

21 December 2018

Our ref: Stroud 10

Dear Sir/Madam

Stroud District Local Plan Review: Emerging Strategy Public Consultation

Thank you for the opportunity to comment on your consultation. We have provided specific responses to your Issues and Options questions below. In addition we have undertaken a sewer capacity assessment of all the Local Plan Review housing allocation sites to give a high level view of the potential impact, this can be found on the attached document 'Stroud L1SCA Nov 2018'.

Question 2.3a Do you agree with the ways in which the emerging Strategy intends to meet local housing need?

Severn Trent is supportive of your emerging housing strategy. Where you will seek to deliver a mix brownfield and greenfield allocated housing sites, we would however advise you to consider the potential impact of your housing allocation sites on the sewerage network. For some of your greenfield sites identified we have deemed them to be high risk, therefore we would recommend you consider avoiding these sites if possible, especially the sites where both sewerage and surface water impacts have been deemed to be high risk, namely PS20a - M5 Junction 13, PS22 - Coaley Junction, PS24 - West of Draycott, PS31 (SA4a) - Quedgeley East and PS32 - South of M5 / J12.

For the brownfield sites, whilst new development cannot be required to fix existing flooding issues the opportunities presented by the re-development of brownfield land should not be ignored. Good design within these sites has the potential to alleviate and mitigate flooding that occurs, by ensuring that re-development is constructed to the same design standards and any other new development.

Question 3.2a Do you agree with the Strategic Objectives as drafted?

Severn Trent is supportive of Strategic Objective SO5: Climate Change and environmental limits, especially promoting brownfield development and minimising and mitigating against future flood risk, recycling water resources and protecting and enhancing the quality of the District's water resources.

Question 3.2b Have we missed anything?

We suggest that you include an objective to encourage water efficiency. The Severn Trent Water Resources Management Plan 2019 (WRMP19) identifies that we forecast a significant deficit between supply and demand for water, and that one of the key changes that has resulted in this deficit is due to the need to prevent the risk of future environmental deterioration. To ensure that our environment is protected for future customers, some of our current sources of water cannot be

relied upon in the future. One of the ways in which the WRMP19 has committed to mitigating this risk is by: “helping customers to use less water through water efficiency activities and education;”

In support of this goal we would also strongly recommend that local planning authorities incorporate the voluntary building standard of 110 l/p/d into their planning policies so that new development is designed in line with this approach. Further information on water efficiency can be found within the water efficiency section of this response.

Question 4.2a Do you support the broad approach of the emerging growth strategy, in terms of distributing the growth required by national policy for Stroud District?

Severn Trent supports the broad approach of concentrating housing and employment development at larger sites adjacent to the main towns and cities, with some medium sized allocations on the edge of larger villages. This is often considered more sustainable as existing infrastructure is available which can be upgraded to cope with new development. By focussing the growth around the urban edge it is preferred as infrastructure improvements can be focussed in a certain area. We are less supportive of dispersive development as it may require a greater number of investment upgrades in multiple locations where there are existing small diameter sewers and Sewage Treatment Works with less capacity. New settlements, or development in areas where there is no existing network, for example some of the identified sites in Stonehouse have less support due to large infrastructure investment required by both Severn Trent and often the developer. If this is chosen we would wish to be consulted at the earliest opportunity to develop a solution.

Question 4.2b Do you support an alternative strategy approach?

Severn Trent has identified through a high level study that some of the proposed growth sites are expected to cause high risk impacts to the sewerage network and we would therefore suggest you reconsider these sites. In particular the 700 dwelling site ‘PS24 - West of Draycott’ in Cam would have a high risk of flooding and pollution, especially if surface water flows are unable to be managed through SuDS as there are no nearby watercourses or surface water sewers. This means that if surface water flows from this large development connect into the foul sewer network, this would be likely to have significant negative impacts on flooding and pollution.

