



INFRASTRUCTURE

To ensure economic and environmental sustainable outcomes, future residential and commercial development in the municipal area will predominantly occur in the towns with the capacity to provide reticulated water, sewerage reticulation and treatment and stormwater collection disposal. A major environmental problem associated with development outside of the serviced towns has been leakage from septic tanks. As a consequence, Council has pursued a policy of extending a sewerage service to settlements where this is a significant problem.

The quality and supply of water, sewerage treatment and disposal of stormwater varies considerably across the municipal area. The Council, like other small Councils in Tasmania, is faced with a high demand for new infrastructure, upgrading and maintenance of existing utilities, and limited funding from a relatively small rate base to undertake improvement. Council's strategy therefore, will focus on maximising the use of existing infrastructure and encouraging development where there is excess capacity of reticulated water and sewerage and promoting recycling and installation of rainwater tanks.

### Sewage Infrastructure

Reticulated sewerage is available in the major towns of Huonville/Ranelagh, Cygnet, Franklin, Port Huon, Geeveston and Dover. Council maintained sewerage treatment plants are located at Ranelagh, Cygnet, Geeveston, Dover and Southport. All other areas rely on disposal through septic tanks or domestic sized package treatment plants.

Most of the sewerage treatment plants in the municipal area suffer from excessive stormwater infiltration. Measures will need to be taken to eliminate this to increase capacity and effectiveness of the treatment plants. Future development requiring an extension of existing reticulated sewerage schemes will be dependent upon the capacity of the treatment plant, the financial capacity of the scheme itself and the environmental benefits accruing from such an extension. Council's strategy therefore will involve headwork charges being applied on developments that impose extra long-term costs, over and above the income that Council would expect to receive in ongoing water and sewerage charges.

Huonville, Franklin and Ranelagh were, until recently, serviced by a lagoon treatment system located at Ranelagh. A mechanical treatment plant to improve environmental performance and to handle the existing and projected loads has effectively replaced this system. Currently the equivalent of about 1160 properties are connected. A significant issue for this scheme is that the new plant's capacity has been quickly taken up by the increased development that has occurred in the Huonville area in the last few years. It will be necessary to make the design adjustments that significantly increase this capacity and so to better accommodate future development in the area.

The original sewerage treatment scheme for Cygnet included stormwater connections. This can result in the system becoming overloaded during rain events. There are currently approximately 500 properties connected to the scheme. Despite the stormwater problems, the scheme does have spare capacity.

Geeveston is serviced by an activated sludge plant, which also services the township of Port Huon. Like Cygnet and Huonville the Geeveston plant suffers from stormwater infiltration and becomes overloaded during large rain events. An extension to the Port Huon Wharf area was constructed in 2006. There are about 460 connections and the sewerage scheme is estimated to be at its licensed capacity. While the sewerage scheme was designed for higher loads, the loads could not be increased without an upgrade to ensure that the safety margin required by DPIW is maintained.

The Dover system involves a relatively new mechanical treatment plant combined with an old lagoon treatment system. There are about 380 connections to this scheme and there is a need to extend the scheme to accommodate outlying residential areas. In this respect, the existing treatment plant will need to be further upgraded in the future.

The Southport Lagoon system provides 26 connections and may be upgraded to service the shack sites at Kingfish Beach. This upgrade might provide for a new treatment plant that could service up to 140 residences and remedy the problems associated with the many inadequate septic systems in this area.

Verona Sands has a small package treatment plant installed as part of private subdivision development of 13 connections. As part of the Crown Lands Shack Categorisation Program, sewerage services are proposed or have been constructed, for the aforementioned Southport scheme, at Surveyors Bay, Little Roaring Beach and Eggs and Bacon Bay. These schemes are to be initially funded by the purchasers of the Crown shack sites, with subsequent maintenance by Council.

There may be other opportunities for innovative on site wastewater treatment solutions to relieve the pressure to extend reticulation or create new sewerage schemes for coastal villages.

## Water Infrastructure

The Council has 11 water schemes in place that service some 3,700 tenements. Water supplies are provided in Cygnet, Dover, Franklin, Glen Huon, Grove, Huonville, Judbury, Mountain River, Port Huon and Ranelagh. Verona Sands and Southport are not supplied with reticulated water.

Council has invested considerable resources in the provision of water infrastructure in the planning area. Maximising the effectiveness and cost efficiency of this investment would be achieved through using this infrastructure to its capacity.

The Huonville Water Treatment Plant is the largest scheme and reticulation extends to some 950 tenements in the Huonville area and some 260 in Franklin. The treatment plant has the capacity to meet most of Huonville's requirements for the foreseeable future, though many reticulation upgrades are necessary in the upcoming years.

The Jackson's Road scheme at Franklin only services 13 permanent tenements however it is used as a backup for the Huonville/Franklin line during periods of high demand. It is an untreated supply and is proposed to be closed.

The Rocky Creek Dam system services some 440 tenements in Ranelagh and the area north of Huonville including Crabtree and Grove. Water provided by the Rocky Creek system is disinfected. Some significant reticulations are proposed in the next few years.

