

Transitional Environmental Program

EPPR03383115 (SPCE05672613) Lorim Pt Sewerage
Treatment Plant

July Interim Report 2016

DEHP Reference: MAN19460, CR68203, 101/0008737

1.1 Lorim Point Sewage Treatment Plant (STP)

The Lorim Pt STP TEP is to implement a program of works to reduce Thermotolerant coliforms to its new Environmental Authority (EA) license level of 1000CFU/100ml. This program of works is proposed to progress in three stages. Following the completion of each stage a monitoring and review period will allow RT Weipa to understand how the changes have affected the ability of the plant to achieve the EA requirement relating to Faecal Coliforms, and to determine whether it is necessary to progress to the next stage.

The actions proposed for Stage 1 of the Lorim Pt TEP are in Table 1, and include action progress of each of the steps. This report is to provide the assessment of stage 1 and its effectiveness.

1.2 Stage 1 Assessment

Assessment of Stage 1 “Biologically optimise the plant” shows that additional work is required to control the quality of the outflow from Lorim Pt STP.

Conclusion is that although the plant has not been successful in achieving a faecal coliform limit of 1000CFU/100ml, it has however increased the plants ability to treat raw sewage and set the plant up for stage 2. Stage 2 will involve modification of the plant to improve nutrient removal and potentially include an anoxic treatment phase into the plant cycle.

Regular monitoring of the outflow shows highly variable levels of thermotolerant coliforms. Figure 1, shows the variable nature overtime.

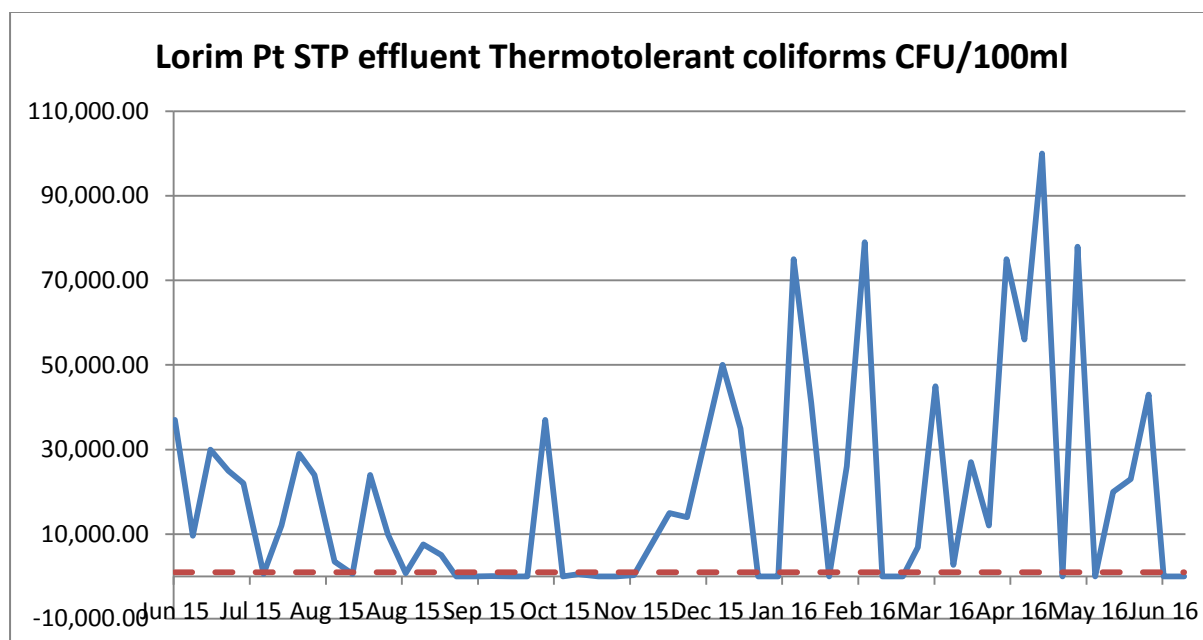


Figure 1 Thermotolerant Coliforms results from effluent testing at Lorim Pt outflow. Showing licence limit of 1000CFU/100ml

RTA Weipa will continue to progress through to stage 2 Functional design changes, to make further modifications to the plant to improve nutrient removal.