In addition, we are aware of a large amount of development already planned in the Hardwicke area and an existing growth scheme has been promoted at Severn Trent to make improvements to the network. Additional growth sites in Hardwicke have been identified as high risk and therefore we would be keen for early indications from the Local Council regarding the likelihood of these Local Plan Review sites coming forward so that improvements can incorporate additional growth if required.

Question 4.3c Do you support the idea that the local plan should seek to manage the cumulative impacts of growth on individual settlements?

Severn Trent are supportive of the strategy to manage the cumulative impacts of growth on individual settlements. We would encourage you to consider the cumulative impacts of development on flooding.

We are less supportive of dispersive development as it may require a greater number of investment upgrades in multiple locations where there are existing small diameter sewers and Sewage Treatment Works with less capacity. Where there a multiple developments or multiple developers on

one allocation we would urge you to encourage the developers to work together on an overall drainage strategy with Severn Trent to avoid piecemeal and unsustainable infrastructure being built.

Question 5.1a Assuming some growth is desirable, have we identified the best sites at each town and village?

Severn Trent have undertaken a high level sewer capacity risk assessment for the proposed sites. The medium and high risk sites are specifically identified here with comments. We would encourage you to discuss the high and medium risk sites with us if you wish to carry them forward to the local plan, as we will need to model these sites to better understand the impact and the need for potential infrastructure improvements. It is important to note that whilst we are highlighting sites with risk here, we have a statutory duty under the Water Industries Act 1991 to provide capacity for planned development.

Briscombe and Thrupp

Site	Comment	Risk
PS02 (SA1e) Brimmscombe Port	There are 11 reported flooding incidences and 6 pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is a Combined Sewer Overflow (CSO) downstream which may be affected causing increased pollution.	Medium – Sewerage Risk

Minchinhampton

Site	Comment	Risk
PS04 South of Cirencester Road	This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network which will impact on the capacity of the network.	High – Surface Water
PS05 East of Tobacconist Road	Development is on a greenfield site. There are 10 reported flooding incidences and 7 pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network which will impact on the capacity of the network.	Medium – Sewerage Risk High – Surface Water

Nailsworth

Site	Comment	Risk
PS06 The New Lawn, Nailsworth	<p>Development is mostly on a greenfield site. There are 8 reported flooding incidences and 4 pollution incidences along the network to the treatment works, but modelling will be required to assess the scope for any capacity improvements.</p> <p>This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network.</p>	<p>Medium – Sewerage</p> <p>High – Surface Water</p>
PS07 North of Nymphsfield Road / Nortonwood Junction	<p>This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network.</p>	<p>High – Surface Water</p>

Stroud

Site	Comment	Risk
PS10 Railway land / car parks, Cheapside	<p>Development is on a greenfield site (currently a car park). There are 15 reported flooding incidences and 10 pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is a sewerage improvement scheme planned for Stroud to address flooding and pollution issues, therefore as long as growth in the catchment is accounted for it is likely that the scheme can reduce the impact.</p>	<p>Medium – Sewerage Risk</p>
PS13 Central river / canal corridor	<p>Development is on a brownfield site. There are 7 reported flooding incidences and 8 pollution incidences along the network to the treatment works. There is a large pumped CSO within the site with associated reported pollution incidents which may be adversely affected by any increase in flow.</p>	<p>Medium – Sewerage Risk</p>

Kings Stanley

Site	Comment	Risk
PS14 Stanley Mills	Development is on a brownfield site. There are no reported flooding incidences and 1 pollution incidences along the network to the treatment works. The pollution incident is associated with the CSO adjacent to the site which may be affected by the additional flows.	Medium – Sewerage Risk

