



Stormwater Management Plans

A Guide to Understanding
Stormwater Management in Salisbury



A Guide to Understanding Stormwater Management in Salisbury

How often do you think about stormwater?

While you might know a little bit about it, unless you have experienced the issue of not being able to cross the road due to overflowing drains, or your house is flooded after a major storm, you probably don't think too much of it.

If stormwater isn't managed effectively, it can have damaging and lasting impacts on communities, homes, businesses and the natural environment. Like other councils around Australia, the City of Salisbury uses Stormwater Management Plans to holistically manage stormwater and minimise adverse impacts.



What is Stormwater?

Stormwater is rainwater that runs off land and moves away from the area where it originally falls.

In urban or built-up areas, stormwater runs off surfaces like roofs, roads and footpaths where it can't soak into the ground. It is carried away through drains and pipes to natural waterways like creeks and rivers, or constructed wetlands, usually ending up in the ocean.

In rural or farming areas where there is less developed land (like paddocks and open spaces), rainfall drains into the soil, refills groundwater supplies or slowly runs off to creeks, rivers or the ocean.

Natural Water Cycle in Coastal South Australia

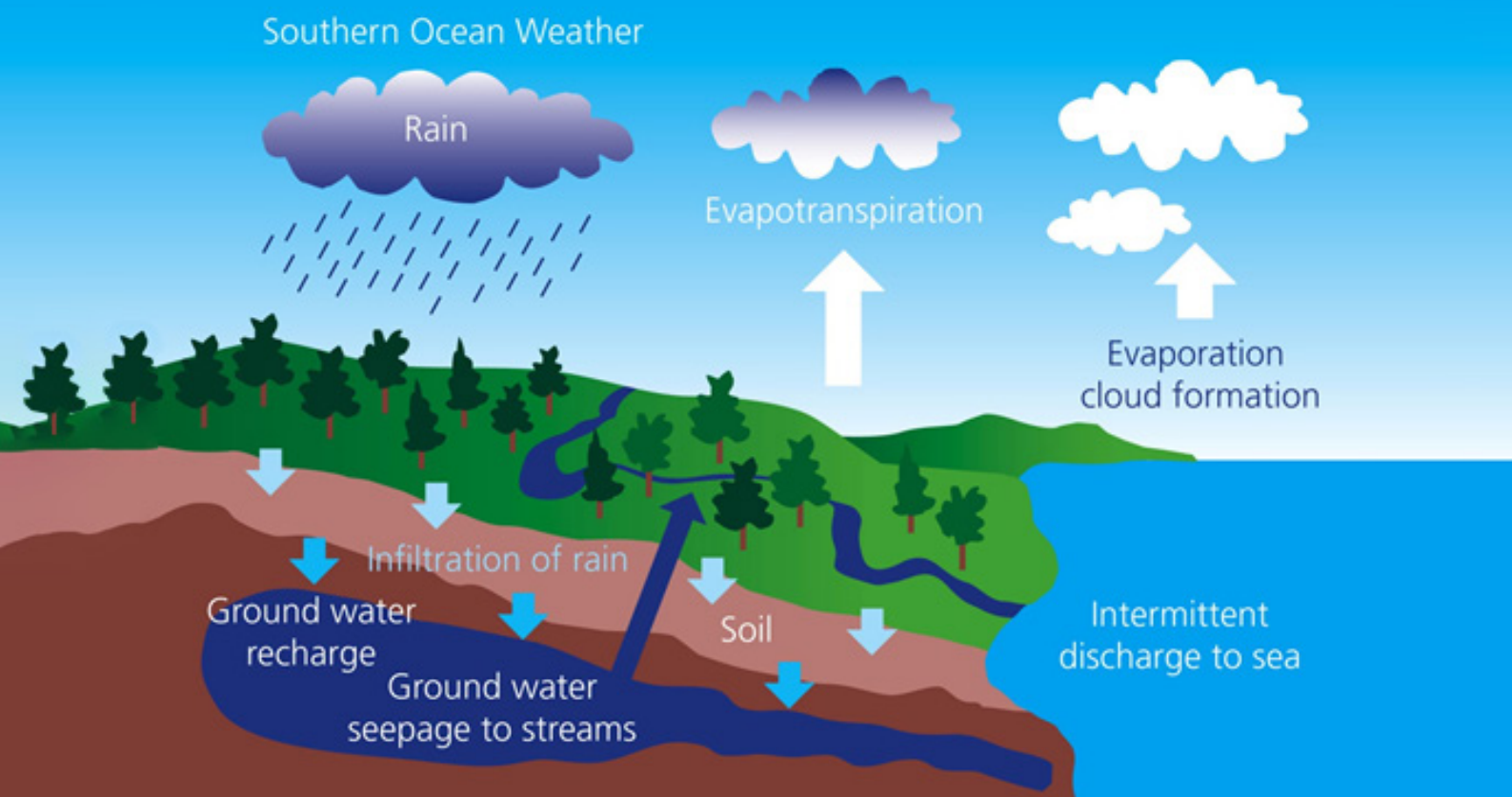


Image Reference: EPA South Australia - Urbanisation



Did you know?

Most people will only notice when stormwater isn't managed well, such as when floodwater inundates homes or businesses or crops are lost due to poor drainage.



We Need to Manage Stormwater

Stormwater needs to be managed in both urban and rural areas because large rain events can cause flooding leading to damaged homes, businesses, farming land and the environment around us.

While managing stormwater won't completely remove risks from flooding, it can provide a greater level of protection.

Stormwater management can also:

- Improve water quality in the environment
- Maximise the opportunity to reuse stormwater
- Protect and enhance the environment

