campbelltown
city council

Campbelltown City Council
Stormwater Asset Management Plan 2016-2026




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This document is to be considered by Council at an Extraordinary Meeting to be held on 28 June 2016.

Version 4

Contents

(Camden Road Stormwater System, Campbelltown)

Introduction

This 10 year Stormwater Asset Management Plan meets the requirements of Integrated Planning and Reporting with respect to it being a component of the Resourcing Strategy.

The plan provides details about Council's approach to the management of the community's assets, in line with appropriate standards, and contributing to the achievement of the objectives in the Community Strategic Plan.

The plan has been written in line with the *International Infrastructure Management Manual* (International Edition 2011) and addresses the areas of levels of service, demand forecasts, currents status of assets operations and maintenance, renewals, new works (capital), and disposals, and also includes reference to the 10 year financial forecasts for the management of the assets as contained in the Long Term Financial Plan.

The plan is broken up into four chapters covering each of the following asset classes

- road network (including bridges)
- buildings and facilities
- public spaces (sports grounds, parks, playgrounds and the equipment and furniture that is located within these spaces)
- stormwater and drainage

The level of service expected by the community is the first factor that influences the approach to asset management. The community engagement that was undertaken and the resulting objectives and strategies contained in the Campbelltown Community Strategic Plan provide an overview of the levels of service that the community want from Council.

The general feeling from the community is that they are satisfied with the level of service that they receive from Council[1], however, with respect to asset management; they would like Council to continue to focus on areas such road maintenance, availability of parking and traffic management.

Council continues to work on defining and documenting the levels of service for each of its asset classes. Indicative service levels for each asset class have been suggested in the plan, however these will be finalised as part of the improvements to Council's overall asset management approach.

All Council assets are considered critical to the delivery of services to the community.

[1] Campbelltown City Council 2010 Telephone Survey

Levels of service

Stormwater and drainage

Council manages an extensive network of stormwater and drainage assets. For a comprehensive list of stormwater and drainage assets in the Campbelltown Local Government Area, refer to the Asset Management Strategy.

In managing the stormwater and drainage assets, Council ensures best practice management of the quality and quantity of stormwater and drainage throughout the catchment. This contributes to the Campbelltown Community Strategic Plan, Objective 3 - *An accessible City*. More specifically, it contributes to the Strategy 3.1 - *The development and implementation of infrastructure plans to support efficient movement around the City*.

Work has commenced on the development of performance measures and service levels for the management of stormwater and drainage assets in the Local Government Area - see Table 1. The measures will continue to be refined over the coming 12 months, along with a process for monitoring and reporting against them.

Table 1 Performance measures and levels of service for Council's stormwater and drainage assets

Key Performance Measure	Level of Service	Performance Measure Process	Performance Target	2014-2015 Performance
Quality	Provide efficient method of collection and disposal of stormwater	Customer Service Requests	<50 per year	280
Function	Ensure that stormwater systems meet community expectations	Customer Service Requests relating to property flooding	<5 per year, during heavy rainfall events	5
Safety	Provide stormwater systems that are low risk to the community	Reported hazards from customer service request	<5 per year	0
Asset condition	Condition assessment	Periodic visual assessment to determine condition	20% of network per year	20% of network assessed

Notes: Condition ratings referred to in the table below are as follows, 0 = New or recently rehabilitated asset, 1 = Very Good - near new condition with no defect, no work required, 2 = Good condition – sound or good condition with minor defects, minor routine maintenance required, 3 = Average – Some deterioration, significant maintenance required, 4 Poor – severe deterioration, significant renewal or rehabilitation required, 5 = Very Poor condition – asset unserviceable and/or beyond rehabilitation requires replacement or renewal

Demand forecast and management

There are various factors that will affect the demand for the services and associated assets that Council provides, now and in future years. While some factors will affect all services and assets, such as population growth, others will only affect particular services and assets such as growth in car ownership. The changing population and demographics, both within Campbelltown and surrounding Local Government Areas, will have a significant impact on transport corridors and infrastructure needs within the Campbelltown Local Government Area.

Council completes modelling of the impacts of population growth across the Local Government Area. It is expected that the population of Campbelltown will increase from 158,000 in 2015 to at least 300,000 by 2036. Growth will largely be urban renewal, medium density and smaller scale master-planned estates.

The Campbelltown LGA has been announced as a growth corridor through the Glenfield to Macarthur Priority Urban Corridor Strategy.