Stonehouse

Site	Comment	Risk
PS19a North/northwest of Stonehouse	There are no nearby sewers to connect to. The nearest sewer drains to a pumping station which may require capacity increase to accommodate these flows. There are no reported flooding incidences and 4 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements.	High – Sewerage Risk
PS19b North/northwest of Stonehouse	Development is on a greenfield site. There are no reported flooding or pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements.	Medium – Sewerage Risk
PS20a M5 Junction 13	<p>There are no nearby sewers to connect to. The nearest sewer drains to a pumping station which may require capacity increase to accommodate these flows. There are no reported flooding incidences and 4 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements.</p> <p>This is a greenfield site. Surface water should be managed on site using SuDS. There are no existing surface water sewers in the vicinity of the site, and no watercourses. Surface water flows may have to be connected into the foul sewer network.</p>	<p>High – Sewerage Risk</p> <p>High – Surface Water</p>
PS20b M5 Junction 14	There are no nearby sewers to connect to. The nearest sewer drains to a pumping station which may require capacity increase to accommodate these flows. There are no reported flooding incidences and 4 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements.	High – Sewerage Risk

Cam

Site	Comment	Risk
PS22 Coaley Junction	<p>Development is on a greenfield site. There is 1 reported flooding incidence close to the site and no reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is currently a growth scheme being promoted in the area to accommodate the large amount of development in the area that is already planned and being built. This new potential site would affect that scheme.</p> <p>This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network.</p>	<p>High – Sewerage Risk</p> <p>High – Surface Water</p>
PS23 Rear of 4-60 Draycott	<p>Development is on a greenfield site. There are 2 reported flooding incidences and 2 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is a CSO where the trunk sewers cross the River Cam which may experience increased spill frequency as a result of this development.</p>	<p>Medium – Sewerage Risk</p>
PS24 West of Draycott	<p>Development is on a greenfield site. There are 2 reported flooding incidences and 2 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is a CSO where the trunk sewers cross the River Cam which may experience increased spill frequency as a result of this development.</p> <p>This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network.</p>	<p>High – Sewerage Risk</p> <p>High – Surface Water</p>
PS25 East of River Cam	<p>Development is on a greenfield site. There are 3 reported flooding incidences and 2 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. There is a CSO where the trunk sewers cross the River Cam which may experience increased spill frequency as a result of this development.</p>	<p>Medium – Sewerage Risk</p>

Dursley

Site	Comment	Risk
PS29 North of Ganzell Lane	<p>Development is on a greenfield site. There are 8 reported flooding incidences and 4 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements.</p> <p>This is a greenfield site. Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity in addition to there being no nearby watercourse to discharge to. Surface water flows may have to be connected into the foul sewer network.</p>	<p>Medium – Sewerage Risk</p> <p>High – Surface Water</p>

Hardwicke & Whaddon

Site	Comment	Risk
PS30 (SA4) Hunts Grove extension	<p>Development is on a greenfield site. There are no reported flooding incidences and 3 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. The flows may affect a growth scheme currently being promoted in the Hardwicke area.</p>	<p>Medium – Sewerage Risk</p> <p>High – Surface Water</p>
PS31 (SA4a) Quedgeley East	<p>Development is on a greenfield site. There are no reported flooding incidences and 3 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. The small existing pumping station serving this area may need to be upgraded and the flows may affect a growth scheme currently being promoted in the Hardwicke area.</p>	<p>High – Sewerage Risk</p> <p>High – Surface Water</p>
PS32 South of M5 / J12	<p>Development is on a greenfield site. There are no reported flooding incidences and 3 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity improvements. The small existing pumping station serving this area may need to be upgraded and the flows may affect a growth scheme currently being promoted in the Hardwicke area.</p>	<p>High – Sewerage Risk</p> <p>High – Surface Water</p>
G1 South of Hardwicke	<p>Development is on a greenfield site. There are no reported flooding incidences and 1 reported pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of any capacity requirements. There is currently a growth scheme being promoted in the</p>	<p>High – Sewerage Risk</p>

	area to accommodate the large amount of development in the area that is already planned and being built. This new potential site would affect that scheme.	
G2 Land at Whaddon	Development is on a greenfield site. There are 4 flooding incidences and 4 pollution incidences along the network to the treatment works, but modelling will be required to assess the scope of the any capacity requirements.	High – Sewerage Risk

Please keep us informed when your plans are further developed when we will be able to offer more detailed comments and advice.

For your information we have set out some general guidelines that may be useful to you.

