accordance with the Avon Bristol and North Somerset Streams Management Catchment peak rainfall allowances, the upper end allowance (**Table 4**) for the 2070's has been utilised (based on 100yr design life).

Table 3: Change to Peak Rainfall Compared to 1981-2000 Baseline (Environment Agency, 2026)

PROJECTIONS	TOTAL POTENTIAL CHANGE ANTICIPATED FOR THE 2070'S
Upper End Allowance	45%
Central Allowance	25%

4.4 Standard 4: Water Quality

- 4.4.1 To ensure that surface waters, ground waters, and coastal waters are protected, the National Standards for SuDS (Standard 4) requires appropriate management of the quality of surface water runoff post-development. This should be provided, via a SuDS based approach.
- 4.4.2 Permeable paving is to be used within private drive areas where engineerable solution can be achieved. Even if a full infiltration solution is not viable, the permeable surfaces can be designed to allow for natural losses to occur (allowing the first 5mm of rainfall to be dealt with at source), but with a connection to the proposed main drainage serving the development proposals. This would allow for filtration through the subgrade and thus provide treatment of water quality.
- 4.4.3 The proposals are also to include bioretention areas along the highway, these will likely be in the form of tree pits and/or raingardens, although the specific are to be determined at the detailed design stage as part of a reserved matters application following further discussion with Wiltshire Council Highways regarding design requirements for adoption.
- 4.4.4 A swale feature and retention basin are also proposed as part of the development, water quality improvement can be achieved through appropriate planting (which will allow some filtration to occur), and via the settling of particulate pollutants.
- 4.4.5 Ultimately, the full scope of the SuDS to be provided within the proposed development parcels will be confirmed at the detailed design. To demonstrate compliance with the National Standards for SuDS, a Water Quality Assessment has been prepared, as included within **Appendix K**. This demonstrates that at this stage, sufficient treatment of water quality can be provided post-development.

4.5 Standard 5: Amenity

- 4.5.1 Within new development proposals, SuDS features should be implemented to provide benefit to amenity. This is to be achieved through the creation of multi-functional places and landscapes.
- 4.5.2 The inclusion of bio-retention areas along the highways will provide visual amenity through the development proposals. Alongside delivery of benefit to water quality (Standard 4) and biodiversity (Standard 6), these will be situated prominently through the development proposals to maximise positive visual impact.
- 4.5.3 The proposals are also to include a swale feature and retention basin, providing amenity value through multi-functional public open space. The amenity value provided by has been maximised where at all practical, by situating these within proximity to proposed footpaths.

4.6 Standard 6: Biodiversity

- 4.6.1 In accordance with Standard 6, the proposed SuDS features will look to maximise biodiversity benefit for the intended design lifetime (min. 100yrs). This will primarily be achieved through the incorporation of bio-retention areas, a swale and a retention basin.
- 4.6.2 All associated planting proposed will be native to the area and provide benefits to natural and local ecosystems, the specific design and criteria will be confirmed during detailed design, in conjunction with the project ecologist and landscape architect.

4.7 Standard 7: Design of Drainage for Construction, Operation, Maintenance, Decommissioning and Structure Integrity

- 4.7.1 To demonstrate compliance with Standard 7, the National Standards for SuDS require that a Maintenance and Management Plan is prepared. This is to ensure that the objectives set out within Standards 1 – 6 are delivered and maintained for lifetime of the development proposals.
- 4.7.2 A SuDS Maintenance and Management Plan will be prepared as part of a reserved matters application to identify the typical maintenance requirements in accordance with CIRIA (2015) for the SuDS features that have been considered.

5.0 FOUL WATER MANAGEMENT

- 5.1 WW sewer records have identified a public foul water sewer within Turnpike Close to the east of the site (sewer records included in **Appendix C**). The proposals are to discharge foul water generated by the site to this system within Turnpike Close, downstream of FWMH6001. Detailed design will need to confirm the exact point of connection.
- 5.2 Based on the proposals for the construction of 48no. residential dwellings, the approximate peak foul water flows generated by the site have been calculated at 2.2l/s, based on 4000 litres per dwelling per 24 hours as per the guidance contained within the Design and Construction Guidelines (DCG)
- 5.3 Consent for work to the public sewer network will be required from WW at an early stage, this includes consent for the proposed rates of discharge and the points of connection. Any offsite asset routing works will also need to be considered in terms of consents with the relevant offsite landowners (Highways Authority).

6.0 SUMMARY AND CONCLUSIONS

- 6.0.1 This assessment has been completed in accordance with National Planning Policy Framework and Planning Practice Guidance to consider the most appropriate sustainable drainage options for the proposals in line with the National Standards for Sustainable Drainage Systems (July 2025). There are five methods that have been reviewed for the management and discharge of surface water, these may be applied individually or collectively and should be applied in the order of priority.
- 6.0.2 Rainwater harvesting is not considered viable at plot or estate scale due to practical and financial constraints, although rainwater butts are recommended to encourage water reuse. Based on the ground conditions identified and Soakaway testing undertaken by Brownfield Solutions, it is understood that infiltration will not offer a suitable means of managing surface water generated by the site.
- 6.0.3 The nearest watercourse to the site is Semington Brook (Main River), located 735m northeast of the site. At present, given the topography and lack natural drainage features, it is understood that surface water run-off generated drains informally to ground over an extended period, with overland flows generated in high rainfall events believed to drain informally to the highways drainage system within Turnpike Close
- 6.0.4 Review of Wessex Water sewer records have identified a private surface water sewer within Turnpike Close to the east of the site. The right to form a connection to this private surface water sewer is upheld within the first schedule of the official 1982 conveyance. The proposals are therefore to discharge surface water flows generated by the site to this surface water sewer via MH6123.
- 6.0.5 The proposals are to provide surface water conveyance via a below ground pipe network and above ground swale feature. An above ground retention basin and below ground cellular storage are to be utilised for stormwater storage. Lined permeable paving is proposed as part of the development to provide the opportunity for natural losses, with bioretention areas also proposed along the highway extent, the specific of which are to be confirmed following further discussions with Wiltshire Highways regarding adoption standards.
- 6.1.1 In accordance with the SuDS Manual (CIRIA) and the National Standards for SuDS all sites should endeavour to achieve as close to pre-development greenfield rates as is viable. The LLFA have requested that a 30% betterment on the pre-development greenfield rate be utilised for the site. The pre-development greenfield rate (QBar) is calculated to be 5.3l/s (based on 3.3l/s/ha). The proposed rate of discharge for the development is therefore 4.0l/s. The LLFA (WC) will need to agree to this proposed discharge rate as part of their consultation.
- 6.0.7 The proposed surface water drainage system will be designed to cater for the surface water run-off generated in the events up to and including the 1 in 100yr return period event with 45% allowance for Climate Change. A Preliminary Surface Water Drainage Layout has been completed to demonstrate the proposals and the viability of a gravity connection based on existing ground levels. Accompanying network calculations have also been provided to demonstrate sufficient stormwater storage can be provided based on the proposed layout.

- 6.0.8 Detailed design in due course will confirm with accuracy, any stormwater storage requirements, along with finished floor levels, ground levels and the specific SuDS bioretention features to be included along the highway extent.
- 6.0.9 The proposals are to discharge foul water generated by the site to the public foul water sewer system within Turnpike Close. Any offsite asset routing works will need to be considered in terms of consents with the relevant offsite landowners (Highways Authority). Consent for work to the public sewer network will be required from WW at an early stage, this includes consent for the proposed rates of discharge and the points of connection.
- 6.0.10 This Drainage Management Strategy has been prepared in consultation with the relevant interested parties. The report is commensurate with the scale and nature of the development, and the development is appropriate in accordance with the National Standards for SuDS.

7.0 RECOMMENDATIONS

- 7.1 Further consultation will be required with Wiltshire Highways at the detailed design stage in regard to the design requirements of proposed bioretention areas along the highways extents.
- 7.2 By keeping the finished floor levels elevated relative to the externals, this should help create an overland flood flow route in the event of a breach or any other source of flooding that could lead to overland flow.
- 7.3 Any overland flows generated by the development must be carefully controlled. Safe avenues directing overland flow away from any existing and proposed buildings are advised.
- 7.4 To minimise the flood risk to the neighbouring properties it is recommended that the surface water run-off generated by the proposals be managed effectively with the peak rates of run-off being restricted to the equivalent of the pre-development situation (with betterment where required).
- 7.6 The proposed onsite surface water drainage system will need to be sized to contain up to and including the 1 in 100yr return period storm event with a 45% allowance for climate change being contained onsite.
- 7.7 Any offsite works to accommodate the drainage proposals will need to be discussed with the relevant parties during the detailed design stage.
- 7.8 As with any drainage system, blockages within either the foul or surface water system have the potential to cause flooding or disruption. It is important that should any drainage systems not be offered for adoption to either the Water Company or the Local Authority then an appropriate maintenance regime should be scheduled with a suitably qualified management company for these private drainage systems.
- 7.9 If an extreme rainfall event exceeds the design criteria for the drainage system it is likely that there will be some overland flows that are unable to enter the system, it is important that these potential overland flows are catered for within the proposed development site if the capacity of the drainage system is exceeded.

BIBLIOGRAPHY & REFERENCES

Adapting to Climate Change: Advice for Flood and Coastal Erosion Risk Management Authorities – Environment Agency/DEFRA 2016
CIRIA 522: Sustainable urban drainage systems – design manual for England and Wales (2000).
CIRIA 523: Sustainable urban drainage systems – best practice manual (2001).
CIRIA 609: Sustainable drainage systems. Hydraulic, structural and water quality advice (2004).
CIRIA 624: Development and flood risk – guidance for the construction industry (2004).
CIRIA 635: Designing for Exceedance in urban drainage: Good practice (2006).
CIRIA 644: Building Greener (2007).
Design and Construction Guidance (2023)
CIRIA 753: The SUDS manual (2015).
Flood Risk to People – Phase 2 (FD2321/TR2), DEFRA and the Environment Agency (2006).
Flood estimation for small catchments: Institute of Hydrology Report No.124, NERC (1994).
Flood Estimation Handbook, Centre for Ecology and Hydrology (1999).
National Planning Policy Framework (2024).
Planning Practice Guidance (2024).
National Standards for Sustainable Drainage Systems, SuDS (2025).

