Reducing our reliance on storm overflows

The number one reason storm overflows spill is because of the amount of rainwater entering the sewers all at once

Our strategy

In our strategy to reduce the number of storm overflow spills in Dawlish, we focused on reducing the overall amount of rainwater finding its way into our combined sewers.

Changes in rainfall

Rainfall in the South West has changed in recent years, due to climate change. Rain is now less frequent, but more intense, causing much larger volumes of surface water to enter our sewers all at once. Prolongued periods of heavy rain can then cause storm overflows to spill.

Adapting to the climate

We are reducing our reliance on storm overflows by:

- Reducing the amount of rainwater and groundwater entering the system
- Slowing the flow of water through the environment
- Increasing our network's capacity to store and treat flows

What that means for you

In Dawlish, we're doing that by surface water separation and, increasing the network's holding capacity by installing more storm tanks.

Did you know that the average size of our sewers is only 15cm wide?

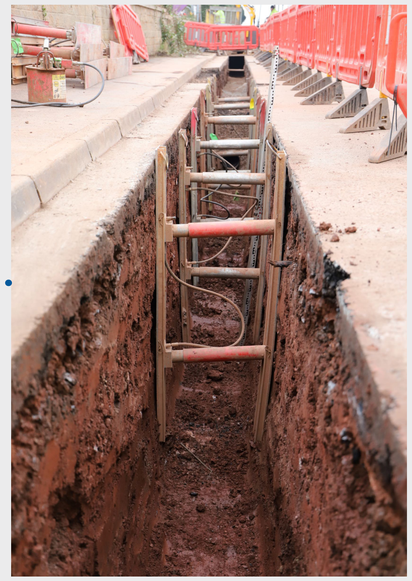
Works we've completed in Dawlish since 2019

Increased storm storage to hold more rainwater

Upsized sewers to increase capacity

Upgraded manholes to reduce the risk of infiltration

Completed our first phase of surface water separation, removing more rainwater from the network



Before

In the past, our work has focussed on increasing the resilience of the sewerage network in Dawlish so that it could better cope with the area's growth, now and into the future.

Going forwards

Now, our focus can shift to reducing the use of storm overflows at specific locations to protect the bathing waters and environment, and achieve our target of a maximum of 10 spills in Dawlish per year by March 2026, of which only 2 spills in the bathing season.

The network in Dawlish

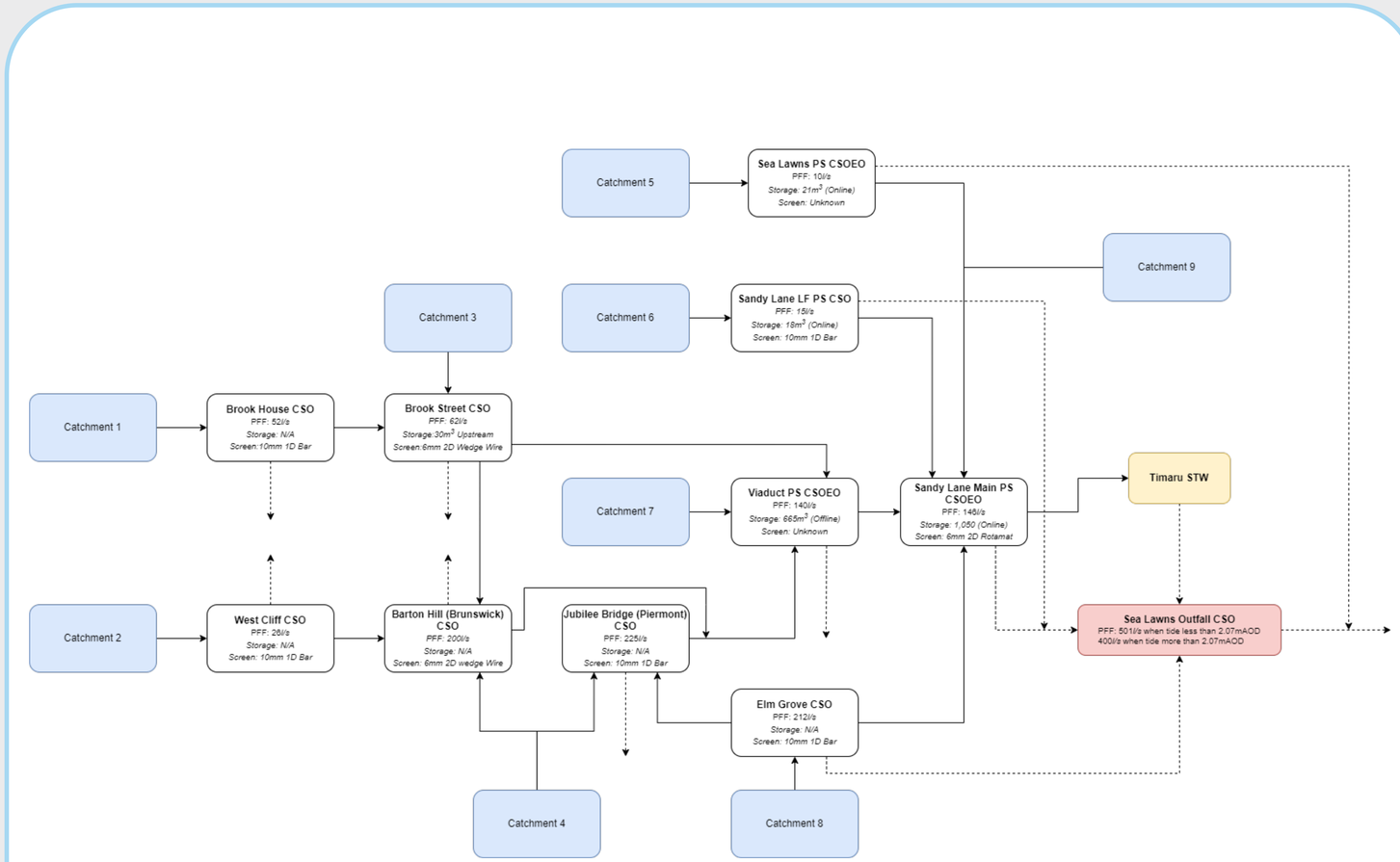
Dawlish is made up of several sub-catchments collecting wastewater from homes, businesses and roads. These flows are then sent to either of the two main sewage pumping stations (SWS).