Position Statement

As a water company we have an obligation to provide water supplies and sewage treatment capacity for future development. It is important for us to work collaboratively with Local Planning Authorities to provide relevant assessments of the impacts of future developments. For outline proposals we are able to provide general comments. Once detailed developments and site specific locations are confirmed by local councils, we are able to provide more specific comments and modelling of the network if required. For most developments we do not foresee any particular issues. Where we consider there may be an issue we would discuss in further detail with the Local Planning Authority. We will complete any necessary improvements to provide additional capacity once we have sufficient confidence that a development will go ahead. We do this to avoid making investments on speculative developments to minimise customer bills.

Sewage Strategy

Once detailed plans are available and we have modelled the additional capacity, in areas where sufficient capacity is not currently available and we have sufficient confidence that developments will be built, we will complete necessary improvements to provide the capacity. We will ensure that our assets have no adverse effect on the environment and that we provide appropriate levels of treatment at each of our sewage treatment works.

Surface Water and Sewer Flooding

We expect surface water to be managed in line with the Government’s Water Strategy, Future Water. The strategy sets out a vision for more effective management of surface water to deal with the dual pressures of climate change and housing development. Surface water needs to be managed sustainably. For new developments we would not expect surface water to be conveyed to our foul or combined sewage system and, where practicable, we support the removal of surface water already connected to foul or combined sewer.

We believe that greater emphasis needs to be paid to consequences of extreme rainfall. In the past, even outside of the flood plain, some properties have been built in natural drainage paths. We request that developers providing sewers on new developments should safely accommodate floods which exceed the design capacity of the sewers.

To encourage developers to consider sustainable drainage, Severn Trent currently offer a 100% discount on the sewerage infrastructure charge if there is no surface water connection and a 75% discount if there is a surface water connection via a sustainable drainage system. More details can be found on our website

<https://www.stwater.co.uk/building-and-developing/regulations-and-forms/application-forms-and-guidance/infrastructure-charges/>

Water Quality

Good quality river water and groundwater is vital for provision of good quality drinking water. We work closely with the Environment Agency and local farmers to ensure that water quality of supplies are not impacted by our or others operations. The Environment Agency's Source Protection Zone (SPZ) and Safe Guarding Zone policy should provide guidance on development. Any proposals should take into account the principles of the Water Framework Directive and River Basin Management Plan for the Severn River basin unit as prepared by the Environment Agency.

Water Supply

When specific detail of planned development location and sizes are available a site specific assessment of the capacity of our water supply network could be made. Any assessment will involve carrying out a network analysis exercise to investigate any potential impacts.

We would not anticipate capacity problems within the urban areas of our network, any issues can be addressed through reinforcing our network. However, the ability to support significant development in the rural areas is likely to have a greater impact and require greater reinforcement to accommodate greater demands.

Water Efficiency

Part G of Building Regulations specify that new homes must consume no more than 125 litres of water per person per day. We recommend that you consider taking an approach of installing specifically designed water efficient fittings in all areas of the property rather than focus on the overall consumption of the property. This should help to achieve a lower overall consumption than the maximum volume specified in the Building Regulations.

We recommend that in all cases you consider:

- Single flush siphon toilet cistern and those with a flush volume of 4 litres.
- Showers designed to operate efficiently and with a maximum flow rate of 8 litres per minute.
- Hand wash basin taps with low flow rates of 4 litres or less.
- Water butts for external use in properties with gardens.

To further encourage developers to act sustainably Severn Trent currently offer a 100% discount on the clean water infrastructure charge if properties are built so consumption per person is 110 litres per person per day or less. More details can be found on our website

<https://www.stwater.co.uk/building-and-developing/regulations-and-forms/application-forms-and-guidance/infrastructure-charges/>

We would encourage you to impose the expectation on developers that properties are built to the optional requirement in Building Regulations of 110 litres of water per person per day.

We hope this information has been useful to you and we look forward in hearing from you in the near future.

Yours sincerely

Strategic Catchment Planner

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