

16 January 2020

Our ref: Stroud 11

Dear Sir/Madam

Stroud District Council Local Plan Review Draft Plan Consultation

Thank you for the opportunity to comment on your consultation, we have the following comments to make regarding Stroud District Council Local Plan Review.

Core Policy DCP1 Delivering Carbon Neutral by 2030 – Severn Trent is supportive of this policy to become Carbon Neutral by 2030 as changing climates present significant risks to both water availability and frequency of rainfall events amongst other impacts. At Severn Trent we have also pledged to become Carbon Neutral by 2030 with additional targets to use 100% renewably sourced electricity and have 100% electric vehicles by 2030.

Core Policy CP2 Strategic growth and development locations – We have conducted a high level desktop assessment of the potential impact of the proposed development allocations to the sewer network. The full assessment document has been included as part of this response on the attached document ‘Stroud L1SCA Jan 2020’. The following sites have been identified as high or medium risk to the sewer network and we therefore recommend that as plans develop for these sites you contact Severn Trent to discuss in more detail.

Site Ref	Site Name	Settlement	Comments
PS02 (SA1e)	Brimscombe Port	Brimscombe and Thrupp	Site will drain to Stanley Downton Sewage Treatment Works. Development is on a brownfield site therefore opportunities for surface water betterment should be considered. 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.
PS05	East of Tobacconist Road	Minchinhampton	Site will drain to Stanley Downton Sewage Treatment Works. 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. Surface Water drainage has flagged as high risk as there are no surface water sewers in the vicinity of the site and no watercourses nearby. Surface water should be managed onsite through SuDS, however if infiltration is found not to be feasible there is the risk that surface water will be connected into the foul network.

PS06	The New Lawn, Nailsworth	Nailsworth	Site will drain to Stanley Downton Sewage Treatment Works. 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. Surface Water drainage has flagged as high risk as there are no surface water sewers in the vicinity of the site and no watercourses nearby. Surface water should be managed onsite through SuDS, however if infiltration is found not to be feasible there is the risk that surface water will be connected into the foul network.
PS10	Railway land/ car parks, Cheapside	Stroud	Site will drain to Stanley Downton Sewage Treatment Works. 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.
PS13	Central river / canal corridor	Stroud	Site will drain to Stanley Downton Sewage Treatment Works. Development is on a brownfield site therefore opportunities for surface water betterment should be considered. There are 7 reported flooding incidences and 8 pollution incidences along the network to the treatment works. There is a large pumped Combined Sewer Overflow (CSO) within the site with associated reported pollution incidents which may be adversely affected by any increase in flow.
PS14	Stanley Mills	Kings Stanley	Site will drain to Stanley Downton Sewage Treatment Works. Development is on a brownfield site therefore opportunities for surface water betterment should be considered. 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.
PS19a/ PS19b	North/north west of Stonehouse	Stonehouse	Site will drain to Stanley Downton Sewage Treatment Works. There is an existing scheme for this location. PS19a - 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. PS19b – This part of the site would drain to a pumping station to the south of the site, this development would double the population served by this asset and would likely affect its performance.
PS20a/ PS20b	M5 Junction 13	Stonehouse	Site will drain to Stanley Downton Sewage Treatment Works. There is an existing scheme for this location. 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

