COMPLAINT TO COMPLETION: PROJECT LIFECYCLE LESSONS FROM TEMPORARY ODOUR CONTROL AT TWO SEWER PUMP STATIONS

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Asia-Pacific Odour CONFERENCE 2026

Agenda

01 Project Background

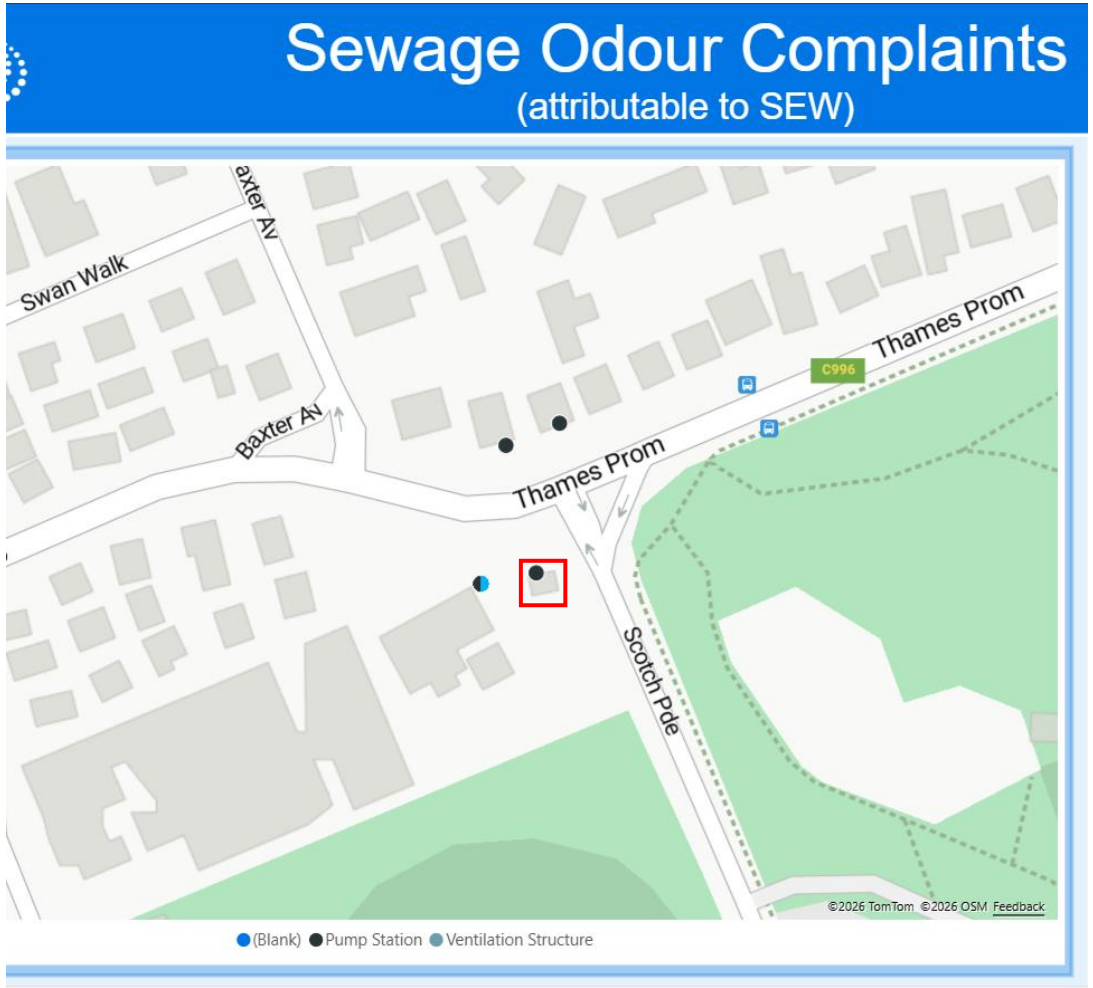
02 Planning

03 Design

04 Project Delivery

05 Key Lessons

Project background – Thames Promenade SPS



- Odour complaints at both Sewer Pump Stations.
- Close to residential and park
- Existing ventilation consisted of axial fan and vent pipe

Odour complaints as shown in Power BI.

