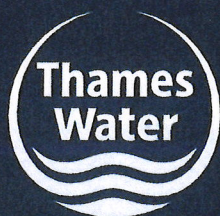


(ii) Fairford Drainage Strategy – Stage 1, Thames
Water, 2016

Fairford Drainage Strategy

Stage 1 - Initialise/Prepare



At the heart of daily life

Introduction

Why sewer flooding

Britain's first sewerage systems were constructed 150 years ago in the Victorian era, and have served us well for generations. The sewer network Thames Water operates today has been much improved and vastly extended over the years; yet it remains under increasing pressure.

Everyday our network manages the demands of one of the world's busiest and most densely populated capital cities, and its urbanised surrounding areas; together with the equally complex

challenges arising in our predominantly rural catchments in the Thames Valley, Surrey and Kent.

A number of factors including population growth, less frequent but heavier rainfall, the urbanisation of green spaces and changes in agricultural land practices, and utilised machinery, occasionally overwhelm our sewer network. The result can be unwanted sewer flooding for customers and our neighbouring natural environments.

This document contains:

- an Introduction to the work we are undertaking to alleviate sewer flooding in our region
- a Feedback: Q&A section addressing key questions from customers and stakeholders
- the Fairford Drainage Strategy technical document.

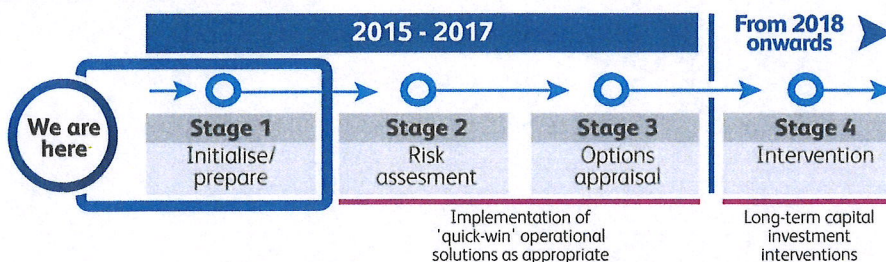
What can be done and when?

Sewer flooding is unacceptable. We have undertaken extensive customer research and initiated a programme of work to improve drainage and alleviate sewer flooding issues across our region.

We are adopting the good practice Drainage Strategy framework* developed by the Environment Agency and Ofwat, the water industry economic regulator,

to produce a drainage strategy for our affected catchments with a primary focus on our sewerage network. As outlined in Figure 1, the strategies will develop throughout the 4-stage framework to define how we intend to alleviate sewer flooding or to address growth related issues in each area sustainably, and economically, over the next few years.

Figure 1 High-level Drainage Strategy framework* and estimated delivery and intervention timeline**



* The detailed 4-stage Drainage Strategy framework can be found in the following Drainage Strategy document. ** The estimated delivery timeline is dependent on factors including weather conditions and is, therefore, open to change. The intervention timeline includes the implementation of 'quick-win' operational solutions throughout Stage 2 & 3, and long-term capital investment interventions in Stage 4.

Who will resolve the sewer flooding?

There are a number of stakeholders who, like us, have important drainage responsibilities and therefore, play an essential role in resolving sewer flooding in our region. These stakeholders include customers, private land owners and the Environment Agency; to name but a few. We are seeking to work in partnership with all stakeholders to ensure that together, we implement and maintain the most effective and sustainable drainage strategies.

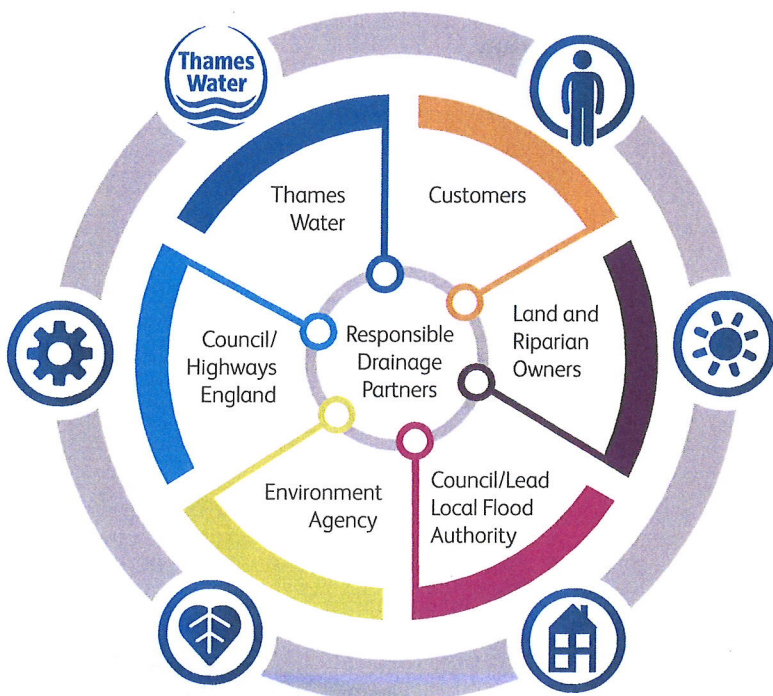
Just as our responsibilities to improve drainage and alleviate sewer flooding focus on removing and treating wastewater; other stakeholders' responsibilities include managing local flood risk on riverbanks, ground water,

