

Disposal Site Leachate Management Overview

Council Orientation

January 7, 2019



Prepared by: Jeffery Fletcher
Manger of Solid Waste & Special Projects

Overview

- Background
- Options Considered
- Current Status and Options
- Financial
- Recommendation and Next Steps

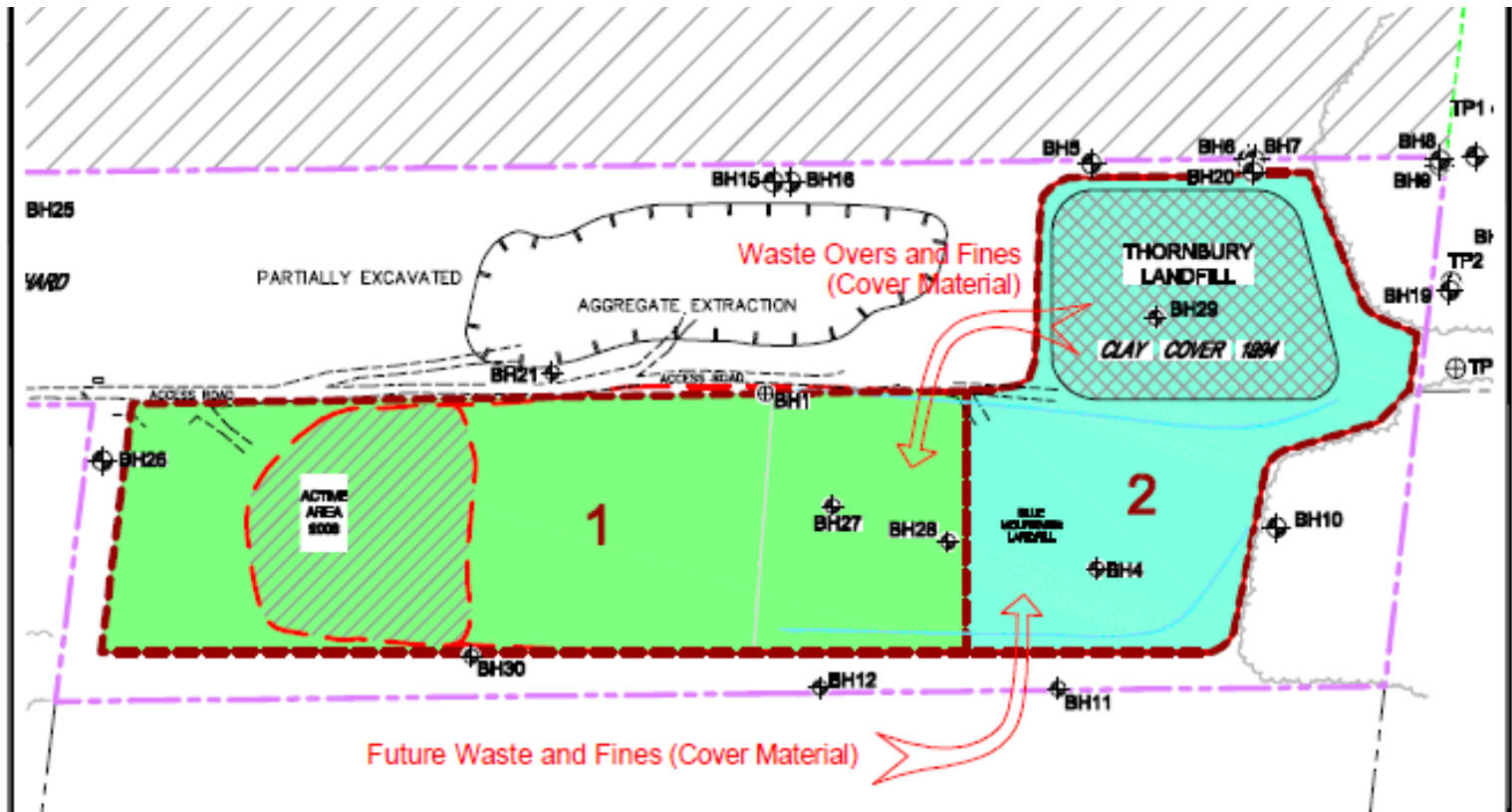


Background

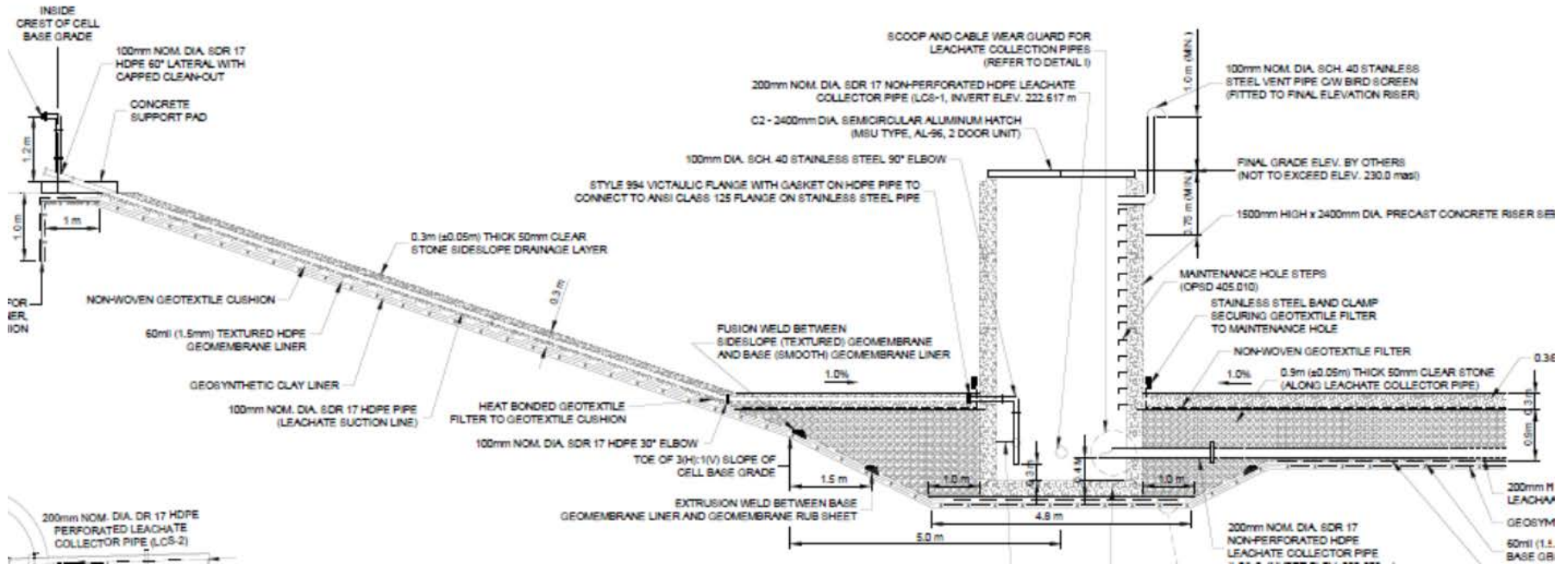
- Solid Waste Solution – Environmental Screening – Landfill Mining and Expansion 2012
- Related Design and Construction for 25 year capacity completed in 2015 (Phase One)
- Preliminary consideration of a longer term solution for leachate management (anticipation of a long term management solution)



Mining, Lining and Expansion



Leachate Generation



Environmental Assessment Options Considered

- EA Completed August 2017
- Do nothing (Continue Trucking)
- On site treatment and infiltration
- On site treatment and discharge to Brook
- Pump leachate via forcemain (preliminary capacity consideration)



On Site Treatment

- Higher Cost
- No Available Outlet
 - Adjacent Brook
 - Infiltration (existing CAZ and flow to Brook)



PROCEED WITH FORCEMAIN

March 2018

Successful Grant Application

- Trucks off road (reduce traffic and GhG)
- Reduce odour issues at lift station
- Solar array on pump station



GRANT CANCELLED

July 2018

- Wind-down funds (\$155,575)
- Paused design (60% complete)
- Decision for next Council