Project background – Officer South SPS

- One of SEW's biggest SPS
- Close to the freeway and across from significant residential area.

Planning and Prioritisation

Odour risk assessment

- Distance to sensitive receptors
- Upstream HRTs
- Trade waste inputs
- Size of wet well
- Sewage liquid and air phase characteristics
- Odour complaints
- Any other site-specific risk
- Applied weighting to each risk (low, medium or high)

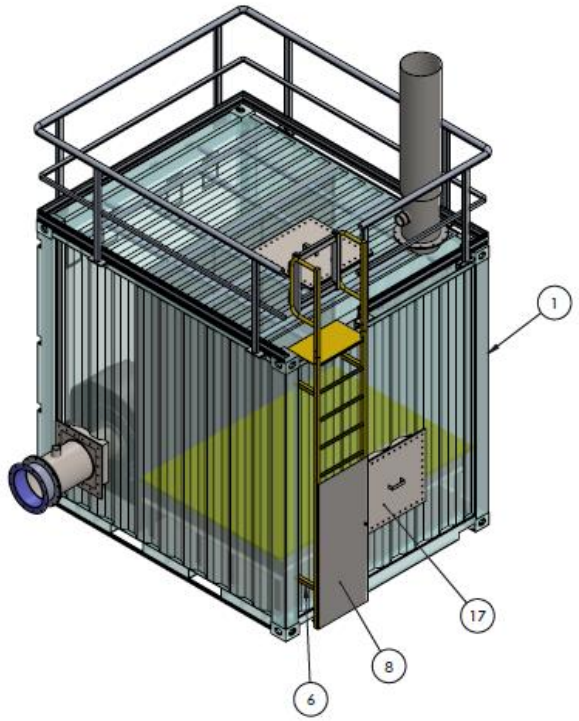
(Adapted from SA Water's Odour and Corrosion Risk Tool)

			Risk Category			Site A		Site B	
Weight	**Potential Risk Factor**	**Ranking Parameter**	**Low**	**Med**	**High**	**Risk**	**Wght**	**Risk**	**Wght**
5	**Potential for outgassing**			Potential restriction such as flooded inlets at manholes or, a shallow grade after a long steep grade in sewer		H	5	H	5
5	**Distance to closest sensitive receptor from outgassing location**	metres	>100	<100	<50	H	5	L	1.7
5	**Number and type of nearby receptors**	Number of receptors within 100m	<2	2 to 10	>10 or close to school, church, hospital or public building	H	5	L	1.7
10	**Upstream HRT in rising mains**	Hours	<2	2 to 4	>4	H	10	H	10
5	**Presence of upstream daisy chain SPS**		No	Up to a few chains contributing significant flow	Multiple chains contributing most of the flow	H	5	H	5
5	**Presence of trade waste customers**		A small portion of flow with insignificant sulphide levels	Likely to contribute a level of sulphides that will increase sulphides	Will contribute to the level of sulphide due to high BOD, temperature, or low pH	L	1.7	M	3.3
5	**Low connections at start up**	Proportion of ultimate flow at start up	No	~50%	<20%	L	1.7	M	3.3
15	**For SPS - Wet well size**	Wet well diameter (m)	3	3<Diam<6.5	6.5	M	10	H	15
5	**For SPS – Time between pump starts at min flow**	Hours	<1	1 to 2	>2	L	1.7	M	3.3
10	**Dissolved sulphide levels in sewage**	mg/L	<0.5	0.5-3	>3	M	6.7	H	10
10	**Peak H2S concentration in headspace**	ppm	5	5 to 15	>15	M	6.7	H	10
15	**Odour Complaints**	No. of complaints in last 24 months	1	1<No.<5	5	H	15	H	15
5	**Other risk**					N	0	N	0
100							**73.3**		**83.3**
					RANK		**2**		**1**

Design Consideration

Design parameters	20ft Model	10ft Model
Air flow (m^3/hr)	2500-14000	1050-6100
Outlet H_2S (ppm)	<0.1	<0.1
Outlet Odour (OU)	<500	<500
Carbon capacity (kg)	7500	3650

- Site limitations
- Mixed bed media to tackle complex sewer odours
- Expected carbon life determined by mass flow rate and inlet load.
- Can be installed in parallel to increase capacity



10ft model with fan shown.

