



Making a difference...together

MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE

Notice of Meeting on **Tuesday, March 8, 2022 at 9:30 a.m.**
Goldstream Conference Room, 479 Island Highway, Victoria, BC

For members of the **public who wish to listen to the meeting** via telephone please call **1-833-353-8610** and enter the **Participant Code 1911461 followed by #**. You will not be heard in the meeting room but will be able to listen to the proceedings.

M. Fossil (Chair)

J. Deschenes (Vice Chair)

W. Foster

K. Heslop

D. Howe, Electoral Area Director

D. Reed

R. Sullivan

AGENDA

1. APPROVAL OF AGENDA

2. ADOPTION OF MINUTES2

Recommendation: That the minutes of the January 11, 2022 meeting be adopted.

3. CHAIR'S REMARKS

4. PRESENTATIONS/DELEGATIONS

The public are welcome to attend Commission meetings in-person.

Delegations will have the option to participate electronically. Please complete the [online](#) application for "Addressing the Board" on our website and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the Magic Lake Estates Water and Sewer Committee at iwsadministration@crd.bc.ca.

Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.

5. COMMITTEE BUSINESS

5.1. Project and Operations Update6

Recommendation: That the Magic Lake Estates Water and Sewer Committee receives this report for information.

6. CORRESPONDENCE

7. NEW BUSINESS

8. ADJOURNMENT

Next Meeting: Tuesday, April 12, 2022

*To ensure quorum, advise **Mikayla Risvold 250.474.9518** if you cannot attend.*



Making a difference...together

MINUTES OF A MEETING OF THE Magic Lake Estates Water and Sewer Committee, held Tuesday, January 11, 2022 at 9:30 a.m., in the Goldstream Meeting Room, 479 Island Highway, Victoria, BC

PRESENT: **Committee Members:** M. Fossil (Chair) (EP); J. Deschenes (Vice Chair) (EP); W. Foster (EP); K. Heslop (EP); D. Reed (EP); P. Brent (EP)
Staff: I. Jesney, Senior Manager, Infrastructure Engineering; M. McCrank, Senior Manager, Wastewater Infrastructure Operations (EP); M. Cowley, Manager, Regional Wastewater; M. Bona, Project Engineer; T. Duthie, Manager, Administrative Services; M. Risvold, Committee and Administrative Clerk (Recorder)

REGRETS: D. Howe, Electoral Area Director

EP = Electronic Participation

The meeting was called to order at 9:32 a.m.

1. APPROVAL OF AGENDA

MOVED by K. Heslop, **SECONDED** by P. Brent,
That the agenda be approved.

CARRIED

2. ELECTION OF VICE CHAIR

The Chair called for nominations for the position of Vice Chair of the Magic Lake Estates Water and Sewer Committee for the term ending October 31, 2022.

P. Brent nominated J. Deschenes. J. Deschenes accepted the nomination.

The Chair called for nominations a second time.

The Chair called for nominations a third and final time.

Hearing no further nominations, the Chair declared J. Deschenes Vice Chair of the Magic Lake Estates Water and Sewer Committee for the term ending October 31, 2022 by acclamation.

3. ADOPTION OF MINUTES

MOVED by J. Deschenes, **SECONDED** by W. Foster,
That the minutes of the December 14, 2021 meeting be adopted.

CARRIED

4. CHAIR'S REMARKS

The Chair thanked J. Deschenes for standing as Vice Chair for 2022.

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. COMMITTEE BUSINESS

**6.1. Magic Lake Estates Wastewater Pump Station and Treatment Plant Upgrades
RFP 2021-732 Consulting Services Contract**

M. Cowley introduced the report and provided an overview of the key factors leading to the recommendation.

M. Cowley advised that staff will provide a change order recommendation to add programming costs into the contract once the detailed design is complete. An allowance has been created for programming to be done by Capital Regional District (CRD) staff, however, if the programming work is completed through the consultant, it will be fundable through the grant.

Staff responded to a question from the Committee regarding programming. Staff advised the programming language for functions of the valves, pumps, and blowers need to be integrated and programmed, which will result in the functions being automated.

MOVED by J. Deschenes, **SECONDED** by P. Brent,
The Magic Lake Estates Water and Sewer Committee recommends the award of Contract 2021-732, Magic Lake Estates Wastewater Pump Station and Treatment Plant Upgrades – Consulting Engineering Services, in the amount of \$795,771 plus GST.

CARRIED

6.2. Water Update [Verbal]

I. Jesney provided a verbal update on the following:

Design and construction Buck Lake & Magic Lake adjustable intakes

Conceptual design drafted and circulated with operations staff on operational requirements. Detailed design started on anchoring design with tendering in the spring. The project is currently on schedule and on budget.