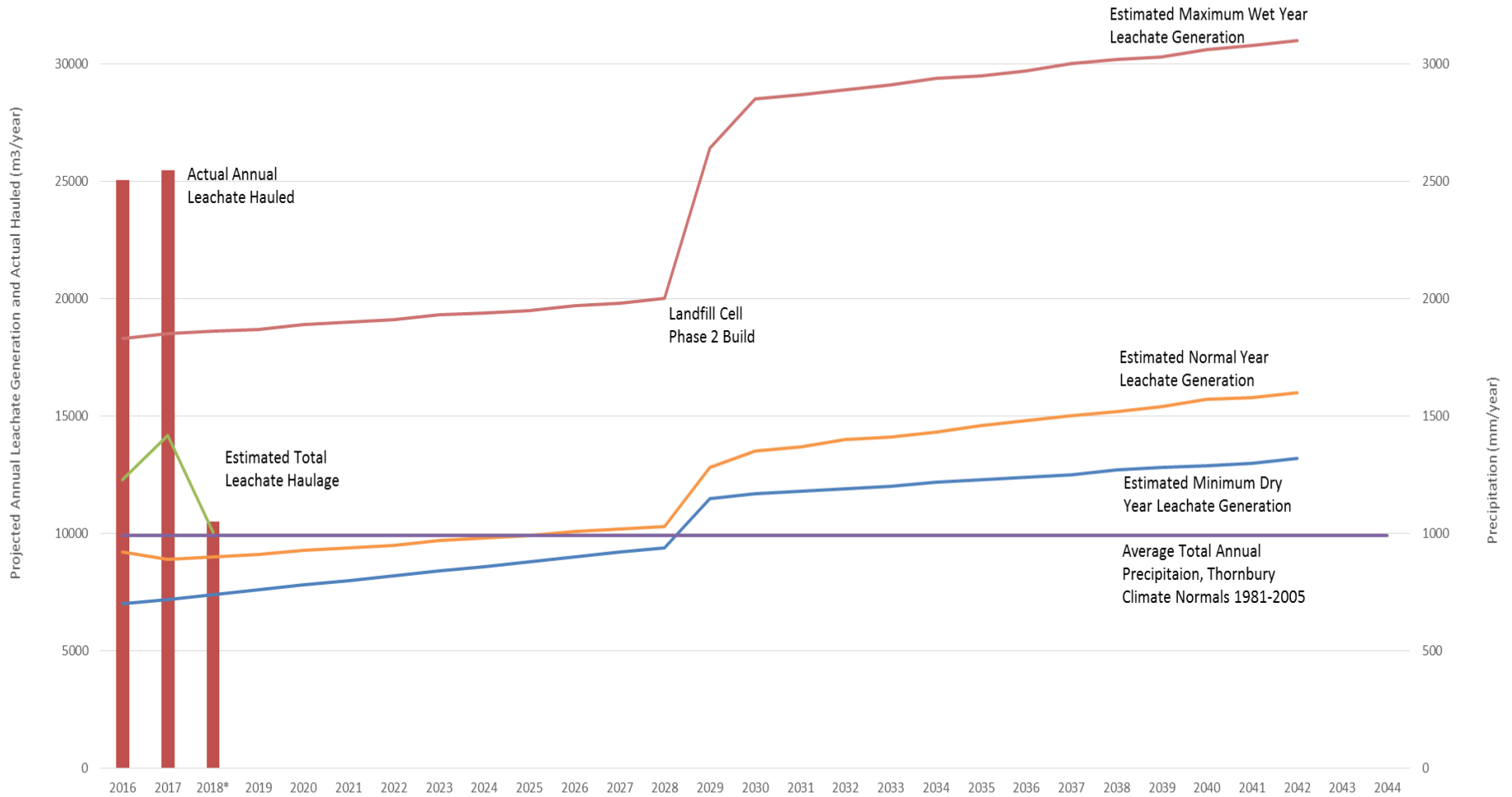


CURRENT STATUS

- Reduced infiltration
- Reduced odour
- Ad hoc pre-treatment system
 - Permanent solution and approvals needed



The Blue Mountains Landfill - Leachate Generation



Data from Sperling Hansen Associates Report, March 19, 2018
 * Precipitation in 2018 estimated based on to date and climatic norm

Temporary Pre-Treatment



Current Options

- Do nothing
- Continue as is
- Permanently haul leachate
- On-site treatment and disposal
- Leachate pumping station and forcemain



Continue As Is

- Pre-treatment compliance
- Challenged in wet weather at lift station
- Trucking continues (traffic and GhG)
- Use of Collingwood Plant



Permanently Haul

- Long term storage and pre-treatment
- EA review
- Trucking Continues (traffic and GhG)
- Use of Collingwood Plant



On-site Treatment and Disposal

- EA review required
- Environmental challenge (likely to face opposition)
- Available receiving body
- Scale of operation



Re-evaluation of On-site 2018

Kincardine, McDougall, Simcoe(Collingwood), Green Lane

- On-site treatment investigation
 - High cost (capital and operational – higher than considered in EA)
 - Troublesome operations
 - Available outlet
 - Proximity and availability of existing treatment capacity



Forcemain & Pump Station

- Reduced traffic and GhG
- Fits into available Plant capacity
- Preferred Solution in EA
- Pre-treatment in pump station for odours
- Headworks odour treatment
- Assimilation capacity at Thornbury Plant using flow pacing



Financial

Cost Summary				
Opt.	Description	Initial Capital	Annual Ops.	Lifecycle⁽¹⁾
1	Do Nothing	not viable		
2	Continue As Is	\$300,000	\$245,991	\$6,899,769
3	Permanently Haul Leachate	\$1,000,000	\$226,049	\$6,651,219
4	Pumping Station and Forcemain	\$2,388,073	\$119,300	\$5,370,573
5	On-Site Treatment and Disposal	\$4,812,031	\$217,838	\$10,257,973
Notes:				
1. Based on 25 year lifecycle.				

Annual savings realized in the forcemain option of approximately \$125,000 over current operations will cover most of the 25 year debt payment. Lowest lifecycle cost (25 years – leachate will be generated for 50 plus)



Conclusion

- The leachate pumping station and forcemain construction project has the lowest 25 year life cycle cost and is technically reliable and feasible.



Next Steps

- Budget Approval
- Continue monitoring Provincial funding programs
- Continue temporary measures for odour
- Complete Engineering design in 2019
- Construction in 2020

