

Remediation Phase 9 East Calgary Waste Management Facility, Calgary, Alberta

City of Calgary, Waste and Recycling
Services

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Advisian

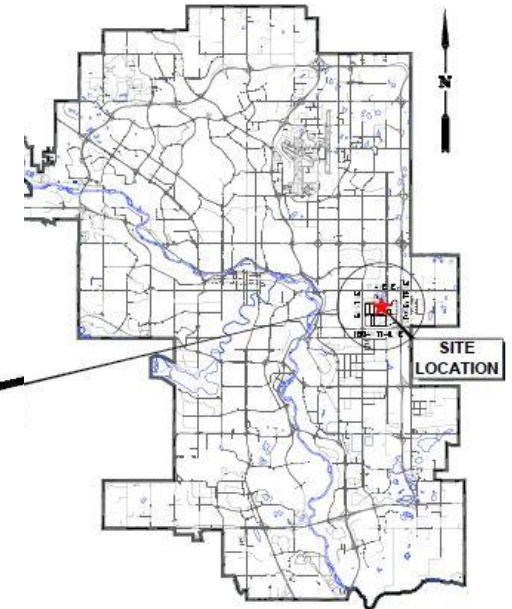
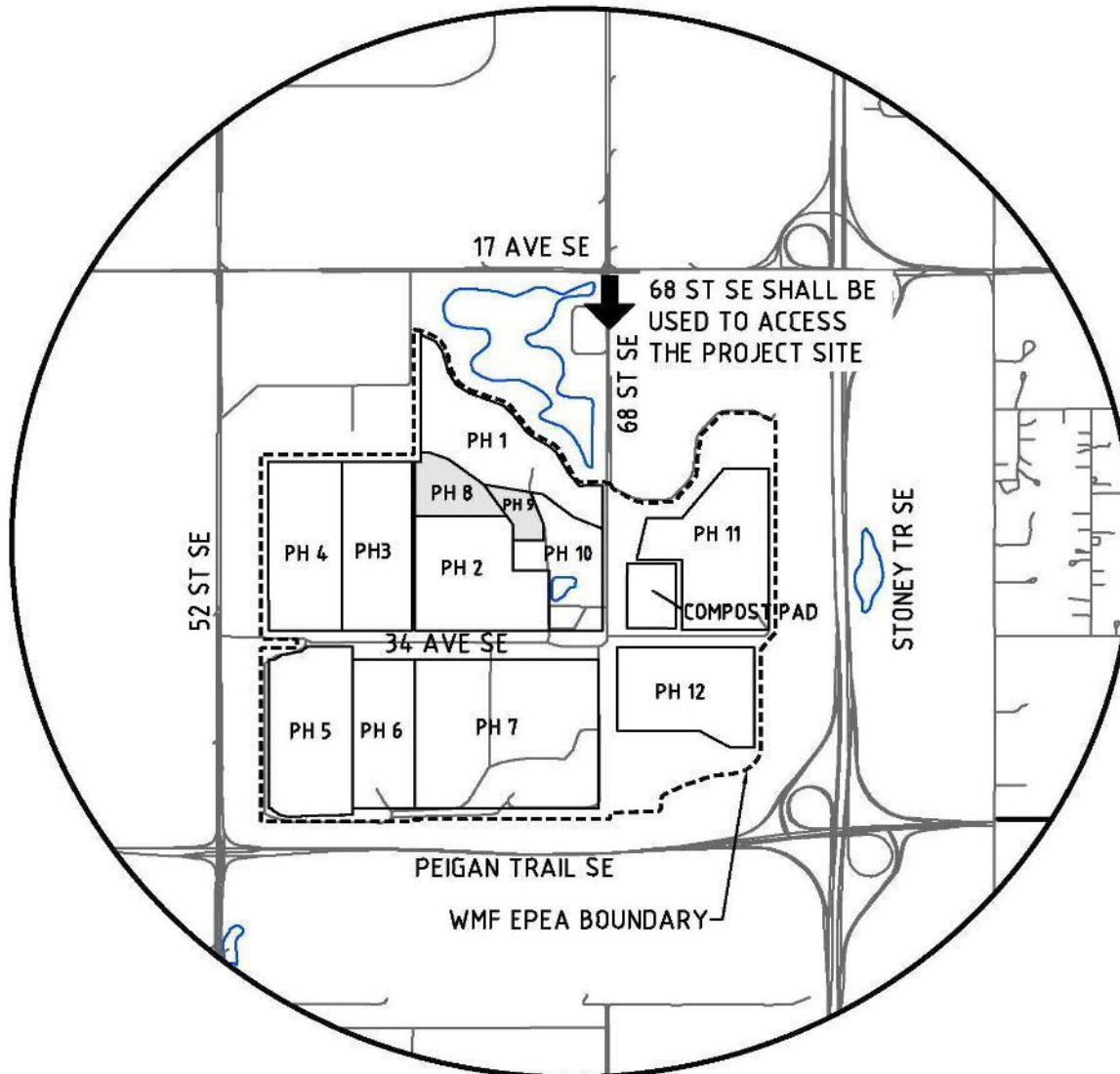
WorleyParsons Group



Outline

1. **Location**
2. **Background**
3. **Remedial Options and Cost-Benefit Analysis**
4. **Design**
5. **Procurement Approach**
6. **Construction**
7. **Summary**
8. **Questions**