6.3. Wastewater Update [Verbal]

M. Cowley provided a verbal update on the following:

Collection System Upgrades

- Triahn Enterprises Ltd. has reached Substantial Completion as of December 17, 2021 and issued a notice of completion. Triahn is still completing minor deficiencies and clean-up work.
- Triahn has indicated that the eight leaky tie-in manholes are now sealed. Some of them were inspected on December 16 and leaks were not evident. The remaining ones will be inspected as part of the final inspection after all the deficiencies are complete. There have been no exceedances at Schooner since December 19/20. Due to the recent snow and rain events, there was an exceedance at Cannon.
- Any on-going deficiencies such as ground settlement, seeding, etc. will be documented and completed prior to the one-year warranty.
- The actual construction cost to end of December is \$2,082,640. The estimated cost to complete the contract is about \$2.2 million depending on the final quantities.

Investing in Canada Infrastructure Grant – Pump Station & Wastewater Treatment Plant (WWTP) Upgrades - Phase 2 & 3

- A request for proposal (RFP) was issued on October 29, 2021 and closed on December 6, 2021 to request proposals from consultants to complete the design and construction management of the upgrades. Four proposals were received.
- The plan is to complete the design by summer 2022, tender in late summer, and start construction in the fall subject to obtaining all regulatory approvals.
- Updates will be posted on the CRD website and can be included in the Pender Post as the design work progresses.

Staff responded to a question from the Committee regarding leaks in the wastewater and sewer pipe manholes. Staff advised there is no evidence of leakage coming through the new pipe and new manholes installed by Trihan, and a complete closed-circuit television (CCTV) inspection took place and no leaks were detected. Staff advised it is suspected that the leakage coming into the system is from the private side and the remainder of the collection system that has not been upgraded.

6.4. Operations Update [Verbal]

M. McCrank provided a verbal update on the following:

Water Operations Highlights:

- Dec 17th – Activate dam emergency response due to a 3.8 magnitude earthquake.
- Dec 20th – Water system service line leak repairs and environmental reporting 2767/2769 Schooner Way.
- Dec 28th – Emergency response to Schooner Pressure Regulating Station (PRS) due to freezing. The station is now fully isolated, the damage is being assessed and equipment will likely be repaired or replaced in the PRS.
- Dec 28th – Water system leak repairs and environmental reporting 2666 Schooner Way, which has been addressed and repaired.
- Dec 28th – Emergency response to water main freezing which is the primary supply feed to the Captains Reservoir pressure zone.

Wastewater Operations Highlights:

- Multiple Days – Emergency response to Schooner WWTP oxidation ditch high level alarms.
- Dec 22nd – Corrective maintenance Schooner WWTP air blower variable frequency drive (VFD). The VFD must be replaced due to failure, and will cost approximately \$5,000.
- Dec 28th – Additional maintenance Schooner WWTP due to cold weather event and freezing of some infrastructure.

Capital Improvement work by Infrastructure Operations:

- Buck Lake Building Lighting Upgrade:
 - Supplies and equipment procured; final preparations and installation schedule being reviewed.

**Magic Lake Estates Water and Sewer Committee
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Staff responded to questions from the Committee regarding the water main freezing, and the length of water main that is above ground. Staff advised the above-ground portion of the water main is approximately 150 meters to 200 meters in length. Part of the water main is above ground due to crossing over a retaining wall. As this water main does not run continuously, options to prevent freezing are to insulate, heat trace, or bury.

6.5. Grants Discussion [Verbal]

There was no discussion.

7. CORRESPONDENCE

There was no correspondence.

8. NEW BUSINESS

Ian Jesney advised the Committee of a vacancy on the Committee.

9. ADJOURNMENT

MOVED by K. Heslop, **SECONDED** by J. Deschenes,
That the January 11, 2022 meeting be adjourned at 10:05.

CARRIED

CHAIR

SECRETARY



REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE MEETING OF TUESDAY, MARCH 08, 2022

SUBJECT Capital Project Status Reports and Operational Updates

ISSUE SUMMARY

To provide the Magic Lake Estates Water and Sewer Committee with capital project status reports and operational updates up to and including February 28, 2022.

BACKGROUND

The Magic Lake Estates (MLE) Water System is located on the south shore of North Pender Island in the Southern Gulf Islands Electoral Area and provides drinking water to approximately 1036 customers. Capital Regional District (CRD) Integrated Water Services is responsible for the overall operation of the water system with day-to-day operation and maintenance, design and construction of water system facilities provided by the CRD Infrastructure Engineering and Operations Divisions. The quality of drinking water provided to customers in the Magic Lake Estates Water System is overseen by the CRD Water Quality Division.

CAPITAL PROJECT UPDATE

Magic Lake Estates Water

21-02 | Design and Construction Buck Lake and Magic Lake Adjustable Intakes

Project Description: Detailed design and construction of adjustable intakes to inform future capital works to maintain water quality.