Urban Water Cycle in Coastal South Australia

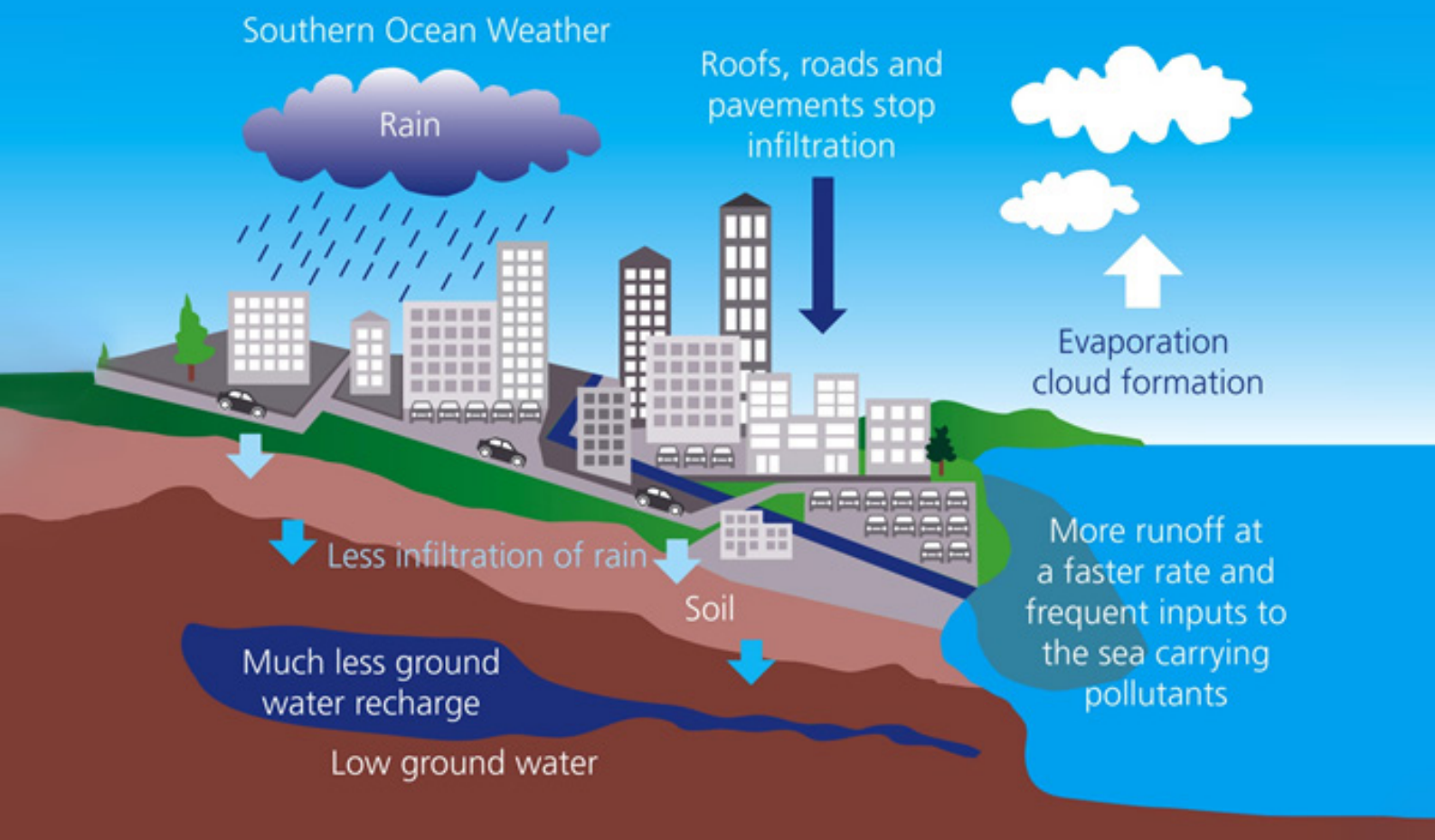


Image Reference: EPA South Australia - Urbanisation



Did you know?

The City of Salisbury uses Stormwater Management Plans (SMPs) to holistically manage stormwater runoff across the city and minimise its adverse impacts.



SMPs - Our Tool to Manage Stormwater

Stormwater Management Plans are strategic planning documents that analyse rainfall events and their flow across the land.

This includes:

- Where and how rainfall occurs across Salisbury
- Where stormwater flows and where excess water may cause flooding
- Planning of ways to limit or mitigate damage from floods by controlling the movement of water with infrastructure such as detention basins, weirs, dams, open channels and land management

Each SMP has its own objectives and strategies to:

- Inform land use planning
- Minimise flooding impacts
- Protect and enhance ecosystems
- Take advantage of opportunities for reuse, recreation and amenity
- Minimise costs



Did you know?

The intention of a catchment-scale SMP is to plan, implement and fund a coordinated approach to stormwater management across an entire water catchment.