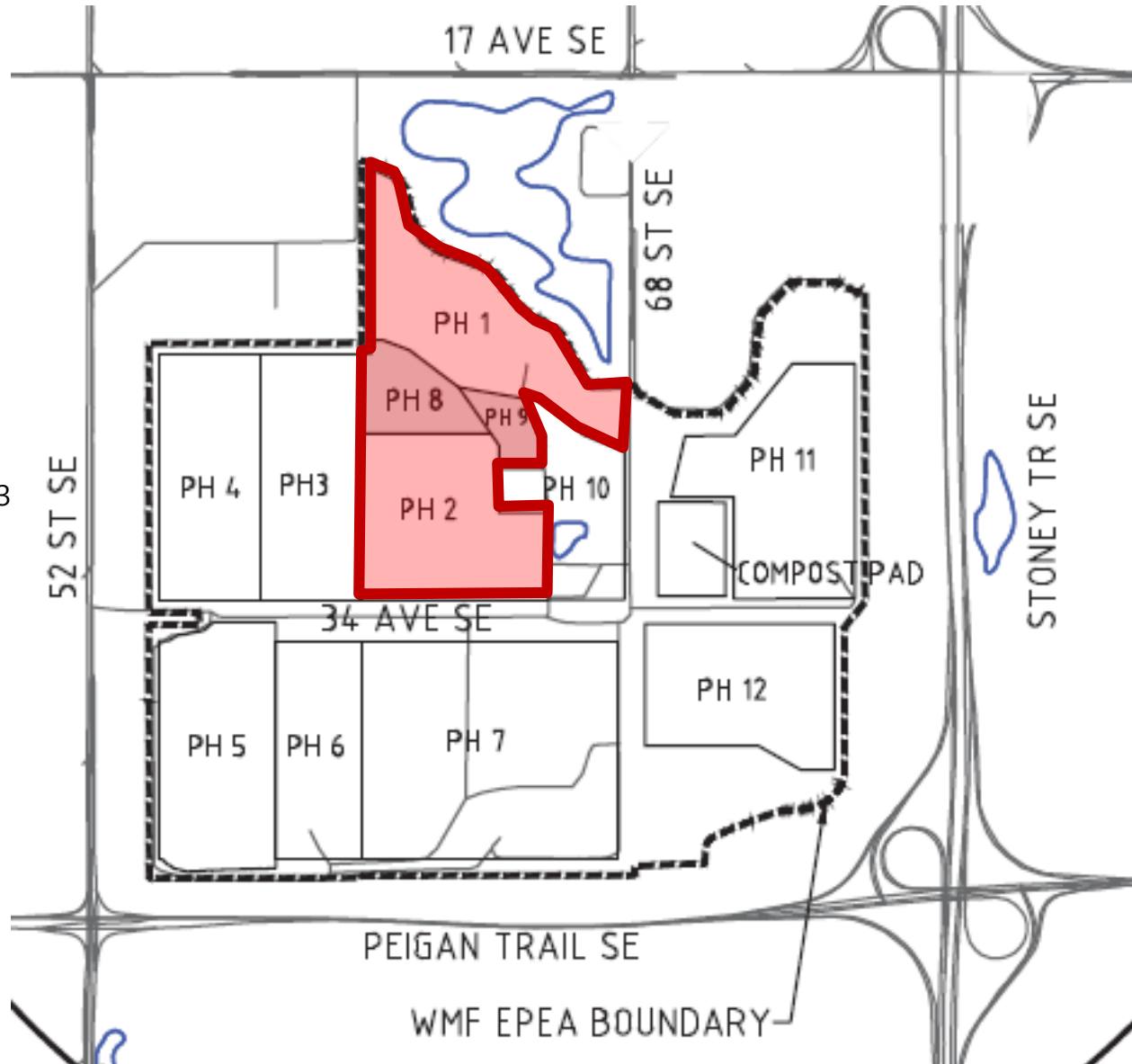
Location



City of Calgary

KEY PLAN
NOT TO SCALE

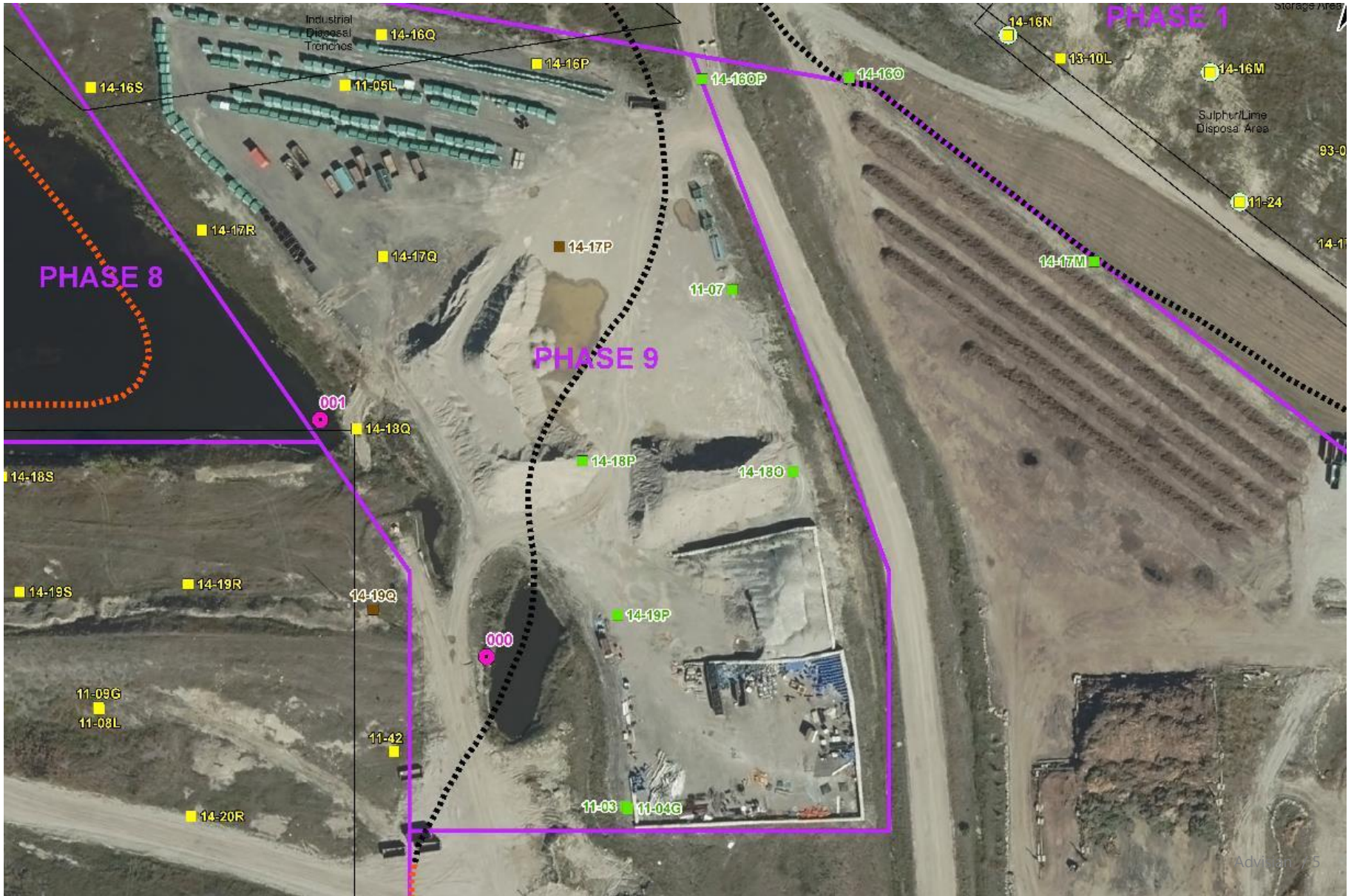
Background – Phase 9



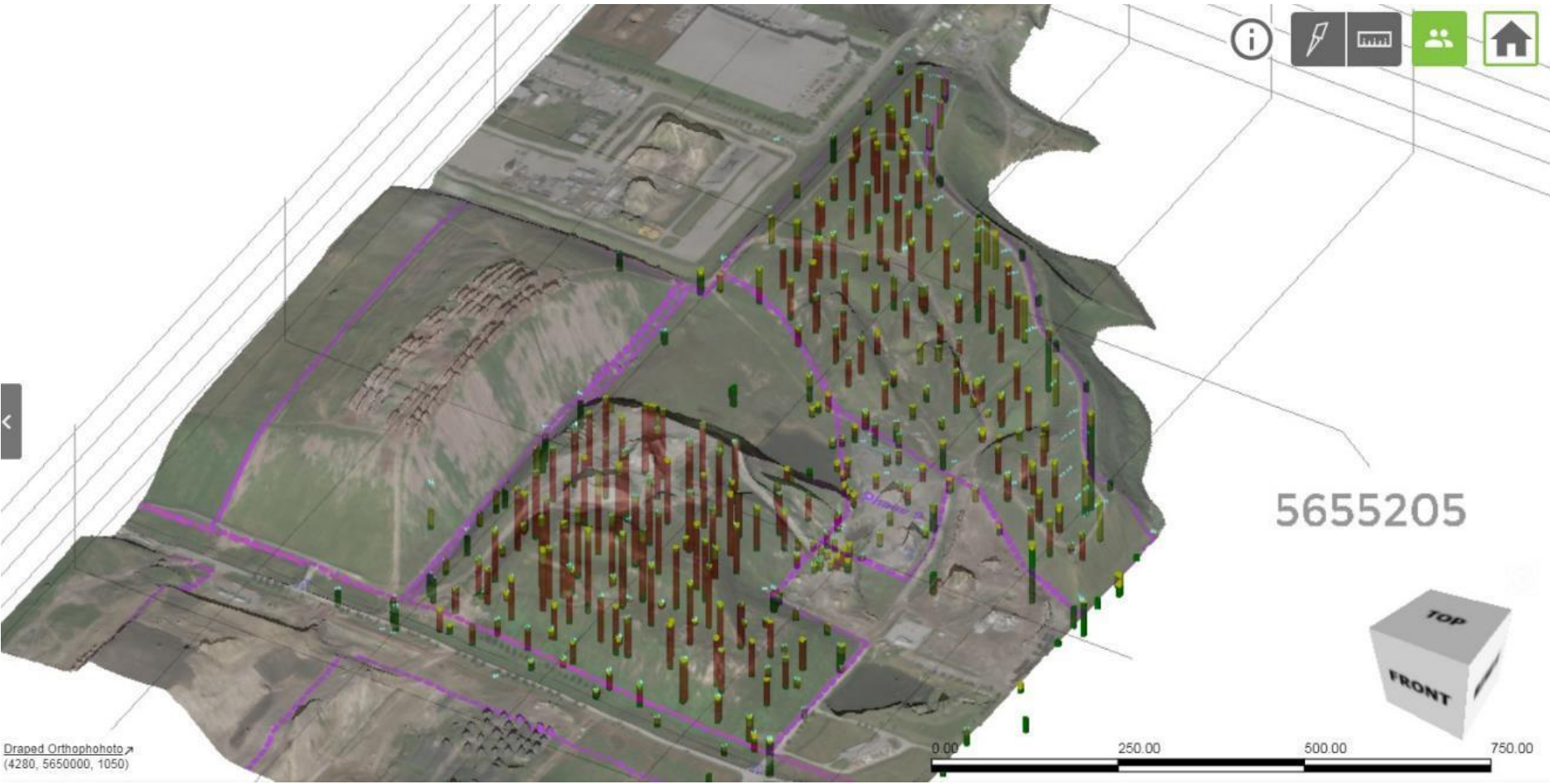
Phase 1 & 2: 4.6M m³

Phase 9: 46,000 m³

