

# Clean Rivers and Seas Task Force

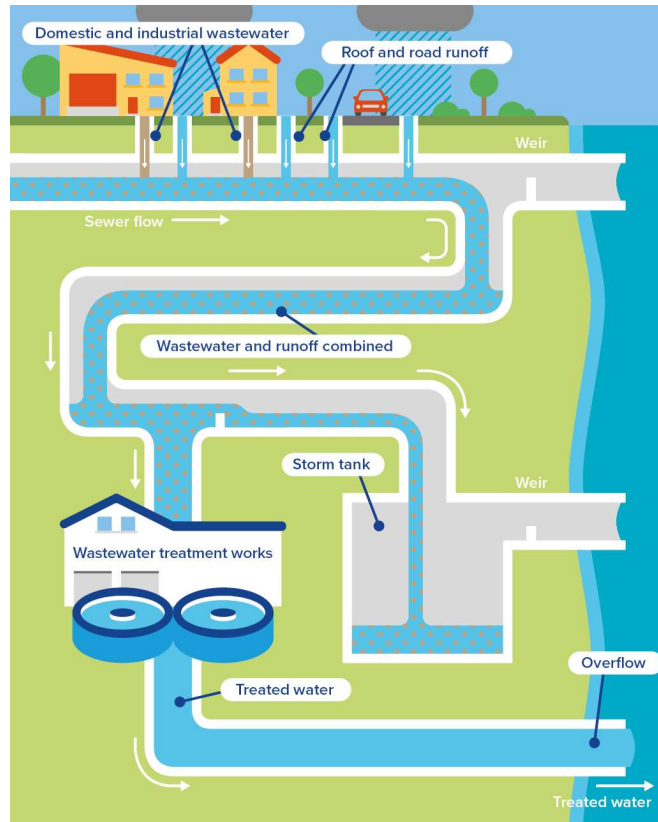


# Why CSOs exist?

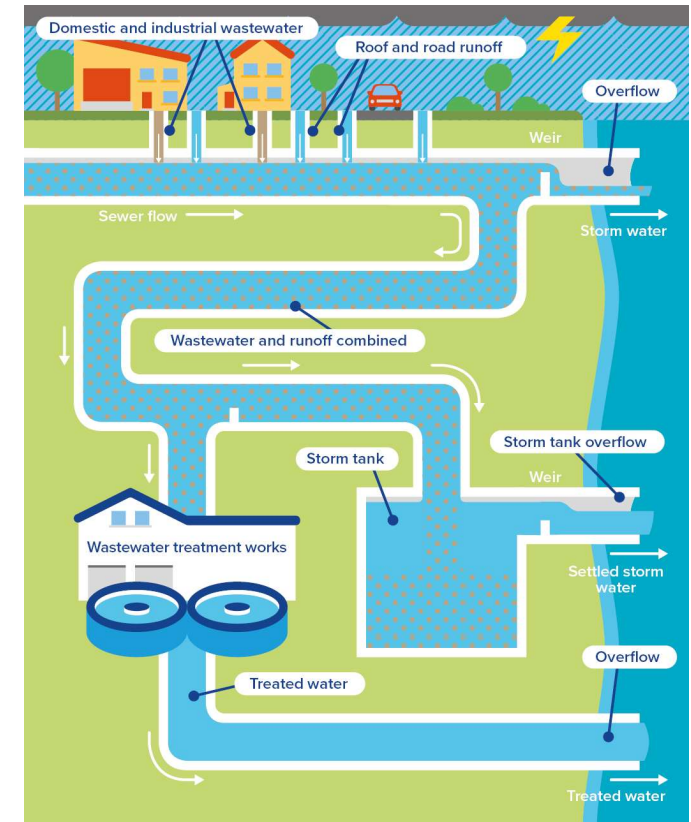
Dry conditions



Heavy Showers



Severe Storm



Approximately 1000 CSO's within the Southern Water Region.

[What are storm overflows? \(southernwater.co.uk\)](https://www.southernwater.co.uk)

[Latest news, reports, and updates \(southernwater.co.uk\)](https://www.southernwater.co.uk)



# What is a CSO and why do they exist?

CSOs are **essentially** a pressure relief valve for the system to prevent the devastating impact of sewer flooding. Blocking up CSOs will cause flooding.