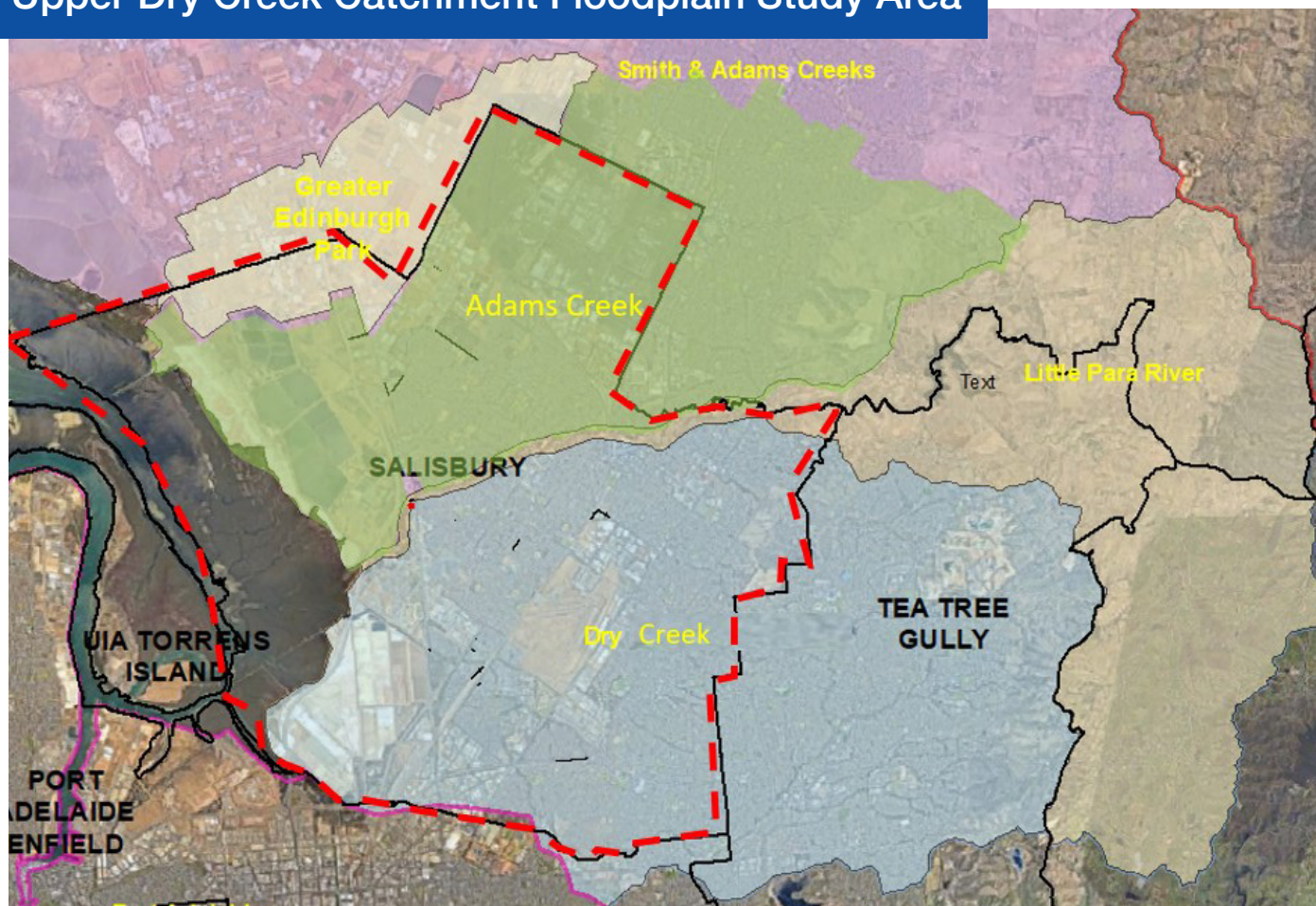
What is a Catchment?

A catchment is a specific area of land where rainfall collects and drains away through natural (creeks or rivers) or artificial (pipes or channels) methods and into a larger creek system.

There are five different catchments in Salisbury and because they all have different land types and rainfall, each needs its own SMP.

These catchments also run through neighbouring council areas.

Upper Dry Creek Catchment Floodplain Study Area



Adams Creek

Greater Edinburgh
and St Kilda

Dry Creek

Little Para



Did you know?

A SMP for the Upper Dry Creek catchment is currently being developed by the City of Tea Tree Gully. A floodplain study has been undertaken for the Little Para River catchment.

Adams Creek Catchment

Catchment Characteristics

The Adams Creek catchment commences in the City of Playford and moves downstream to the City of Salisbury. It is a mixture of dense urban, defence, agriculture and horticulture land.

The Adams Creek catchment originates in the Hills Face Zone, passing under the Elizabeth CBD through a set of large underground culverts. Downstream, the Helps Road Drain has significantly altered the water course to assist stormwater to pass through defence and RAAF land.

The stormwater continues in a south westerly direction to the outfall channel located between the SA Water lagoons.

Plan Objectives:

- Provide greater protection from flooding
- Improve water quality and increase reuse of stormwater
- Use stormwater measures to also provide opportunities for recreation, lift city appearance and protect the environment
- Ensure existing stormwater infrastructure is appropriate for stormwater flows

Key Projects

The key projects identified within the Adams Creek Catchment SMP include basins located within reserves and a channel upgrade.

Identified considerations include:

- Diversion drain
- Drainage outfall capacity upgrade

Identified projects are conceptual only, requiring further planning, investigations, feasibility and design considerations.

Each project must further be considered against other council plans, objectives and priorities. In most cases the projects will go through community engagement prior to implementation.

How does the Community Benefit?