Assessment of Stage 2 will be submitted by March 31st 2017.

Table 1. Proposed program of works for Lorim Pt STP. including status

Objective of Stage	How the Stage will Reduce Faecal Coliforms	Actions	Dates	Performance Indicators	Status	SAP Action ID
Biologically optimise the plant through equipment changes and operational changes, to increase its ability to treat influent sufficiently	Modifications will include the installation of an inlet filter screen to assist in the removal of objects such as rags, plastics, and metals to prevent damage and clogging of plant equipment. This will additionally assist in decreasing the desludging times	Construct a 5m x 3m concrete slab with a perimeter bund (with a ramp at one end) for the screen to be placed on. The concrete slab will also feature a concrete channel that drains into the adjacent sludge holding tank.	To be completed by November 30 th 2015	Concrete slab and channel constructed.	Completed	100863522
		Install one (1) in-tank screen extractor with a 5mm screen including discharge chute, bagging unit, control panel, and manual internal bypass screen	To be completed by November 30 th 2015	In-tank screen extractor installed.	Completed	100863523
	Modification will direct the screened wastewater into the bioreactor at a location away from the weir. This modification will also allow the volumes of screened waste water to be recorded.	Redirect the waste water inflow lines to the new screen and installing a new flow meter on the inlet to the screen	To be completed by 31 st December 2015	Waste water inflow lines redirected New flow meter installed on inlet to screen.	Completed	100863525
		Install all pipework, valves and fittings for the screen to bioreactor outflow line and the storm water bypass line.	To be completed by 31 st December 2015	All pipework, valves and fittings for screen installed.	Completed	100863526
		Install all electrical and control panel components	To be completed by 31 st December 2015	All electrical and control panel components installed.	Completed	100863527
		Remove redundant valve pit, distribution box, and flow meter from old inlet line	To be completed by 31 st January 2016.	Redundant valve pit, distribution box and flow meter removed.	Completed	100863528

	Modifications will increase the Mixed Liquor Suspended Solids (MLSS) and the sludge age, which will increase the biomass in the bioreactor to effectively treat inflow	Pass existing Bioreactor volume through filter screen.	To be completed by 31 st January 2016	Existing bioreactor volume passed through filter screen.	Completed	100864010
		Implement an operating strategy to increase the sludge age to optimal or recommended range in a staged approach: - 7 Days - 9.5 Days - 12.2 Days - 15.6 Days	To be completed by : - January 31st 16 - February 29th 16 - March 31st 2016 - April 30th 2016	Implement the operating strategy. F:M ratio within recommended range of 0.04 to 0.10 Sludge age increased in line with identified stage approach	Completed	100864011, 100864012, 100864013, 100864014
	Assess effectiveness of Stage 1 modifications	Conduct water quality testing to assess the effectiveness of the Stage 1 modifications and detail in a report submitted to the Administering Authority.	Weekly monitoring to be conducted from start of November 1 st 2015 until June 30 th 2016. Report to be submitted by July 31st 2016	Weekly monitoring completed Report to administering authority submitted	Completed	100864016, 100864017
		If Stage 1 modifications are effective in transitioning to compliance to Faecal Coliform release limits in accordance with Condition C4 of Development Approval EHP Permit number SPCE05672613, as required by Environmental Authority EHP Permit number EPPR03383115, no further action under this TEP is required, and a final TEP report will be provided within one month of Stage 1 being completed. If Stage 1 modifications are not effective in transitioning to compliance to Faecal Coliform release limits, RT Weipa will proceed with Stage 2.			Completed once report submitted to DEHP	100864018