Web-based References

Bingmaps – <http://www.bing.com/Maps/>
British Geological Survey – <http://www.bgs.ac.uk/opengeoscience/home.html>
Chronology of British Hydrological Events – www.dundee.ac.uk/
CIRIA – <http://www.ciria.org/>
Cranfield University – <http://www.landis.org.uk/soilscapes/>
Environment Agency – www.environment-agency.gov.uk/
FloodProBE – <http://www.floodprobe.eu/>
Flood Forum – <http://www.floodforum.org.uk/>
Google Maps – <http://maps.google.co.uk/>
HR Wallingford UK SuDS – <https://www.uksuds.com/>
Rainfall Climate Change Allowance - <https://environment.data.gov.uk/hydrology/climate-change-allowances/rainfall>
Streetmap – <http://www.streetmap.co.uk/>
United Utilities - <https://www.unitedutilities.com/>

APPENDIX A: NPPF + PPG EXTRACTS

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14. Meeting the challenge of climate change, flooding and coastal change

161. The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

Planning for climate change

162. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating and drought from rising temperatures⁶¹. Policies should support appropriate measures to ensure the future health and resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.
163. The need to mitigate and adapt to climate change should also be considered in preparing and assessing planning applications, taking into account the full range of potential climate change impacts.
164. New development should be planned for in ways that:
- a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems; and
 - b) help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings in plans should reflect the Government's policy for national technical standards.
165. To help increase the use and supply of renewable and low carbon energy and heat, plans should:
- a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);

⁶¹ In line with the objectives and provisions of the Climate Change Act 2008.

- b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and
 - c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.
166. In determining planning applications, local planning authorities should expect new development to:
- a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
 - b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.
167. Local planning authorities should also give significant weight to the need to support energy efficiency and low carbon heating improvements to existing buildings, both domestic and non-domestic (including through installation of heat pumps and solar panels where these do not already benefit from permitted development rights). Where the proposals would affect conservation areas, listed buildings or other relevant designated heritage assets, local planning authorities should also apply the policies set out in chapter 16 of this Framework.
168. When determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should:
- a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future;
 - b) recognise that small-scale and community-led projects provide a valuable contribution to cutting greenhouse gas emissions;
 - c) in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site.
169. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

Planning and flood risk

170. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where

development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

171. Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards.
172. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:
 - a) applying the sequential test and then, if necessary, the exception test as set out below;
 - b) safeguarding land from development that is required, or likely to be required, for current or future flood management;
 - c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
 - d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.
173. A sequential risk-based approach should also be taken to individual applications in areas known to be at risk now or in future from any form of flooding, by following the steps set out below.
174. Within this context the aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test.
175. The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk).
176. Applications for some minor development and changes of use⁶² should also not be subject to the sequential test, nor the exception test set out below, but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

⁶² This includes householder development, small non-residential extensions (with a footprint of less than 250m²) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park

177. Having applied the sequential test, if it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3.
178. The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. To pass the exception test it should be demonstrated that:
- a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and
 - b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
179. Both elements of the exception test should be satisfied for development to be allocated or permitted.
180. Where planning applications come forward on sites allocated in the development plan through the sequential test, applicants need not apply the sequential test again. However, the exception test may need to be reapplied if relevant aspects of the proposal had not been considered when the test was applied at the plan-making stage, or if more recent information about existing or potential flood risk should be taken into account.
181. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment⁶³. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:
- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
 - b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
 - c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;

home site, where the sequential and exception tests should be applied as appropriate.

⁶³ A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

- d) any residual risk can be safely managed; and
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

182. Applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity. Sustainable drainage systems provided as part of proposals for major development should:
- a) take account of advice from the Lead Local Flood Authority;
 - b) have appropriate proposed minimum operational standards; and
 - c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.

Coastal change

183. In coastal areas, planning policies and decisions should take account of the UK Marine Policy Statement and marine plans. Integrated Coastal Zone Management should be pursued across local authority and land/sea boundaries, to ensure effective alignment of the terrestrial and marine planning regimes.
184. Plans should reduce risk from coastal change by avoiding inappropriate development in vulnerable areas and not exacerbating the impacts of physical changes to the coast. They should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast, and:
- a) be clear as to what development will be appropriate in such areas and in what circumstances; and
 - b) make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas.
185. Development in a Coastal Change Management Area will be appropriate only where it is demonstrated that:
- a) it will be safe over its planned lifetime and not have an unacceptable impact on coastal change;
 - b) the character of the coast including designations is not compromised;
 - c) the development provides wider sustainability benefits; and
 - d) the development does not hinder the creation and maintenance of a continuous signed and managed route around the coast⁶⁴.

⁶⁴ As required by the Marine and Coastal Access Act 2009.

186. Local planning authorities should limit the planned lifetime of development in a Coastal Change Management Area through temporary permission and restoration conditions, where this is necessary to reduce a potentially unacceptable level of future risk to people and the development.

How can neighbourhood plans and neighbourhood development/community right to build orders take account of coastal change?

In any instance where a Neighbourhood Area is proposed in a Coastal Change Management Area, careful attention should be paid to the guidance on [what development would be appropriate in such an area](#), including whether [time-limiting planning permissions](#) are needed. The local planning authority will need to be consulted about existing and anticipated levels of risk, and the types of development that may or may not be appropriate.

See related policy in [paragraphs 170 to 173 of the National Planning Policy Framework](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>).

Paragraph: 076 Reference ID: 7-076-20220825

Revision date: 25 08 2022

Flood Zone and flood risk tables

- Table 1: Flood Zones
- [National Planning Policy Framework Annex 3 - Flood risk vulnerability classification](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification>)
- [Table 2: Flood risk vulnerability and flood zone 'incompatibility'](#)

Paragraph: 077 Reference ID: 7-077-20220825

Revision date: 25 08 2022

Table 1: Flood Zones

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)

Flood Zone	Definition
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment \(https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment\)](https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment) when considering location and potential future flood risks to developments and land uses.

Paragraph: 078 Reference ID: 7-078-20220825

Revision date: 25 08 2022

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:

✓ Exception test is not required

X Development should not be permitted

Notes to table 2:

- This table does not show the application of the [Sequential Test](#) which should be applied first to guide development to the lowest flood risk areas; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and [Exception Tests](#) do not need to be applied to those developments set out in [National Planning Policy Framework footnote 56](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>). The Sequential and Exception Tests should be applied to ‘major’ and ‘non major’ development;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

“†” In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

APPENDIX B: EA INFORMATION & CORRESPONDENCE

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Hollie Waud
Betts Hydro
holliewaud@betts-associates.co.uk

Our ref: EIR2025/16511
Date: 22nd July 2025

Dear Hollie Waud,

Thank you for your enquiry which was received on 3rd July 2025. We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

Abstract

Name	Product 4
Description	Detailed Flood Risk Assessment Map for BA14 6GY NGR: ST8939160209
Licence	Open Government Licence
Information Warnings	<i>The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply.</i>
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. Contains Ordnance Survey data © Crown copyright 2025 Ordnance Survey AC0000807064.

Open Data

Environment Agency published datasets are available on the weblink below as part of the Government's 'Open Data' project and are available for you to download free of charge.

Environment Agency published datasets: [Find open data - data.gov.uk](#)

Examples of datasets you may require:

- Flood Map for Planning
- Recorded Flood Outlines
- Historic Flood Map
- Surface Water for Spatial Planning extents

You can also access the Flood Map for Planning here: <https://flood-map-for-planning.service.gov.uk/>

You can also access the Risk of Flooding from Surface Water maps and Risk of Flooding from Reservoirs information here: <https://check-long-term-flood-risk.service.gov.uk/>

If you have requested this information to help inform a development proposal, then you should also note the detail in the attached advisory text on the use of Environment Agency Information and Further Guidance for FRAs.

Recorded Historic Flood Events

We no longer produce pdf copies of the Historic Flood Map. This information is available to search select, and download free of charge as part of the Government's 'Open Data' project as

- Recorded Flood Outlines
- Historic Flood Map

These are GIS layers and can be downloaded from: [Environment Agency - Publishers - data.gov.uk](https://data.gov.uk/publishers/environment-agency)

Please note: we cannot guarantee that this is an exhaustive list of all past flood events in this location. All reasonable care has been taken to ensure that the historical flood event data is as accurate as possible. The Environment Agency will update it's records if new evidence emerges.

Strategic Flood Risk Assessment (SFRA)

When preparing a FRA to support a development proposal in this location you should refer to Wiltshire Council's SFRA Reports Level 1 which is available to download via the following link:

https://www.wiltshire.gov.uk/media/14497/SD67-Wiltshire-Level-1-Strategic-Flood-Risk-Assessment-2024/pdf/SD67_Wiltshire_Level_1_Strategic_Flood_Risk_Assessment_2024.pdf?m=1733141632550

The Wiltshire Council Local Plan is available via this link: <https://www.wiltshire.gov.uk/planning-policy-local-plan-review-consultation>. Please contact Wiltshire Council for further information about their latest SFRA.

Planning Advice

We now charge for aspects of discretionary planning advice including pre-application enquiries. This approach provides advice to developers in two ways. Firstly, there is the provision of 'free' high level advice available to everyone where we give a preliminary opinion on a proposed development. This sets out the environmental constraints together with any issues this raises for us. Should you wish us to obtain more detailed advice, we may be able to provide this through our discretionary chargeable scheme aimed at recovering our costs. If you have questions regarding elements of your enquiry related to Planning and Development, please contact our Sustainable Places team on wx.sp@environment-agency.gov.uk.

Flood Levels

The site is situated outside of Flood Zone 2 and Flood Zone 3. Therefore, we do not have any relevant 1D/ 2D modelled water level or depth data to provide.

