Review of Public and TAC Comments: Crystal Springs Lagoon EAP

Informing Regulatory Decision-Making

Agenda

1. Review Overview & Regulatory Framework
2. Key Issues and Comment Responses
3. Resolution and Regulatory Takeaways

Introduction to the Review

Crystal Springs Colony Lagoon Proposal

Project aims to provide long-term wastewater treatment for the community.

Independent Technical Assessment

Third-party review ensures issues are identified and addressed at the Environment Act Proposal stage.

Regulatory Process

Recognizes that detailed requirements are formalized through licensing, design, and operational oversight.

Regulatory Review Purpose

Assess public and TAC comments for potential environmental and human health impacts.

Regulatory Framework

Structured Regulatory Process

- Lifecycle: Environment Act Proposal, licensing, construction, and operation.
- Each stage addresses different levels of detail and oversight.

Evaluation Framework

- Issues categorized as technical, operational, procedural, or policy-based.
- Focus on whether concerns are addressed at the appropriate regulatory stage.

Resolution Pathways

- Clarifications, licence conditions, operational commitments, and construction QA/QC are key mechanisms.
- Pathways ensure issues are managed through established regulatory tools.

Role of Appendix A

- Provides traceability between comments and responses.
- Provides summary Basis of Review
- Includes additional Review Considerations for the Board

A.2 Public Comment Adequacy Assessment

Comment ID & Source	Issue Area	Response Reference	Regulatory / Guidance Reference	Basis of Review	Review Considerations
PUB-01-01	Surface Water Quantity / Hydraulic Capacity	Proponent Response No. 1 (March 10, 2025), Response A15; Appendix E – Hydrologic and Hydraulic Assessment (TREK Geotechnical, Nov 21, 2022)	The Environment Act (Manitoba); Hydrologic and Hydraulic Assessment (Appendix E); Manitoba Infrastructure flood criteria; HEC-RAS modelling standards	Hydraulic modelling in Appendix E demonstrates the proposed trickle discharge (0.018 m³/s) represents ≤0.4% of modeled Willow Creek flows (4.4–31.6 m³/s) and does not materially affect flood conveyance capacity. The HEC-RAS steady-state model was developed using conservative assumptions without attenuation. Culvert capacity and drainage assessments are independent of lagoon discharge magnitude. The incremental hydraulic contribution is negligible relative to baseline hydrologic variability and modeled design events.	No additional hydraulic analysis required; operational discharge governance addressed through separate IR.
PUB-01-02	Drainage Governance / IWMP Alignment	Proponent Response No. 1 (March 10, 2025), Response A15; Appendix E	The Environment Act (Manitoba); Applicable drainage approvals; Willow Creek IWMP	Modeled discharge volumes are hydrologically minor relative to receiving system capacity (<0.4%). IWMP retention objectives are watershed-scale considerations and are not materially altered by the documented proportional discharge magnitude. No evidence indicates downstream hydraulic alteration attributable to lagoon discharge. Governance of drainage infrastructure remains subject to statutory approval mechanisms independent of lagoon licensing under The Environment Act.	Confirm applicable drainage approvals are secured where required.

Resolution Pathways and Licence Conditions

Clarification Pathways

- Clarifications enhance transparency and ensure regulatory record is clear.
- Used for monitoring parameters, discharge notification, and EAP assumptions.

Licence Conditions

- Licence conditions formalize requirements for **effluent monitoring**, discharge timing, biosolids management, and nuisance control.
- Enforceable standards for compliance and environmental protection.

Operational Commitments

- Day-to-day management of risks through operational procedures.
- Includes wet-weather response, odour management, and influent controls.

Construction QA/QC

- Quality assurance and control verify liner performance and material compliance.
- Ensures design intent is achieved during implementation.

Example Analysis of resolution Pathway

Issue Area	Primary Resolution Pathway
Effluent Monitoring & Reporting	Licence Conditions
Discharge Timing & Notification	Licence Conditions
Flooding & Wet-Weather Operation	Licence Conditions
Groundwater Protection & Liner Verification	Construction QA/QC
Odour & Nuisance Management	Operational Commitments

Key Issue Areas Identified

Effluent Monitoring and Reporting

- Focus on monitored parameters, sampling frequency, and compliance points.
- Ensures transparency and regulatory oversight for effluent quality.

Discharge Timing and Coordination

- Seasonal discharge managed through operational controls and regulatory coordination.
- Notification procedures for planned and emergency discharges are key.