This strategy has the potential to add more than 33,000 new dwellings to the Campbelltown LGA thereby accommodating an estimated 90,000 additional people.

It is anticipated that there will be extra pressure on already stressed roads from development within the Local Government Area, and in addition, residents from areas such as the South West Growth Centre (including Oran Park) and in the north and south of Campbelltown will come to use the services provided at Campbelltown, for example the hospitals and railway stations.

These increases in demand will place pressure on the road networks, the types and numbers of buildings and facilities that Council manages and also the amount of public space that is in the Local Government Area. These will be discussed in further detail in the following pages.

Stormwater and drainage

The expected growth in and around the Local Government Area has implications for Council in its continued provision of stormwater and drainage services, as additional impermeable areas from new development will increase, the stormwater run off potentially also increases.

The following factors affect the demand for the services provided by stormwater and drainage assets:

- climate change and long and short term weather patterns (making storms more intense and the burden on stormwater and drainage assets greater, making levels of service more difficult to achieve)
- population growth (indirectly by promoting greenfield development)
- development – particularly greenfield development (by increasing hard-surface areas and therefore increasing run-off rates and the size and concentration of flows to stormwater assets)
- increased legislative demands
- more sophisticated flood predictions (which may uncover the previously unknown need for new or higher-capacity stormwater and drainage assets).

Council is aware of the factors affecting demand and to aid in understanding the issue, Council is preparing a number of detailed flood studies. These studies will identify areas of deficiencies in the system and provide the means to determine the impact of new development. These studies take into account future development and climate change predictions. An understanding of the relative impacts of these factors is important for Council.

To ensure current systems can manage the flows associated with new developments, each development is designed to ensure the increased stormwater flows are mitigated to pre-development levels, or the downstream system is upgraded to cater for the changes in flow.

The development control processes used by Council have the aims of:

- retaining natural stormwater systems as far as possible
- taking a major/minor approach to stormwater and drainage design to limit the frequency of flooding
- in no case allowing a development that would overload the downstream drainage system
- considering floods greater than the design floods when designing stormwater and drainage systems.

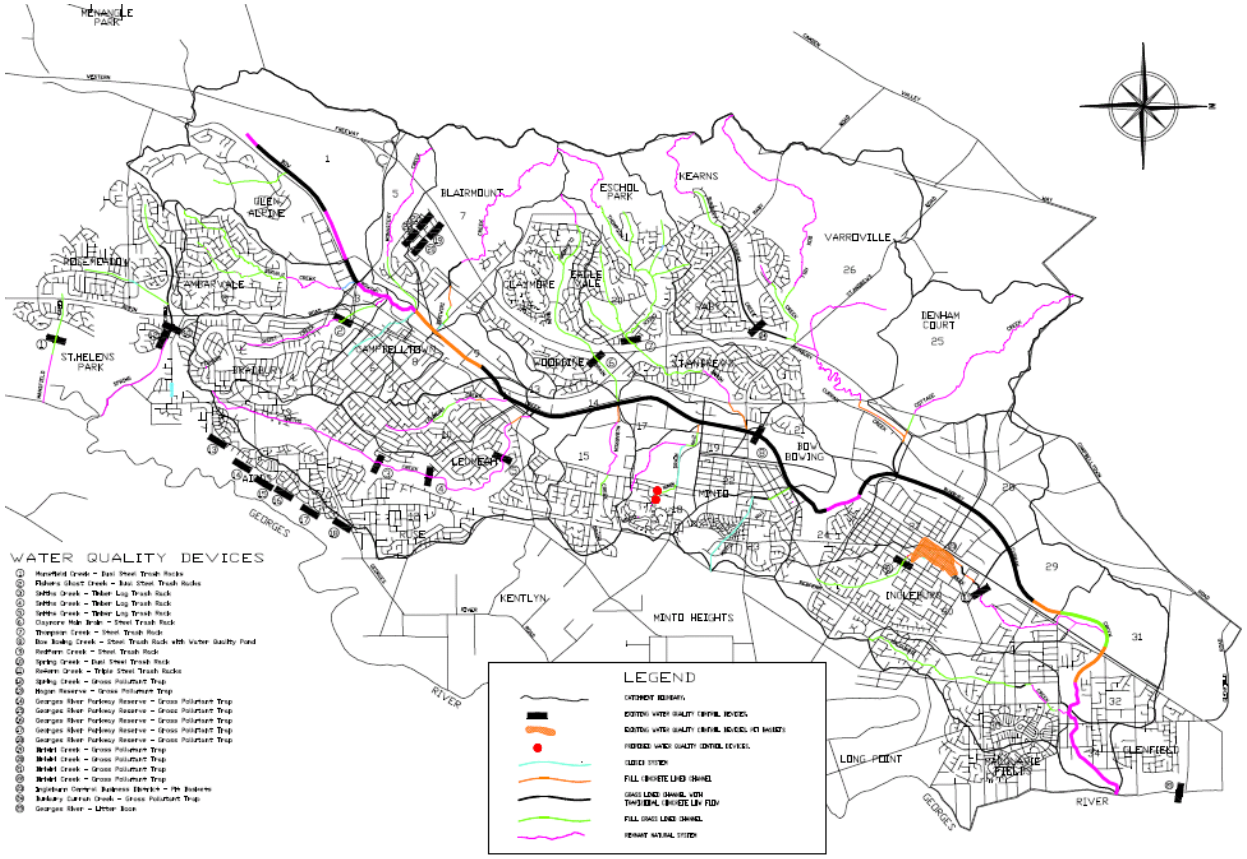
These principles are addressed by encouraging and/or mandating the use of water sensitive urban design (WSUD), which includes:

