

Written evidence submitted by Severn Trent

We welcome the opportunity to submit evidence to this consultation. Flooding of all types has the potential to interact with our sewerage network and can lead to severe impacts on people's homes and businesses. Flooding can also lead to the inundation of water supply infrastructure and result in disruption to the provision of drinking water to those we serve.

The onus is on Severn Trent to understand the impact of flooding on our own networks; however, our capability to do this is underpinned by the data and analysis produced by the Environment Agency, the Met Office and Defra. In addition, the physical defences provided and the approach to flood risk management taken by the Environment Agency and Local Authorities also plays a part in determining the impact that flooding has on the services we provide.

In our response we have focussed on three of the four key topics outlined in the consultation terms of reference: predicting the future; protecting communities and infrastructure; and planning for floods. In our response we highlight:

- The need for a unified set of flood maps (primarily river and surface water).
- The impacts of climate change should be included in future flood maps.
- If designed correctly the new UKCP18 climate scenarios presents an opportunity to empower end users to manage future flood risk more effectively.
- Potential funding bodies should recognise that there are complex interactions between different types of flooding and reflect this in their approach to funding. We think this would further empower water companies to play a greater role in flood management.
- The automatic right for new developments to connect to the public sewer system should be removed.
- Water companies should be made statutory consultees on all planning applications that have implications for the public sewer network.
- Clarification over the legal aspects of water companies adopting SuDs that others have built.

### Predicting the future

Flood maps are used by many businesses and communities to determine their current flood risk exposure. It would be beneficial to unify all types of flood maps, primarily surface water and river flood maps. The type of flooding is somewhat irrelevant to those experiencing the negative impact it causes and there is also physical interaction between the types of flooding. Unifying the maps, to create an integrated view of flood risk, would encourage a more joined-up approach to flood risk management.

We would welcome the introduction of future flood maps to complement existing flood maps (ideally an integrated future flood map). These maps would allow users to understand how the risk is evolving over time due to the impacts of climate change. These could take the form of flood maps for each decade, covering the next 100 years or so. It is important that a long time scale is covered because many of the assets built today – particularly in the water sector – have very long asset lives. It is critical that flood risk is understood throughout the life of an asset, not just when it is newly constructed. Users are familiar with flood maps, so the introduction of future flood maps would be a straightforward and user-friendly step. We view future flood maps as essential in order to manage flooding in an efficient and effective way.

At the moment flood guidance is issued by the Environment Agency on how to accommodate future climate change in terms of uplifts to river flow rates. However, river flow rates are not the same as flood levels that appear on flood maps. It is flood levels that are extremely important for many users who undertake flood risk analysis. Flood levels are particularly helpful in revealing in locations where there is no current risk, but there

will be in the future. The existing mix of maps of current flood levels and future uplifts to flow rates is confusing to the end user and relies on additional analysis to be done in order to identify changes to flood risks. Unified maps of future flood levels would help solve this issue.

We have an opportunity with the update to the UK climate scenarios (UKCP18), which is being produced by the Met Office under contract to Defra, to address these issues. The intention is that this update to the climate scenarios will have end-users needs' in minds and be more user friendly than their predecessor, UKCP09. Through careful consideration of the requirements from the government and business communities the UKCP18 project could produce outputs that represent a step-change in how we empower better management of flood risk. For example, changes to flood height and river flow could be produced by the UKCP18 project. This would involve additional analysis in the production of the scenarios compared to UKCP09 and in return would deliver multiple benefits including:

- Greater relevance to the end users of the new UKCP18 scenarios, leading to greater uptake.
- Greater consistency of flood risk analysis (without flood depths being produced directly from UKCP18 the gap will be filled by consultants who will all have their own ways for processing the data and will lead to inconsistent flood analysis).

Early indications from the UKCP18 Non-Governmental User Group suggest that the new scenarios will not include changes to future river flows or flood heights. The omission of these factors would be a mistake and a missed opportunity to empower communities, businesses and government to manage flood risks more effectively.

Protecting communities and infrastructure:

Funding arrangements tend to be set up with a very simplistic view of flooding i.e. to address flooding from a river OR flooding from surface run off OR flooding from a highway drain OR flooding a sewer. However, this does not work particularly well when assets to manage different types of flooding interact and sources of flooding interact – as is the case with the sewerage network. In these cases responsibilities become shared between organisations and the framework for allocating funding does not cope well with this more complicated view of flooding.

This leads to sub-optimal solutions and missed opportunities for partnership working. Recognition from all potential funding bodies that there are complex interactions between different types of flooding and reflecting this in their approach to funding would be positive step forward. We think this would further empower water companies to play a greater role in flood management – beyond interventions to alleviate sewer flooding or protecting their own assets from flooding.

Planning for floods:

There are a number of areas where improvement could be made that would have significant positive implications for the way surface water is managed in new developments, all of which would have a positive wider impact on flooding.

- Removal of the automatic right for new developments to connect to the public sewer system, as recommended by the 2008 Pitt Review and Flood and Water Management Act 2010. This could act as a catalyst to increase the uptake of SuDS, as developers would have no alternative other than to include them in all new developments.
- Making water companies statutory consultees on all planning applications that have implications for the public sewer network. It is a positive step forward that Lead Local Flood Authorities have recently

been made statutory consultees on the surface water impacts of major developments; however, we think this should be extended to water companies. This would not only encourage early engagement on the use of sustainable solutions, but would also aid companies' long term planning for their networks.

- Water companies may construct, maintain and operate drainage systems that take pressure off the public sewerage system, including sustainable drainage systems. The legal basis is set out in section 114A of the Water Industry Act 1991, as amended by the Water Act 2014. However, there is still confusion over the legal aspects of water companies adopting SuDs others have built. Further clarity is essential as the current situation acts to discourage companies from adopting third party SUDS. Once adopted, water companies would then be responsible for long-term maintenance with costs included within wholesale wastewater bills.