The Viaduct SPS

Receives flow from 5.5 sub-catchments then pumps these flows to the Sandy Lane SPS

The Sandy Lane SPS

Receives its own 3.5 catchment flows, then pumps the collective flows across to the Timaru sewage treatment works.



Plans for The Lawn and Sandy Lane

The Lawn and sports centre car park on Sandy Lane are going to be sites for new underground storm tanks which will hold rainwater as it waits to be pumped to the treatment works.

How we're doing it:

1. We will set up and fence off the working area.
2. We will excavate area for the tank using large diggers. Piling may be used to secure the sides of the tank as the depth increases.
3. We then line the tank with huge concrete blocks.
4. Then we connect the tank up to the system and test it.
5. Once testing is complete, we construct the lid, including access hatches which will remain visible once finished (design to be finalised).
6. We return the site to how we found it.

Wastewater will flow from the tanks to the nearby pump stations.

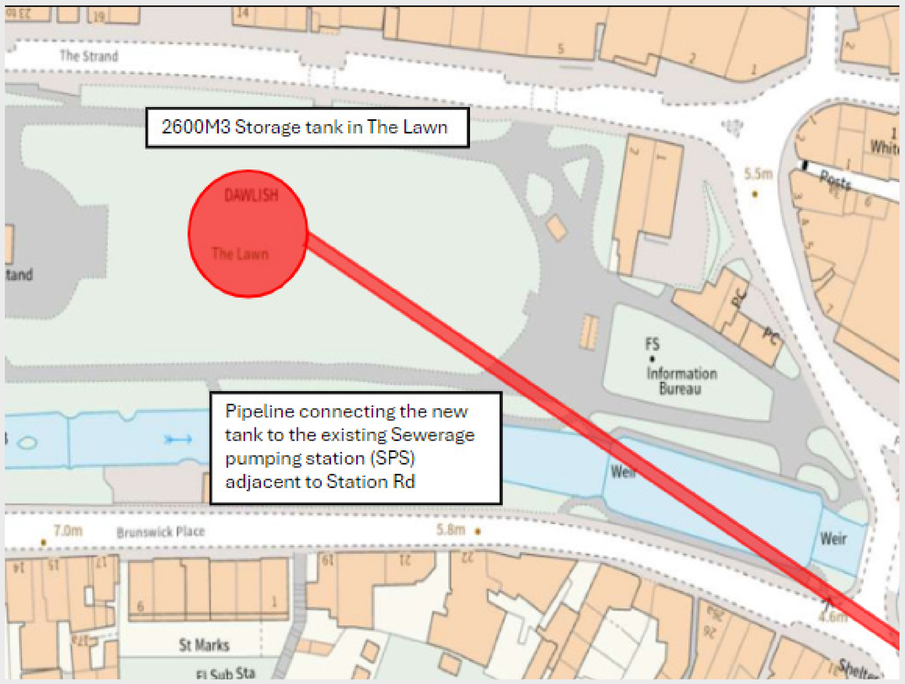
Here's an example of the type of tank we'll be installing.