- Reduce safety risks and provide better access to public and private properties during storm events
- Improve the appearance of the City with new or renewed waterways
- Opportunity for recreational use of stormwater management assets



Greater Edinburgh Parks and St Kilda Catchment

Catchment Characteristics

The majority of this catchment is flat and sparsely developed, with two discharge locations to the Gulf St Vincent.

The 30 Year Plan for Greater Adelaide identifies Greater Edinburgh Parks (GEP) as future industrial land, however major drainage infrastructure is required to achieve that vision.

Plan Objectives:

- Improve flood protection
- Improve water quality
- Facilitate opportunities to reuse stormwater
- Use stormwater measures to also provide opportunities for recreation, lift city appearance, and protect the environment
- Ensure the condition of existing stormwater infrastructure is suitable for future land use as identified in the 30 Year Plan for Greater Adelaide

Key Projects

The key projects identified in the SMP are a series of basins and open channels to drain industrial land through to the Gulf St Vincent. Most of this proposed infrastructure is situated on private land.

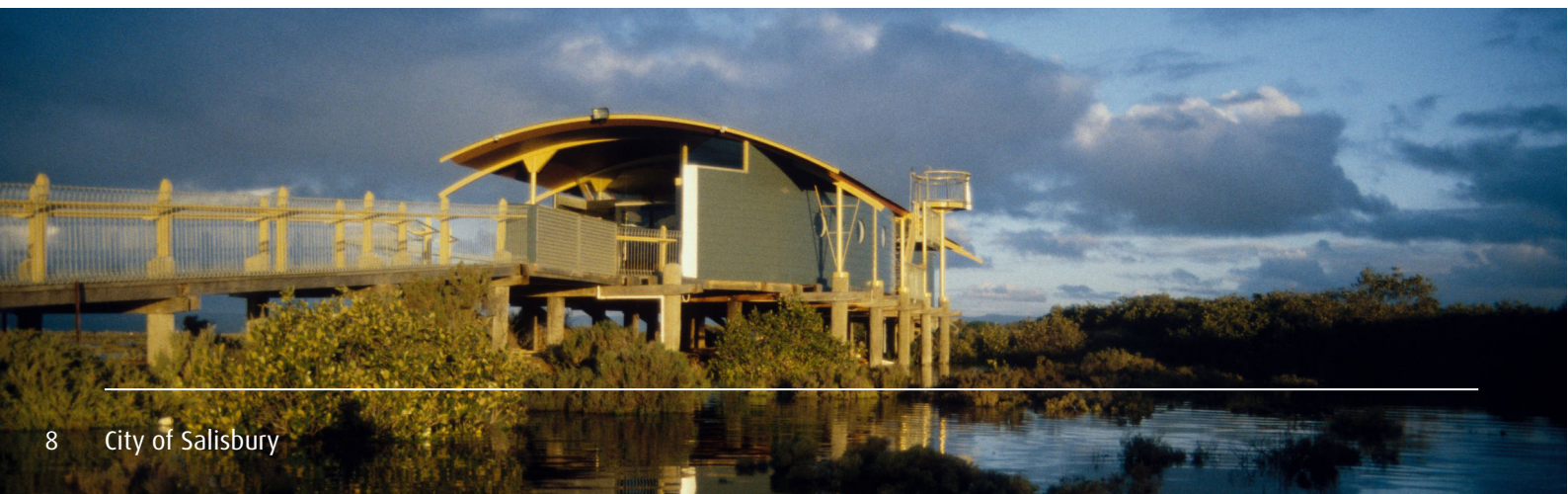
As this infrastructure is required to facilitate development, the City of Salisbury works with developers to engage with the relevant landholders prior to planning any works.

Identified considerations include:

- St Kilda precinct trunk drain
- Greyhound precinct drainage
- Greyhound and NEXY South Wetlands
- Gross pollutant traps
- Water Sensitive Urban Design

How does the Community Benefit?

Implementing the projects recommended in this SMP is the key to unlocking the economic and employment benefits of developing the GEP for industrial growth.



Dry Creek Catchment

Catchment Characteristics

The Dry Creek catchment is the largest catchment within Salisbury and is predominately urbanised.

