Introduction

Logan is one of the fastest growing population centres in Queensland.

Loganholme Wastewater Treatment Plant constructed in 1983 is the largest of four wastewater treatment plants in Logan City and third largest in South East Queensland. Located approximately 30 km south of Brisbane.

The plant was progressively augmented in number of stages. The latest upgrade, Stage 7, was completed in 2010.

Treatment Process

The original plant comprised one oxidation ditch and one secondary clarifier that achieved significant nitrogen removal. Then plant was augmented and consisted of 4 Oxidation Ditches that discharged to 4 clarifiers. At Stage 5 upgrade the main biological process had comprised two parallel plants, each with two parallel Carousel-style oxidation ditches. In Stage 6, the oxidation ditches in one of the plants were converted to compartmentalised bioreactors with biological phosphorus removal and 4 new clarifiers were constructed. Two additional secondary clarifiers were also provided, bringing the total to eight.

Main aim of the most recent upgrade, Stage 7 was to obtain additional treatment capacity at minimum cost by process intensification -taking full advantage of the existing infrastructure. The plant design capacity was increased from 42 to 67 ML/day ADWF (Average Dry Weather Flow).

Capacity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Equivalent Population (2011)</td>
<td>196,596</td>
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<tr>
<td>Predicted Equivalent Population (2016)</td>
<td>202,671</td>
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<tr>
<td>Design Capacity (after stage 7 upgrade)</td>
<td>67 ML/Day (335,000EP)</td>
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