Please note: If your site is in Flood Zone 1 but the Flood Map for Planning (FMfP) or your Local Planning Authority's (LPA) Strategic Flood Risk Assessment (SFRA) shows it will be at increased risk of flooding from rivers or the sea during the development lifetime, you should make sure a Flood Risk Assessment (FRA) is done, and treat the site as if it were in Flood Zone 2 when deciding which advice you need to access.

Environmental Permit for Flood Risk Activities

In addition to any other permission(s) that you may have already obtained e.g. planning permission, you may need an environmental permit for flood risk activities (formerly known as Flood Defence Consent prior to 06 April 2016) if you want to do work:

- in, under, over or near a main river (including where the river is in a culvert)
- on or near a flood defence on a main river
- in the flood plain of a main river
- on or near a sea defence

For further information and to check whether a permit is required please visit:

<https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

For any further advice, please email Blandford.frap@environment-agency.gov.uk.

Flood Defences

If there are any formal flood defences within 1km of the site boundary provided, a PDF containing flood defence information will be enclosed. This information has been taken from our Asset Information Management System database (AIMS). A data download can be accessed here: [AIMS Asset Bundle](#)

Please note that flood defences can increase water levels elsewhere e.g. through channels being restricted by defences, or because defences prevent flood water flowing back into the river channel.

Further Information

We advise that you also contact Wiltshire Council by email: drainage@wiltshire.gov.uk, or by phone: 0300 456 0105, based at: Bythesea Road, Trowbridge, Wiltshire, BA14 8JN as they may be able to provide further advice with respect to localised flooding and drainage issues.

Further details about the Environment Agency information supplied can be found on our website: <https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for FRAs:

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

We hope you find this information helpful. It is provided subject to the guidance below, which we strongly recommend you read.

Yours sincerely

Katy Barnes

Customer & Engagement, Wessex
Rivers House, East Quay, Bridgwater, Somerset, TA6 4YS
Email: wessexenquiries@environment-agency.gov.uk

Enc: Use of Environment Agency Information for Flood Risk Assessments (below)
EIR2025/16511 Defences Map & Data (if applicable)

Use of Environment Agency Information for Flood Risk Assessments (FRAs)

Important

Use of Environment Agency data: you should note that

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk Assessment (FRA) where one is required, but the use of Environment Agency information does not constitute such an assessment on its own.
2. As part of your data request, we have provided all of the modelled data we hold for your location. Please note that some of our modelled information may have been produced for purposes other than for flood zone generation. This may mean that some of the modelled data you have been provided with has a lower confidence level, and has not been used in producing our flood map, nor definitively reflects the predicted flood water level at the property/development site scale. To check the suitability of the use of this information in your FRA please contact your local Partnership & Strategic Overview (PSO) team.
3. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or surface water runoff. The information produced by the Local Planning Authority and the Lead Local Flood Authority (LLFA) may assist in assessing other sources of flood risk.
4. Where a planning application requires a FRA and this is not submitted or deficient, the Environment Agency may well raise an objection.
5. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your Local Planning Authority.

Pre-Planning Advice from the Environment Agency

If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:

Pre-application Preliminary Opinion:

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

Pre-application Charged Service:

<https://www.gov.uk/government/publications/planning-advice-environment-agency-standard-terms-and-conditions>

Depending on the enquiry we may also provide advice on other issues related to our responsibilities, including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

Flood Risk Assessment (FRA) Guidance

You should refer to the Planning Practice Guidance of the National Planning Policy Framework (NPPF) and the Environment Agency's Flood Risk Standing Advice for information about Flood Risk Assessment (FRA) for new development in the different Flood Zones. These documents can be accessed via:

National Planning Policy Framework Planning Practice Guidance:

<http://planningguidance.planningportal.gov.uk/>

Environment Agency advice on FRAs:

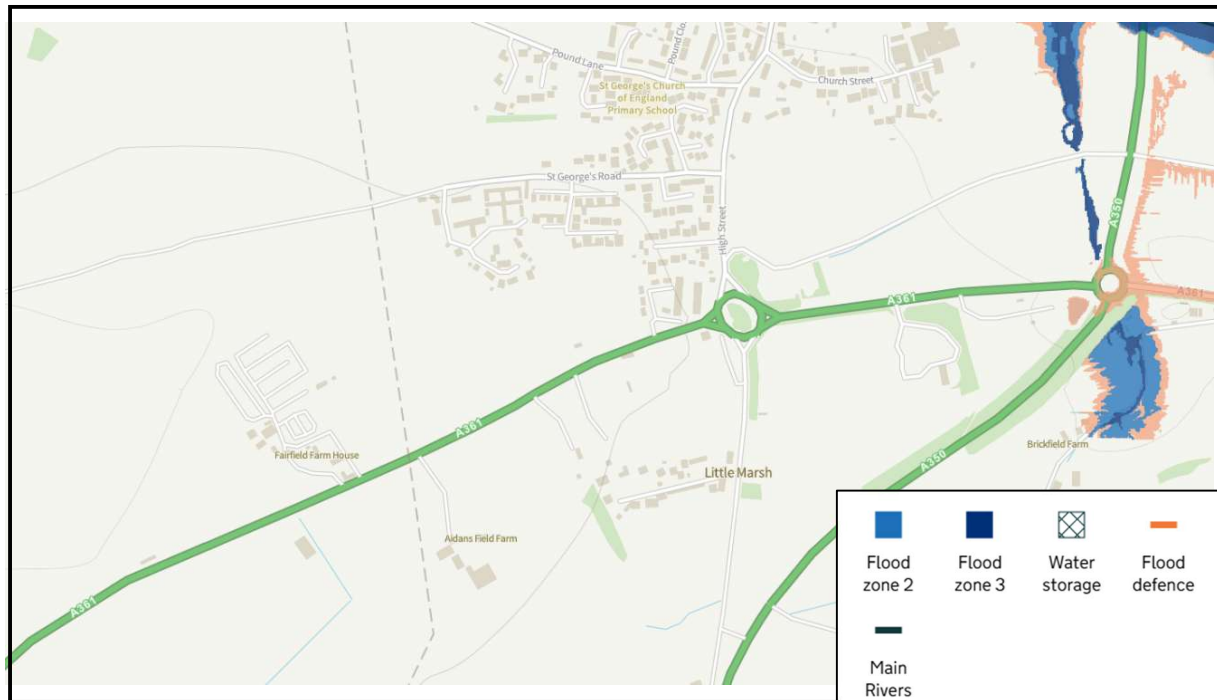
customer service line 03708 506 506
gov.uk/environment-agency

<https://www.gov.uk/flood-risk-assessment-for-planning-applications#when-to-follow-standing-advice>

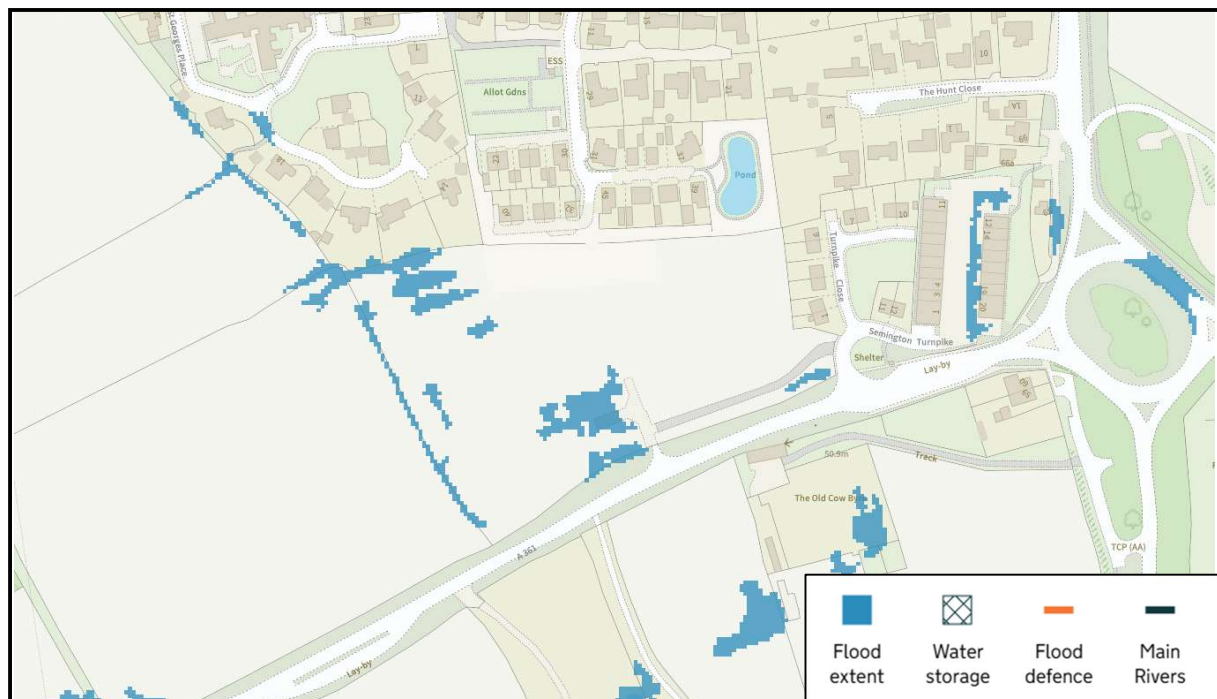
<https://www.gov.uk/government/publications/planning-applications-assessing-flood-risk>