- detention facilities in new development areas
- stormwater treatment facilities in new development areas.

Currents status of assets

Figure 1 shows a schematic of the stormwater network within Campbelltown LGA.

Figure 1 stormwater network map



Currents status of assets

Campbelltown City Council's stormwater assets are divided into six groups as shown in Table 2. As described in Section 1, Campbelltown City Council does not own all stormwater assets within Campbelltown. Those shown in Table 2 are all Council owned.

Table 2 Value of stormwater asset groups as of May 2016

Asset Type	Useful Life (Year)	Unit	Quantity	Replacement Value
Pits	75	no	22120	$ 57,234,692
Pipes	175	km	614.61	$ 106,557,916
Pipe Lining	125	Km	614.61	$ 75,997,693
Headwalls	75	no	816	$952,013
Flood Mitigation	217	no	3,052,028	$ 50,102,833
Channels	50	km	101.64	$37,436,144
Water quality devices	5-100 depending on type*	no	46	$ 2,391,063
Total value				$330,672,354

**Pit baskets = 5 yrs; timber log trash racks = 20 yrs; litter booms = 20 yrs; single and dual steel trash racks = 30 yrs; steel trash racks with water quality ponds; gross pollutant traps = 60 yrs; triple steel trash racks = 100 yrs; continuous deflective separation (CDS) units = 100 yrs.*

Condition ratings and descriptions for infrastructure assets other than roads are detailed in the table below:

Table 3 Condition ratings and descriptions

Condition Rating	Condition Description	Life Consumed (%)
0	New or recently rehabilitated asset	0 to 10
1	Very Good: Near new condition. No defects	>10 to30
2	Good: Sound condition. Minor maintenance required	>30 to 55
3	Average: Some deterioration. Significant maintenance required	>55 to 75
4	Poor: Severe deterioration. Significant renewal of rehabilitation required	>75 to 90
5	Very Poor: Asset unserviceable. Beyond rehabilitation. Renewal required	>90 to 100