Project Rationale: Both the Buck and Magic Lake adjustable intakes are unsafe to clean and adjust without employing divers. Funds are required to design and construct adjustable intakes.

Project Update and Milestones:

- A consultant was retained in November 2021 and they produced a draft design report summarizing design requirements for the intakes and floats on December 6, 2021.
- Preliminary design drawings are to be received by staff March 4, 2022 for review.
- Tendering scheduled for May 2022 and construction in the fall of 2022.

Milestone	Completion Date
Consultant retained	November 12, 2021
Draft conceptual design report received	December 6, 2021

21-04 | Buck Lake Dam Repairs - Phase 1

Project Description: Conduct additional inspections, minor repairs, and performance analysis highlighted in the 2019 Dam Safety Review. Phase 2 dam improvements to be completed in the following five years.

Project Rationale: Resulting from the Hatch 2019 Dam Safety Review, funds are required to conduct additional inspections, minor dam repairs, and performance analysis. Phase 2 dam improvements to be completed in the following five years. The staff report from the November 26, 2020 Committee meeting outlines the detailed expenditure plan for the Phase 1.

Project Update and Milestones:

- Detailed scope of work and acceptable options for preventing high live loads at Buck Lake Dam's west dam have been developed. Work is to be complete in September 2022.
- Consultant has been retained to conduct a dam breach analysis for both dams to confirm the dam flood area and improve the dam emergency plan. The kick off meeting is tentatively scheduled for the week of March 7, 2022.
- Operations to coordinate with CRD Protective Services so that dam emergencies are part of CRD's Public Alert Notification System.
- CRD staff have started compiling required information for the dam emergency plan and operating and maintenance manuals. Updates are to be completed by December 2022.

Milestone	Completion Date
Consultant retained to conduct dam breach analysis	December 20, 2021

22-01 | Failed Valve Replacement

Project Description: Replace 6 failed water main valves.

Project Rationale: Through annual operations of the water system, three valves have been identified as have failed. Funding is required to replace these valves at 4708 Capstan Crescent, Schooner Way and Privateers, 3710 Rum Road, Schooner Way and Ketch Road, 4742 Bosun Way, and 37140 Galleon Way.

Project Update and Milestones:

- Project to commence upon CRD Board approval of the 5-year capital plan at the March 16, 2022 meeting.
- Operations is currently scheduling for works to commence in September and October unless an earlier opportunity is available.

22-02 | EV Charging Station

Project Description: Construct a new Electric Vehicle (EV) Charging Station at the Water Treatment Plant, project to be split across MLE Water, Waste Water, and a possible grant.

Project Rationale: Construct a new EV Charging station at the water treatment plant, project is to be partially funded through a cost matching grant and the MLE Waste Water Service.

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Project Update and Milestones:

- Project delivery is currently being planned with CRD Facilities and Operations.
- Execution to occur in October pending equipment delivery, early delivery will occur if possible.

Milestone	Completion Date
Notification of conditional grant approval	January 18, 2022

22-03 | Process Pipe Replacement

Project Description: Replace corroded process pipe in the water treatment plant.

Project Rationale: The water treatment plant has corroded process piping. Funding is required to plan and replace the affected pipe.

Project Update and Milestones:

- A consultant will be required for design.
- Detailed design and a construction staging plan may commence in August 2022, with future process pipe replacement.

OPERATIONAL UPDATE

This is an operational update report period for January/February 2022.

- MLE Water Treatment Plant Dissolved Air Flotation (DAF) process long rinse call out alarms. System troubleshooting found that the blower system that assists with automatic filter media backwash cycles was not functioning correctly. Corrective maintenance completed.
- Supervisory Control and Data Acquisition (SCADA) system callout alarm review. During power outages, several unnecessary critical alarms are generated by the SCADA system that are a nuisance for the operators. A number of programming changes were necessary to address this concern.
- Several high chlorine alarms and callouts during the month of January. Corrective maintenance performed on the sodium hypochlorite chemical feed pump system after troubleshooting identified a failed part on the chemical feedline.
- January 11 - Magic Lake Estates raw water pumping station brought back online and bend ratio of Buck Lake/Magic Lake operating at 80%/20% respectively.
- Service line water leak repairs at 2617 Yardarm.
- MLE Water Treatment Plant Alternating Current power failure monitor installation to address ongoing redundant SCADA alarms.
- MLE Water Treatment Plant air saturator system pressure regulator trouble shooting and replacement.
- Grounds maintenance (tree pruning and removal) at Frigate and Captains tank sites and bifurcation pond by tree service contractor.

Magic Lake Estates Sewer Utility

20-01 | Wastewater Improvements – Sewer Replacement

Project Description:

1. Replace about 3km of failing asbestos cement (AC) pipe and install Cannon forcemain pipe (2021).
2. Replace as much failing AC pipe as possible with remaining funds left from \$6 million loan (2022-23).