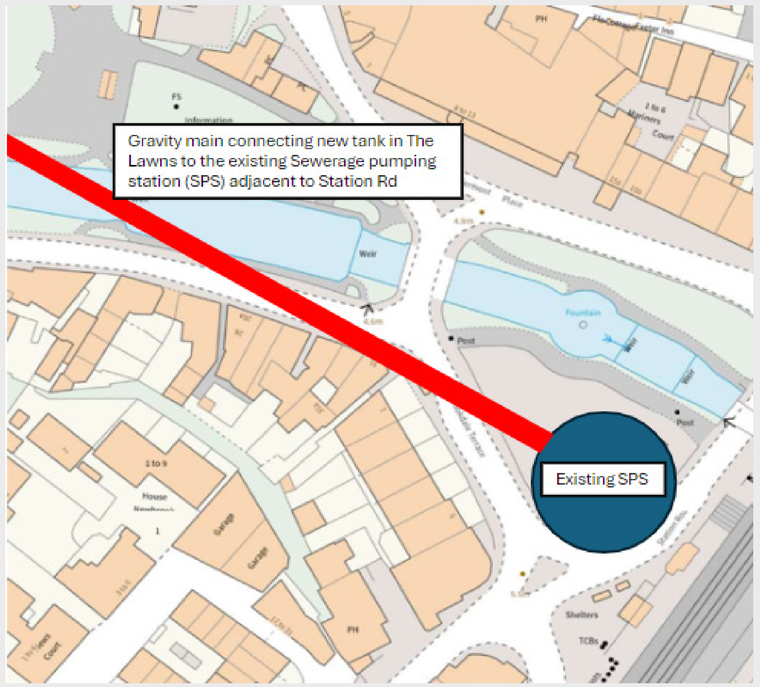
We will return the sites to how we found them once the work has been completed.

The tank at The Lawn will hold around **2,600,000** litres.

Route from storm tank to pumping station

We'll be building a new tunnelled pipe to connect the storm tank in The Lawn to the Viaduct SPS





What's a tunnelled pipe?

A pipe that is built underground without the need of a trench. The tunnel is drilled and the pipe fed through at the same time.

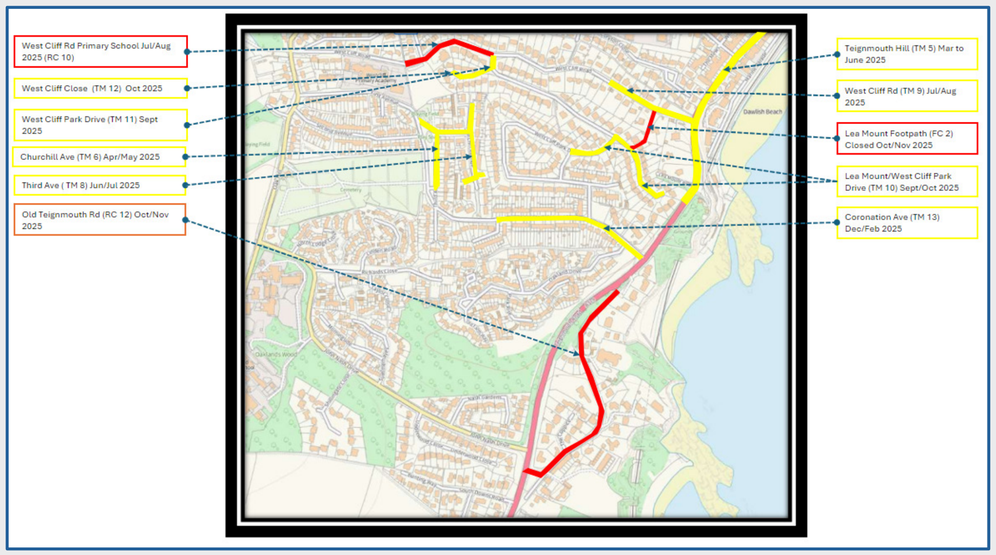
How to we build it?