Project Delivery

Mobilisation

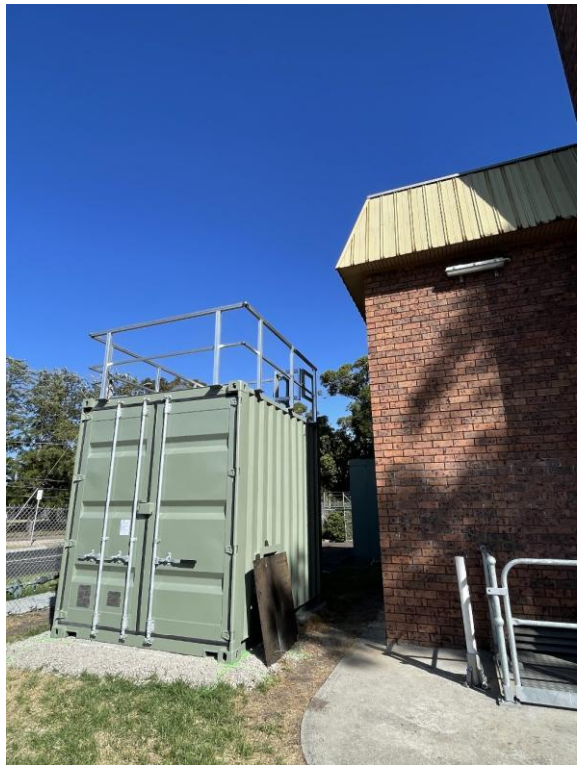
- The units were fitted out at the ETS workshop and moved to site prior to carbon loading.
- Mobile crane equipment was a Terex Franna Mac 25 SL.

Carbon Loading

- Carbon loading was undertaken using the same mobile crane unit which lifted 500kg bags (14 bags – 7 Tonne – to each 20ft unit at Site B)
- Safe carbon loading using ETS's chute avoided working under a suspended load and live edges.