Project Rationale: Several km of failing AC sewer pipe requires replacement (to be completed over 3 years from 2021-2023).

Project Update and Milestones:

- Triahn Enterprises Ltd. has reached Substantial Completion on December 17, 2021 and have been provided a list of deficiencies to complete. They plan to complete the deficiencies as the weather permits (i.e. some wet areas need to dry out).
- The total final construction cost was \$2,135,502.
- The next phase of sewer replacement work will occur after the pump station and treatment plant tender is closed so that we know the remaining funds left from the \$6 million loan.

Milestone	Completion Date
Construction	Substantial Completion on December 17, 2021
Warranty Period	December 17, 2022

21-01 | Wastewater Improvements – Pump Station and Treatment Plant Upgrades

Project Description:

1. Renew Buccaneer, Galleon, Schooner, Capstan, Cutlass and Masthead Pump Stations.
2. Replace Cannon Wastewater Treatment Plant (WWTP) with a new pump station.
3. Upgrade Schooner WWTP.

Project Rationale: Successfully received an Infrastructure Canada grant to complete upgrades on six pump stations, install a new pump station at Cannon to pump to Schooner WWTP, and upgrade Schooner WWTP to treat flow from Cannon and renew many components to bring the wastewater system into compliance with environmental regulations.

Project Update and Milestones:

- An engineering services contract has been awarded to McElhanney Ltd. in the amount of \$795,771, not including programming services (to be scoped when the design is complete).
- A kick-off meeting was held on January 17 and a site orientation meeting on February 8, 2022. McElhanney is gathering all of the background information.
- Survey and geotechnical work will likely commence in early March and a conceptual design will then be prepared.

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- First Nations consultation is continuing and all other stakeholders and approvals are being determined.

Milestone	Completion Date
Preliminary Design	April 30, 2022
Detailed Design	September 30, 2022
Tender Period	October 31, 2022
Construction	December 31, 2023
Warranty Period	December 31, 2024

22-01 | EV Charging Station

Project Description: Construct a new EV Charging Station at the Water Treatment Plant, project to be split across MLE Water, Waste Water, and a possible grant.

Project Rationale: Construct a new EV Charging Station at the Water Treatment Plant, project to be split across MLE Water, Waste Water, and a possible grant.

Project Update and Milestones:

- Project delivery is currently being planned with CRD Facilities and Operations.
- Execution to occur in October pending equipment delivery, early delivery will occur if possible.

OPERATIONAL UPDATE

This is an operational update report period for January/February 2022.

- Replacement of damaged valves at Schooner WWTP due to freezing during December/January cold weather event.
- Replace freeze protection equipment at the Schooner WWTP; heat trace wiring.
- Additional corrective maintenance on the Schooner WWTP air blower equipment. Replacement of variable frequency drive.
- Corrective maintenance on the check valve at the Schooner Sewage Pump Station. Significant resources required to complete the work due to confined space entry.
- Investigation into block sewer lateral at 4846 Pirates Road.
- Replacement of the Schooner WWTP laboratory oven and vacuum pump.
- Repair two backflow protection devices at the Schooner WWTP.
- Replace Schooner WWTP influent sewage grinder (comminutor) electric motor.
- Grounds maintenance (tree pruning and removal) at Schooner and Cannon WWTP by tree service contractor.

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Table 1: Operating Permit Regulatory Non-compliance reporting for January/February 2022

Facility	January/February Reports Issued	Reports YTD 2022	Total Reports 2021	Cause
Schooner WWTP	4	4	24	Environmental Incidence Reports are issued typically as a result of: 1. Facility power outage causing loss of UV disinfection resulting in exceedance of fecal coliform (FC) regulatory requirements (permit <200 cfu/100ml). 2. Exceedance of permitted daily maximum flows (< 640m3/day). Flow exceedances are due to excessive collection system inflow and infiltration (I&I). 3. Exceedance of permitted total suspended solids (TSS) (<45mg/l). This is type of exceedance is the result of high I&I.
Schooner Pump Station	0	0	2	Typically, these are overflow events into the marine environment (Boat Nook) due to extended power failures in the area. There is no standby power at the facility.
Cannon WWTP	4	4	52	Exceeding maximum daily flows due to storm water entering through I&I.

RECOMMENDATION

That the Magic Lake Estates Water and Sewer Committee receives this report for information.

Submitted by:	Joseph Marr, P. Eng., Acting Senior Manager, Infrastructure Engineering
Submitted by:	Matt McCrank, M.Sc., P.Eng, Senior Manager, Wastewater Infrastructure Operations
Concurrence:	Ted Robbins, B.Sc., C.Tech., General Manager, Integrated Water Services