FLOOD MAP FOR PLANNING

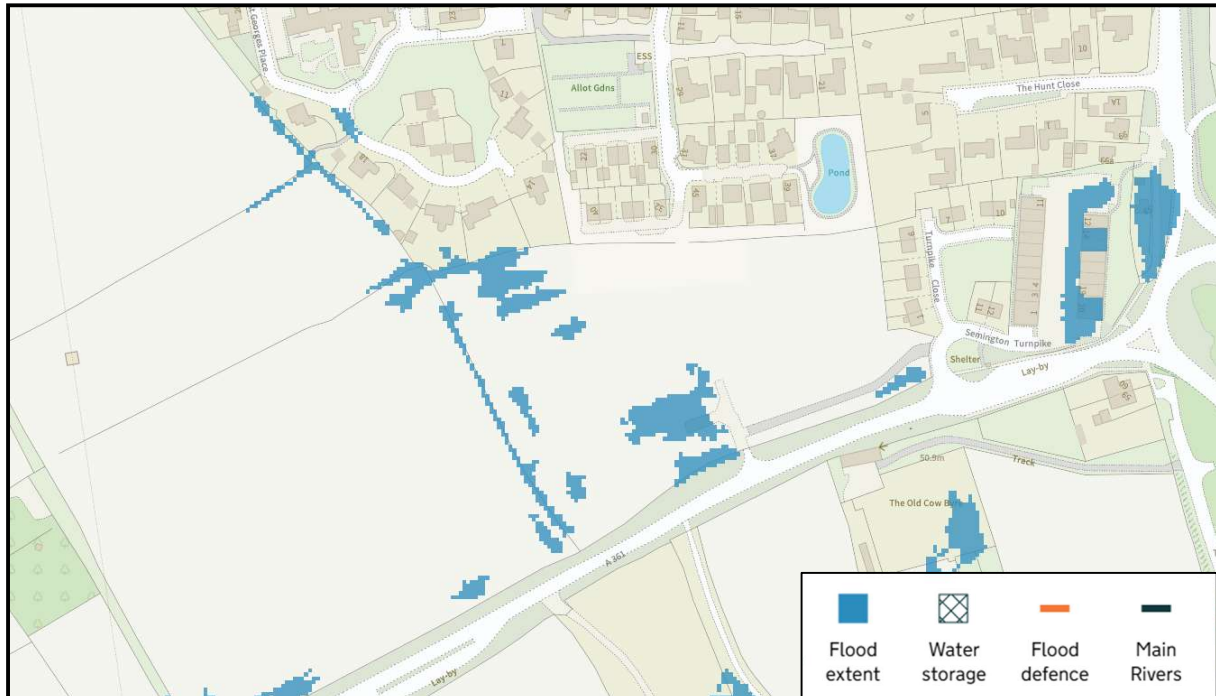
Flood Zones (2070 to 2125)



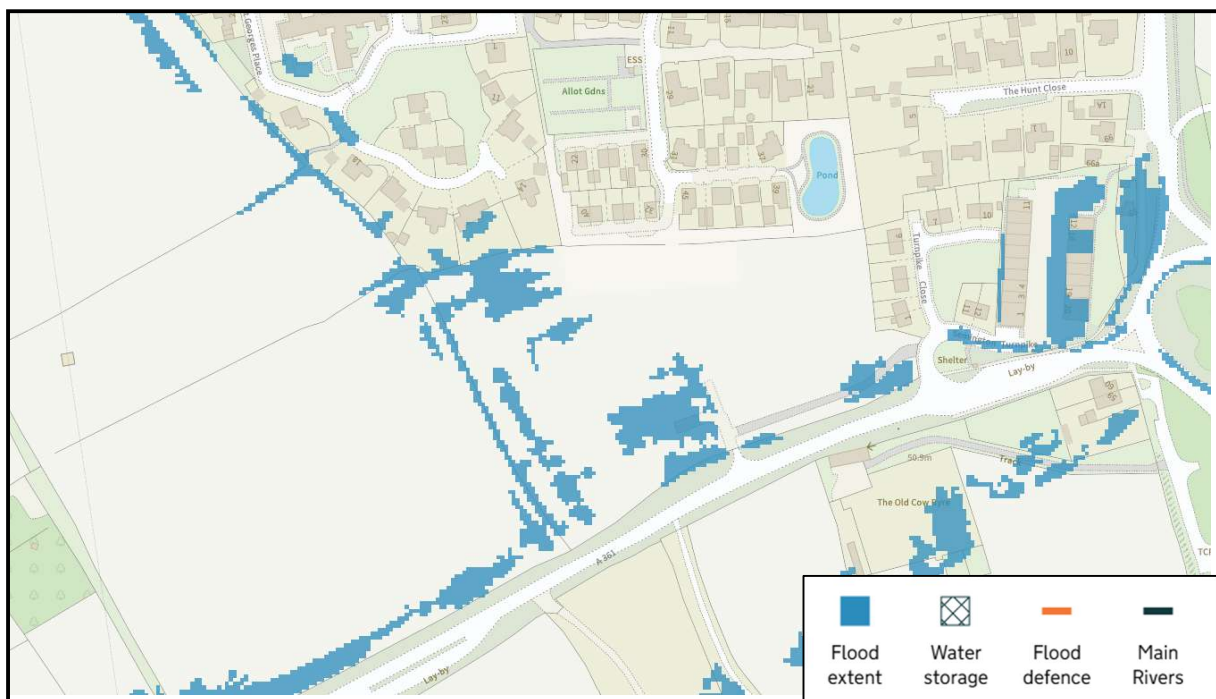
Surface Water Annual Likelihood of Flooding – 1 in 30yr Present Day



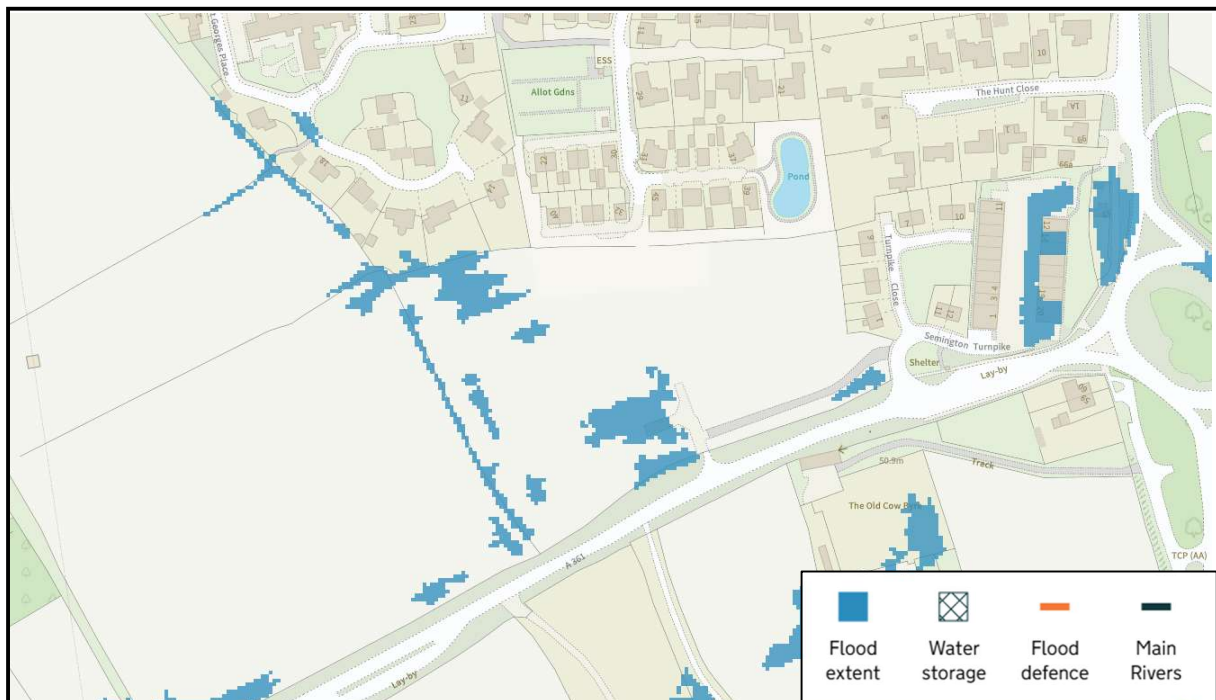
Surface Water Annual Likelihood of Flooding – 1 in 100yr Present Day



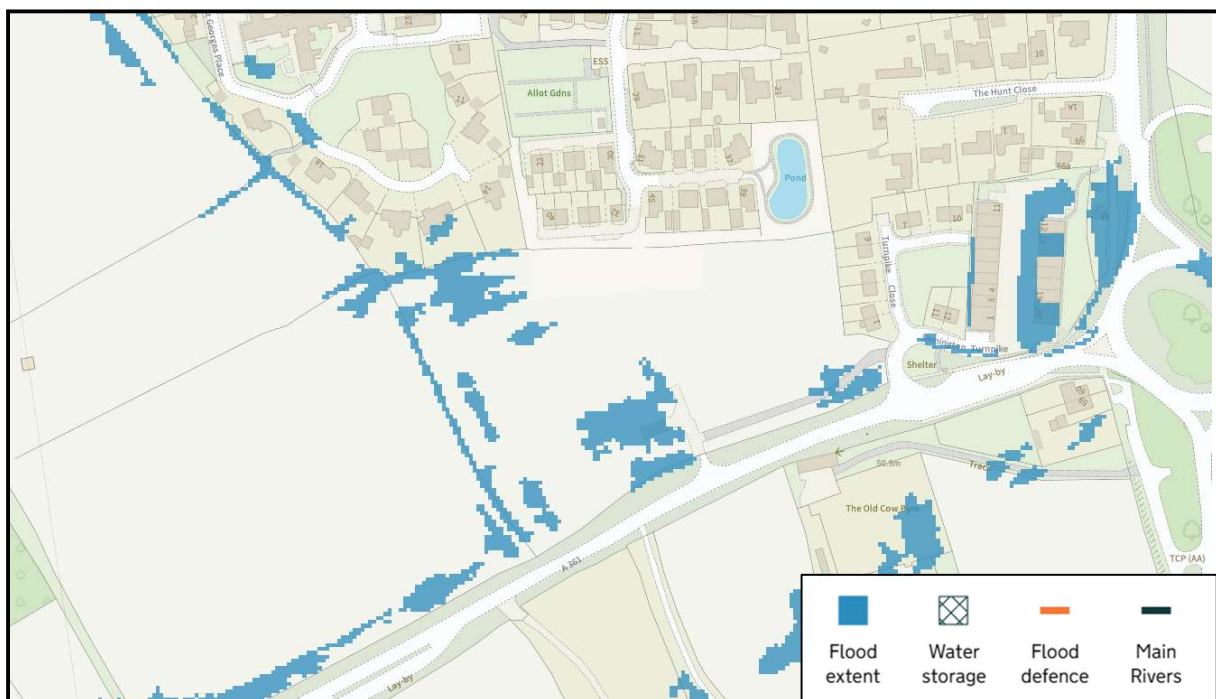
Surface Water Annual Likelihood of Flooding – 1 in 1000yr Present Day