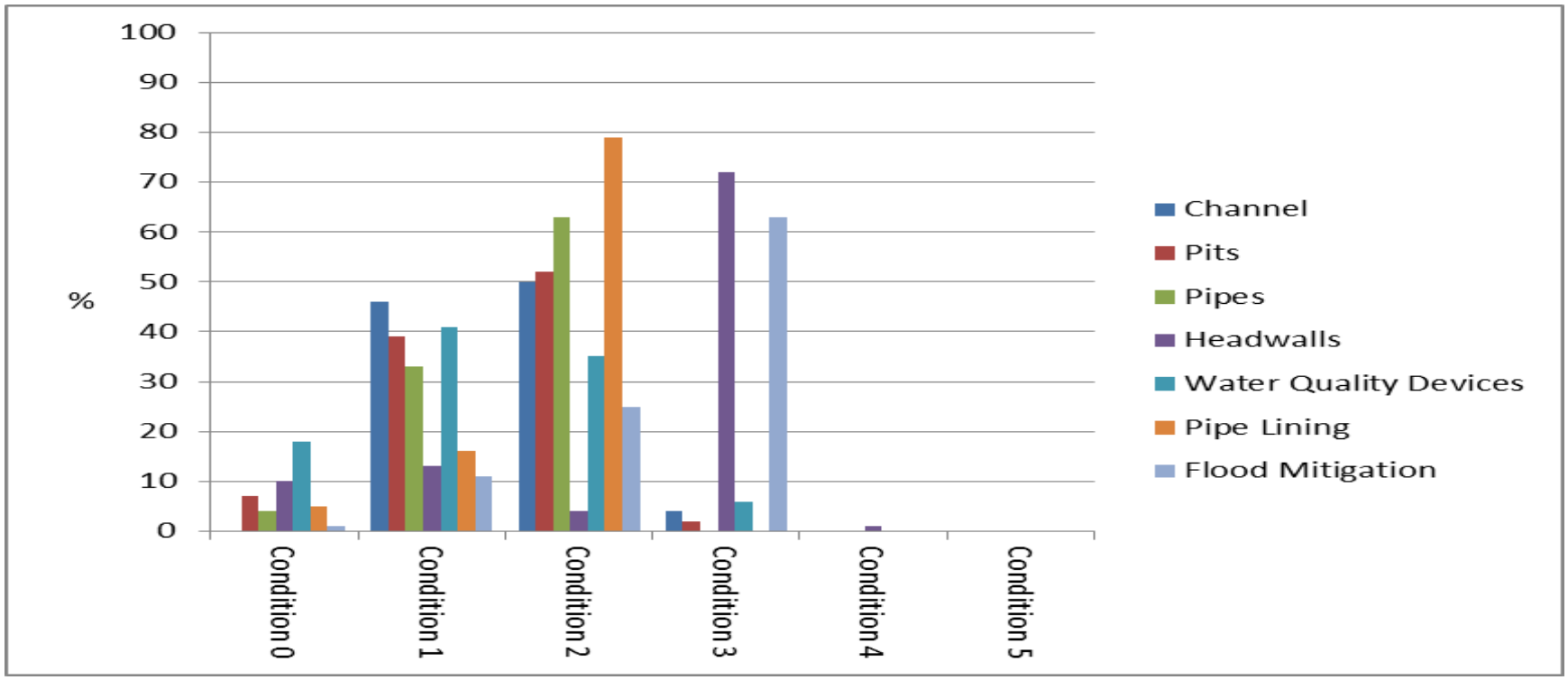
Currents status of assets

The current condition of the stormwater asset groups as shown in Table 4:

Table 4 Condition rating of the stormwater asset groups

Condition	Channel	Pits	Pipes	Headwalls	Water Quality Devices	Pipe Lining	Flood Mitigation
5	0	0	0	0	0	0	0
4	0	0	0	1	0	0	0
3	4	2	0	72	6	0	63
2	50	52	63	4	35	79	25
1	46	39	33	13	41	16	11
0	0	7	4	10	18	5	1

Figure 2 Conditions of pits, pipes and channels



Currents status of assets

Critical Stormwater Assets

Critical assets have been identified by applying a risk scoring system to assets in each asset category. The following stormwater assets are listed as critical assets:

- University Detention Basin (Harrison Dam)
- Smith Creek Detention Basin
- Park Central Detention Basin

Operations and maintenance

Council has an extensive program of operations and maintenance of its assets. These figures do not include renewal costs detailed in Schedule 7 of the Financial Statements. Generally, operations and maintenance activities are carried out by qualified Council staff. Where this is not possible, contractors are employed to undertake other relevant activities, especially those that are related to compliance with Australian Standards or legislative requirements.

The following maintenance work functions are used to manage assets at Council:

Programed maintenance	Maintenance that occurs on an annual cycle that is planned to bring the asset back to its intended level of service, or
Operational maintenance	Maintenance that addresses Legislative or Australian Standards requirements.
Reactive maintenance	Maintenance that is unplanned due to unforeseen changes to the assets intended level of service.

Stormwater and drainage

Council spent approximately $1.4m on stormwater and drainage maintenance activities in 2014-2015. This budget was mostly assigned to cleaning stormwater drains and gross pollutant traps, as well as maintenance and minor repair of drains.

The stormwater and drainage network, during storm events, is designed to operate without human intervention, and there is little or no mechanical/electrical equipment that requires control.

There are no known major operational or maintenance issues at present. Assets are generally in a good condition or better.

Council undertakes regular inspections of the assets in line with the *Condition Inspection Handbook*.

Bringing old assets back to life…asset renewals

Council has performance measures for the operations and maintenance of its stormwater and drainage assets, as detailed in Table 5.