Background - Site Layout



Background – Site Investigations



Background - Site Conditions





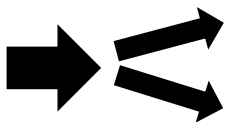
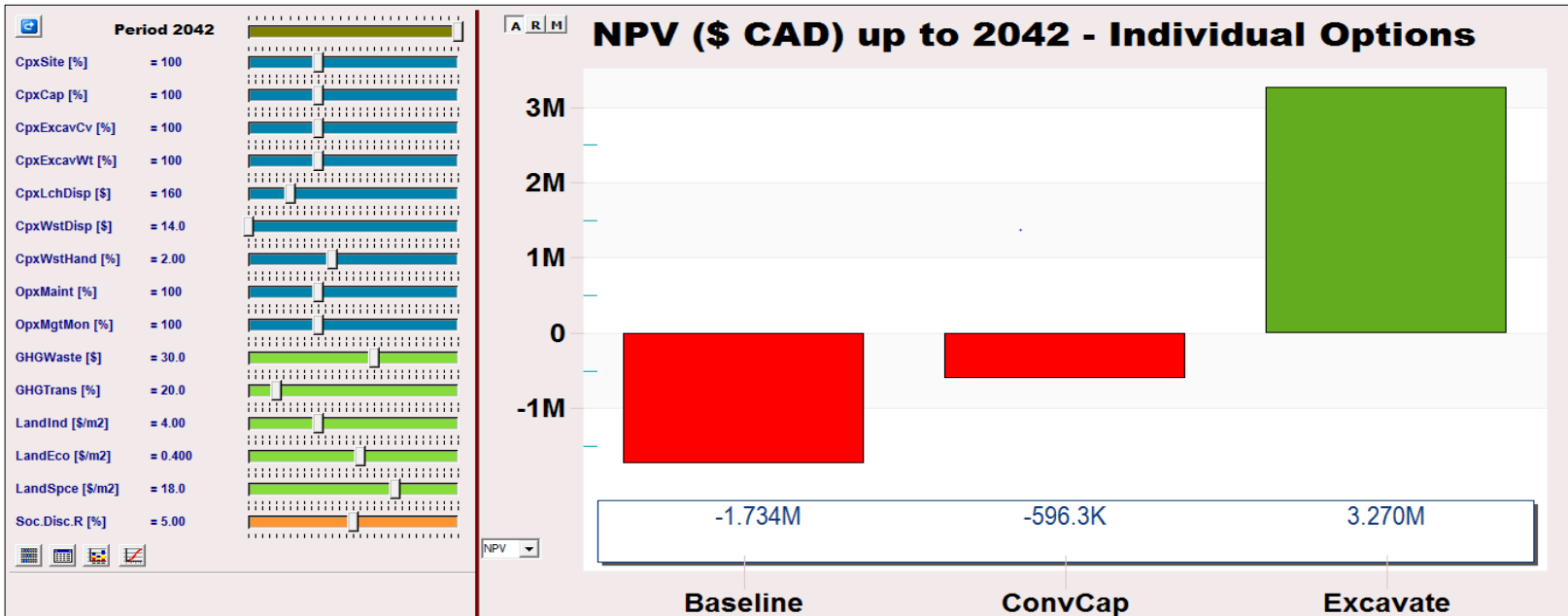
Remedial Options and Cost - Benefit Analysis