We use a technique called microtunnelling. A large drill cuts the hole, and the pipe is pushed in behind it.

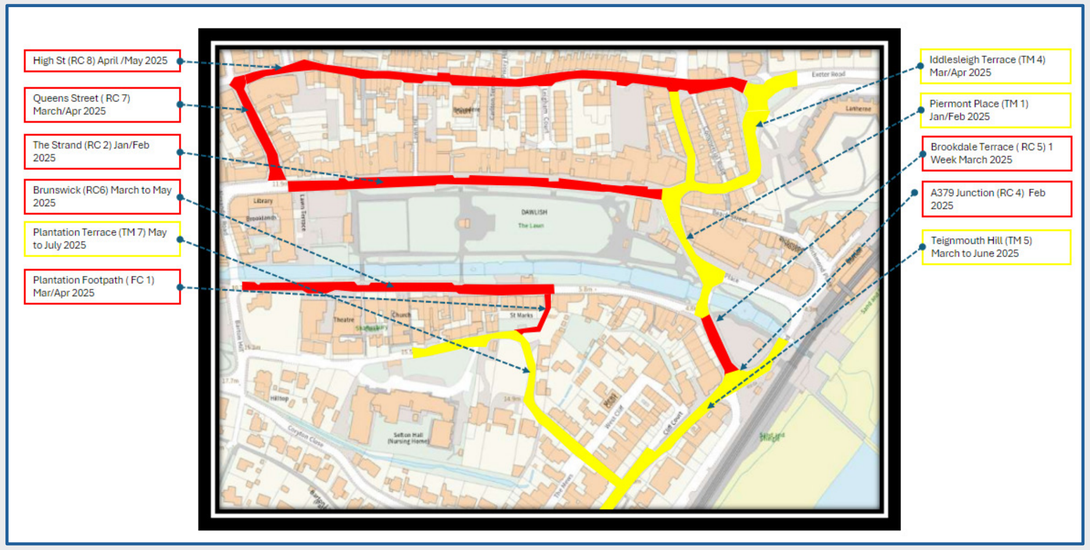
Traffic management during The Lawn scheme

To keep our teams and the public safe during the works, we will need to close some roads and have traffic lights up in the area.

