

# Tullamarine Landfill Community Meeting



# Rehabilitation Update

25<sup>th</sup> November 2015

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# Discussion Topics

- ▶ Rehabilitation Road Map
- ▶ Flare stack sampling update
- ▶ Community Influence on Landfill Management
- ▶ Risk Assessment (to be run by EPA)

# TULLAMARINE LANDFILL SITE REHABILITATION ROADMAP

		2015												2016								
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
LNAPL Trial Practicability Assessment Report		Community input						•														
Groundwater Technical Review 2015-2018	Review complete								•													
	Groundwater Management Plan & Groundwater Monitoring Schedule						Community input						•									
Landfill Gas Management Plan Auditor review							Community input						•		ONGOING MONITORING							
Ambient air monitoring on the buffer land							Community input						•		ONGOING MONITORING							
Ongoing site remediation	Construction of future stormwater connection																					
	Construction of wetlands and planting of 3ha native vegetation																					
	Remove diversion of surface runoff to sewer post (once wetland is functioning)																					
Rezoning application for the buffer land							Info to TLCCG	Public consult														
							Opportunity for questions		?													

○ : complete

The above schedule is based on information and plans as at 3 June 2015. Dates are indicative and are subject to change.

# Flare Sample Update

- ▶ Flare service planned for December 2015
- ▶ Next round of sampling planned before February 2016
- ▶ Sampling to be completed at the same time as Ambient Air Sampling

# Flare Performance Update

To perform optimally flare must operate at

- ▶ Above 760 degrees C in the flare chamber, and
- ▶ Flow rate of between 40 m<sup>3</sup>/hr and 200 m<sup>3</sup>/hr.

# Measured Flare Performance

Flare operation data to date

- ▶ >950 degrees as measured in stack and >850 degrees at exit point
- ▶ Measured flow rate is approximately 160 m<sup>3</sup>/hr



# Flare measurements

Date	Time	Methane_Percent	Stack_Temp_C	Instan_Flow_M3_h
14/02/2015	0:00:00	62.0625	898.344	159
14/02/2015	0:15:00	62.0625	899.406	158
14/02/2015	0:30:00	61.9063	895.688	159
14/02/2015	0:45:00	62.125	899.406	161
14/02/2015	1:00:00	62.125	897.281	161
14/02/2015	1:15:00	62.1563	898.875	161
14/02/2015	1:30:00	61.8438	895.156	157
14/02/2015	1:45:00	62.4063	897.813	160
14/02/2015	2:00:00	62.8438	897.281	160
14/02/2015	2:15:00	62.4063	897.813	162
14/02/2015	2:30:00	62.6875	897.813	160
14/02/2015	2:45:00	62.6875	896.75	161
14/02/2015	3:00:00	63.0625	898.344	161
14/02/2015	3:15:00	63.0938	899.938	159
14/02/2015	3:30:00	63.1563	901	159
14/02/2015	3:45:00	63.125	899.406	157
14/02/2015	4:00:00	63.0625	897.813	160
14/02/2015	4:15:00	63.125	898.344	161
14/02/2015	4:30:00	63.0938	898.344	159
14/02/2015	4:45:00	63.0625	897.281	162
14/02/2015	5:00:00	62.875	897.281	157



# Flare Performance So Far

Based on the temperature the flare has achieved this efficiency and is performing better than design.

TCL has engaged engineers to accurately calculate efficiency.

# Sample Plan



# Ambient Air Test Parameters

- ▶ Poly Aromatic Hydrocarbons (PAHs)
- ▶ Dioxins / Furans
- ▶ Metals
- ▶ Volatile Organic Compounds (eg. Methane, Benzene)
- ▶ PM10 and PM2.5

# Areas Community Influenced

## Landfill Best Practice

- ▶ Direction / Steering
- ▶ The cap
- ▶ Landfill gas management
- ▶ Groundwater monitoring
- ▶ Surface water monitoring
- ▶ LNAPL Trial
- ▶ Much improved outcomes

# Example - Best Practice Cap

- ▶ The best available technology was employed as determined by the cap designer (Golder Associates)
- ▶ Construction quality control was delivered to the highest standards as verified by the cap auditor and Thiel Engineering
- ▶ Cap infiltrates around 2 mm to 3 mm per century as estimated by Thiel Engineering (at least 10x less than standard cap)



# Example - Landfill Gas Management

- ▶ Best available technology was employed as assessed by URS Engineers (Enclosed flare)
- ▶ Stack test platform and sample ports installed (not required)
- ▶ Stack testing program (not required)
- ▶ Ambient air testing program (not required)
- ▶ Input to LFG Audit (last meeting)

# Example - Groundwater

- ▶ Sampled an extra 30 boreholes this year over and above management plan requirements
- ▶ Input to Technical Review for Auditor Review (TRAR) and Groundwater Monitoring Plan for next three years
- ▶ Reviewed PCB and Formaldehyde data
- ▶ Contingency protocol reviewed



# Example - Creek Water Quality

- ▶ Frog and macro invertebrate surveys
- ▶ Quarterly monitoring frequency
- ▶ Water quality and habitat appears to be improving

# Example - LNAPL Trial Design

Pre trial design changes:

- ▶ No storage on site
- ▶ No reinjection
- ▶ Disposal by incineration (first time in Victoria)
- ▶ Extra gas release prevention measures  
(extra carbon filters, and vacuum on wells while pumping).

# Example - LNAPL Trial Assessment

- ▶ Review of landfill contingency protocols
- ▶ At least two extra consultation events.
- ▶ Practicability Assessment Report (2<sup>nd</sup> Report)

# Community Influence has Improved Landfill Management Outcomes

- Much better dialogue between business, regulators, experts and community.
- Improved focus on community needs.
- Much better outcomes for all including the environment.

# Thank you