The catchment consists of a steep section to the east, where Dry Creek originates in the upper reaches of the hillside valleys in Tea Tree Gully, but is generally a wide, flat floodplain in the Salisbury area.

Approximately 20% of the catchment passes through dams located along the Salisbury escarpment. These steep sections are highly responsive to large rainfall events which have the potential to create flooding along the Dry Creek watercourse and across the floodplain.

Urbanisation across the catchment is expected to continue, leading to increased flows and the need to manage stormwater in this catchment.

Plan Objectives:

- Provide greater protection from flooding
- Improve water quality and reuse of stormwater
- Use stormwater measures to also provide opportunities for recreation, lift city appearance and protect the environment
- Ensure existing stormwater infrastructure is fit for purpose

Key Projects

The key projects identified in the SMP include detention basins east of Main North Road and widening of the Smith Creek through rural areas.

Identified considerations include:

- Channel widening, flood gates at Globe Derby
- Stormwater harvesting potential at Globe Derby
- Flood storage and barrage at Globe Derby
- Various Culvert upgrades
- Levee at Main North Road
- Various Detention basins
- Water sensitive urban design

Identified projects are conceptual only, requiring further planning, investigations, feasibility and design considerations. Each project must further be considered and evaluated against other council plans, objectives and priorities.

How does the Community Benefit?

- Improved protection from flooding
- Improved safety and accessibility to public and private properties during storm events
- Manage increase flows due to infill development growth
- Support for new growth areas, including the Salt Fields development
- Opportunities for recreational use of stormwater management assets

Who Manages the Management Plans?

A thorough process is undertaken to ensure all considerations are met.

Our catchment areas take in the following neighbouring councils:



City of Playford

City of Tea Tree Gully

City of Port Adelaide/Enfield

We work with the following agencies to develop and endorse the SMPs:



