



Making a difference...together

MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE
 Notice of Meeting on **Tuesday, January 10, 2023 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.

P. Brent (Electoral Area Director)
 A. Cyr
 J. Deschenes

M. FossI
 W. Foster

D. Reed
 R. Sullivan

AGENDA

1. ELECTION OF CHAIR

*(Pursuant to Section 5 Bylaw No. 2339)
 Election conducted by Acting Senior Manager, Integrated Water Services*

2. ELECTION OF VICE CHAIR

Election conducted by the Chair

3. APPROVAL OF AGENDA

4. ADOPTION OF MINUTES3

Recommendation: That the minutes of the November 29, 2022 meeting be adopted.

5. CHAIR'S REMARKS

6. PRESENTATIONS/DELEGATIONS

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.

7. SENIOR MANAGER'S REPORT

8. COMMITTEE BUSINESS

8.1. Project and Operations Update7

Recommendation: There is no recommendation. This report is for information only.

*To ensure quorum, advise **Mikayla Risvold** mrivold@crd.bc.ca if you cannot attend.*

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9. CORRESPONDENCE

10. NEW BUSINESS

11. ADJOURNMENT

Next Meeting: Tuesday, February 14, 2023



Making a difference...together

MINUTES OF A MEETING OF THE Magic Lake Estates Water and Sewer Committee, held Tuesday, November 29, 2022 at 9:30 a.m., In the Goldstream Meeting Room, 479 Island Highway, Victoria, BC

PRESENT: Committee Members: M. Fossil (Chair); J. Deschenes (Vice Chair); P. Brent (Electoral Area Director) (EP); W. Foster (EP); D. Reed (EP); R. Sullivan (EP)

Staff: I. Jesney, Acting General Manager, Integrated Water Services; J. Marr, Acting Senior Manager, Infrastructure Engineering; J. Dales, Acting Senior Manager, Wastewater Infrastructure Operations; L. Xu, Manager, Finance Services; J. Kelly, Manager, Capital Projects; D. Robson, Manager, Saanich Peninsula and Gulf Islands Operations; Martina Bona, Project Engineer, Wastewater Engineering and Planning; M. Risvold, Committee and Administrative Clerk (recorder)

REGRETS: K. Heslop

EP = Electronic Participation

The meeting was called to order at 9:31 a.m.

1. APPROVAL OF AGENDA

Item 6.1 was moved to Item 6.2.

MOVED by P. Brent, **SECONDED** by W. Foster,
That the agenda be approved as amended.

CARRIED

2. ADOPTION OF MINUTES

MOVED by W. Foster, **SECONDED** by J. Deschenes,
That the minutes of the September 13, 2022 meeting be adopted.

CARRIED

3. CHAIR'S REMARKS

The Chair thanked everyone for attending the meeting.

4. PRESENTATIONS/DELEGATIONS

There were none.

5. SENIOR MANAGER'S REPORT

I. Jesney introduced staff in the room and advised he is now the Acting General Manager, Integrated Water Services and J. Marr is the Acting Senior Manager, Infrastructure Engineering. J. Marr is the primary contact for the Committee effective immediately.

6. COMMITTEE BUSINESS

6.1. Magic Lake Estates Communication Upgrades

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M. Bona presented the report.

Staff responded to a question from the Committee regarding the recommended technology. Staff advised other technologies such as Starlink were not considered because Orbit Technology is the Capital Regional District (CRD) standard and is used internally with operations.

MOVED by D. Reed, **SECONDED** by J. Deschenes,
That the Magic Lake Estates Water and Sewer Committee recommends the Electoral Areas Committee recommends to the Capital Regional District Board:

That the provisionally approved Magic Lake Estates Water Service 2023-2027 Capital Plan and Budget be amended to include a new Capital Project for 2023 to complete communication improvements at all Magic Lake Estates Water sites with a budget of \$90,000 to be funded from the Water Service Capital Reserve Fund.

CARRIED

Staff advised the project is expected to be substantially completed by the end of 2023.