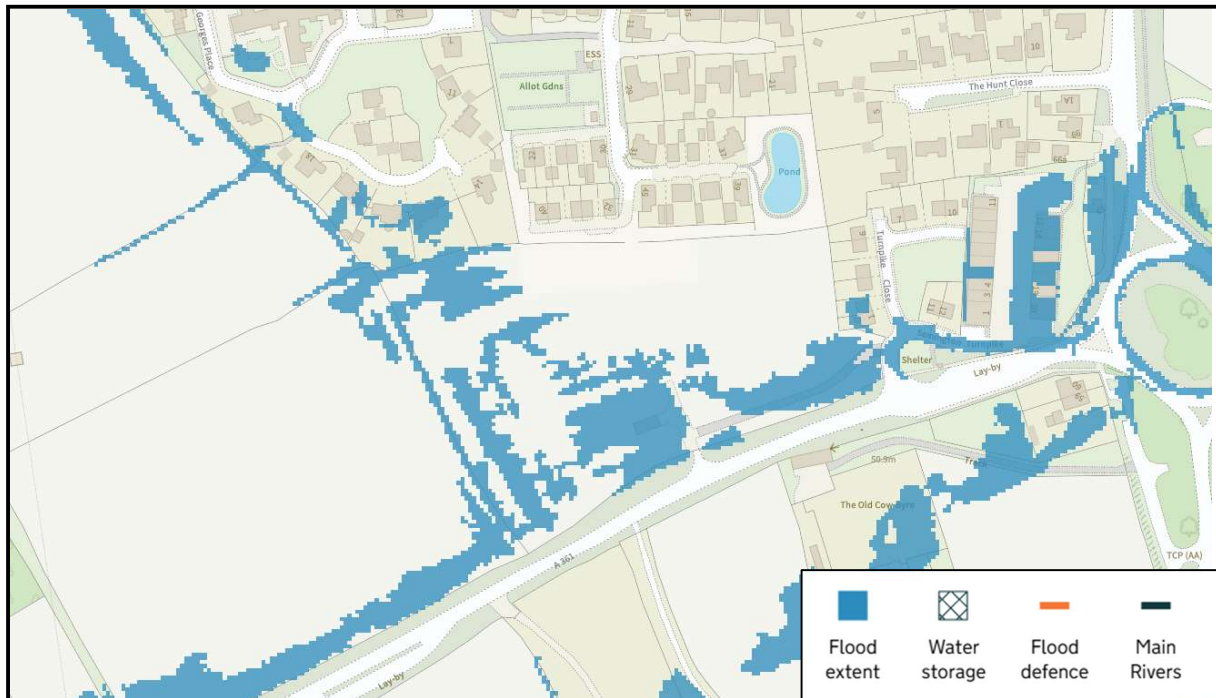
Surface Water Annual Likelihood of Flooding – 1 in 30yr Future (2061-2125)



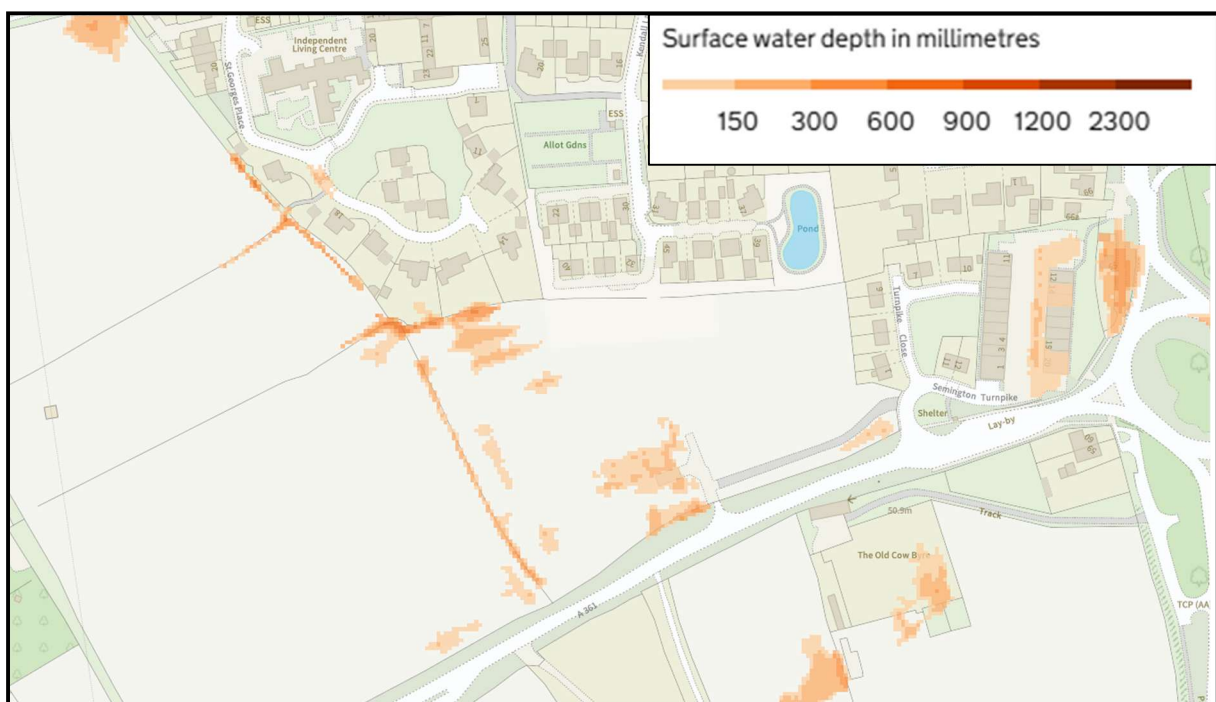
Surface Water Annual Likelihood of Flooding – 1 in 100yr Future (2061-2125)



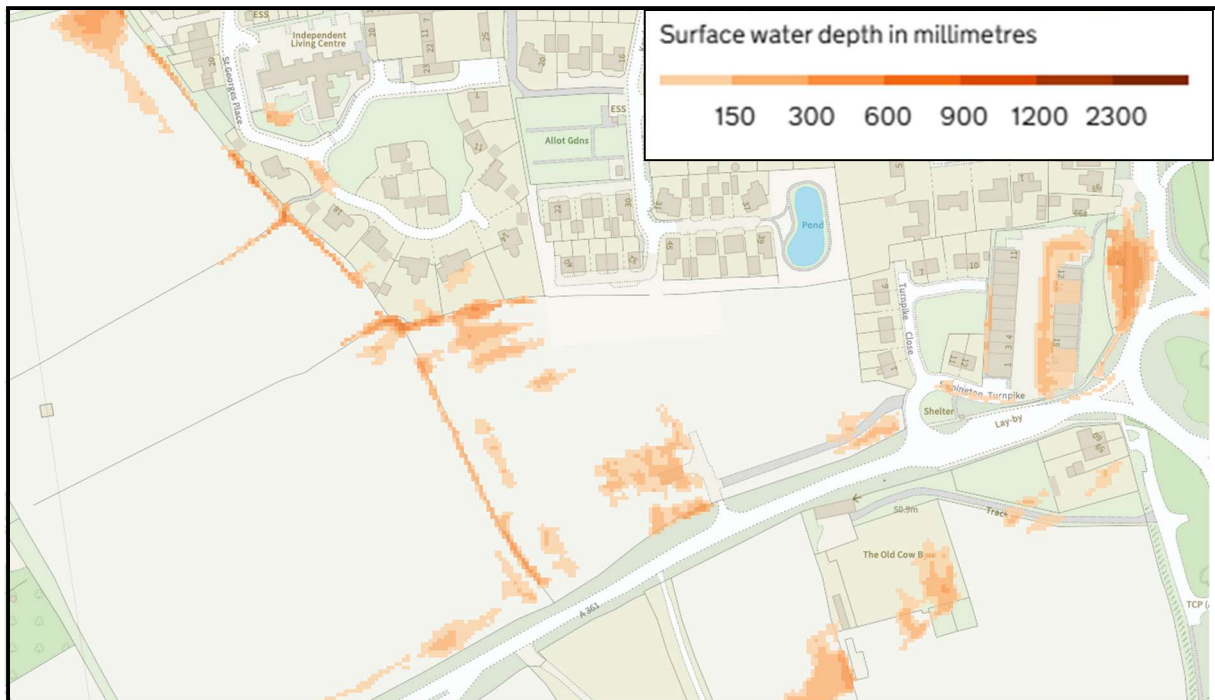
Surface Water Annual Likelihood of Flooding – 1 in 1000yr Future (2061-2125)



Surface Water Annual Likelihood of Flooding Depths – 1 in 30yr Future (2061-2125)