Table 5 Performance measures for operations and maintenance of stormwater and drainage assets

Key Performance Measure	Level of Service	Performance Measure Process	Performance Target	2014-2015 Performance
Condition	Provide a network free of blockages or failures	Response time to unblocking pits and pipes	Pits two days Pipes three days	Pits two days Pipes four days
Cost effectiveness	Maintain high levels of proactive maintenance for pipe and pit cleaning	Ratio of planned and cyclic maintenance versus reactive maintenance	Planned/reactive >60%	90%
	Provide cost effective stormwater system	Operating cost $/km	$/km	To be developed

Bringing old assets back to life… asset renewals

Council describes renewals as expenditure on assets that returns them to their original state or as close to it as possible.

Capital works are defined as activities that enhance the function of an asset or materially extend the life of an asset beyond its original designed life. More information on capital works can be found in the Long Term Financial Plan and the Operational Plan.

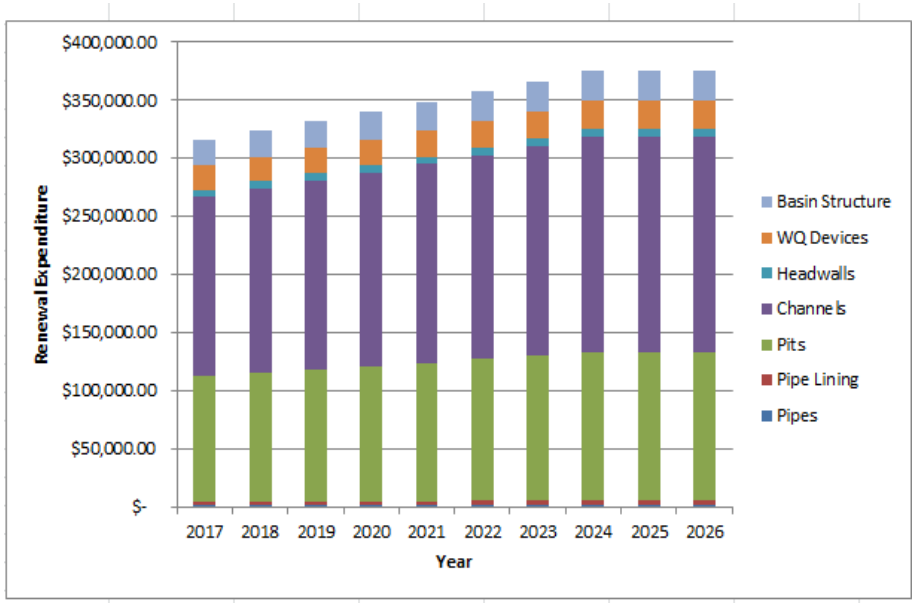
Council undertakes extensive modelling using data captured by rigorous inspection programs to project the renewal of assets.

Stormwater and drainage

Figure 3 shows the projected renewals costs for stormwater and drainage assets for the coming 10 years. Council is currently developing a strategy to deal with the increasing need in funding for renewal of assets. This is addressed in the Long Term Financial Plan.

(Concrete Channel, Cary Grove Road, Minto)

Figure 3 Predicted required renewal expenditure for stormwater and drainage assets



New works

The program of new works is generated by a number of means, including new development in and around the Local Government Area. Council is currently developing a strategic capital works program that will provide a framework for a more structured approach to the need for capital works. The Long Term Financial Plan and the 2016-2017 Operational Plan and Budget provide details of Council's capital expenditure.

Stormwater and drainage

Council estimates the amount of additional stormwater and drainage assets based on a model developed by the Institute of Public Works Engineers Australia. These projections are based on the rise in the population only, and are therefore a fairly simplistic model.

Figure 4 shows the estimated number of kilometres of new stormwater pipes, while Figure 5 shows the estimated number of new stormwater pits. In addition to these projections, the IPWEA model also suggests the need for an additional two headwalls in 2026. No projections for lined channels, detention basins or water quality control devices have yet been made.

