City of Gold Coast’s Sewerage Assets ($2.2B)

Sewerage Infrastructure Written Down Values as at 30 June 2015

Sewage Treatment Plants
- Elanora STP - $44M
- Coombabah STP - 136M
- Merrimac STP - $85M
- Pimpama STP & RWTP - $65M

Sewer Pipes - $1.66B

Sewage Pumping Station - $122M
Sewer Maintenance Holes - $114M
Odour and Corrosion in the Sewerage System

Elanora Sewer Network

Gravity Sewers

Rising Mains

Manholes

Pump Stations

Air Release Valve

Elanora Sewage Treatment Plant

Odour & Corrosion

Odour & Corrosion

Odour & Corrosion
Odour Challenges in Elanora STP

STP EPA License Condition: *The release of noxious or offensive odours or offensive airborne contaminants resulting from the activity must not cause a nuisance on any odour sensitive place.*

Odour caused by Elanora Sewage Treatment Plant (STP) - (Public complaints started in 1998)
Elanora Sewerage Catchment Assets

- STP built in the 1980’s
- 204 km total gravity sewers
- 36 km Rising Mains
- 57 Pump Stations
- 4,900 Manholes
Odour Challenges in Elanora STP

Odour caused by Elanora Sewage Treatment Plant (STP)

Consultant’s Recommendation:
Capture & treat odour at inlet works, primary tanks & bioreactors was $27.8M (2006).
Odour & Corrosion Challenges in Sewer Network

Odour and corrosion of whole city sewer networks
Odour & Corrosion Challenges in Sewer System

Odour and corrosion of whole of city sewer networks

Consultant’s Recommendation: Oxygen injection at selected pump stations

Operating Cost:

a) Lease of oxygen vessels - $0.50M/yr

b) Oxygen purchase - $0.50M/yr

c) Total Operating Cost – 1.0M/yr
Research Collaborations with UQ AWMC

Odour and corrosion management of whole of city sewer networks

Research Outcome: Locations of Oxygen injection at the pump stations are not effective (Oxygen injection units were shut-off in 2006).

Cost Savings: Operational expenditure savings since 2006

- a) Lease of oxygen vessels - $0.50M/yr
- b) Oxygen purchase - $0.50M/yr
Research Collaborations with UQ AWMC

Managing Odour caused by Elanora Sewage Treatment Plant

Research Outcome: Chemical dosing at two locations (SPS C27 & B20) at $570K/yr)

Cost Savings:

a) Deferral of capital expenditure of $27.8M

b) Prolong asset life of 7km pressure main (Dosing main)

c) Further research work optimised chemical dosing cost by a reduction of $100K/yr.
Thank You.