Traffic Management South of the Lawn

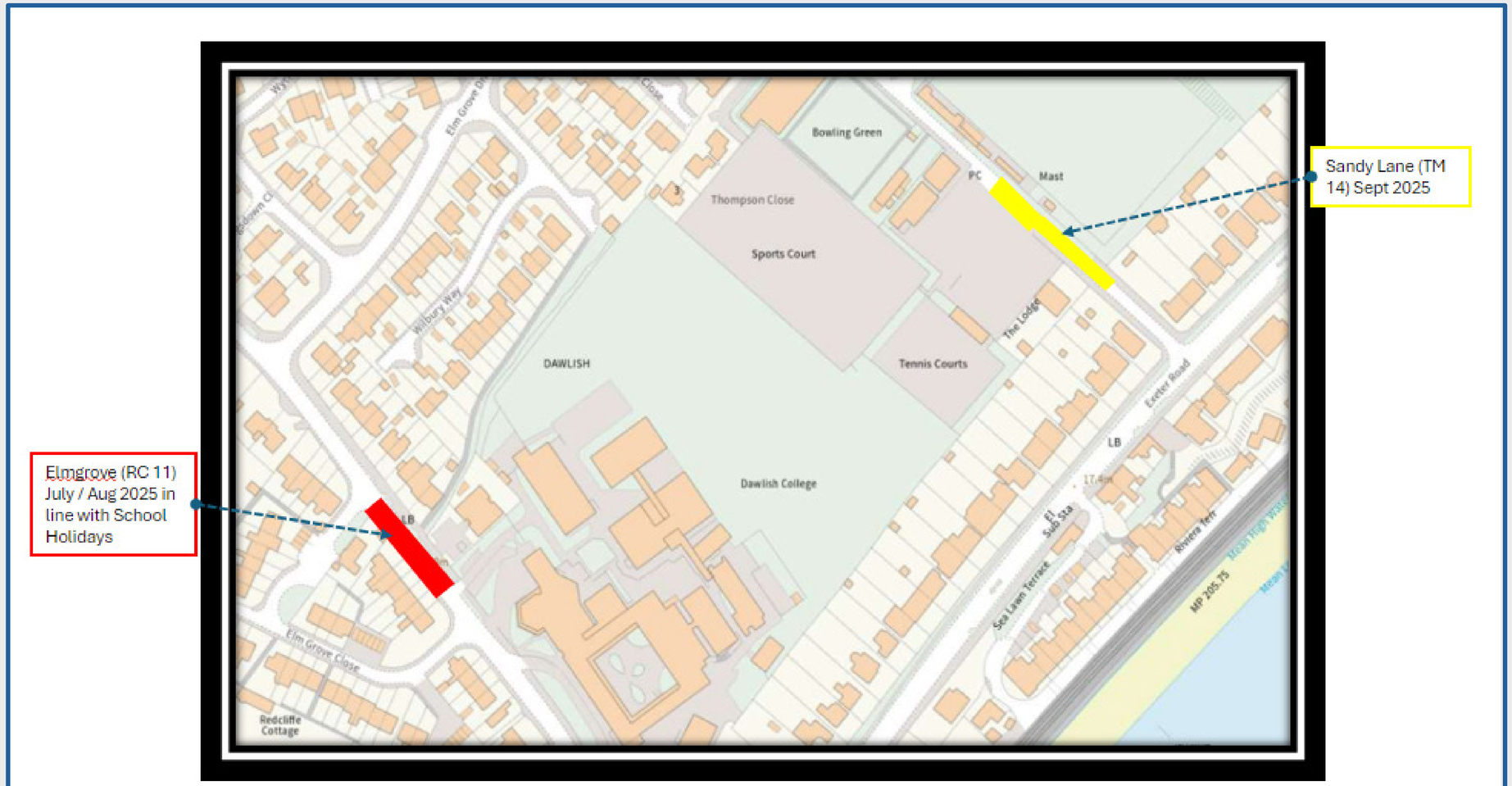


Traffic Management around The Lawn



Traffic management during the Sandy Lane scheme

To keep our teams and the public safe during the works, we will need to close some roads and have traffic lights up in the area.



Separating the sewers in Dawlish

To reduce the amount of rainwater entering our system, we are separating sewers in 9 hotspot areas in Dawlish.

Storm overflows are found on the combined sewer system (the pipes that take both foul sewage and surface water).

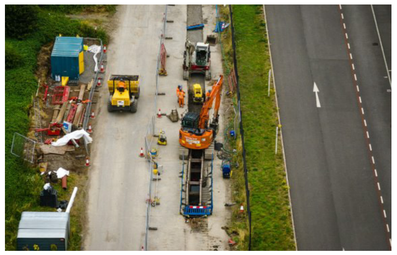
The combined sewer network includes pumping stations and treatment works that move sewage foward at a set speed.

When it rains, huge volumes of surface water enter the sewers all at once. Much more water is coming into the system than can be pumped forwards. This can lead to the pipes becoming too full, and storm overflows are needed to release that excess water.

By separating combined sewers into foul sewers and surface water sewers, we reduce the amount of rainwater entering the foul system so it's less likely to get overwhelmed. This in turn, reduces our reliance of storm overflows.

How we're doing it:

1. We will set up and fence off the working area.
2. We dig a trench.
3. We will construct new surface water drainage and reconnect road gully systems to this new pipe.
4. Once the pipes are laid, we connect them and then test them to make sure everything is working.
5. We backfill the trench and return the site to how we found it.