land and highways, utilising appropriate agricultural practices and maintaining private drains.

We take full responsibility for resolving all drainage and sewer flooding issues that fall within our remit. If the causes of sewer flooding sit outside of this, we will support the responsible stakeholder to resolve the issue and to reduce the impact on customers.

Figure 2 provides a high-level view of the stakeholders responsible for drainage in each catchment area, more detail regarding responsibilities can be found in Section 1 of the following Drainage Strategy document.

Figure 2 Partners with Drainage Responsibilities



Next steps

Over the coming months we will undertake the following activities as this drainage strategy develops:

2015 - 2017



Customer Focus Actions

- Continue to consult with customers during this stage and every stage, through meetings, communications and surveys. We have gained important customer feedback during this first stage, which we are using to shape our activities
- Publish strategy documents for comment and contribution, throughout this framework process.



Partnership Actions

- Continue to establish partnership working with the regional drainage stakeholders, and agree ongoing consultation processes.



Other Key Actions

- Define catchment flooding uncertainties
- Prepare flooding risk data
- Undertake ongoing repair work to our sewer network, as the strategy develops and our investigations identify reparation work linked to drainage and flooding issues.

We will **regularly consult with customers and stakeholders, update and republish** this document throughout this 4-stage framework process.

Feedback: Q&A

Your questions answered

We are committed to listening to, consulting and collaborating with customers and stakeholders on our sewerage network activities and plans. We have addressed key feedback and questions raised by customers and stakeholders in the Fairford catchment, and customers affected by flooding throughout the region, in this Feedback Q&A section. As far as possible, and as is relevant to Stage 1 in the framework process, we have incorporated feedback from customers and stakeholders into our network strategy development. More detail can be found throughout the following Drainage Strategy document.

Q1 Will undertaking this Drainage Strategy framework process defer essential work in our area?

Answer

It is essential for us to complete this drainage strategy process, which has been developed and recommended by the water industry economic regulator Ofwat, and the Environment Agency. This will enable us to better understand the root cause of the sewer flooding issues affecting the catchment, before any major investment can be considered. However, we may carry out some repair works as this strategy develops, in the event that our investigations identify faults or problems with the sewerage network that are highly likely to have caused flooding, as outlined

in Section 7 of the Drainage Strategy document. Our previous investigations have identified some sources of inflow, such as the misconnection of surface water to foul sewers. However, as stated in the following strategy, we are not yet able to say how much this impacts on flooding and will update this as our plan develops through Stage 2 to Stage 3 – Option Appraisal. Therefore, this more detailed approach is required to ensure that the most effective and sustainable drainage strategies are implemented in the Fairford catchment.

We are committed to **listening to, consulting and collaborating** with customers and stakeholders on our sewerage network activities and plans.

Q2 What drainage actions are you undertaking in our area, and when will they be happening?

Answer

As stated above, we are developing our plan for this area and will provide further details as our plan develops through Stage 2 to Stage 3 – Option Appraisal. The following drainage actions have already been undertaken, or are underway, in the Fairford catchment:

Actions completed include: (For more information please see Table 2)

1. Sewer flooding alleviation scheme
2. Site reconnaissance
3. Permanent monitoring of sewer levels.
4. Customer surveys.

Actions underway or planned include: (For more information please see Table 4)

1. Stakeholder engagement
2. Permanent monitoring of pumping station
3. Sewage treatment works storm discharge monitoring
4. Sewer and manhole surveys
5. Connectivity surveys
6. Innovative solutions analysis.

Q3 Are you renovating the sewers in our area?