A small system services 39 tenements in the Mountain River area. This is an untreated supply that requires significant expenditure for any upgrade. This cannot be justified and the most likely scenario is that this scheme would be closed.

Dora Creek provides the untreated water supply for the Judbury connections (74 tenements) and the standard of water quality varies with higher levels of faecal coliform occurring in the drier summer months. The Council has purchased additional land in the area for catchment protection, as there has in the past been a strong community resistance to chlorination of the water supply.

The water supply for the township of Cygnet is sourced from two areas. The storage at Grey Mountain services the majority of the town. This is a disinfected water supply to some 630 tenements. The Agnes Creek Water Treatment Plant services some 70 tenements and this supply is treated. The Cygnet scheme has a limited capacity, and water is extracted from two natural watercourses to the extent that environmental flows are significantly impeded. There were particular problems for consumers during 1999/2000 when rainfall was well below average. The storage at Grey Mountain has since been expanded though water capacity is still restricted. Current upgrade requirements include increased reservoir storage and many pipe replacements. The second source for Cygnet is from Nicholls Rivulet which services an additional 70 tenements.

The Donnelly's Water Treatment Plant at Geeveston services some 210 tenements and there are plans to construct a 2ML reservoir to provide water security and a backup for the Geeveston township. The reticulated scheme from South Creek on the Kermadie Road near Geeveston is also scheduled for some upgrading works. This system is disinfected and services some 550 tenements. Most of Port Huon is serviced by this supply. A reservoir at Castle Forbes Bay provides an untreated water supply during the occasional very dry year.

The Dover Treatment Plant extracts its supply from the Esperance River and services some 440 tenements. A number of reticulation upgrades or pipe replacements will occur in the next few years.

There are numerous issues in regard to the long term provision of water in the municipal area. These include:

- The water reticulation system in some areas is sub-standard and therefore not capable of handling further land use development without upgrading.
- Council applies water restrictions on an annual basis across all water schemes. This is generally due to reticulation problems where consumption in the lower levels drastically reduces available water to the more elevated sections of the schemes.
- Water conservation measures will be necessary to optimise the efficiency of the existing infrastructure. This might include water metering, domestic water tanks, improved plumbing systems, public education and the implementation of water sensitive urban design measures.

Council applies water restrictions on an annual basis across all water schemes. This is generally due to reticulation problems where consumption in the lower levels drastically reduces available water to the more elevated sections of the schemes. All of the abovementioned upgrades to the individual schemes will provide improved water supply services to existing residents and provide scope for development that might have been otherwise constrained.

Council is currently considering the development of a more regional approach to water supply so that there is less dependency on local watercourses. This 'regional' scheme would source its water from the Huon River and significantly expand the capacity of the Huonville treatment plant. Geeveston, and possibly Cygnet, would then be supplied from this source. Although this would be a costly exercise it would reduce the need for water restrictions, improve overall water quality, increase development capacity within connected areas and improve environmental flows in previously affected local watercourses. Any such solution to the water supply problems in the municipal area will inevitably be guided by cost, community need and potential environmental impacts. To this end, Council has commissioned a major review to be carried out by Hobart Water.

The first report in this review recommends a set of generic objectives, replacement works, additional policies for the future efficient development of infrastructure, and improved data for better replacement decisions. This includes proposals for water metering (Cygnet and Geeveston first) and the need to apply developer charges for connection to water and wastewater systems.

It is also important the Council encourages the reuse of water and promotes use of rainwater tanks even where there is reticulated water. There are many possible financial incentives that Council may wish to adopt following Hobart Water’s review, however this Strategy recognises that the planning scheme needs to prevent unnecessary red tape to the implementation of sustainable water use.

<b>SEWERAGE AND WATER</b>	
<b>Strategic Directions</b>	<b>Guiding Principles</b>
<p><i>Give preference to developments that will maximise the efficiency of existing infrastructure in the major towns that have existing capacity.</i></p> <p><i>Future development requiring an extension of existing reticulated sewerage schemes will be dependent upon the capacity of the treatment plant, the financial capacity of the scheme itself and the environmental benefits accruing from such an extension.</i></p> <p><i>All new development will be required to be provide an adequate level of infrastructure and services and not have a detrimental impact on the quality of town drinking water supplies.</i></p> <p><i>Encourage development that embraces sustainable water reuse.</i></p>	<p><i>Future residential and commercial development will be based on the consolidation of existing towns. Ribbon development and an expansion of areas where infrastructure is inadequate will not be supported. Infill development will be encouraged.</i></p> <p><i>Headwork charges on developers will apply if a development will impose extra long term costs, over and above the income that Council would expect to receive in ongoing water and sewerage charges.</i></p> <p><i>New urban residential and commercial development must be provided with:</i></p> <ul style="list-style-type: none"> <li>▶ <i>Reticulated water.</i></li> <li>▶ <i>Reticulated Sewerage or an adequate package treatment system.</i></li> <li>▶ <i>Stormwater drainage with satisfactory capacity and environmental performance.</i></li> <li>▶ <i>Sealed roads with kerb and gutter and safe access.</i></li> </ul> <p><i>Land in the towns will not be zoned residential if it cannot be serviced by Council infrastructure (existing or planned).</i></p> <p><i>Water supplies will be protected from activities with the potential to create nutrient and or sediment loads.</i></p> <p><i>Where development outside of established reticulated areas cannot be avoided, sustainable water supply and use mechanism must be implemented.</i></p>

### Stormwater Infrastructure

The major towns of the municipal area are provided with kerb and channelling and some drains. However, no area is serviced by a full stormwater reticulation system. There is no sediment or litter removal from urban stormwater.