Figure 4 Projected additional kilometres of stormwater pipes

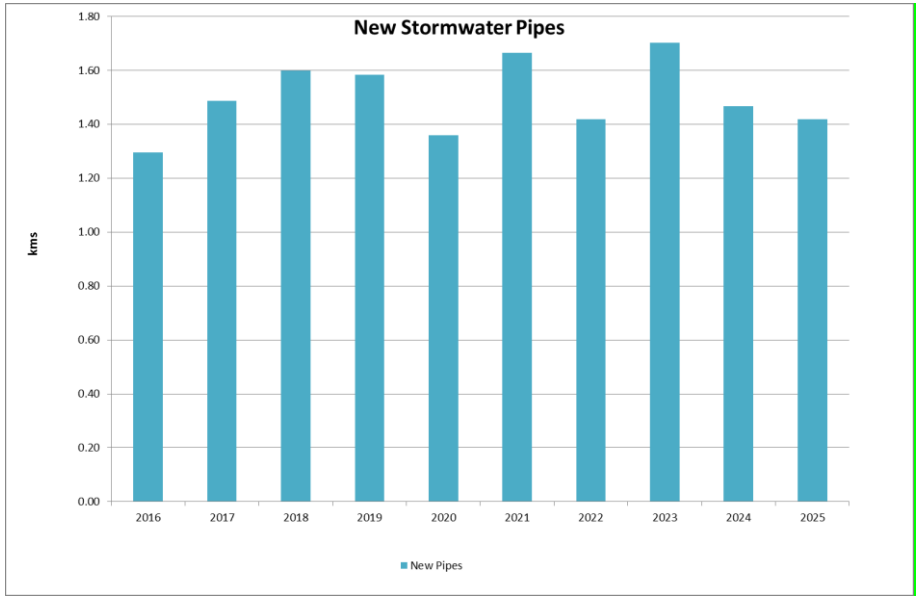
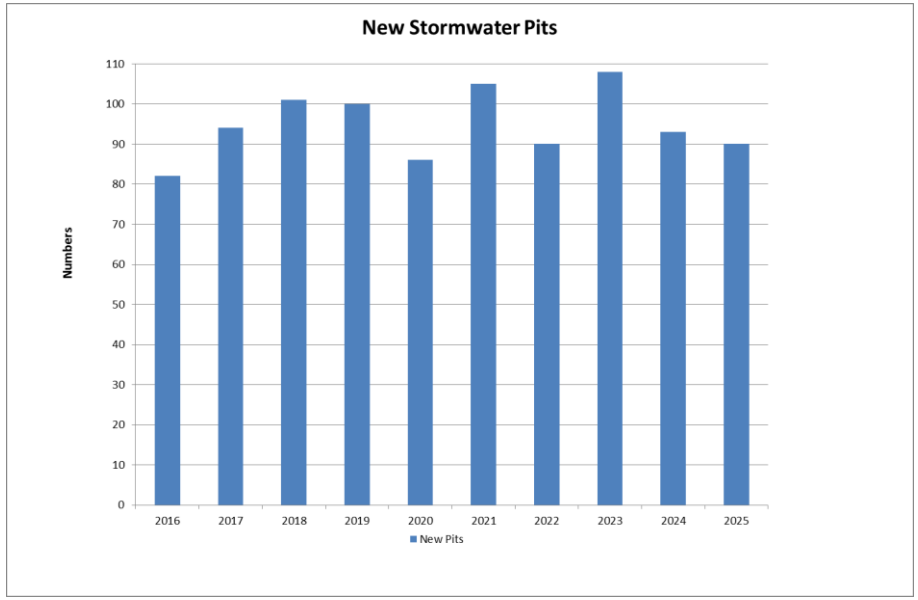


Figure 5 Projected additional number of stormwater pits



Asset disposal

A detailed procedure on asset disposal has been prepared by Council in line with the statutory requirements. This document is currently being reviewed to ensure that it is contemporary. It is the responsibility of all staff who are involved in the disposal of assets to ensure that the process is performed in a transparent and accountable way.

A decision to dispose of an asset may be based on the following:

- asset is no longer required
- asset is unserviceable or beyond economic repair
- asset is obsolete or operationally inefficient
- asset does not comply with Council's Work Health Safety standards
- there is no use expected for the asset in the foreseeable future
- optimum time to maximise return or part of the asset replacement program
- discovery of hazardous chemicals contained within the asset
- costs associated with the retaining of the asset (eg, storage, insurance, security and management) outweigh the benefits of retaining the asset.

Council has an extensive approval process in place prior to any asset being disposed of. Significant assets will not be disposed of without the approval of elected members.

Ten year financial forecasts

The Long Term Financial Plan provides scenarios for meeting the funding requirements for operation, maintenance and renewal of assets. The scenarios have been informed by the complex models that are generated from the Asset Management System used by Council. The models allow Council to predict the funding requirements over time, based on the levels of service required and the age of the asset.

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