Description

Capping Alternate Study

Cost Benefit Analysis

Decision to remediate instead of cap



Phase 1 & 2 - Re-Cap (2017/2018)

(too expensive to relocate waste to active face)

Phase 9 – Remediate / Re-Locate Waste to Active Face (2016/2017)

(capping costly and may not be as effective - low area)

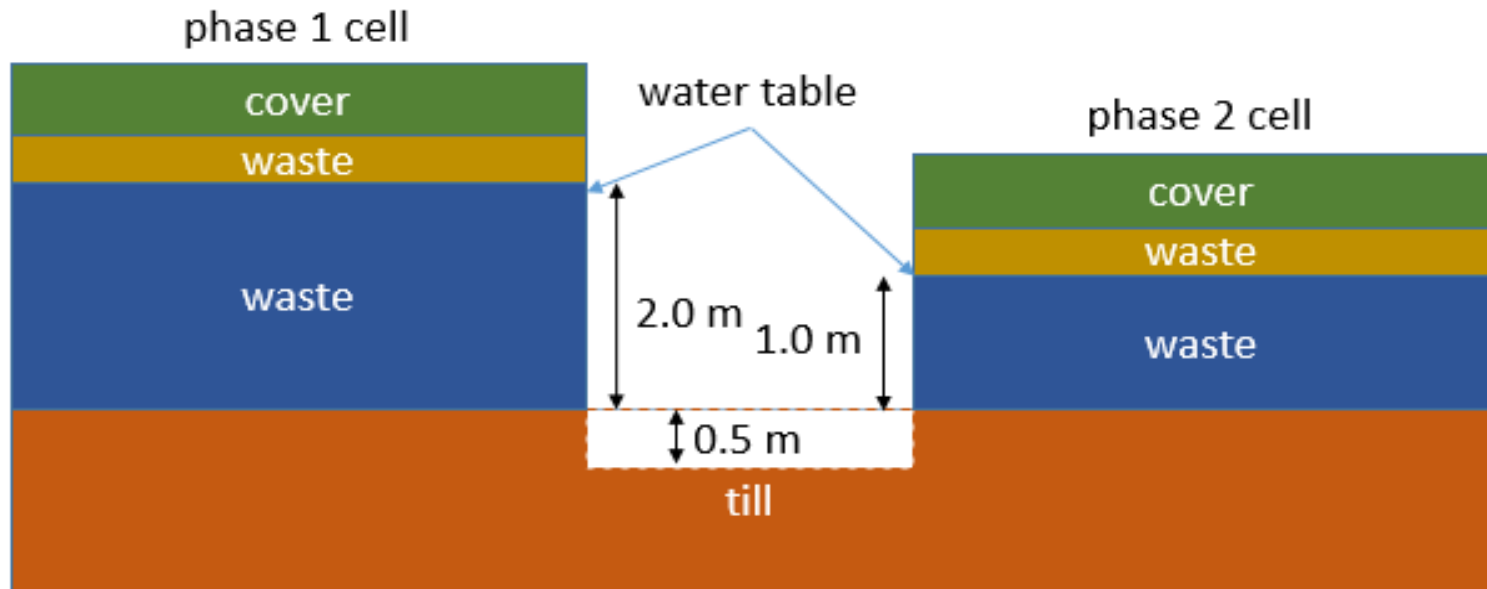


Design – Key Elements

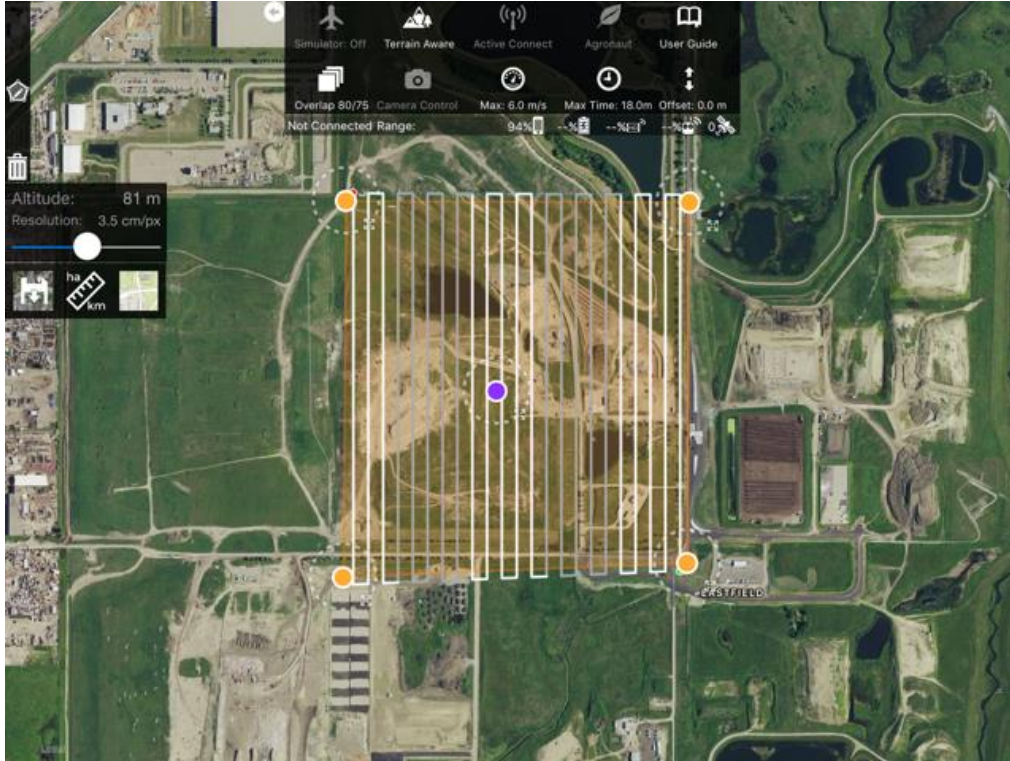