Green Adelaide

Stormwater Management Authority

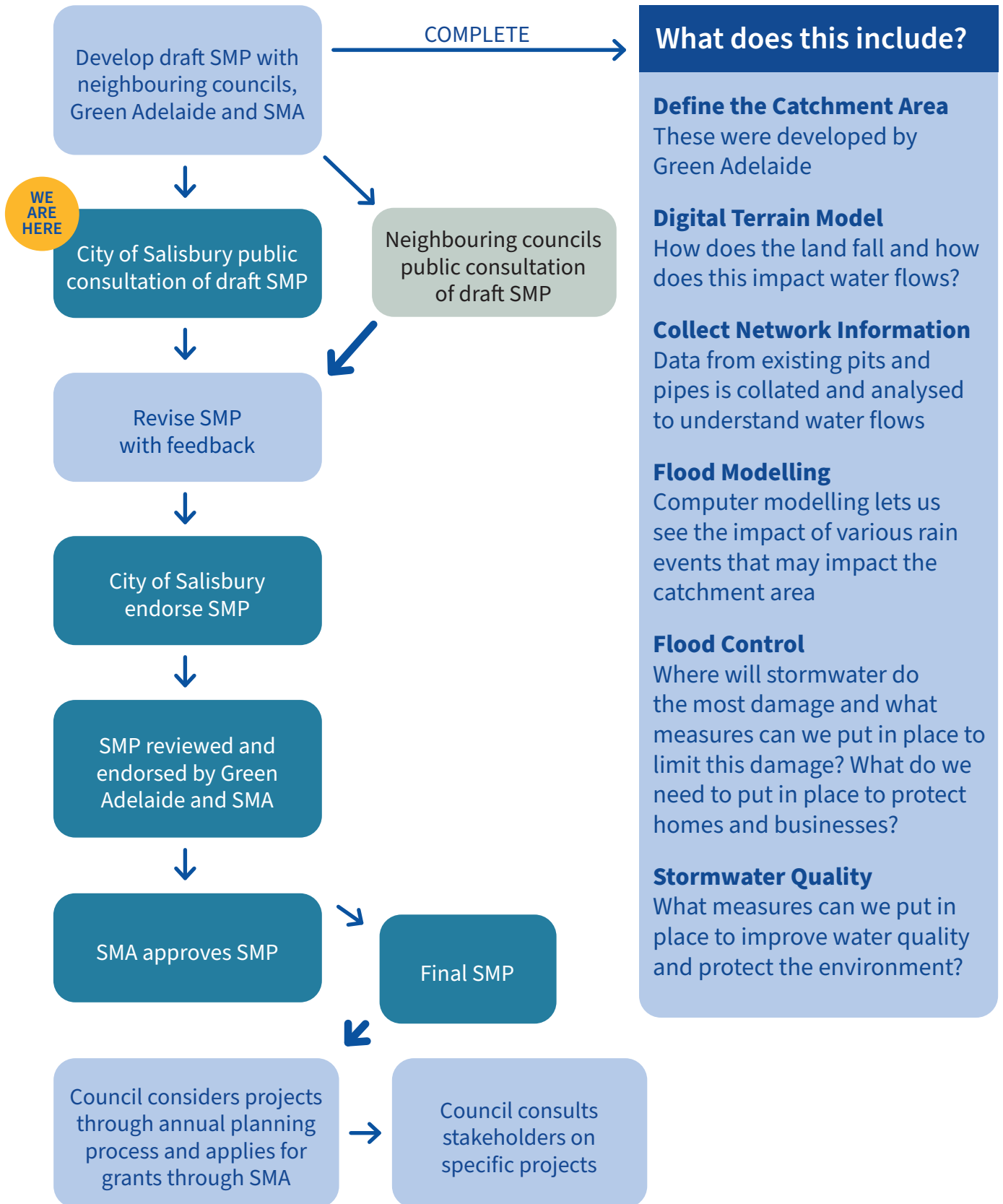


It takes more than one organisation to successfully manage stormwater.



Developing an SMP

A Guide to the Process





It's a Plan - Not a Schedule of Works

SMPs provide a framework for the long-term, holistic management of stormwater on a regional scale. While they might recommend the construction of a new detention basin or drain in certain locations across the City, or the upgrade of the existing stormwater system, they do not necessarily provide the green light for projects to commence.

From being flagged in an SMP to seeing real work on the ground, a project must first be considered in council's long term financial plan, before being funded through an annual budget process.

When this happens, council will talk to landowners, neighbours and the broader community about what it might look like and how the infrastructure will impact them.



Did you know?

All projects proposed in the SMPs will require detailed planning and design, including appropriate engagement with any impacted landowners, neighbours and the broader community. Projects identified are conceptual only.



Stormwater Management Plans Do:

- Provide a strategy for managing the quantity and quality of stormwater across the City
- Identify a long-term program of flood mitigation projects such as detention basins, dams, swales, drains, pipes, culverts, creek rehabilitation and new wetlands
- Provide a priority listing of capital expenditure