			<p>modelling will be required to assess the scope of any capacity improvements.</p> <p>Additionally for PS20a surface water drainage has flagged as high risk as there are no surface water sewers in the vicinity of the site and no watercourses nearby. Surface water should be managed onsite through SuDS, however if infiltration is found not to be feasible there is the risk that surface water will be connected into the foul network.</p>
PS24	West of Draycott	Cam	<p>Site will drain to Coaley Sewage Treatment Works. 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>Additionally for PS24 surface water drainage has flagged as high risk as there are no surface water sewers in the vicinity of the site and no watercourses nearby. Surface water should be managed onsite through SuDS, however if infiltration is found not to be feasible there is the risk that surface water will be connected into the foul network. At present there is a growth scheme to provide network improvements for the allocations made in the current adopted plan and known planning applications, these proposed allocations are currently not within scope but the scheme is aware of them.</p>
PS25	East of River Cam		
PS30 (SA4)	Hunts Grove extension	Hardwicke	<p>Site will drain to Netheridge Sewage Treatment Works. A growth scheme is already promoted for the area, Phase 1 has been completed for previous plan allocations. There are reported pollution locations in the downstream network and modelling is required to determine the cumulative impact of these sites. Small existing pumping station serving are at Quedgeley East and South of M5/J12 sites may need to be upgraded.</p> <p>Additionally, for parts of PS30, PS31 and PS32 surface water drainage has flagged as high risk as there are no surface water sewers in the vicinity of the site and distance to nearby watercourses maybe large for some parts of the site. Surface water should be managed onsite through SuDS, however if infiltration and discharge to the watercourse is found not to be feasible there is the risk that surface water will be connected into the foul network. For large areas of growth on multiple development sites close to each other it is important that developer work together towards an overarching area drainage strategy and developers are therefore urged to contact Severn Trent at the earliest opportunity.</p>
PS31 (SA4a)	Quedgeley East		
PS32	South of M5 / J12		
G1	South of Hardwicke		
PS43	Javelin Park		
G2	Land at Whaddon	Whaddon	<p>Site will drain to Netheridge Sewage Treatment Works. 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</p>

			requirements. Due to the large number of units being built, there may be inadequate capacity within the sewer system for the additional flows and capacity improvements may be needed. This is not currently included within scope of the existing growth scheme for the south of Gloucester.
PS46	Land west of School Lane	Whitminster	Site will drain to Frampton Sewage Treatment Works. There are 2 flooding incidences in the downstream network. Site would drain to nearby SPS and hydraulic modelling is required to determine the impact.

It is useful to note that there are existing sewer capacity improvement schemes in place for Stroud, Stonehouse, South of Gloucester and Cam. These improvement schemes have been made aware of the planned growth outlined in this Draft Local Plan to ensure where appropriate and sufficient confidence is available that these developments are taken into consideration in these schemes. As these sites are being considered as part of these existing schemes, if any changes to the plan, in particular if these sites are unlikely to come forward for allocation we would ask that you contact Severn Trent at the earliest opportunity to ensure that we are able to plan schemes and the spending of customer's money in the most efficient ways.

In addition to the comments above regarding medium and high risk sites it is important to draw out in particular the proposed allocation PS37 Land at Wisloe due to the size of the development.

Site Ref	Site Name	Settlement	Comments
PS37	Land at Wisloe	Wisloe	<p>Site will drain to Coaley Sewage Treatment Works. This development stretches over a length of 2km and there are no nearby gravity sewers to connect to, but it is close to Coaley sewage treatment works. It will require a new pumping station to pump the flows directly to the sewage treatment works. Site is considered low risk if it connects directly to the Sewage Treatment Works. The site would be high risk if it were to connect to the Cambridge catchment to the North, this should therefore be avoided.</p> <p>Surface water should be managed on site through SuDS. There are no existing surface water sewers in the vicinity, part of the site will be able to drain to the river Cam, other parts may not, if infiltration and connection to the watercourse is not feasible and connection to the foul sewer is sought this site would be high risk.</p> <p>This site is not currently in scope of the existing Cam growth scheme.</p>

Core Policy CP5 Environmental development principles for strategic sites – Severn Trent is supportive of this policy and in particular the requirement of strategic sites to incorporate sustainable construction techniques, particularly subsections C and D.

We are supportive of all policies which encourage developers to incorporate SuDS as they represent the most effective way of managing surface water flows whilst being adaptable to the impacts of climate change, and providing wider benefits around water quality, biodiversity and amenity.

We are also supportive of all policies that encourage water resource efficiency, particularly the use of water efficient fittings and appliances within new properties. We encourage of the optional higher water efficiency target of 110 Litres per person per day within part G of building regulations. Delivering against the optional higher target or better provides wider benefits to the water cycle and environment as a whole. This approach is not only the most sustainable but the most appropriate direction to deliver water efficiency.