Waste and leachate considerations

Chimney drain

Conceptual Site Model

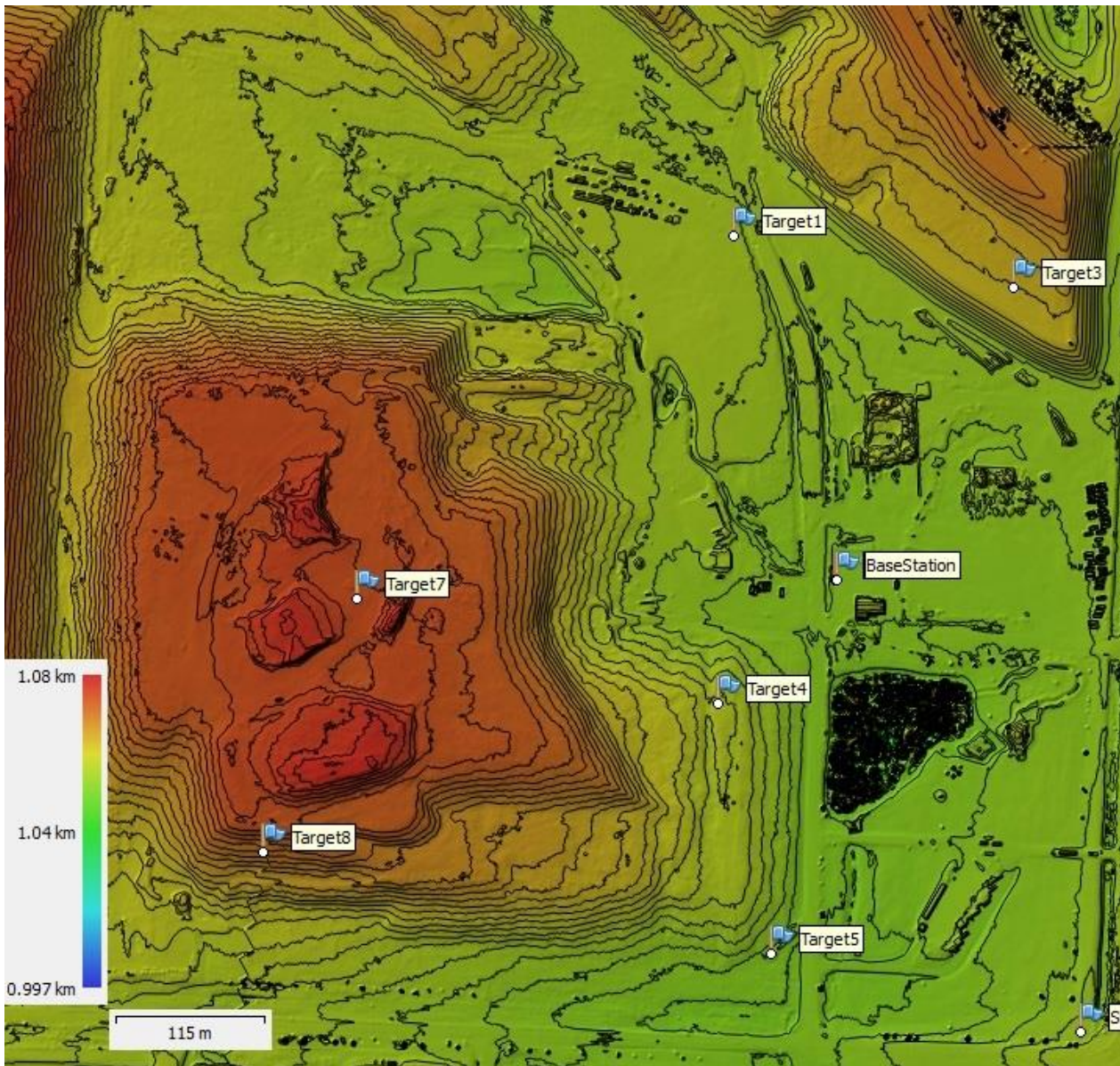


Design - Landfill Survey



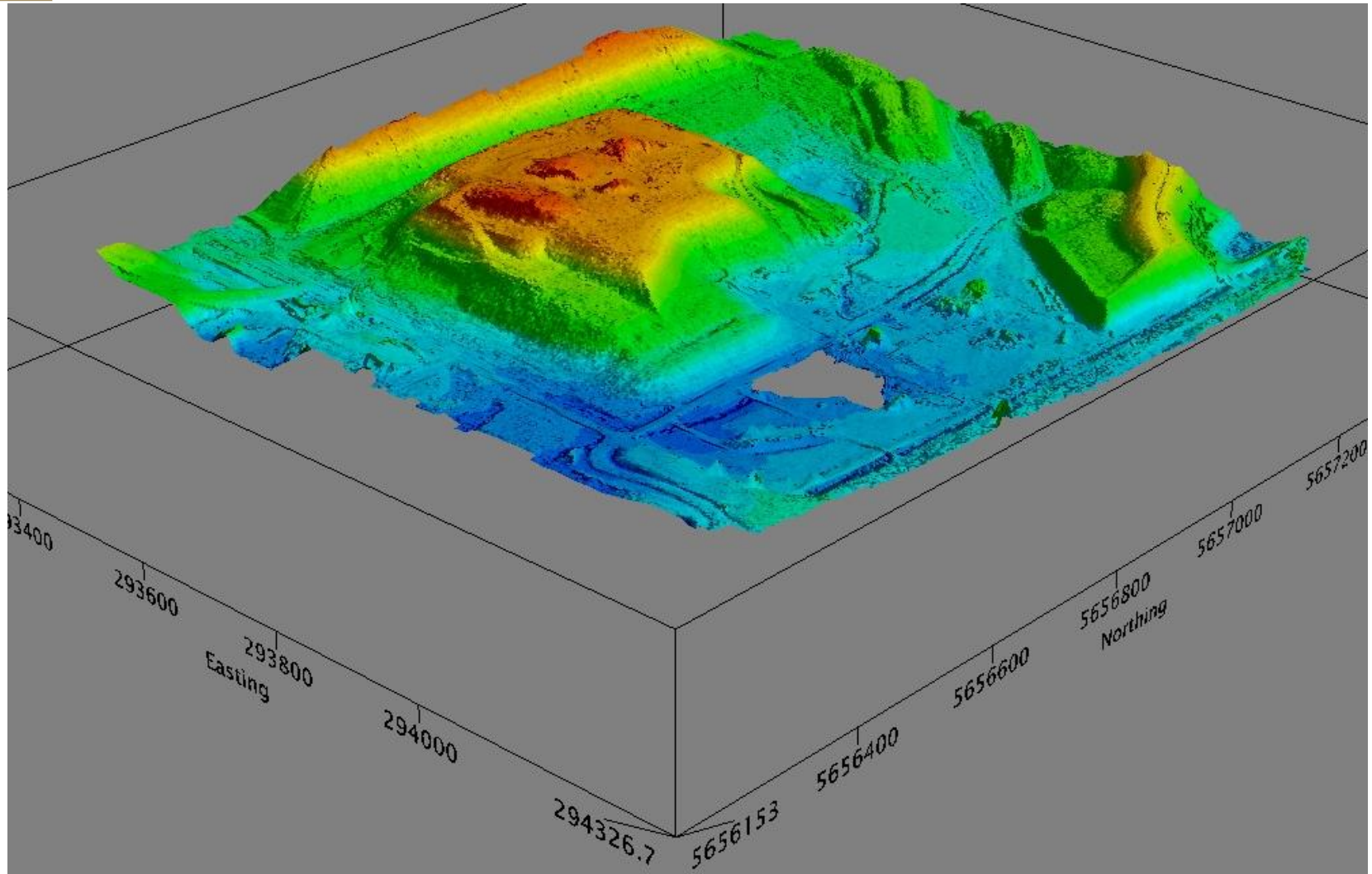
- Flight plans optimize image coverage, image resolution and flight speed
- Elevation, speed, line spacing and picture density are calculated for required survey resolution
- Elevation: 81 metres
- (Max Speed: ~6.0 m/s
- Line Spacing: ~35 m