# How do we tackle them?

There are four main ways to reduce storm overflows and the harm they cause



**Source control**



**Infrastructure optimisation**



**Stormwater treatment**



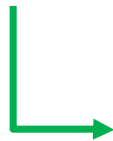
**Building bigger infrastructure**



# Overflows in Kent

## Key stats

- 322** Storm Overflows in Kent
- 152** Require work/investment to achieve Govt. targets before 2050
- 33** Overflows working on between 2025-2030



Approximately **£207m** investment in next five years



[southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map](https://southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map)



# Rivers and Seas Watch

**WATER for LIFE** from Southern Water

Subscribe Feedback

Map Release History Learn More

Pre-release (Beta): your feedback will help us improve this new service

Enter address, bathing site or outfall name

**HERNE BAY CENTRAL**

**No release impacting bathing site**  
There have been no recent outfall releases

**Latest Impacting Release - from SWALECLIFFE NO1**

Started	Ended	Duration
10/06/24 07:26	10/06/24 07:45	18 minutes

**Latest Not Impacting Release - from SWALECLIFFE NO1**

Started	Ended	Duration	Status
11/06/24 22:50	11/06/24 23:53	1 hours 2 minutes	Genuine

**Release History**

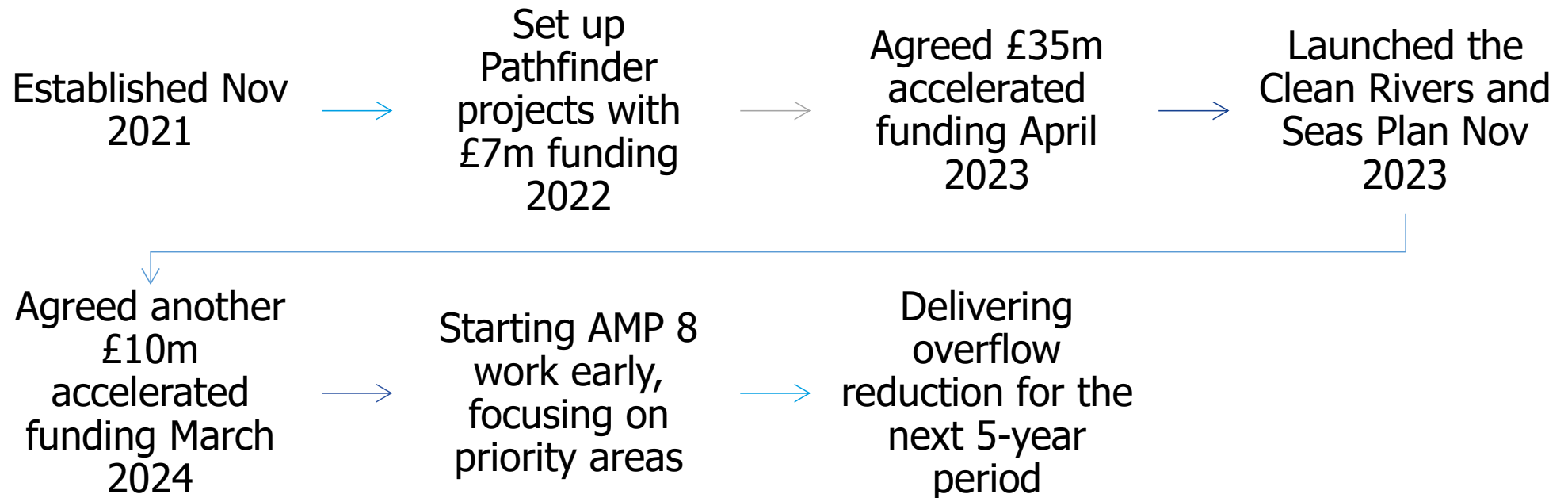
Show all  
Total: 616

Updated: 28/06/2024 13:41 BST

- Launching [Rivers and Seas Watch](#) imminently (pre-release version live)
- Co-created with customers and stakeholders
- All storm overflows included
- More transparency, better usability, more features