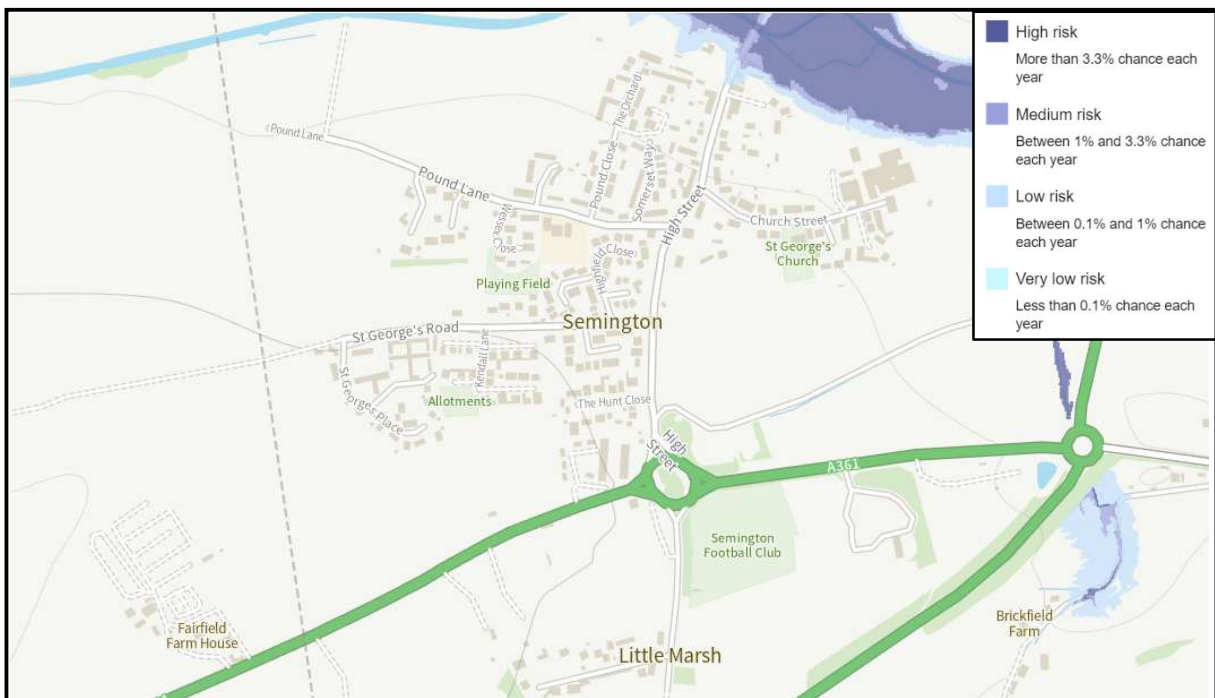


Surface Water Annual Likelihood of Flooding Depths- 1 in 100yr Future (2061-2125)



LONG TERM RISK OF FLOODING MAPPING

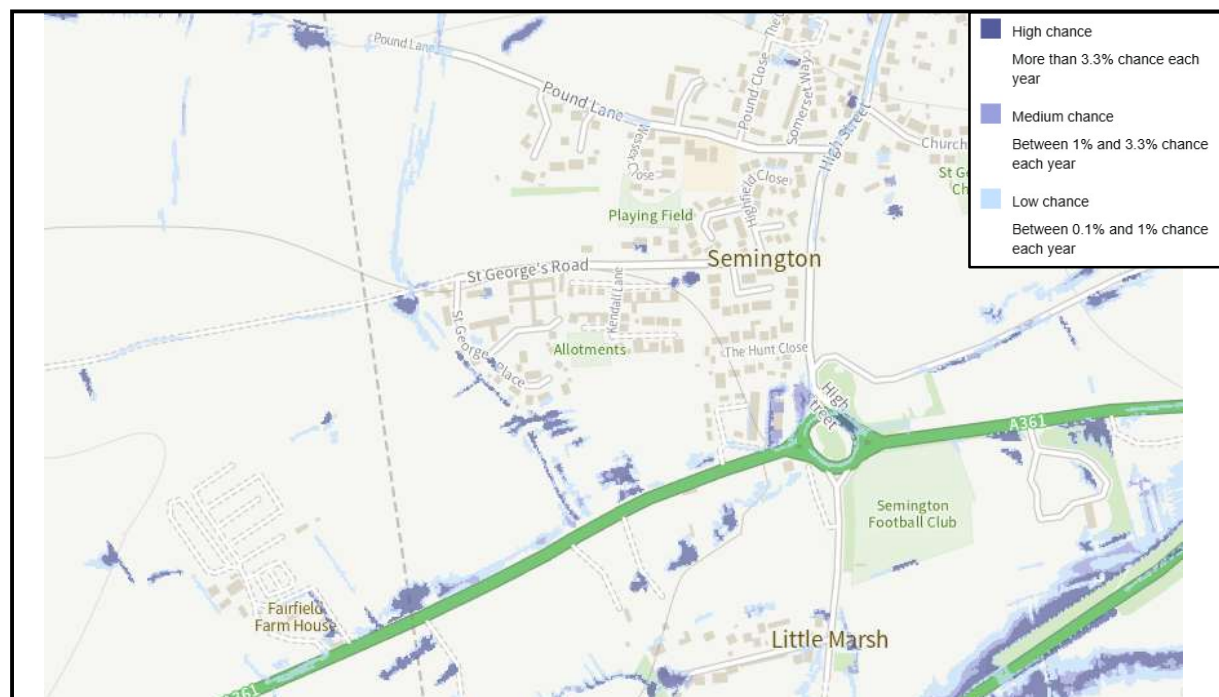
Rivers or Sea – Current



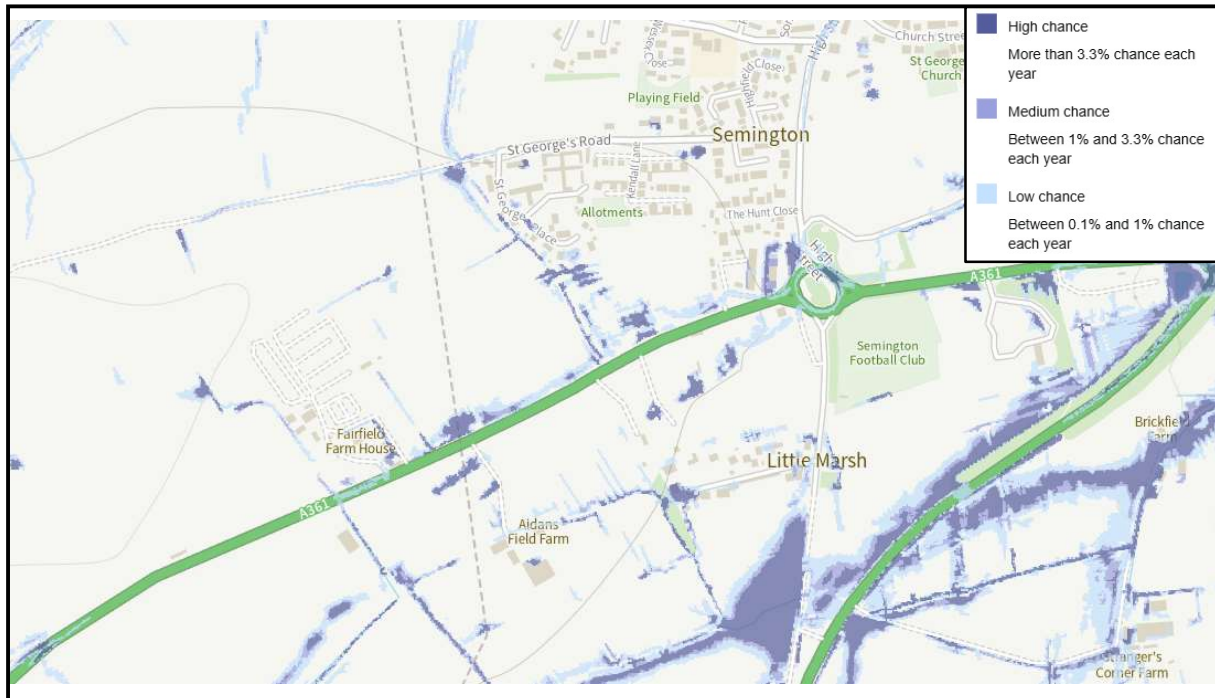
Rivers or Sea – Future (2036-2069)



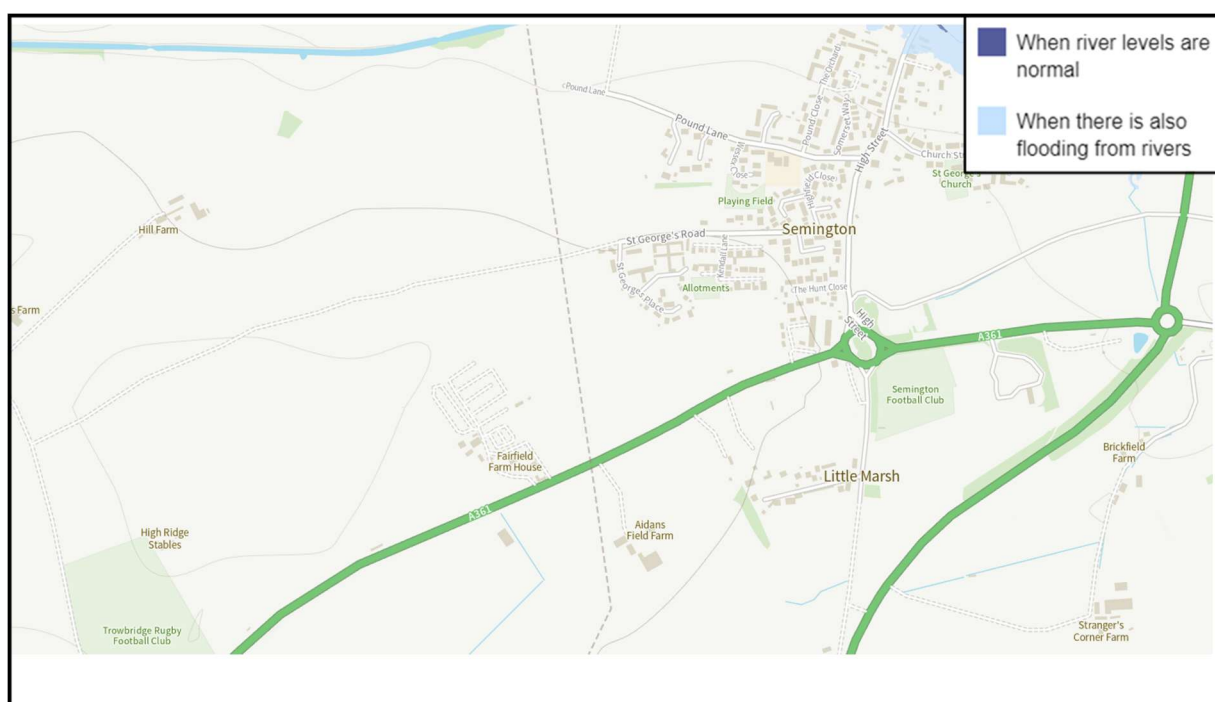
Surface Water – Current



Future (2040-2060)



Long Term Flood Risk - Reservoirs



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APPENDIX C: WW CORRESPONDENCE

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WW Dev Resp PL53247 Turnpike Close, Semington.