Design - DEM

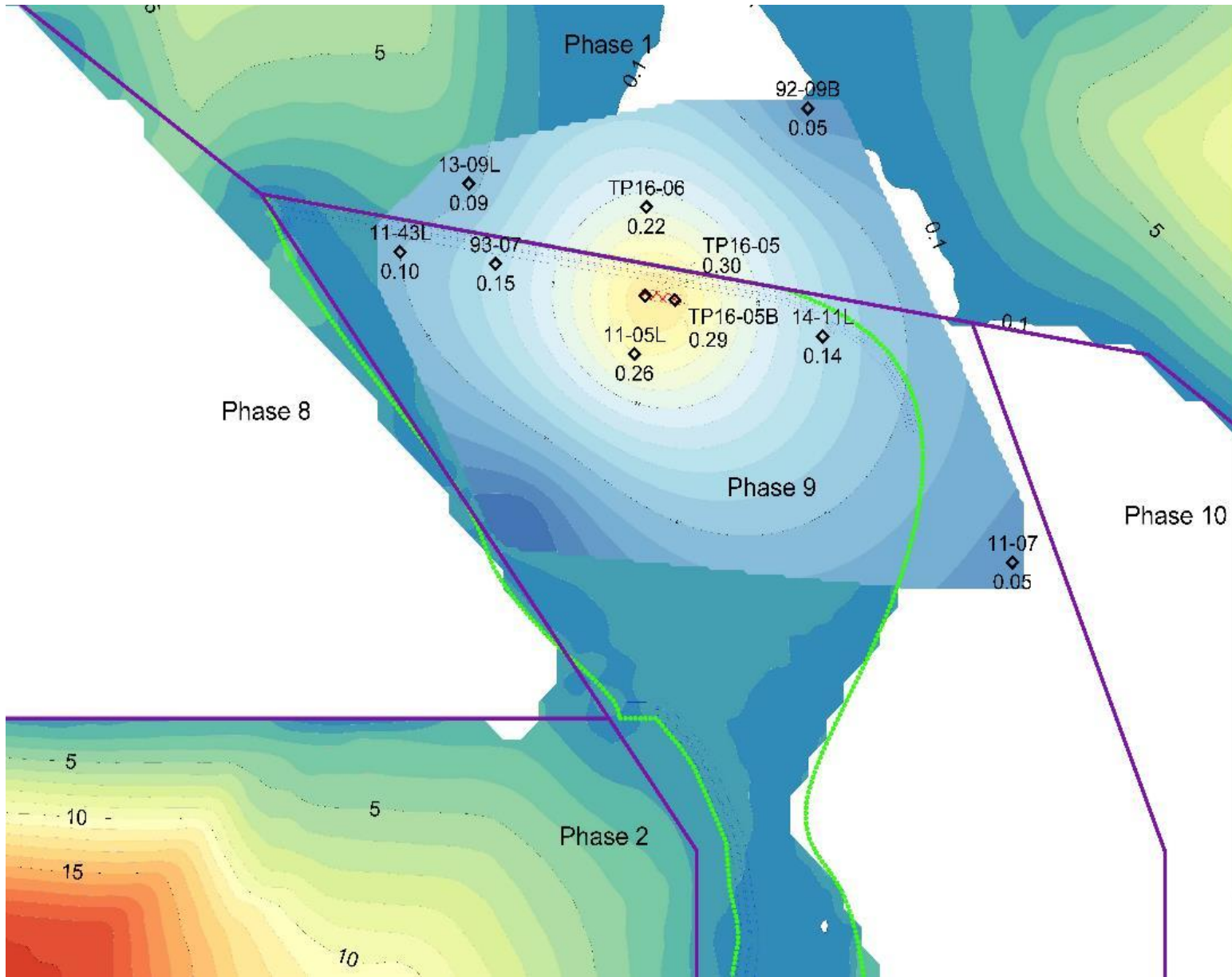


**Digital
Elevation
Model (DEM)
(7 cm
resolution)
40 m relief
Orthophoto
Magnetometer**

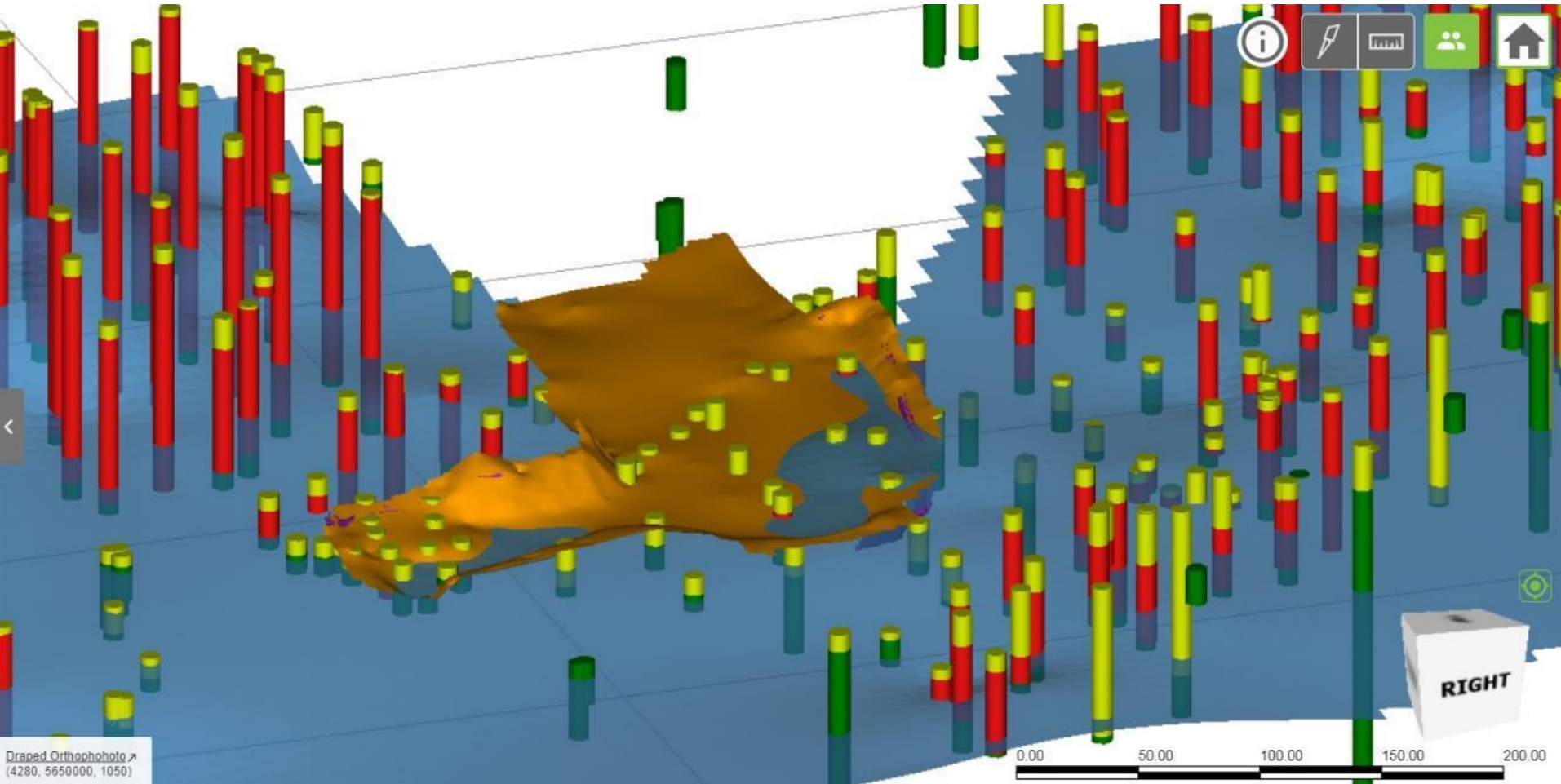
Design 3D DEM Imagery



Design - Leachate Modelling



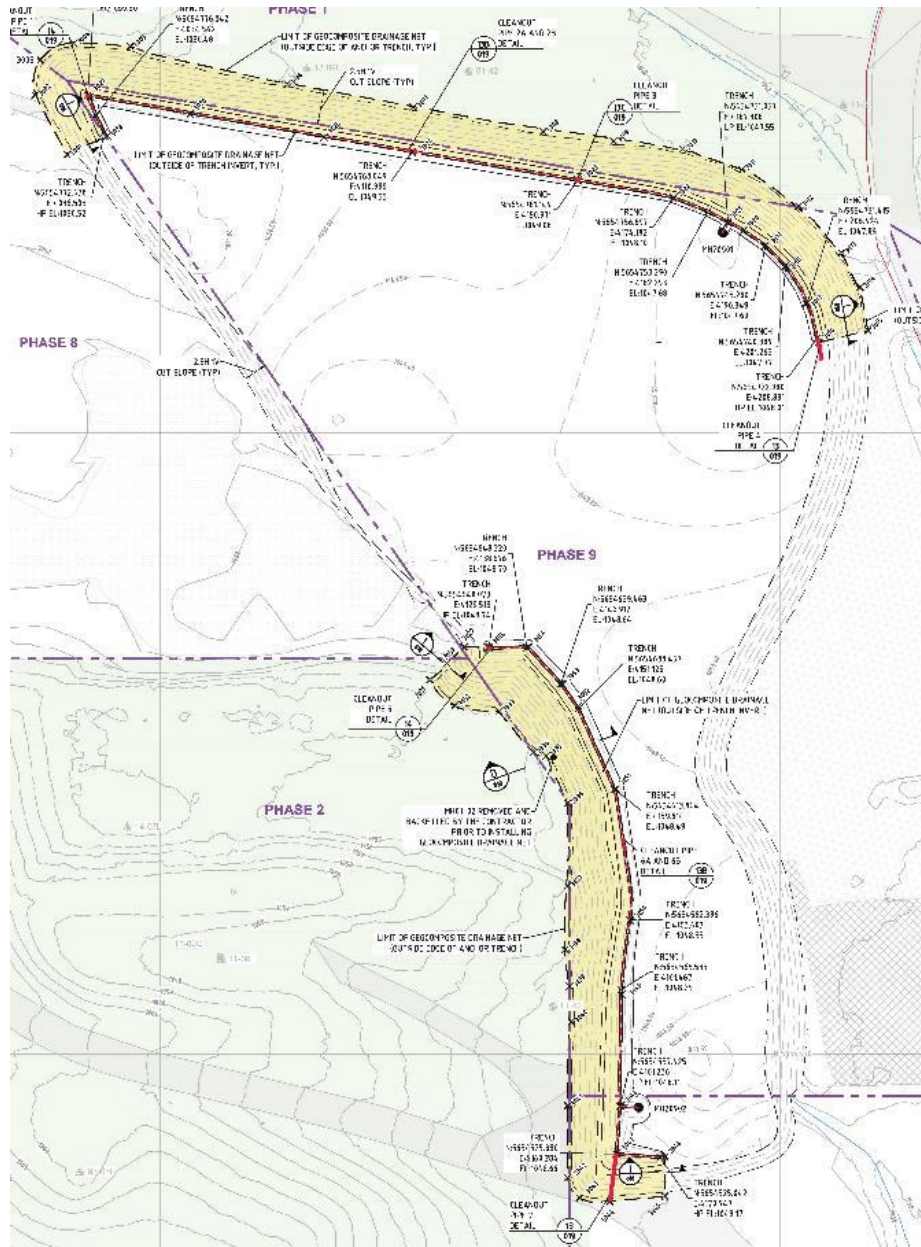
Design - Finished Grade and Groundwater



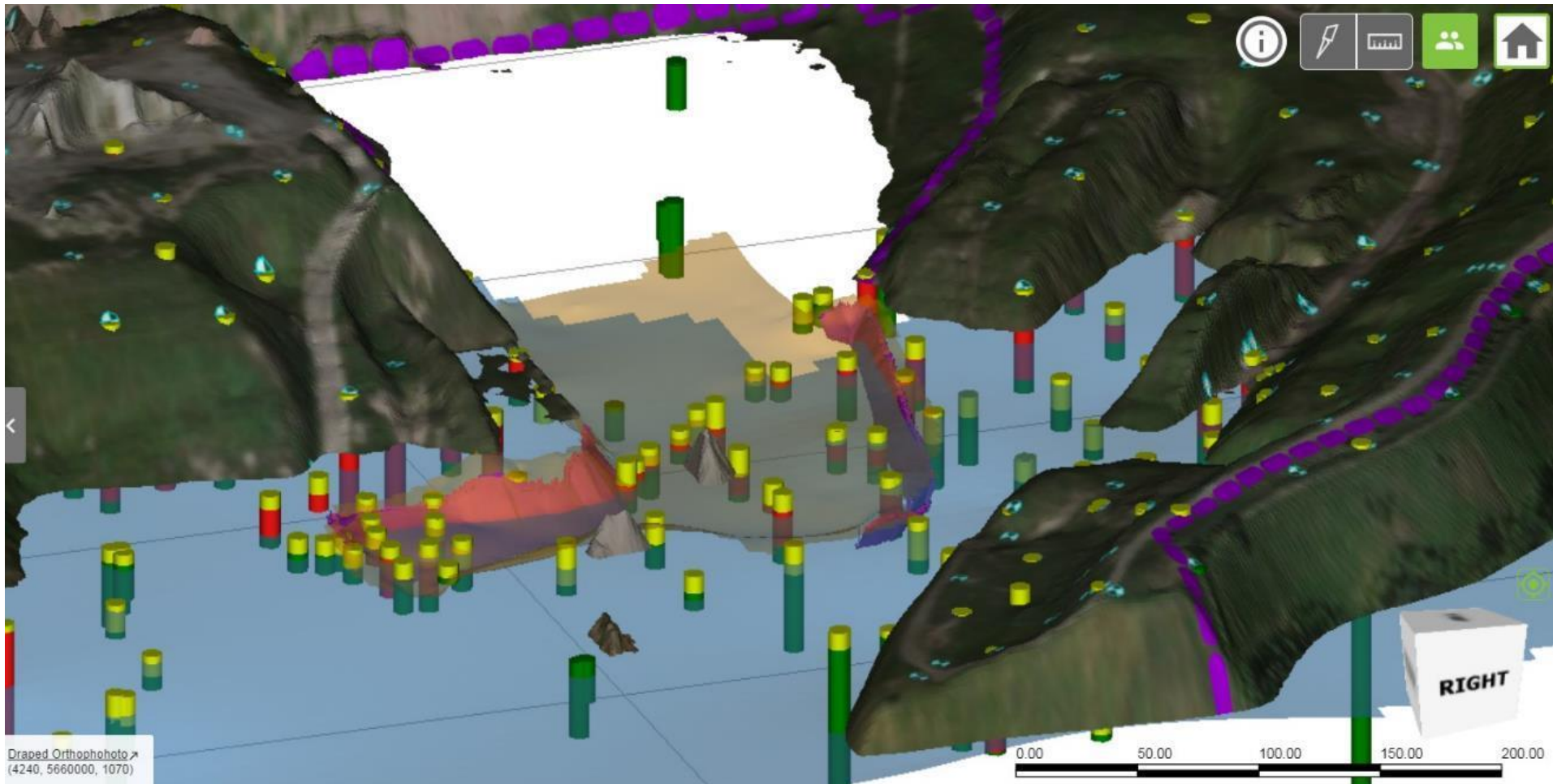
Design – Leachate Recovery Assessment



Design - Chimney Drain



Design – Chimney Drains



Procurement



Request for Proposal

Date of Issue: 2016/September/22

East Calgary Waste Management Facility Phase 9 Remediation (THIS IS NOT AN ORDER)

SUMMARY

The City of Calgary "The City" invites pre-qualified contractors to submit proposals for the provision of labour, equipment, and materials to perform remedial waste excavation work, leachate collection system installation and drainage infrastructure improvements within Phase 9 of the East Calgary Waste Management Facility as outlined in the detailed Specifications and Drawings.

This proposal is open only to invited Proponents prequalified with The City of Calgary in the category of:

C7000303 - Landfill Earthworks OR
C7000304 - Landfill Underground Utilities.

RFP Number: 16-1712