# Task Force evolution





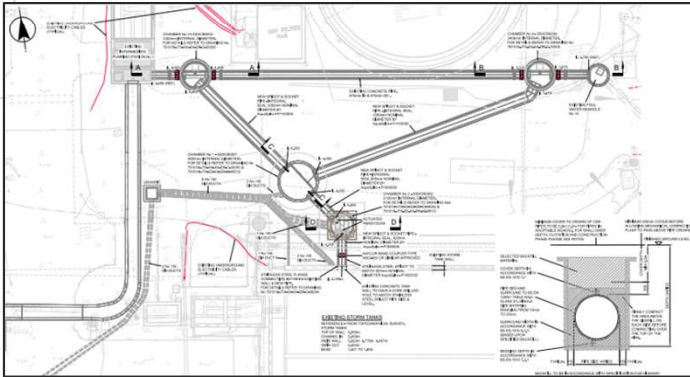
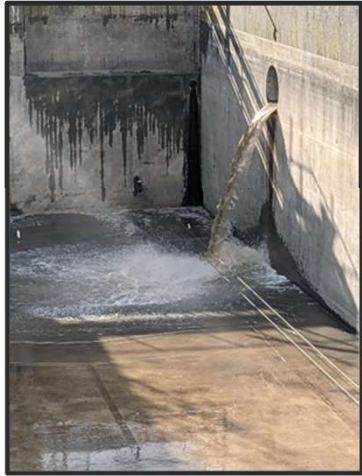
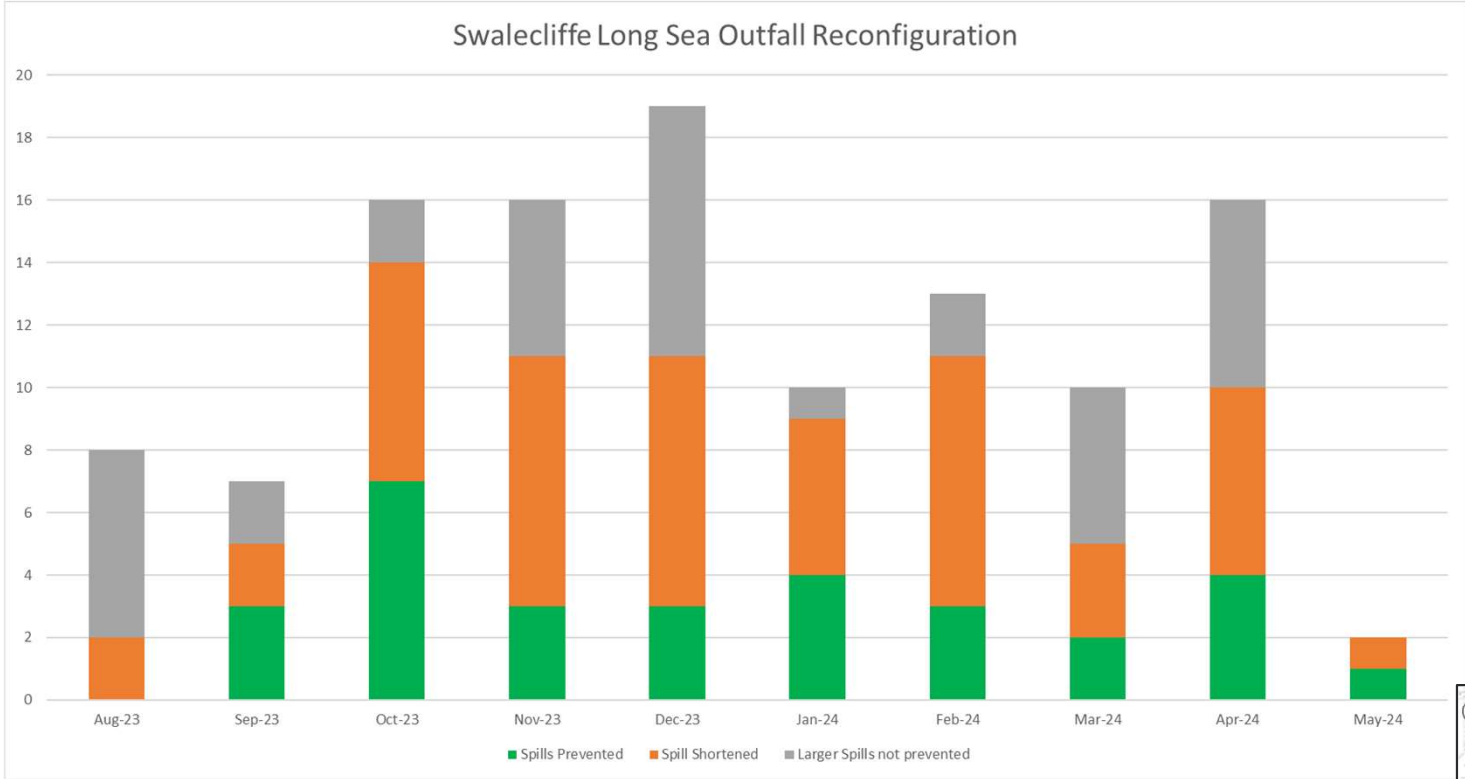
# Optimisation