Much of the stormwater reticulation in Huon Valley requires upgrading, as it is an old and inefficient system. In Huonville, some parts of the town are subject to flooding and this has implications for the stormwater drainage in these areas.

There has been no strategic analysis of stormwater to ascertain the impact on the quality of receiving waters.

Given the above scenarios, the Council's strategy will focus on promoting water sensitive urban design that offers a range of alternatives to the traditional approaches to stormwater management. The techniques for water sensitive urban design are well established and need to be incorporated into the design of new (and the retrofitting of existing) residential, commercial and industrial developments including:

- ▶ Minimising the extent of impervious surfaces.
- ▶ On-site reuse of water and the provision of temporary storages for peak floods.
- ▶ Ground swales and vegetation, which facilitates the removal of pollutants.

The benefits from water sensitive urban design include:

- ▶ Provide better environmental protection and water quality.
- ▶ Reducing peak flows.
- ▶ Creating aesthetic/landscape/recreational opportunities.
- ▶ Reducing initial development costs, while potentially adding value to the subdivision and reducing maintenance costs.

<b>STORMWATER MANAGEMENT</b>	
<b>Strategic Directions</b>	<b>Guiding Principles</b>
<p><i>Recognises that contamination of stormwater is a threat to the quality of receiving waters.</i></p> <p><i>Encourage the use of innovative and alternative infrastructure for stormwater management and treatment.</i></p> <p><i>Plan for the retrofitting of existing urban areas with stormwater infrastructure</i></p>	<p><i>Stormwater infrastructure is to be incorporated into new land developments (such as subdivisions and multiple housing) utilising contemporary water sensitive techniques.</i></p> <p><i>New industrial development is to incorporate water sensitive design and provide for protection of water quality, reducing peak flows and incorporate landscaping that facilitates water filtration and removal of pollutants.</i></p> <p><i>Opportunities for contamination of stormwater are to be minimised at the source or alternatively, treatment of contaminated stormwater is to be undertaken before discharge.</i></p>

### **Waste Management Infrastructure**

Waste management is a major environmental challenge in regard to pollution from the leachate at old landfill sites, providing increases in kerbside waste collection and minimising residential waste by promoting and increasing reuse and recycling opportunities. Council adopted a broad waste management strategy in 2001, which includes upgrading waste transfer stations, rehabilitation of former landfill sites containing leachate within the sites and introducing a kerbside waste collection.

The landfill sites at Geeveston and Cygnet are being rehabilitated and have had some major drainage works completed in recent years. Council's monitoring regime for the Cygnet landfill site has in the past detected organophosphate pesticides, high nutrient levels and high faecal coliform in the leachate from this facility. The construction of new leachate dams (plus stormwater separation and pumping out the dams) at Cygnet has now prevented any leachate from leaving the site. Similar work has also occurred at the Geeveston landfill.

Waste management is coordinated through waste transfer stations at Huonville, Cygnet Geeveston and Dover. All residual waste is taken to the Huonville waste transfer station, compacted and then transported to Copping. The Southern Waste Management Strategy has identified the landfill at Copping as being the regional facility that should be used once local landfills are closed. It is in Council's interest to minimise as much as possible the amount of waste that is transported out of the municipal area.

In July 2004 Council commenced a kerbside waste collection service for all the main urban areas, plus the connecting arterial routes. More than half of the residences in the municipal area are now serviced and extensions are being carried out on an ongoing basis. Facilities at the waste transfer stations are being improved on an ongoing basis, particularly in regard to waste minimisation, reuse and recycling facilities.

Council's strategy will be to improve waste management in the municipal area including:

- ▶ Promote waste minimisation initiatives.
- ▶ Undertake site improvements at the waste transfer stations.
- ▶ Investigate the feasibility of opening a tip shop at Huonville and new inert waste sites within the Huon Valley.
- ▶ Undertake further rehabilitation of old landfills sites.
- ▶ Extension of the kerbside collection program into new areas over time.

<b>WASTE MANAGEMENT</b>	
<b>Strategic Directions</b>	<b>Guiding Principles</b>
<p><i>Extend the kerbside refuse collection program and minimise the potential for conflict between refuse storage and sensitive land uses.</i></p>	<p><i>Future residential development will need to be designed so that it is capable of being serviced by kerbside refuse collection vehicles.</i></p> <p><i>Appropriate attenuation distances will be provided between waste transfer stations/ disposal sites and use or development which would be sensitive to noise, odour and dust emissions.</i></p>