Closing Time: 16:00:59 Hours Local Calgary Time

Closing Date: 2016 October 13

Note: Proposals will NOT be opened publicly

Pursuant to Special Conditions clause 3.2.1, it is the Proponent's responsibility to request clarification of any item that is unclear or uncertain within the content of the RFP package before the closing date and time by contacting:



Request for Proposal

RFP Number: 16-1712

5.5 EVALUATION MATRIX

5.5.1 Proposals will be evaluated as per the table below:

Item	Evaluation Criteria	Weight	Rating	Score
5.4.1 a	Environmental Remediation Qualifications	40		
5.4.1 b	Project Specific Staff Proposed	10		
5.4.1 c	Corporate Safety Record	5		
5.4.1 d	Disposal Facilities to be Used	5		
TOTAL POINTS EXCLUDING PRICE				/600
5.4.1 e	Proposed Pricing Proposed Pricing (Calculated by formula with the lowest price receiving 400 points):			/400
MAXIMUM POSSIBLE TOTAL SCORE				/1200

Proposals will be evaluated and ranked according to the outline below. The evaluation will be based on a 0 to 10 scale.

Rating	Description
10	Exceeds expectations; Proponent clearly understands the requirement, excellent probability of success.
8	Somewhat exceeds expectations; high probability of success