Answer

We will renovate sewers which have been damaged, either as they have aged or through other streetworks activities. As our strategy work continues, we will target and repair localised sewer defects identified

through our investigations as contributing to, or causing, drainage and flooding issues in the catchment over the coming months.

Q4 What are the improvement plans for Fairford's sewage treatment works to manage capacity?

Answer

The Fairford sewage treatment works operates a fully-compliant permanent storm overflow which permits us to discharge into local watercourses during storm events. To meet changing performance requirements and regulatory measures the works has undergone upgrades over the years. The capacity

of the sewage treatment works is being reviewed due to the amount of new development now proposed within the catchment. Assessments will be undertaken to understand the phasing of the proposed future development and growth, and the operational implications for the existing sewage works.

Q5 How are you planning for future development in the catchment?

Answer

As per Section 5.3 in the following Drainage Strategy document, we will continue to closely monitor development applications in the catchment and assess the impact that they may have on the capacity of our operations in the future. As part of this process a number of developer funded impact studies have already been undertaken and recommendations have been made regarding the need to provide enhancements to the sewerage system, if the proposed development is to proceed. Concerns have also been raised with Cotswold District Council and a formal

request has been made for drainage conditions to be imposed on the more recent planning applications.

We will continue to work with all involved stakeholders through our stakeholder engagement activities, to monitor local plans and planning applications and to incorporate current and projected developments into our business planning cycle, to ensure that our service is maintained for customers throughout the catchment's development.

Q6 Are you working with the Highway Authority to resolve blocked gullies, sewers and ditches, and with landowners to reduce field run-off, as both affect drainage and our sewers?

Answer

In Section 1 of the following Drainage Strategy document, we outline the other stakeholders who, like us, have important drainage responsibilities and, therefore, play an essential role in resolving sewer flooding issues in this catchment area. As Highways maintenance activities and agricultural land maintenance practices sit outside of our remit we will work with the responsible stakeholders, to highlight these issues where this is found to have a major influence and impact on our sewerage network.

We will continue to work closely with the Council and Highways England to understand the extent to which flood waters may be escaping from highway or land drainage systems; and impacting the foul sewer network. An update on this issue will be shared with customers and featured in the later stages of this Drainage Strategy document.

Q7 Is an Infiltration Reduction Plan (IRP), required for this catchment?

Answer

Ensuring that our drainage strategies fully meet the requirements of an Infiltration Reduction Plan, as set out in the Environment Agency's Regulatory Position Statement, is a fundamental consideration in their development. Therefore, to maintain our service to customers during future wet weather events, if we need to discharge to watercourses through temporary overflows, a dedicated section will be included in each affected strategy, providing details of their location and intended use. This section will be included and /or revised when each strategy is updated.

Following extreme weather conditions during the winters of 2012/13 and 2013/14 tankering was utilised in the Fairford catchment, however, temporary pumps were not used. In the event that temporary overflows are required, as stated above, we will describe their location and the circumstances under which we would use them. Together with plans to reduce infiltration, this drainage strategy would then fully meet the requirements of an Infiltration Reduction Plan.

Q8 Why are costs a consideration within your Wastewater outcomes?

Answer

The service we provide is the most fundamental of all – at the heart of daily life for the 15 million customers we serve. Getting it right is our focus every day, and we never forget it is paid for by customers.

As a regulated company we have to carefully balance service and cost in order to keep customer bills affordable, whilst delivering our outcomes and customer service commitments.

Q9 How are you ensuring that our local pumping stations are operating effectively?

Answer

The stations are supported by 24 hour diagnostic monitoring so that we can tightly control their operation through a flow of real-time information. Based on this performance data we can respond quickly through site visits by our engineers, and both project and rectify potential issues before they occur.

As we move through this 4-stage framework process and further develop our drainage strategy for this catchment, we will review the operational control options of these stations, particularly during wet weather, carefully avoiding increasing the risk of sewer flooding in doing so.

Q10 Are growth and urban creep minor factors in these rural catchments?

Answer

When compared against the rest of the Thames Water region, the urban creep rate for Fairford is about average for the Thames Water Operational Area and, therefore, not as high as suburban areas around central London and major towns.

Relatively small population increases in these smaller rural catchments can be influential on sewer flows, hence the need for us to closely monitor planning

applications. Similarly urban creep, and in particular misconnection of surface water and change of land use, can have a significant impact on sewer flooding; particularly when permeable areas such as grass are replaced with hard-standings and driveways.

More growth and urban creep information can be found in Section 5.1 of the following Drainage Strategy document.