From Stella Davies <Stella.Davies@wessexwater.co.uk>

Date Mon 2025-07-07 10:49 AM

To Hollie Waud <holliewaud@betts-associates.co.uk>; Hayley Freeman <Hayley.Freeman@wessexwater.co.uk>

 1 attachment (1,020 KB)

WW Dev Map PL53247 Turnpike Close, Semington.pdf;

Thank you for your recent enquiry. From the information provided it is hard to determine the exact location and site boundary. Only high-level response is available at this stage. Developer is required to submit a new enquiry when housing numbers are known and masterplan is established as this will dictate supply demands.

Map of Wessex Water assets in the vicinity of the area is attached.

-
Foul Sewerage

Wessex Water will accommodate domestic type foul flows in the public foul sewer with connections made on a size for size basis. Developers fund the cost of connecting to the nearest 'size for size' sewer and Wessex Water will manage the sewer network to accommodate foul flows from granted development. We fund this through our infrastructure charging arrangements.

The developer should contact the local development team development.north@wessexwater.co.uk to agree proposals for the Section 104 adoption or Section 106 connection and submit details for technical review prior to construction. We will not accept foul connections from below ground level, foul flows from below ground level must be pumped to ground level prior to connection to the public foul sewer.

Please Note: No surface water runoff or land drainage will be accepted into the foul sewer either directly or indirectly.

Surface Water Drainage:

Surface water must be disposed of via the SuDS Hierarchy which is subject to Building Regulations and NPPF.

No surface water runoff, land drainage or ground water will be accepted into a public sewer that carries sewerage, either directly or indirectly.

The National Planning Policy Framework (NPPF) mandates that Sustainable Drainage Systems (SuDS) must be incorporated into new developments to manage surface water runoff, mitigate flood risks, and provide additional benefits, including enhanced water quality and green spaces. However, the proposed surface water drainage strategy fails to meet NPPF requirements regarding SuDS and sustainable development. Additionally, it omits compliance with the surface water discharge hierarchy.

In line with the drainage hierarchy outlined in Approved Document H of the Building Regulations, Planning Practice Guidance, and the necessity to address water scarcity, all surface water runoff should aim to be discharged as high up the following hierarchy as feasible:

- Rainwater reuse through harvesting or greywater recycling
- An adequate soakaway or other infiltration system

- A hybrid solution involving infiltration and discharge to a surface water body
- Discharge directly to a surface water body (e.g., an ordinary watercourse)
- Discharge to a surface water sewer, highway drain, or other drainage system

Proposed surface water strategy to be agreed with LLFA.

Wessex Water statement on surface water discharge can be accessed via the following link:

<https://developerservices.wessexwater.co.uk/media/m4rjrmg/wwds-dev063p-rainwater-drainage-policy.pdf>

Water Supply – Point of Connection

Water mains are available in the area.

Wessex Water can provide a point of connection for new water mains to be laid into the development site, either through a Section 41 agreement or a self-lay arrangement. Developers may connect to our water network on a 'size for size' basis at their cost and Wessex Water will undertake any network reinforcement that may be required to accommodate granted development, this is funded through our infrastructure charging arrangements.

We can liaise with you to agree the point of connection subject to your site layout.

For more details and guidance for applying to connect to our networks please see our website:

<https://www.wessexwater.co.uk/services/building-and-developing/building-multiple-properties-or-large-developments>

Note: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to planning.liaison@wessexwater.co.uk

Best Regards,

Stella Davies

Senior Planning Liaison Engineer



Wessex Water

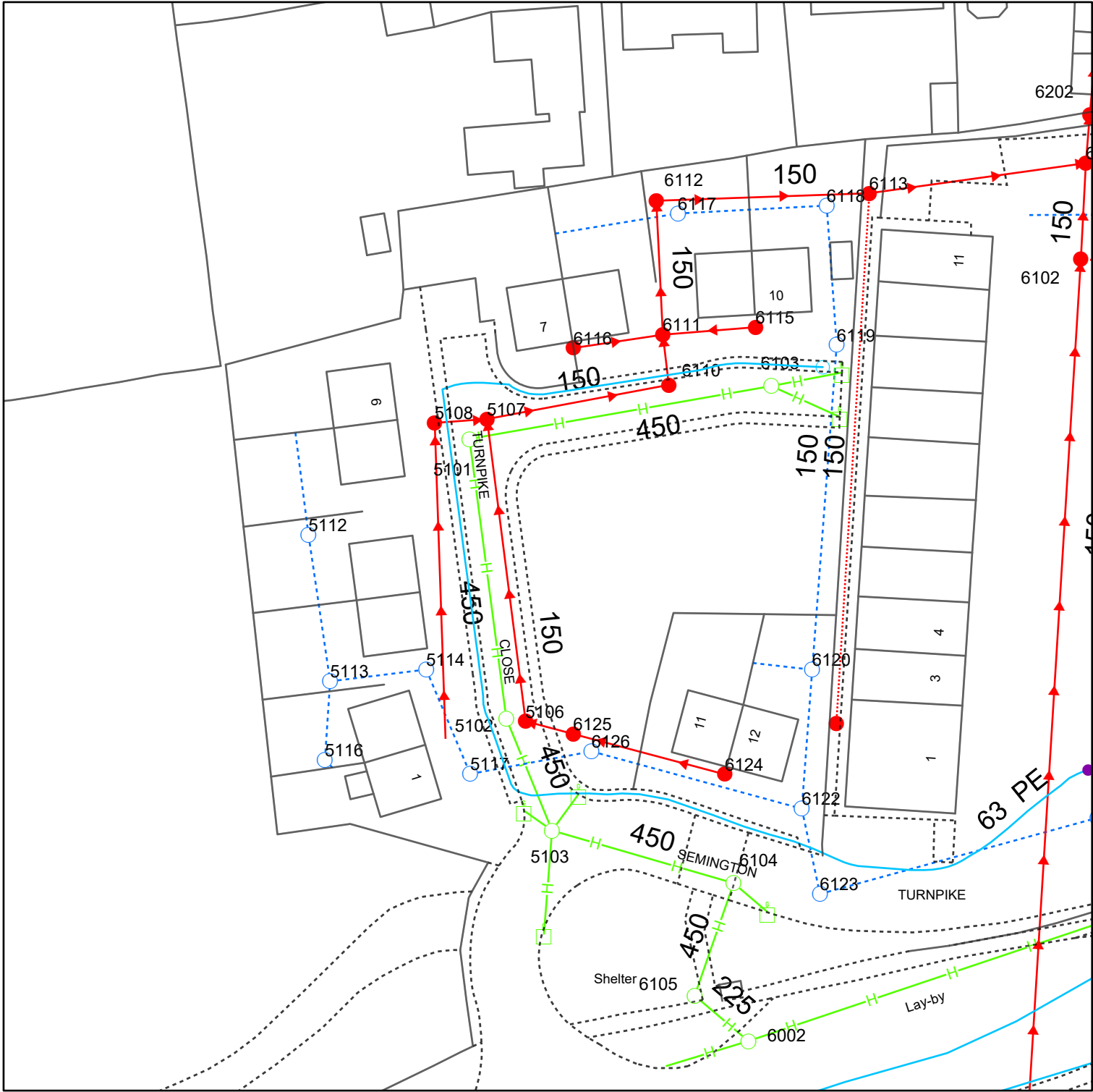
Operations Centre, Claverton Down, Bath BA2 7WW

Web ytl.com | wessexwater.co.uk



Disclaimer

Wessex Water Network Map



Reproduced from the Ordnance Survey map with the permission of the Controller of His Majesty's Stationery Office. © Crown copyright and database rights (2025) OS AC0000848304

WATER MAINS	SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
Distribution	Foul	Surface	Surface	Surface	Rising Mains	Private Rising Mains
Washout	Combined	Surface	Surface	Surface	Standby Rising Mains	Culverted Watercourse
Raw Water	Abandoned	Surface	Surface	Surface	EDM Effluent Disposal	Highway Drain
Abandoned		Surface	Surface	Surface	Overflow	Use Unknown
Private		Surface	Surface	Surface	Syphon	Status Unknown
FITTINGS	STRUCTURES					
Hydrant	Manhole - Foul	Pumping Station - Surface	Pumping Stn - Foul/Combined			
Other	Manhole - Surface	Gully	Vent Column			
	Manhole - Combined	Rodding Eye	Catchpit			
	Inlet	Flushing Chamber	Soakaway			
	Outfall	Non Return Valve	Air Valve			
	Lamphole	Hatch Box	Washout			
	Bifurcation - Foul					
	Bifurcation - Surface					
	Bifurcation - Combined					
	Combined Sewage Overflow					