Delivery Policy HC8 Extensions to dwellings – Urban creep of impermeable area is amongst one of the contributing factors as to why the likelihood and severity of intense rainfall events is predicted to increase. We would therefore recommend that policy wording is included to promote the use of permeable paving where there may be a loss of permeable area due to extensions and paving over gardens.

Delivery Policy DHC7 Provision of new open space and built and indoor sports facilities –

Severn Trent is supportive of this policy, open and green spaces can also provide multiple additional benefits to a site's drainage strategy if designed appropriately and can in some cases form part of a wider site SuDS strategy. We would therefore encourage the inclusion of a comment which states that provision and design of new open space should be designed in conjunction with the site drainage strategy.

Core Policy CP11 New employment development – Severn Trent is supportive of this policy, in particular section 5.

Delivery Policy EI2 Regenerating existing employment sites – Severn Trent is supportive of this policy to regenerate existing employment brownfield land sites. Good design on the regeneration of brownfield developments has the potential to alleviate and mitigate flooding by ensuring that re-development is constructed to the same design standards as any other new developments. Development in this form has the potential to remove any stigma associated with areas of derelict and dilapidated development, creating newer better places to live. We therefore encourage you to include the following policy wording to support this:

'All development of previously developed land shall undertake a surface water outfall assessment to determine if there are any viable alternatives to the existing connection to the combined sewer network'

Supporting text should include:

'Assessment of alternative surface water outfalls should be proportionate to the scale of development and any existing flood risk within the area. Surface water flows from the proposed re development of the site should also be reduced in accordance with current national guidance such that the discharge'

Core Policy CP14 High Quality sustainable development – Severn Trent is supportive of this policy, in particular sections 2, 3, 4 and 6.

Delivery Policy ES1 Sustainable construction and design – Severn Trent is supportive of this policy, in particular section 4. It is vital that we reduce the amount of water used as there are issues with the future sustainability of some of our water sources. There are a number of steps that we as a business are undertaking including working to reduce leakage, finding alternative sources of supply and investing in new technologies. We are supportive of the use of water efficient fittings and appliances within new properties, we encourage of the optional higher water efficiency target of 110 Litres per person per day within part G of building regulations. Delivering against the optional higher target or better provides wider benefits to the water cycle and environment as a whole. This approach is not only the most sustainable but the most appropriate direction to deliver water efficiency. We therefore recommend the inclusion into section 4 the following wording:

‘Development proposals should demonstrate that the estimated consumption of wholesome water per dwelling is calculated in accordance with the methodology in the water efficiency calculator, should not exceed 110 litres/person/day. Developments should demonstrate that they are water efficient, where possible incorporating innovative water efficiency and water re-use measures.’

Delivery Policy ES3 Heat Supply – Severn Trent is supportive of this policy, we are aware of the possible future potential of utilising sewer heat to provide a heat source for communal heating systems. Whilst the innovative technology is under development and requires further testing before it is widely adopted it may be possible that Severn Trent would be interested in exploring any opportunities for trials.

Delivery Policy ES4 Water resources, quality and flood risk – Severn Trent is supportive of this policy. We are in particular supportive of the policy wording on SuDS and sections 3, 4, 5 and 6. We are supportive of the inclusion of the Drainage Hierarchy in section 4 as the most sustainable approach to managing surface water drainage. We are also supportive of section 6, consideration of the cumulative impact of development, and would like to re-iterate that for multiple development sites (sometimes part of a single allocation or multiple nearby allocations) site drainage masterplan is important in ensuring that multiple developers across different development sites work together towards an approved overall drainage strategy.

We recommend the inclusion of the following wording:

‘The development of an overall master plan for the development will enable strategic infrastructure to serve multiple development parcels to be designed appropriately looking to provide wider benefits and efficiencies in design that would not otherwise be possible. The masterplan should also outline key milestones that need to be achieved for critical infrastructure prior to the commencement of some phases. This will help to align programmes between multiple stakeholders.’

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 sewer 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

growth.development@severntrent.co.uk