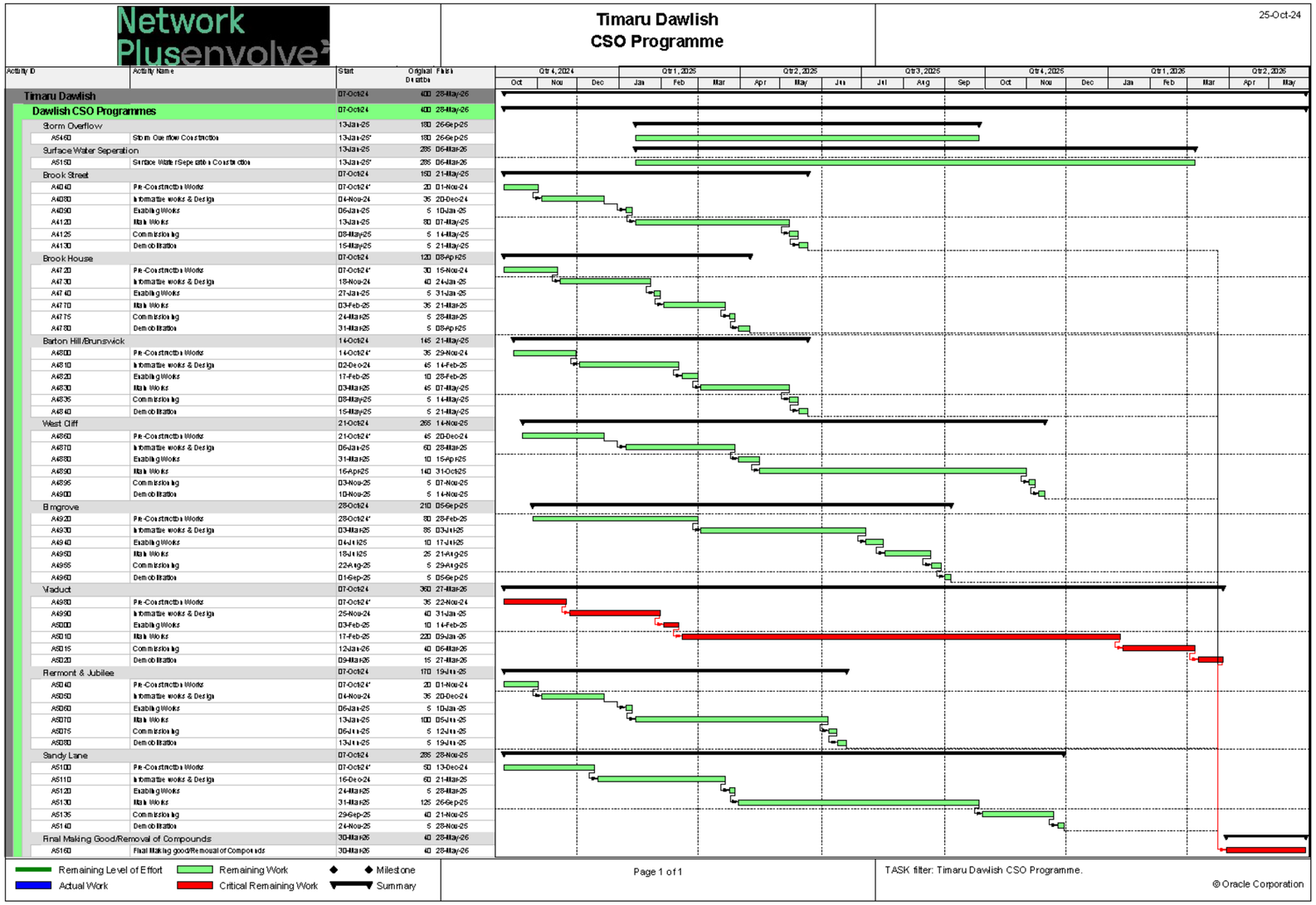


Our sewer separation schemes in Dawlish

Here is a map of the areas we'll be working in over the next 18 months.

Timeline

When the works are happening will be weather dependent, but we will keep customers informed as the scheme progresses.



Environmental considerations

Before we start any scheme, we carry out ecological, archaeology, and geological investigations so that we can minimise the overall impact it has on the environment.

Ecology

The Preliminary Environmental Assessment (PEA) investigations allow us to find out what kind of wildlife is living in the immediate area. We look at terrestial and aquatic life, whether bats are living there, and we check the habitats to make sure we work within regulations when nearby. There are further tests based on our initial findings that identify any mitigations we need to incorporate into the design of the scheme, or how we carry out our work, to make sure that all wildlife is protected.

Heritage and Historic Environment

We work with our partners to make sure we identify any Scheduled Monuments or known archaeological features so that we can work sensitively in these areas and minimise any disruption.

Noise and Vibration

We complete a noise and vibration screening report and baseline surveys, when we know the work will cause both. This allows us to plan the works in a way that mitigates the effects of each.

Landscape and townscape

These are desk-based studies that show the scheme in the context of its immediate surroundings. We judge how the finished scheme will look within the landscape, and adjust the design if needed. We also look at where the scheme lies in relation to viewpoint locations, local open spaces, Public Rights of Way and views from residential properties. Where possible, we will always minimise the scheme's impact on these areas.

Environmental Impact Assessment (EIA) Screening and Scoping

Working with the local planning authority, we carry out an EIA where necessary. These look at the Climate Change Impact and Greenhouse Gas impacts, as well as ground conditions and ground water and watercourse impacts. All this helps inform and write an Environmental Statement (ES) for the scheme, which is published as part of the planning proposal.