6	Meets expectations; Proponent has good understanding of requirement, good probability of success.
4	Somewhat meets expectations; minor weakness or deficiencies, fair probability of success.
2	Does not meet expectations or demonstrate understanding of the requirements, low probability of success.
0	Lack of response or complete misunderstanding of the requirements, no probability of success.



Construction (1 of 3)



Degree-Days, by Year (November 15 to December 22)

2016	-282
2015	-121
2014	-145
2013	-331
2012	-262
2011	-119
2010	-377
Average	-233





Construction (2 of 3)

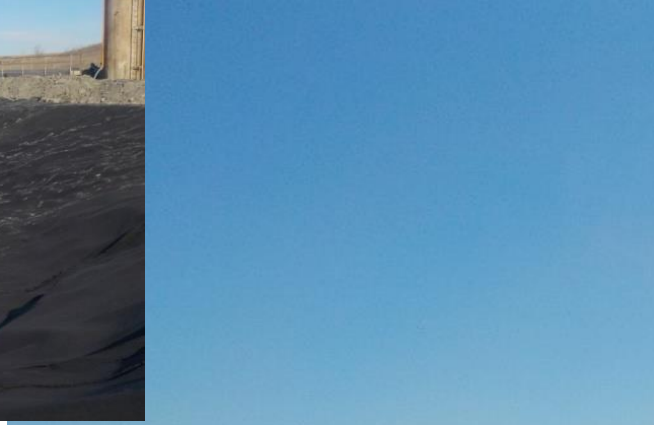
Waste Characterization

- 28 of 30 test pits; mix of construction and domestic waste
- No asbestos or other waste requiring special handling
- Leachate grey/black





Construction (3 of 3)





Construction Summary



Financial

Tender Value	\$ 2,700,000
Actual Tendered Work	\$ 2,400,000
Unanticipated Work	\$ 200,000
Final Cost	\$2,600,000

Schedule

Contract Duration	151 days
Slippages	40 days
Savings	13 days
Total Duration	178 days

Performance

Waste Removed to Modern Landfill Cell	57,000 m ³
Leachate Removed/Treated	4,700 m ³
Leachate Collected/Treated Post-Construction	610 m ³

Questions?



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