Whitstable, Deal



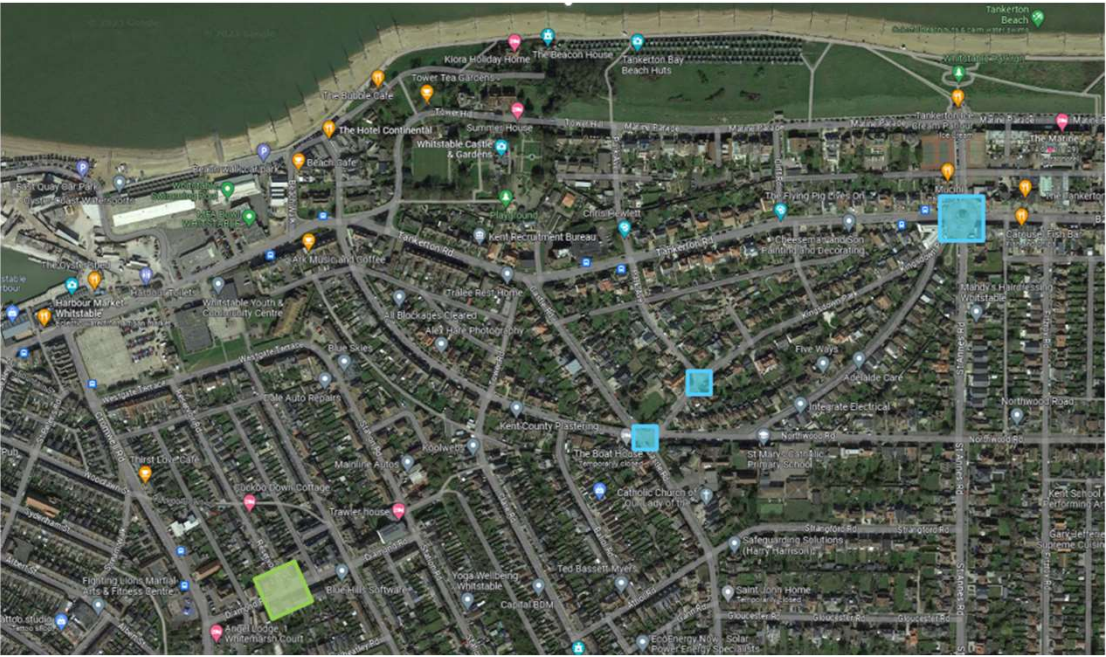


# Swalecliffe Long Sea Outfall reconfiguration



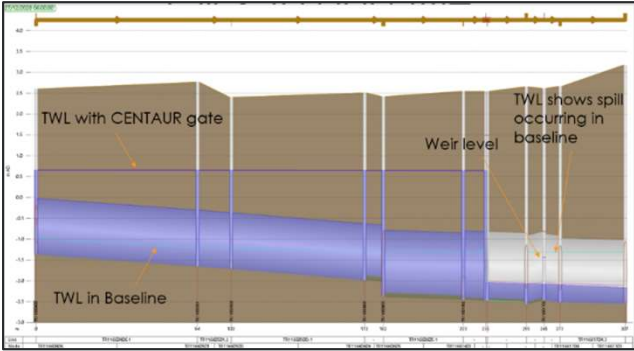
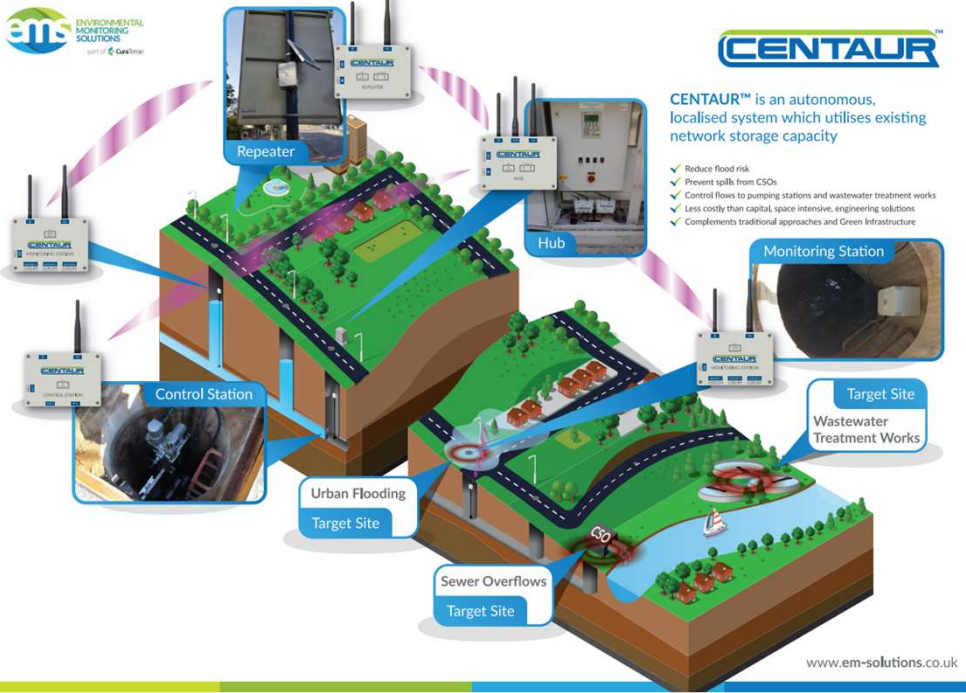
- Anticipated 20% average reduction in Long Sea Outfall events.
- In operation since 21<sup>st</sup> August 2023.
- Since August 2023 we have:
  - captured 30 of the 115 discrete storm events that have occurred (26%)

# Centaur Gates



- Diamond Road CSO, modelled c60% reduction in spills
- Tankerton Circus CSO, modelled c40% reduction in spills

- We are currently developing a programme of works to make Whitstable the first Intelligent Catchment utilising forecast rainfall, real time network information and AI to manage the infrastructure in a different efficient way to reduce CSO usage across the catchment and 37 pumping stations





# Surface Water Connections

Whitstable, Deal, Fairlight





# Tankerton Road

- Surface Water Connection directly discharging into Tankerton Circus CSO.
- New connection to bypass CSO and divert flow directly into surface water line.
- Managing at least 0.5ha of impermeable area.
- Works now completed and reduce storms by 30% since completion