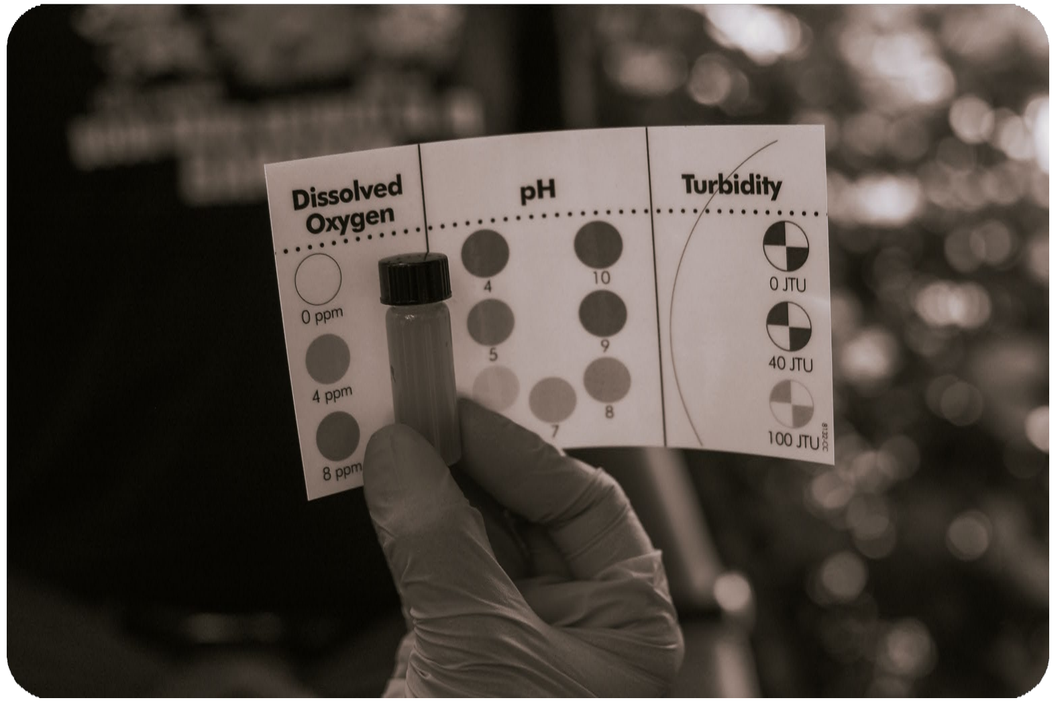
Flooding, Wet-Weather, and Ice Conditions

- Operational contingencies address flood events, spring melt, and extreme inflows.
- Adaptive management strategies ensure system reliability.

Groundwater Protection and Liner Performance

- Liner integrity and construction QA/QC are central to environmental protection.
- Regulatory standards and verification processes mitigate groundwater risks.

Effluent Monitoring & Reporting



Clear Effluent Monitoring Expectations

- Requests for clarity on monitored parameters and sampling frequency.

Defined Compliance Points

- Emphasis on identifying compliance locations for regulatory oversight.

Transparent Reporting Mechanisms

- Ensures results are accessible to regulators and the public.

Resolution Pathways

- Addressed through **clarification** and enforceable **licence conditions**.

Discharge Timing & Coordination

Seasonal Discharge Coordination

- Regulators emphasized the need for clear timing of lagoon effluent releases.

Notification Procedures

- Protocols for notifying agencies and stakeholders before discharge events are required.

Regulatory Agency Collaboration

- Effective coordination ensures compliance and environmental protection.

Resolution Pathways

- Issues addressed through **clarification** and **licence conditions** in the regulatory process.

Flooding & Wet-Weather Operation

Flood and Ice Impact Concerns

- Stakeholders raised questions about lagoon reliability during **floods, ice cover, and spring melt**.

Operational Contingency Planning

- Adaptive management strategies are needed to address **variable hydraulic conditions** and ensure system resilience.

Regulatory Resolution Pathways

- Issues are resolved through **clarification** in the regulatory record and formal **operational commitments**.

Groundwater Protection & Liner QA/QC

Liner Integrity & Permeability

- Public and TAC comments highlighted concerns about lagoon liner quality and potential for groundwater contamination.
- Focus on meeting **Manitoba lagoon Design Objectives** for containment and permeability.

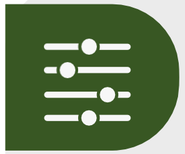
Construction QA/QC Commitments

- Proponent commits to rigorous **quality assurance and quality control** during liner installation.
- Verification of liner performance through construction oversight and testing.

Regulatory Resolution Pathways

- Clarification of liner standards and QA/QC measures in regulatory record.
- Final confirmation deferred to construction stage, consistent with regulatory practice.

Takeaways for Regulators



Comprehensive Comment Review

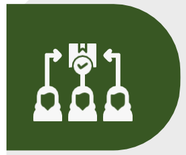
Public and TAC concerns were systematically addressed.

Regulatory Resolution Pathways

Issues resolved via clarification, licence conditions, and operational commitments.

Assessment of Information for Gaps

Environmental and health impact pathways are understood and managed.



Regulatory Authority Maintained

Approval and licensing decisions remain with regulators.

Thank you.