BACKGROUND

There are currently seven sewage treatment plants (STPs) servicing the greater Launceston area: Hoblers Bridge, Legana, Newnham, Norwood, Prospect Vale, Riverside and Ti Tree Bend.

Six of the plants treat sewage and trade waste flows. The Ti Tree Bend STP is different as it treats both stormwater and sewage flows (combined sewage).

TasWater recognises that all seven STPs have problems relating to age (condition of infrastructure), performance and capacity and that they will be unable to cope with increasing flows in the years ahead or meet community and regulatory expectations in terms of treatment performance.

As such, there is a need for TasWater to deliver a sewage treatment system that will meet Launceston’s needs well into the future as any new infrastructure will have an operating life in excess of 50 years.

In December 2014, after considering a number of upgrade options that were workshoped with key stakeholder groups and the greater community, the TasWater Board endorsed the recommendation for a new treatment plant at Ti Tree Bend (to be built alongside the existing plant) and the decommissioning of the six smaller STPs. It is proposed that the six decommissioned STPs will act as pump stations and buffer storages while the new centralised STP (the new northern STP) will provide treatment.

The existing Ti Tree Bend STP will continue to treat combined sewage flows from the Invermay and Launceston city areas.

The existing STPs are generally quite efficient at removing solids and removing micro-organisms however they tend to be ineffective at reducing or removing nutrients. This is due to the fact that most of the plants were constructed when there was no licence requirement to remove nutrients.

The new northern STP will have significant nutrient removal capability and it is estimated that nutrient load reductions will be approximately 50% for nitrogen (TN) and phosphorous (TP) and up to 80% for total ammonia (NH4).

WHERE TO FROM HERE?

Significant progress has already been made on the project with consultants GHD completing preliminary designs, constructability assessments and detailed cost estimates for the new pump stations, storage facilities and associated pipelines being proposed as part of this project. Another consultant, CH2M, has completed preliminary designs, constructability assessments and detailed cost estimates for the proposed new northern STP at Ti Tree Bend.

This information will form the basis of a detailed business case for the TasWater Board before the end of 2016. Approval of the business case will give TasWater an endorsement to progress the project – although approval will still be required from the Environment Protection Authority.

The Launceston Sewerage Improvement Plan (LSIP) will be one of the largest urban infrastructure projects ever undertaken in Tasmania and will present a number of significant engineering challenges with new pipelines required in existing urban areas and the potential for up to three river crossings.

The entire project will cost in the vicinity of $285 million and could take between five and 20 years to deliver in full because of the complexity of approvals required for the project and the need for TasWater to source external funding to assist in project delivery. Given the large capital cost, it is likely that implementation of the project will be contingent on funding by external parties.

TasWater is currently investigating external funding opportunities and the project may need to be staged depending on funding availability. The business case is expected to look at a range of different delivery options and will also revisit some of the earlier options investigated to confirm that the preferred approach is still the most prudent and viable in terms of social, environmental and economic outcomes.

WANT MORE INFORMATION?

More information about the Launceston Sewerage Improvement Plan is available online at:


TasWater will also be holding a number of community information sessions in coming months. These sessions will provide residents with an opportunity to learn more about TasWater’s preferred option.

AT A GLANCE

• Sewage flows in the greater Launceston area are expected to increase from 24 megalitres (ML) per day in 2015 to 38 ML per day in 2060

• The existing Ti Tree Bend STP which receives sewage and stormwater, treats approximately 15 ML per day increasing to as much as 200 ML per day during significant wet weather events

• The seven STPs included in LSIP service approximately 70 per cent of TasWater customers in the state’s north

• The new northern STP will provide secondary treatment (four-stage nutrient removal) which is considered the most suitable form of treatment given the receiving waters (Tamar River estuary).
LAUNCESTON COMBINED SYSTEM STRATEGY

BACKGROUND
TasWater operates a combined sewerage system in Launceston dating back to the 1860s. The system provides a combined sewage and stormwater service to thousands of residential and commercial properties in the Launceston CBD and surrounding suburbs. The system operates the same as a standard sewerage system during dry weather and low intensity rainfall events with all flows directed to the Ti Tree Bend Sewage Treatment Plant (STP). During long duration or high intensity rainfall events, overflows are directed to the North Esk and/or the Tamar River estuary. These overflows are primarily stormwater but also contain diluted sewage.

Without combined sewage overflows at designated locations, stormwater would overflow at uncontrolled low points in the system, flooding residential and commercial properties.

WHERE TO FROM HERE?
The ongoing operation of the combined drainage system is a topical issue for the local community, river users and key stakeholders. There is a strong perception in the community that the combined system is having a serious impact on river health.
TasWater recognises that the combined system fails to meet community expectations in relation to combined sewage overflows and is committed to assessing the extent and impacts of the overflows and identifying opportunities to improve the system.
In 2015, TasWater appointed Beca Pty Ltd – a consultant with international experience having worked with combined sewerage systems in the United Kingdom and New Zealand – to help develop a strategy with a focus on minimising the frequency, volume and impact of combined sewage overflows on local waterways, including the Tamar River estuary.

While the consultants will look at the feasibility of separating the combined sewerage system into designated stormwater and sewerage systems, it is widely recognised that such a move would be extremely expensive. It would also mean that polluted stormwater currently treated at the Ti Tree Bend STP during low to moderate flows would be discharged directly into local waterways. Previous assessments have concluded that retaining and improving the current combined system would provide the best outcome.

Other measures may include improved screening of overflows, increased use of existing system storage and increases in system storage to reduce the volume and frequency of overflows.

Pollutant load reduction estimates are yet to be developed in detail as a preferred solution is yet to be selected. Works will be prioritised based on level of improvement and cost efficiency.

The cost of solutions will vary depending on the upgrade options selected. The screening of a small number of high risk overflows could be implemented for approximately $20 million whereas the construction of additional storages or an interceptor would be likely to cost in excess of $100 million.

As with the Launceston Sewerage Improvement Plan, TasWater will be reliant on external funding to help deliver upgrades to the system and project delivery would be influenced by the amount of funding available.

WANT MORE INFORMATION?
TasWater will also be holding a number of community information sessions in coming months. These sessions will provide residents with an opportunity to learn more about TasWater’s preferred option.

AT A GLANCE
• Some of the world’s largest cities have combined sewerage and stormwater systems including London, Paris and New York
• Approximately 90 per cent of the United Kingdom and 800 cities across the United States also have combined systems
• Capital improvement works in these systems tend to focus on improving the system rather than separating it due to the environmental impacts of untreated stormwater

THIS PROJECT IS SUPPORTED BY THE TAMAR RIVER RECOVERY PLAN PARTNERS: