



Invergordon Regional
Non-Hazardous Landfill
Public Meeting

September 4, 2024

Agenda

- ▶ Process
- ▶ History
- ▶ Site Findings
- ▶ Site Design
- ▶ Operational Elements
- ▶ Benefits
- ▶ Next Steps

Process

- ▶ Concept
- ▶ Communication
 - ▶ RM of Invergordon Introduction: Jul 8, 2020
 - ▶ RM Info Notice: Aug 17, 2020
 - ▶ Neighbour Notice: Dec 11, 2020
 - ▶ RM 430 Meeting: Apr 12, 2021
 - ▶ RM 430 Meeting: Aug 16, 2021
 - ▶ MOE Submission to Construct and Operate Jan 2023 – Require Separate Technical Submission
 - ▶ RM 430 Meeting: Oct 18, 2023
 - ▶ Technical Report Submission

Technical Report

- ▶ Environmental Impacts and Mitigation Measures
- ▶ Enhanced Plant and Wildlife Species Detection
- ▶ Impact on Regional Landfills
- ▶ Additional Stakeholder Engagement
- ▶ Closure and Decommissioning Plans

Environmental Assessment

- ▶ Technical Proposal submitted Dec 2023
- ▶ Meets threshold for EA
 - ▶ Traffic Assessment
 - ▶ Mitigation of Risk
 - ▶ Additional Public Consultation
- ▶ Public Meeting Sept. 4, 2024

Location: SW 6-44-23 W2



Studies

- ▶ Local and regional topography and drainage
- ▶ Desktop screening and field surveys
- ▶ Expanded species detection
 - ▶ Wetland and Watercourse Assessment
 - ▶ Habitat Ground-Truthing
 - ▶ Sharp-tail Grouse Surveys
 - ▶ Raptor Habitat and Nest Surveys
 - ▶ Visual and Auditory Amphibian Surveys
 - ▶ Common Nighthawk Surveys
 - ▶ Breeding Bird Surveys
 - ▶ Terrestrial and Aquatic Vascular Plant Surveys

Studies

- ▶ Regional geological mapping, hydrogeological mapping, and water well driller records.
- ▶ 4 separate drilling programs
- ▶ Evaluation of hydrogeological conditions
- ▶ Topographic study
- ▶ Analyses groundwater samples

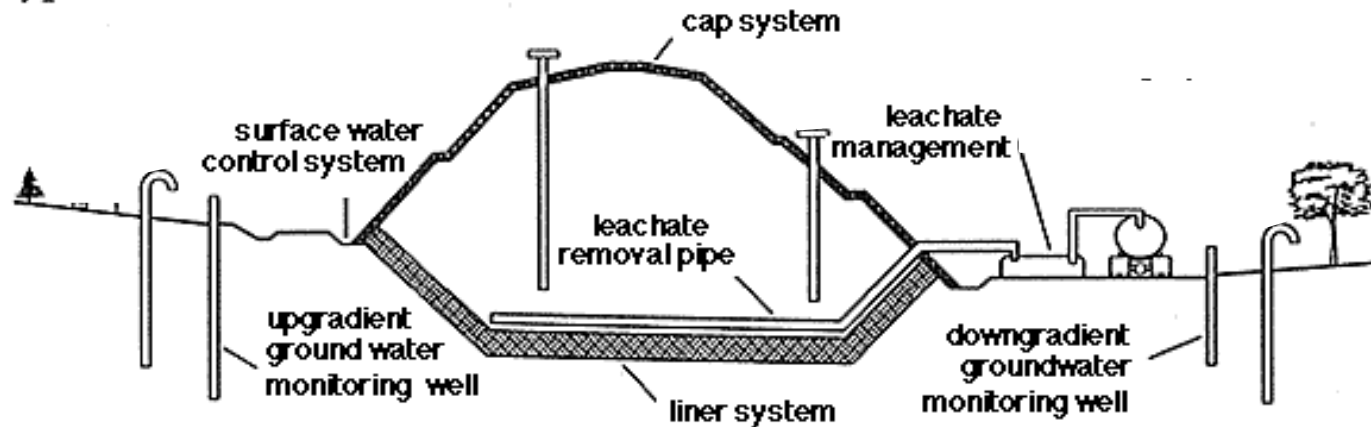
Findings

- ▶ Site is suitable for development
 - ▶ No heritage concerns
 - ▶ No sensitive habitats
 - ▶ No aquifers in the shallow soil profile
 - ▶ Rare species identified but not expected to pose a problem – MOE was consulted
 - ▶ Floating Crystalwort
 - ▶ Striped Coral-root
 - ▶ Challenging topography which is managed through design
 - ▶ Extensive deposit of competent clay rich glacial till

Landfill Design - Best Practices

- ▶ Seepage barrier
- ▶ Surface water management
- ▶ Groundwater monitoring
- ▶ Passive gas management system
- ▶ Leachate collection and management
- ▶ Final cover
- ▶ Reclamation, decommission and closure

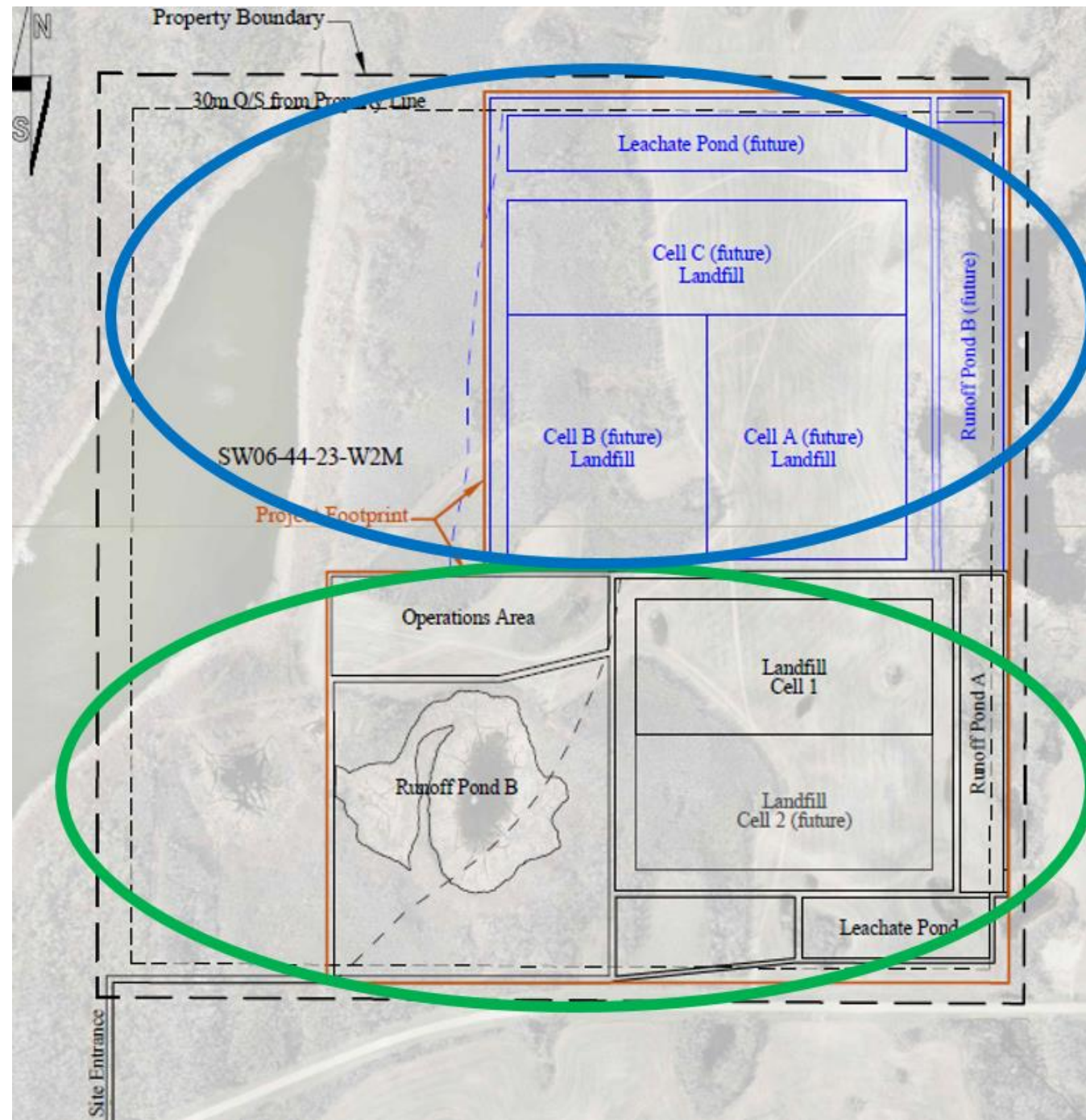
Typical schematic of a state-of-the-art landfill



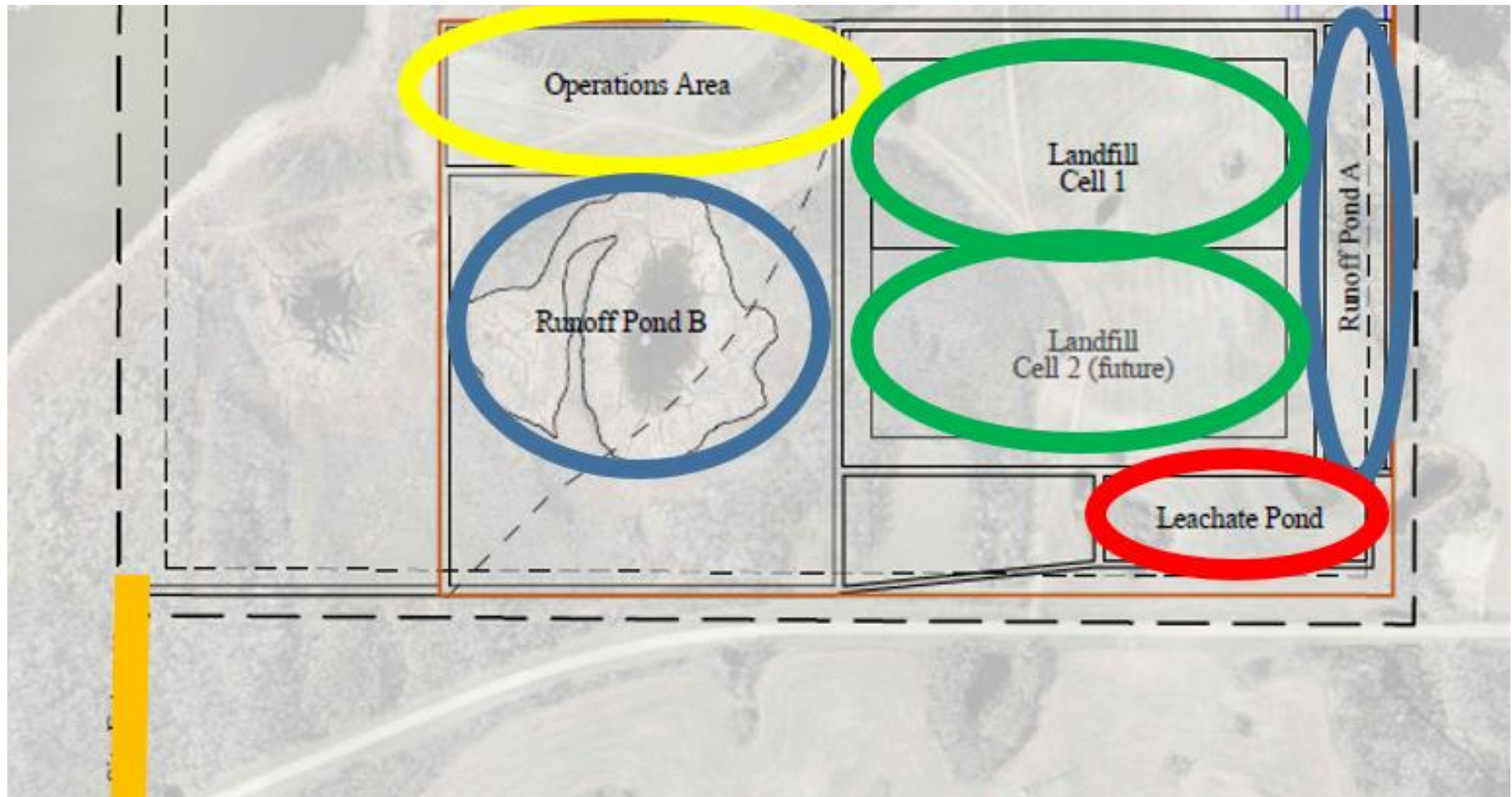
(credit: Paul C. Rizzo Associates)

Phase 2

Phase I

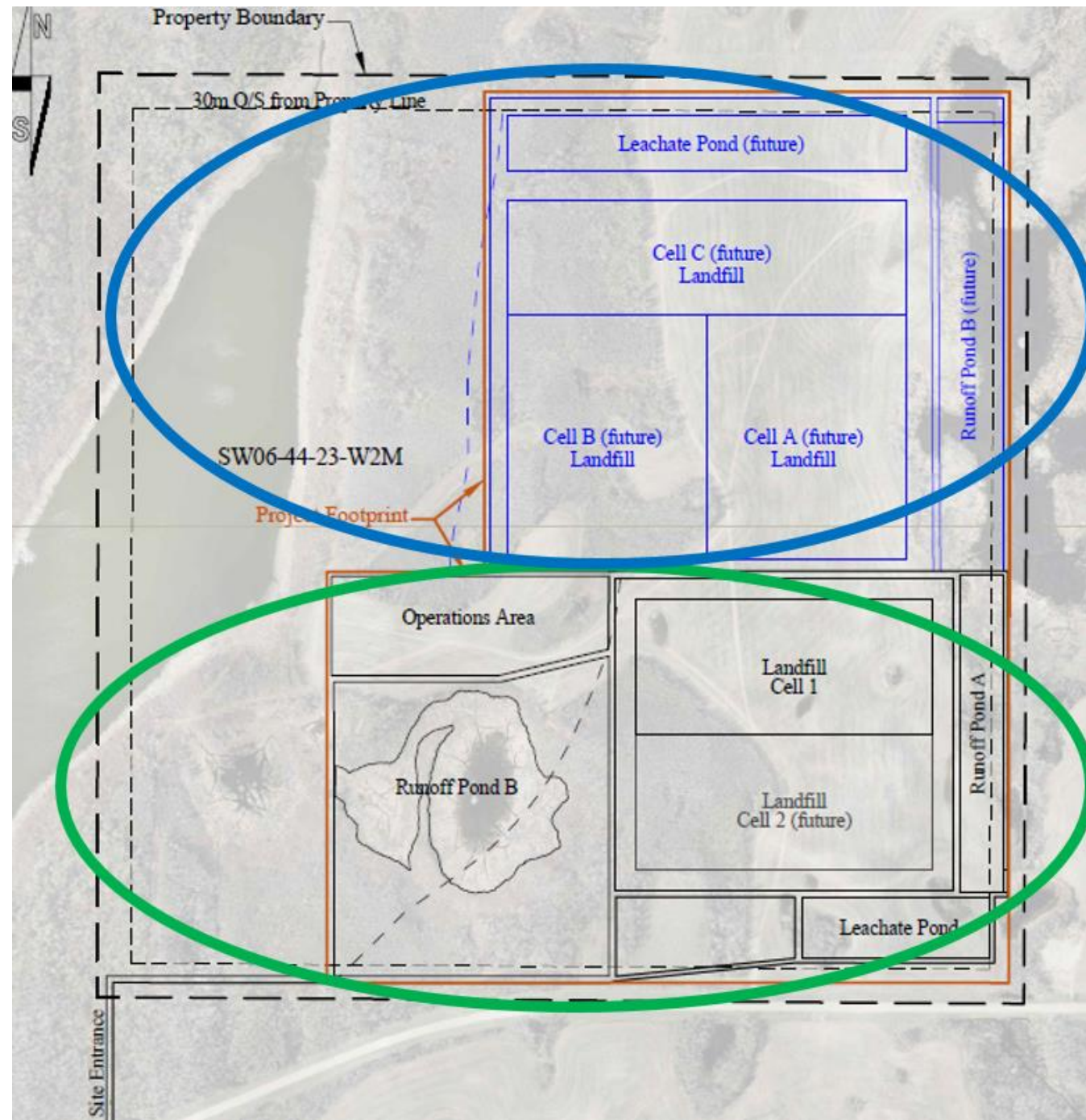


Phase I

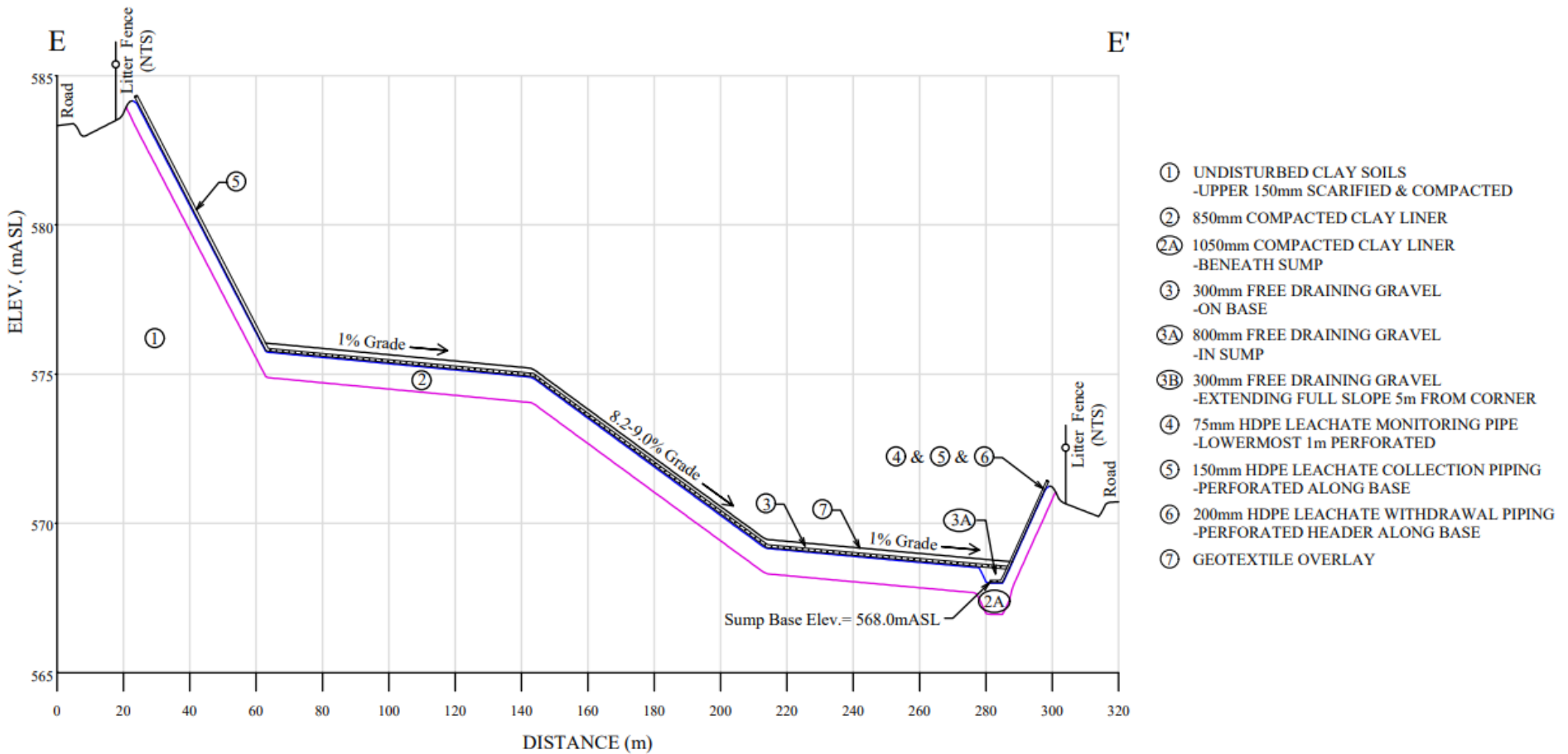


Phase 2

Phase I

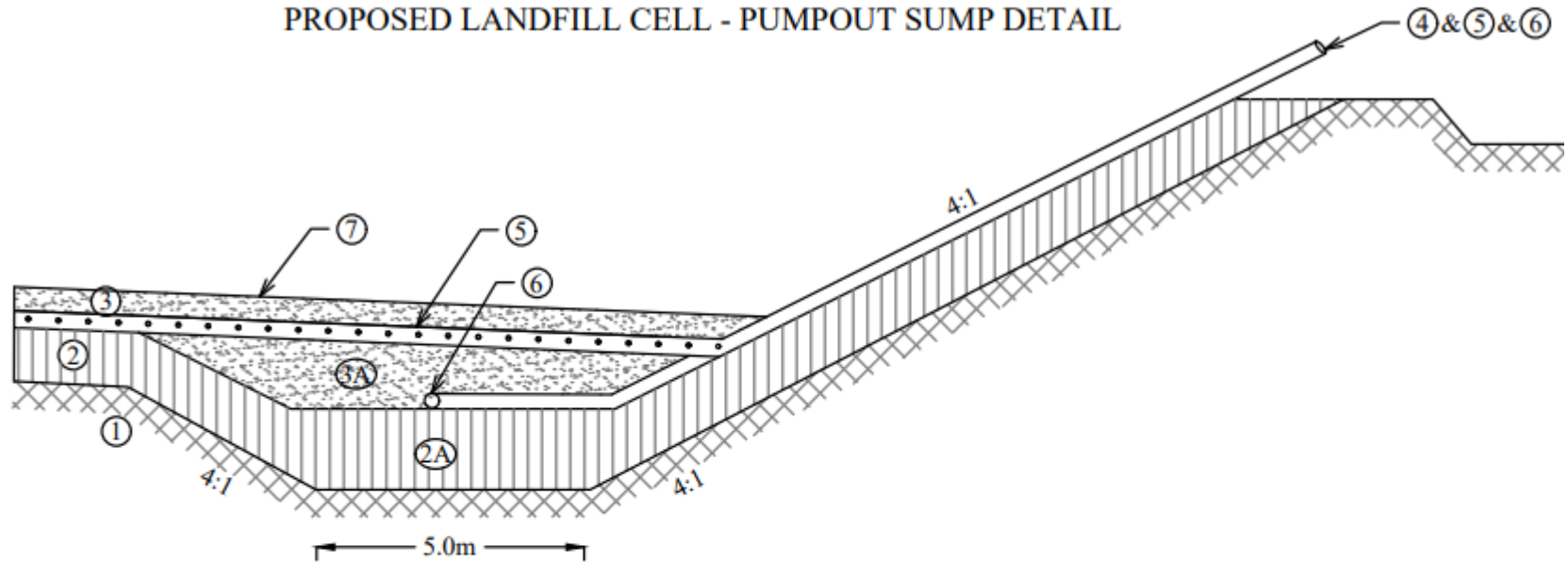


Cell Design



Cell Design

PROPOSED LANDFILL CELL - PUMPOUT SUMP DETAIL



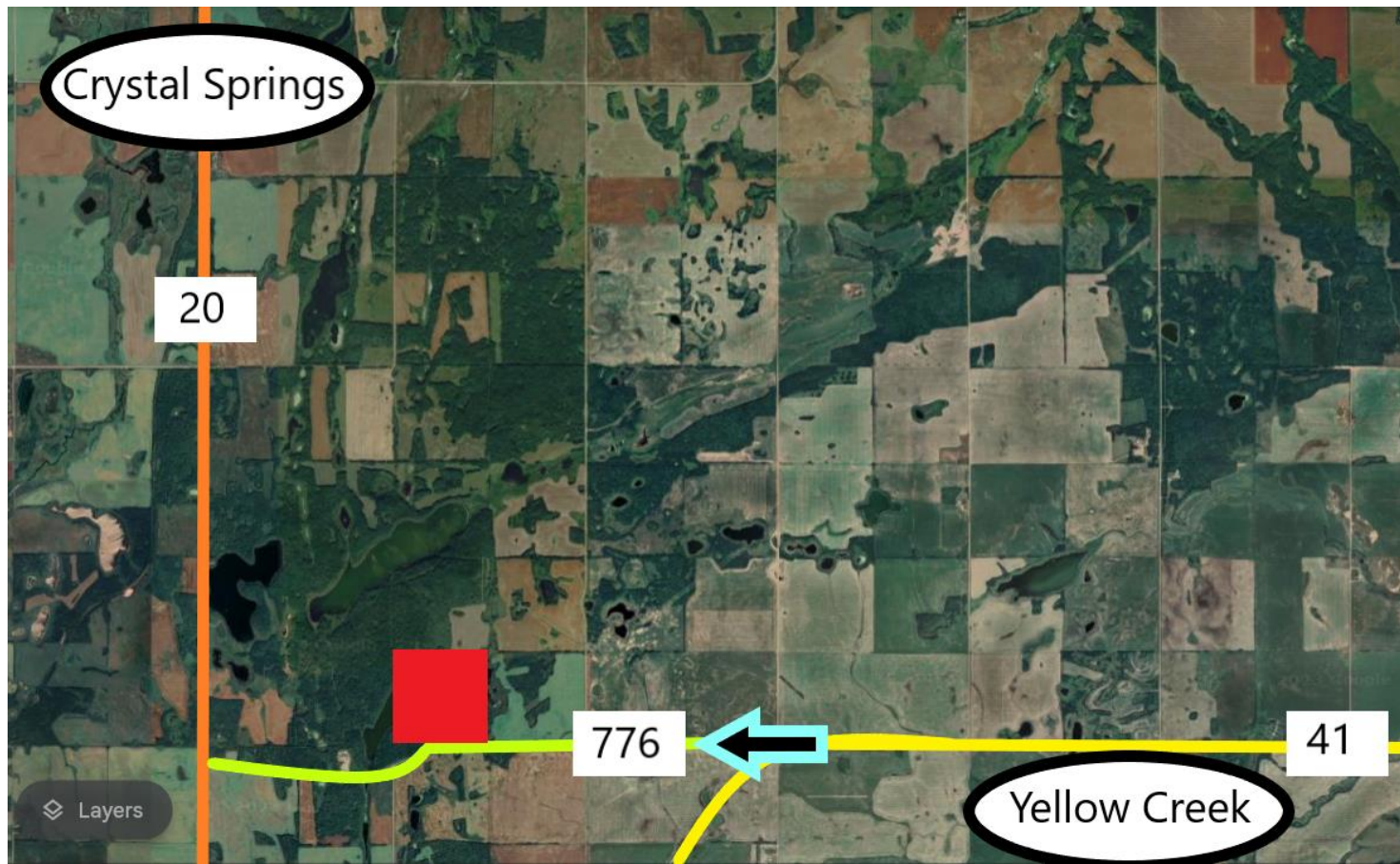
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|--|--|
| ① UNDISTURBED CLAY SOILS
-UPPER 150mm SCARIFIED & COMPACTED | ③B 300mm FREE DRAINING GRAVEL
-EXTENDING FULL SLOPE 5m FROM CORNER |
| ② 850mm COMPACTED CLAY LINER | ④ 75mm HDPE LEACHATE MONITORING PIPE
-LOWERMOST 1m PERFORATED |
| ②A 1050mm COMPACTED CLAY LINER
-BENEATH SUMP | ⑤ 150mm HDPE LEACHATE COLLECTION PIPING
-PERFORATED ALONG BASE |
| ③ 300mm FREE DRAINING GRAVEL
-ON BASE | ⑥ 200mm HDPE LEACHATE WITHDRAWAL PIPING
-PERFORATED HEADER ALONG BASE |
| ③A 800mm FREE DRAINING GRAVEL
-IN SUMP | ⑦ GEOTEXTILE OVERLAY |

Operational Elements

- ▶ Landfill tipping face management
 - ▶ Minimize active tipping face size, daily cover placement, mixing of wastes & compaction
 - ▶ debris, scavenging, & odour minimization, compaction optimization
- ▶ Site perimeter management
 - ▶ Tall wind fencing around landfilling cells promotes containment of debris & general site cleanliness
 - ▶ Paige wire fencing & perimeter treeline assists in site cleanliness and restricting wildlife access

Traffic

- ▶ Truck traffic – 41 and 776
- ▶ Road Maintenance Agreement
- ▶ Average of 6 trucks per day – representing less than 0.5% increase



Windblown Litter

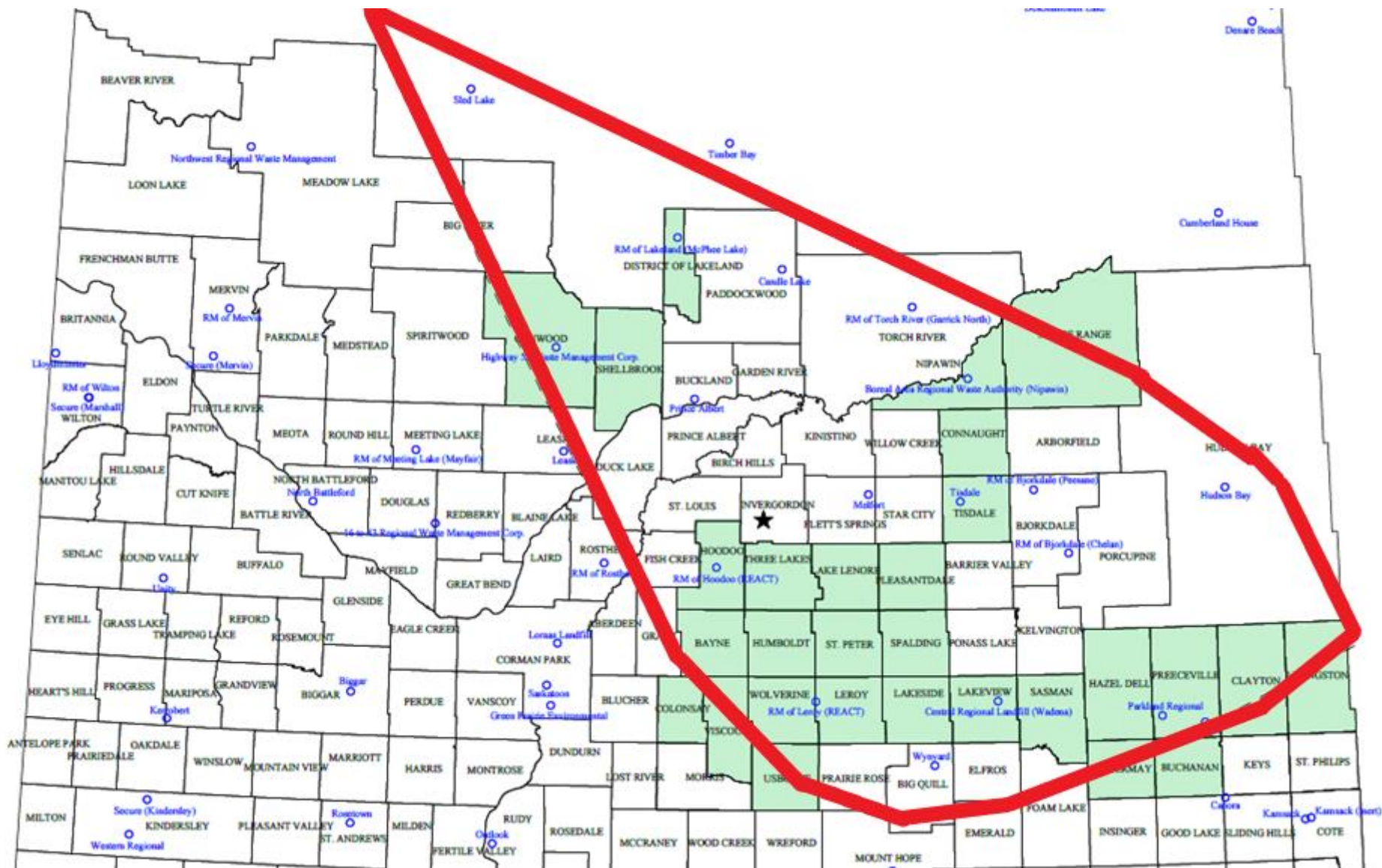


Concerns

- ▶ Wildlife / pests
 - ▶ Compacted daily
 - ▶ Rodent control
 - ▶ Fenced

Contamination





Liability

- ▶ Liability / company ceases to exist
 - ▶ Financial Assurance
 - ▶ Environmental Liability Insurance
 - ▶ Post Closure Monitoring

Benefits

- ▶ Access to modern landfill for region
- ▶ Reduced waste service/tonnage rates for ratepayers
- ▶ Employment
- ▶ Economic spinoff
- ▶ Support of community groups
- ▶ Assistance with post closure monitoring of costs current RM landfill site
- ▶ Royalty agreement

Next Steps

- ▶ EA Submission – Oct 2024
- ▶ Application to Construct and Operate
 - Design plan and specification report
 - Operations plan
 - Proof of financial security
 - Landfill monitoring plan
 - Detailed construction plans
 - Closure plan
 - Post closure plan
- ▶ Road Maintenance Agreement
- ▶ Royalty Agreement