- Address flood mitigation on a regional scale



Stormwater Management Plans Do Not:

Give the green light for council to build new stormwater infrastructure. Each project is subject to consideration under council's long term financial plan and annual budget cycles.

This includes:

- Outline when infrastructure will be built
- Provide a way to fund the projects – the cost is often too large for council to fund on its own
- Address issues of small, local flooding events like water pooling on a road. The plans deal with the impacts from large rain events where significant damage is predicted to occur



Stormwater Management Activities

The City of Salisbury delivers annual drainage improvement programs including:

- Major program implements large mitigation strategies, including those in the SMPs. It also includes the management of council dams
- Local drainage programs consider flood management solutions at the local level
- Capital expenditure in the programs are prioritised against council's Level of Service (ie. no more than 300 homes inundated in a 100 yr flood)
- Stormwater infrastructure and watercourse maintenance programs

Proactive initiatives council are currently undertaking:

- Development of Flood Emergency Plan (in consultation with SES)
- Development of Early Flash Flood Warning System in collaboration with the State Government





STORMWATER MANAGEMENT PLAN 2024

©July 2024 City of Salisbury, 34 Church Street, Salisbury SA 5108

W: www.salisbury.sa.gov.au PH: 8406 8222 E: city@salisbury.sa.gov.au

  @cityofsalisbury