Post-installation

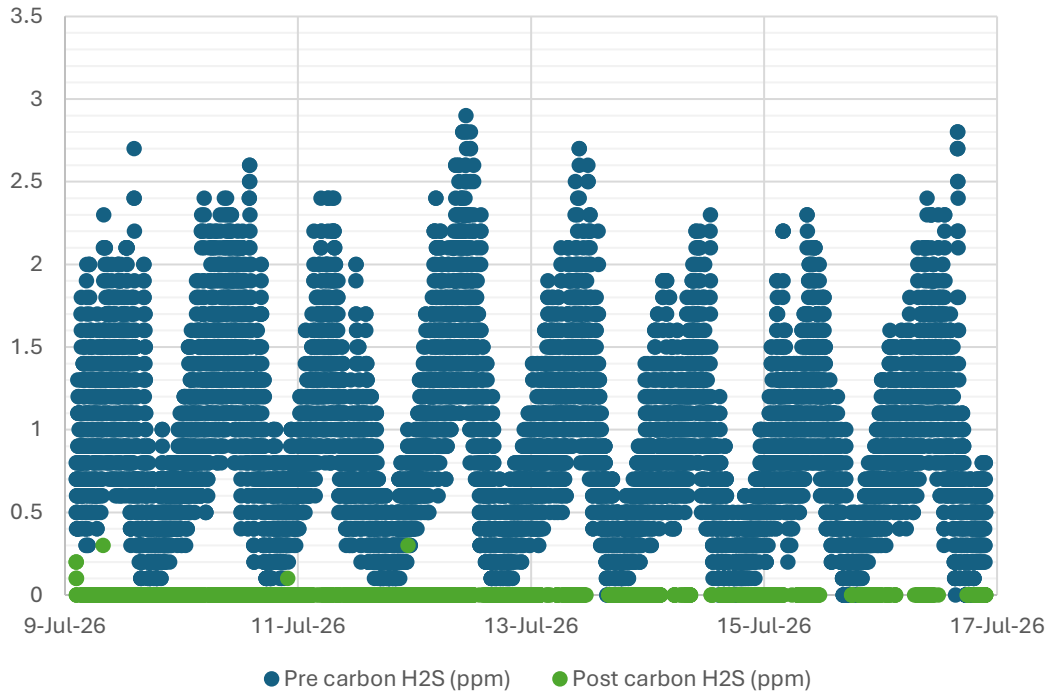
Thames Promenade SPS



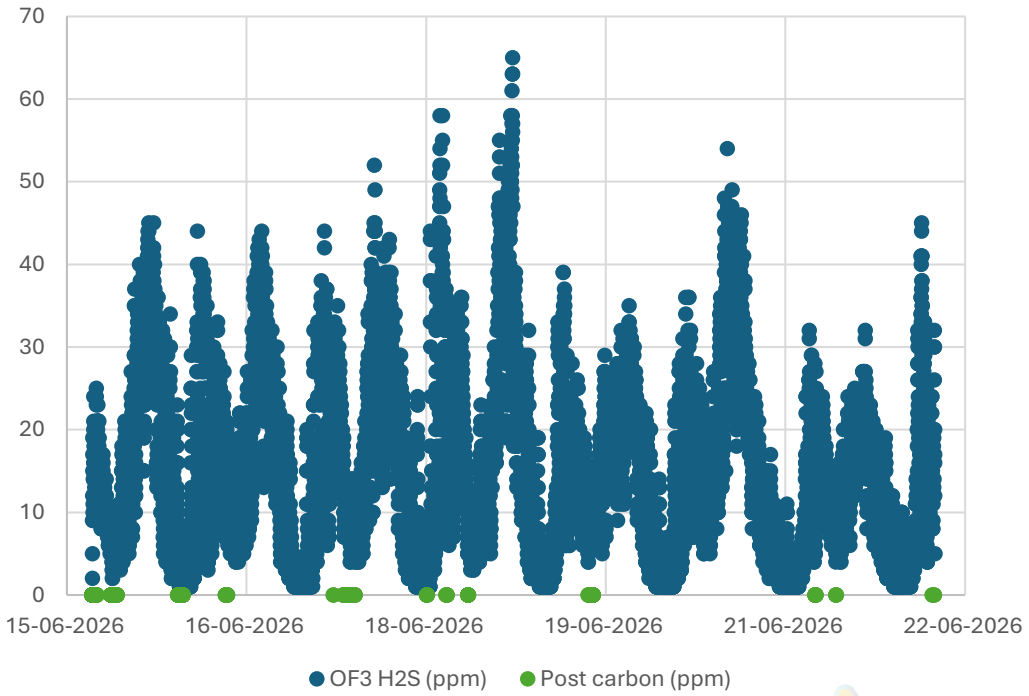
Officer South SPS

Post monitoring results

Thames Promenade SPS



Officer South SPS



Key Lessons

Overall

- This project was completed within 12 months (Install to commissioned in 1-2 weeks)
- Able to implement temporary odour control at a quicker pace to allow time for permanent solution to be installed
- Flexibility to relocate to other sites

Design

- Modular design resulting in ease of installation and future relocation to other sites
- Reduced fabrication time, ease of delivery (standard container used)
- Suitable for wide range of flow rates, flexibility of application

Delivery

- Ease of operation after installation. Able to work on other aspects such as connection to SCADA for fan monitoring.
- Simply drop on site, connect duct and or power as required
- Ease of carbon loading and removal

Thank you!

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