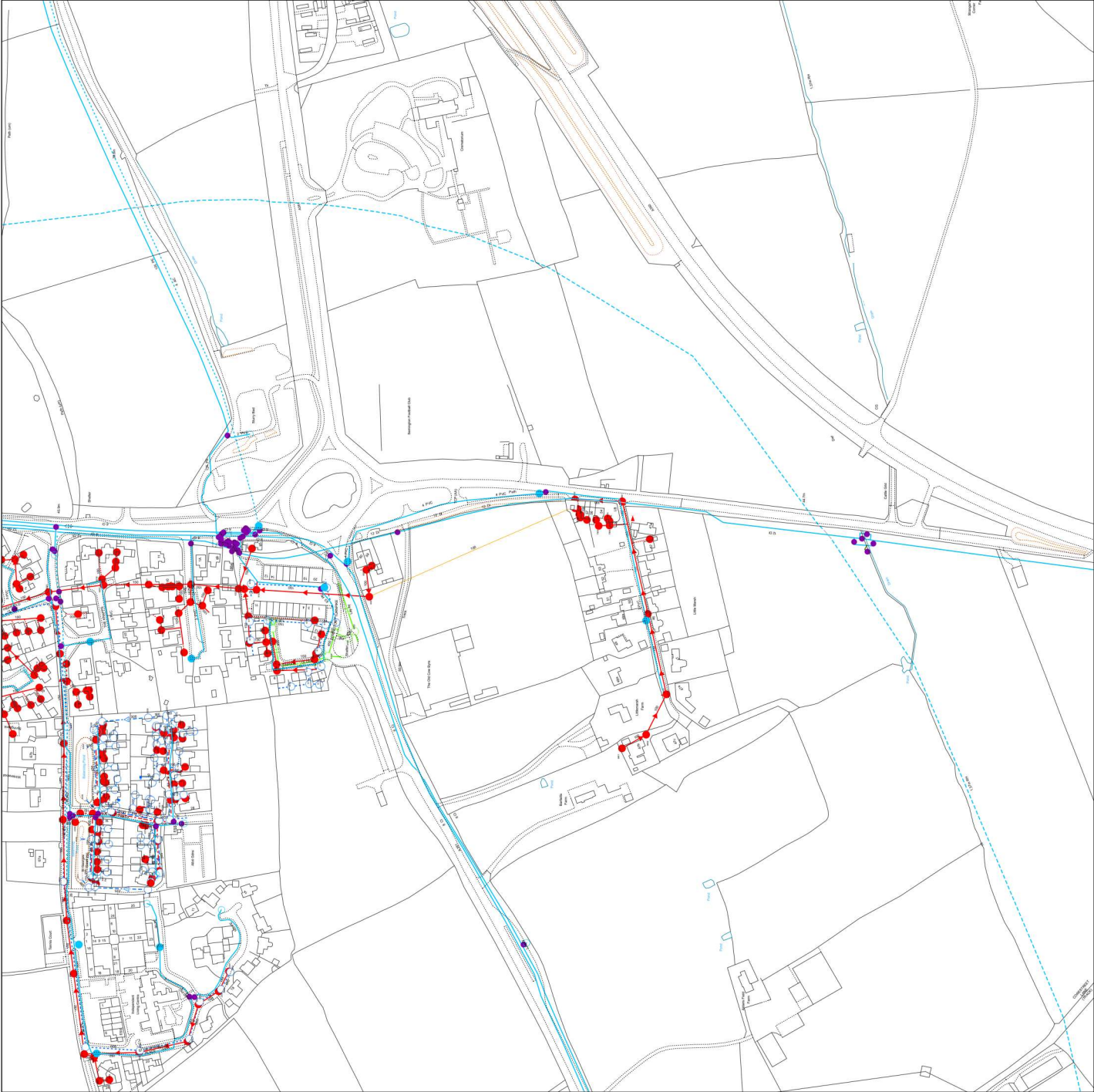
OTHER STRUCTURES

- Attenuation Tank
- Storage Tank
- Chamber
- Tunnel
- Interceptor

Wessex Water
YTL GROUP

Date: 21/10/2025
Centre: 389598E, 160156N
Scale: 1:625
(when printed at A4 size)

Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.



WATER MAINS
Distribution
Washout
Raw Water
Abandoned Private

FITTINGS
Hydrant
Other

SEWERS
Foul
Surface
Combined
Abandoned

STRATEGIC
PUBLIC
PRIVATE

SECTION 104
Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).
Some styles of line and symbol are shown on the key in sample/typical colours.

OTHER WESSEX PIPES
Rising Mains
Standby Rising Mains
Effluent Disposal
Overflow
Syphon
NON-WESSEX / UNKNOWN
Private Rising Mains
Inverted Watercourse
Highway Drain
Unknown
Status Unknown

STRUCTURES
Manhole - Foul
Manhole - Surface
Manhole - Combined
Inlet
Outfall
Lamphole
Bifurcation - Foul
Bifurcation - Surface
Bifurcation - Combined
Combined Sewage Overflow
Pumping Station - Surface
Pumping Station - Foul/Combined
Gully
Vent Column
Rodding Eye
Catchpit
Flushing Chamber
Soakaway
Non Return Valve
Air Valve
Hatch Box
Washout

OTHER STRUCTURES
Attenuation Tank
Storage Tank
Chamber
Tunnel
Interceptor

Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.

Wessex Water
YTL GROUP

Date: 07/07/2025
Centre: 389698E, 159923N
Scale: 1:2,500
(when printed at A2 size)

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APPENDIX D: LPA/LLFA CORRESPONDENCE

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RE: Historic Flood Risk and Drainage Information Request / Turnpike, Semington

From Drainage <Drainage@wiltshire.gov.uk>
Date Fri 2025-07-04 10:30 AM
To Hollie Waud <holliewaud@betts-associates.co.uk>
Cc Drainage <Drainage@wiltshire.gov.uk>

Hi Hollie,

We are unable to provide information outside of the planning process, further information on pre-application advice is available on our website: [Pre-application advice - Wiltshire Council](#)

Best regards,
Emma

Emma Biggs IEng MICE
Drainage Engineer
Highways Asset Management and Commissioning



From: Hollie Waud <holliewaud@betts-associates.co.uk>
Sent: 03 July 2025 09:17
To: Drainage <Drainage@wiltshire.gov.uk>
Subject: Historic Flood Risk and Drainage Information Request

You don't often get email from holliewaud@betts-associates.co.uk. [Learn why this is important](#)

To whom it may concern,

(Turnpike Close, Semington)

Please could you confirm whether you have any information that you feel would be valuable to a Flood Risk Assessment and Drainage Management Strategy for the above site (location plan attached), including details of historical flooding and specific drainage requirements; this would be greatly appreciated. If there are any other specific requirements that you require in a scope of works for this site, please can you advise at this stage so that it can be fully incorporated into the proposals at an early stage.

Please do not hesitate to contact me on the details below to discuss further should you require additional information or clarification.

Kind Regards

Hollie Waud BSc(Hons)

Graduate Flood Risk Analyst

BETTS HYDRO

Consulting Engineers

Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, CH5 2LY

Chester +44 (0)1244 289041

holliewaud@betts-associates.co.uk

www.betts-associates.co.uk

CIVIL | STRUCTURAL | GEO-ENVIRONMENTAL | HYDROLOGY | FLOOD RISK MANAGEMENT

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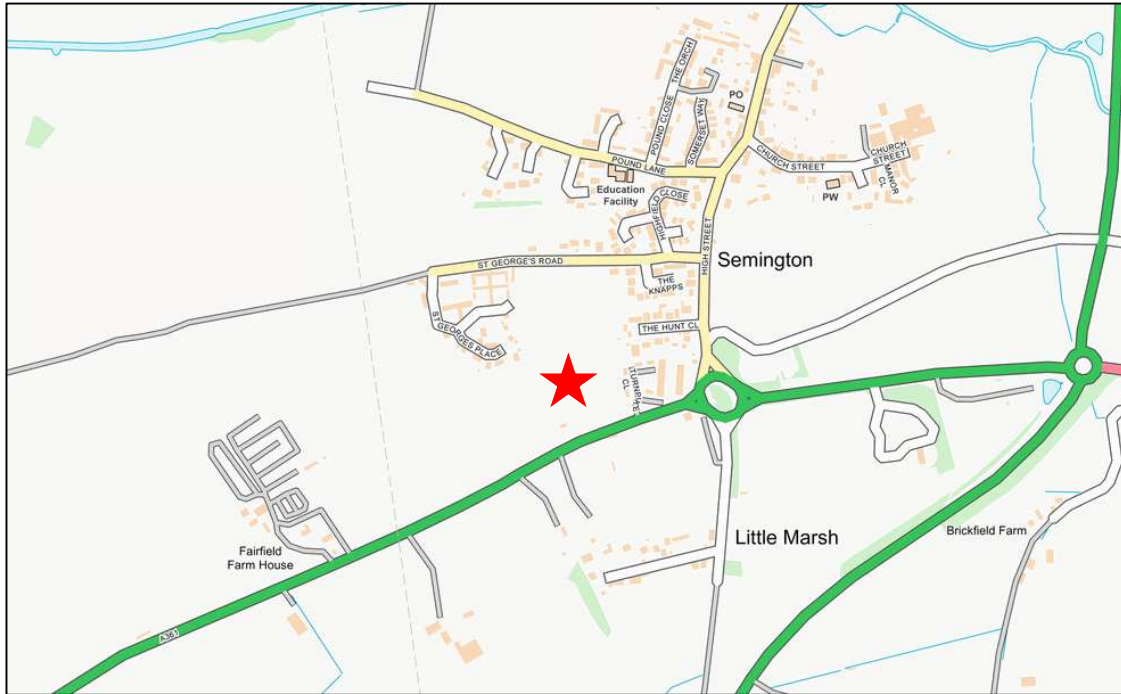
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APPENDIX E: LOCATION PLAN

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LOCATION PLAN

Turnpike Close, Semington



OS X (Eastings)	389391
OS Y (Northings)	160209
Nat Grid	ST893602 / ST8939160209
Nearest Post Code	BA14 6GY
Lat (WGS84)	N51:20:27 (51.340866519510634)
Long (WGS84)	W2:09:13 (-2.1536914267103158)
Lat,Long (WGS84)	51.340866519510634,-2.1536914267103158
Lat (OSGB36)	N51:20:25 (51.340367111065106)
Long (OSGB36)	W2:09:08 (-2.152322541451127)
Lat,Long (OSGB36)	51.340367111065106,-2.152322541451127



APPENDIX F: TOPOGRAPHICAL SURVEY

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