# SuDs Schemes

Whitstable, Deal, Margate





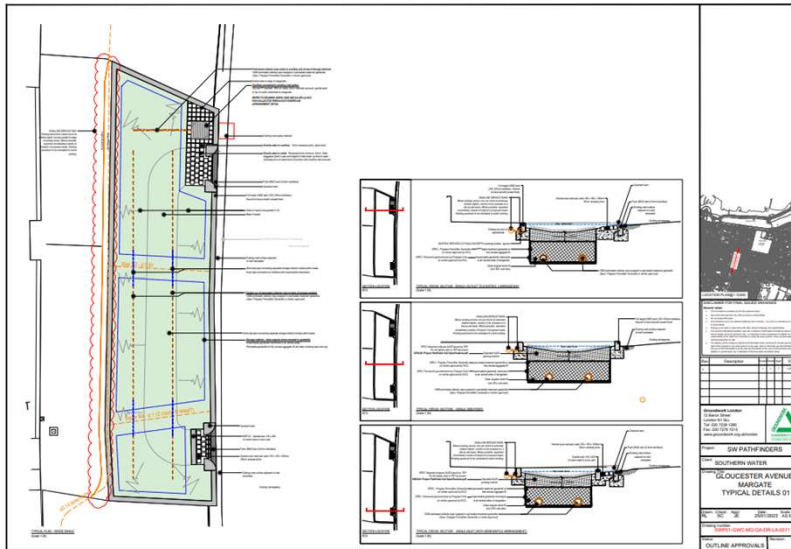
# Tankerton Road

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# SuDS – Highways Margate



**Gloucester Avenue**  
Proposed street improvements

**Introduction: The Pathfinder Project**  
The Pathfinder project is a collaborative project which aims to improve water quality throughout Kent. The project aims to reduce the amount of surface water runoff from hard surfaces (roads, paths, roofs etc) entering the combined drainage network. The effect of this will be to reduce the number of spills from Combined Sewer Overflows (CSOs).

**What is being proposed?**  
Adaptation of existing grassed verges along Gloucester Avenue, to take rainwater run-off from the road surface into shallow, grassed channels, and new tree planting.

**Why is this work proposed?**  
The modified verges will collect and channel rainwater, which will be absorbed into the ground and by plants. These types of Landscape design features are called "SuDS" (Sustainable Urban Drainage Systems). See next page for more info on SuDS.

**Will this change the street?**  
Very little - the proposals are designed to fit into the existing level/verge footprints. The profile of the grass surface will be shaped to provide a shallow channel. Changes will be relatively small, and offer environmental benefits in terms of surface water management and flood risk reduction.

**Where is this proposed?**  
Southern half of Gloucester Avenue (see right)

**When will the work take place?**  
To be confirmed - expected to be in late 2023, subject to Kent County Council approvals and consultation.

**Proposals are being consulted for the Southern half of Gloucester Avenue**

**ABOVE: impression of what the proposals would look like along Gloucester Avenue will look like.**

**Questions or comments?**  
For further information on the project, or to have your say please visit [details@bocconfirms.co.uk](mailto:details@bocconfirms.co.uk), or contact [address@bocconfirms.co.uk](mailto:address@bocconfirms.co.uk).

**SW PATHFINDERS**  
SOUTHERN WATER  
GLoucester Avenue, Margate  
KEY PLAN 1 of 4  
GENERAL ARRANGEMENT PLANS

**Sustainable Urban Drainage Systems (SuDS)**

The Pathfinder project is developing and building Sustainable Urban Drainage Systems (SuDS) in the Kent area. These proposed projects will reduce the flow of surface water entering the combined sewer network. The key aim of the Pathfinder project is to reduce spills from Combined Sewer Overflows (CSOs).

**Why are SuDS needed?**

A increase in rainfall and storms due to climate change, combined with an increase in development (hard paved surfaces such as roads and paths) means that the existing drainage network is full to capacity. In high rainfall events this can lead to flooding and CSO spills.

Surface water picks up pollutants as it runs across roads and other surfaces, enters the drains and ends up in water courses reducing the quality of the water. Many drainage systems in towns and cities are part of the combined sewer system - this takes water from both surface rainfall, and waste water from buildings.

In high rainfall events, the drains fill to capacity. When this happens, excess water is released into rivers and the sea. Where this water comes from combined drainage systems, waste and other contaminants are often contained within the discharge.

SuDS help by reducing the flow of water into drains, which reduces the strain on existing underground drainage networks. This can help prevent spills from Combined Sewer Overflows (CSOs), reducing flooding, and improving water quality.

**What do SuDS look like?**

There are lots of different types of SuDS - you've probably walked past one on the street and not even noticed! They can look like planters, grassed verges, tree pits, or other landscape features. This page shows some examples.

**SW Pathfinder**

**Water for Life**  
from Southern Water

- Gloucester Avenue – managing 0.5ha
- Consultation underway with residents
- Works planned to start September 2024





**Slide 16**

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**CA0**

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# SuDS – Highways – Whitstable Library



- ① Proposed Raingardens
- ② Bridge
- ③ Proposed Planter bed
- ④ Proposed Green roofs
- ⑤ Hard-standing tree pits
- ⑥ Existing soft landscaping
- ⑦ Gulleys
- ⑧ Flag-pole
- ⑨ Memorial

We are proposing some greening interventions around the Library that focus on water management and wildlife enhancement. The proposals include green roofs on buggy and bin stores and some additional planting beds. We are including Rain gardens to help manage rain and surface water run-off, along with engineered tree planting systems that will slow the flow of surface water into the combined drainage systems.

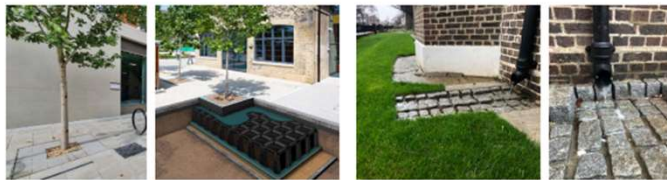


① Rain gardens - SuDS that capture rainfall before it enters the piped network and allows it to infiltrate into the ground.

② Wide wooden bridge for easy access through the rain garden.



③ New buggy stores and bin stores with green roofs for water management and wildlife benefit.



⑤ Engineered tree pits that manage rain water run off and benefit longterm tree health.

⑦ Gulleys for excess water to escape into a suitable overflow system.

- Managing large roof runoff and Highways drainage
- Increasing biodiversity in an urbanised area
- KCC review expected Dec 23 then moving to Detailed Design.

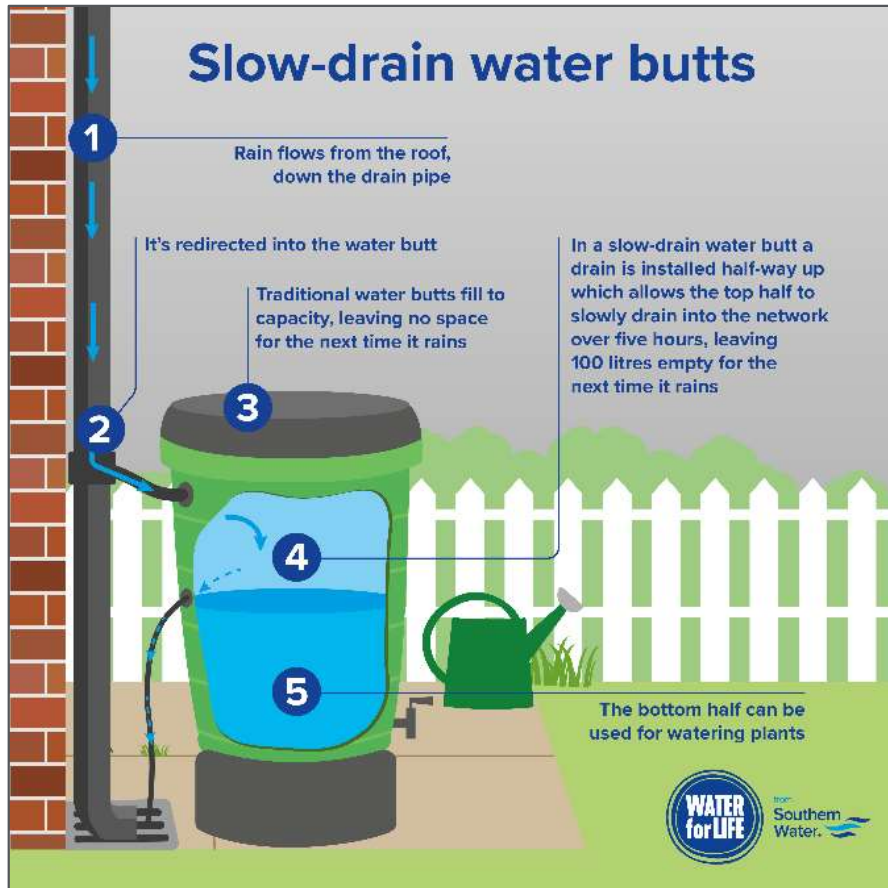
# Planters and Water butts

Whitstable





# Planters and Water Butts



Slow the Flow – Household and None Household  
We've installed over 3000 slow the flow water butts across our region.

Targeting the large industrial roof spaces  
All survey dependant.