6.2. 2023 Operating and Capital Budget

J. Dales and J. Marr presented the report.

MOVED by J. Deschenes, **SECONDED** by P. Brent,
That the Magic Lake Estates Water and Sewer Committee:

1. Approve the 2023 operating and capital budget for the:
 - (a) Magic Lake Estates Water System Local Service as presented and that the 2022 actual operating deficit be balanced on the 2022 Reserve Funds transfer (CRF and/or ORF); and
 - (b) Magic Lake Estates Sewerage System Local Service as presented and that the 2022 actual operating surplus or deficit be balanced on the 2022 Reserve Funds transfer (CRF and/or ORF); and
 - (c) Magic Lake Estates Water Service 2023-2027 Capital Plan and Budget be amended to include a new Capital Project for 2023 to complete communication improvements at all Magic Lake Estates Water sites with a budget of \$90,000 to be funded from the Water Service Capital Reserve Fund.
2. Recommends that the Electoral Areas Committee recommend that the CRD Board approve the 2023 Operating and Capital Budget and the five-year Financial Plan for the Magic Lake Estates Water and Sewer Services as amended.

CARRIED

Opposed: Sullivan

Discussion ensued regarding:

- Taxable folios
- Single Family Equivalents (SFE's)
- Increasing user charges

Staff advised the water consumption rate is a minimal percentage of the whole revenue stream. The rate was set to influence behavior regarding water consumption, and revenue is increased through parcel tax and user charges.

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The system requires an amount of certainty on the revenue side, fixed user charge and fixed user tax to support the service delivery. In order to change the rate, analysis is required to make an informed decision. A more fulsome discussion would be required to increase the rates.

Staff noted the Local Service Area Water Conservation Bylaw will be available for Committee review in 2023.

6.3. Project and Operations Update

Staff provided the project and operational updates.

Staff responded to questions from the Committee regarding:

- Algae bloom
- Risks regarding the environmental impact assessment
- Pump Station and Treatment Plant Upgrades permitting cost

Staff advised the water quality department recorded that the algae has subsided in Buck Lake and Magic Lake. There are no major concerns at this time regarding the environmental impact assessment, and that it is required due to expanding the wastewater treatment plant facility. The cost to obtain the permit is an estimate and includes the potential cost for remediation.

7. CORRESPONDENCE

7.1. Magic Lake Estates Water and Sewer Committee Response: Dog Park Proposal for Ketch Road

Received for information.

8. NEW BUSINESS

8.1. Raising the water level at Magic Lake

The Chair advised a proposal was made at a Magic Lake Property Owners Association meeting in October to approach the Magic Lake Estates Water and Sewer Committee to request to raise the water level of Magic Lake to improve the water quality. Staff advised there would be implications to the dams and dam safety which would be dealt with by the Dam Safety Officer through the Province. Staff advised the most effective option for storage would be to dredge Magic Lake of the weeds and silt.

MOVED by R. Sullivan, **SECONDED** by M. Fossil,
That the Magic Lake Estates Water and Sewer Committee form a working group to study the storage concerns of Magic Lake.

CARRIED

Staff advised a working group is not part of the Committee bylaw and there is no formal structure for working groups.

8.2. Disposition of property above Buck Lake

Staff responded to questions from the Committee regarding disposition of a property above Buck Lake and staff advised the property is generally covered by zoning. If a request was received to change the zoning, the CRD would receive a referral and feedback would be provided based on what is proposed.

8.3. Adjusting the water rate and parcel tax

Discussion ensued regarding:

- Increasing user fees
- Processes to be followed
- Rebates

Staff advised usage can be reviewed and statistics can be provided back to the Committee. Rebates are not found to be effective as industry standards have changed.

MOVED by D. Reed **SECONDED** by J. Deschenes,
The Magic Lake Estates Water and Sewer Committee directs staff to provide the Committee with water usage statistics for the previous year.

CARRIED

8.4. Water treatment sludge

Staff responded to questions from the Committee regarding the disposal of the water treatment sludge. Staff advised the Dissolved Air Flotation (DAF) residuals and sewage generated are disposed of into the sewer collection system at the Magic Lake Estates Water Treatment Plant. It is discharged to Schooner for further treatment and disposed of off island with the solids. The water treatment plant pays a fee to sewer side for the disposal of the material.

9. ADJOURNMENT

MOVED by D. Reed, **SECONDED** by W. Foster,
That the November 29, 2022 meeting be adjourned at 11:05 a.m.

CARRIED

CHAIR

SECRETARY



REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE MEETING OF TUESDAY, JANUARY 10, 2023

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 December 31, 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 1,036 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 Section.

CAPITAL PROJECT UPDATE

Magic Lake Estates Water

23-03 | SCADA and Radio Communication Upgrades

Project Description: Replace SCADA Communication infrastructure with modern radio system based on Radio Pathway Study completed under wastewater capital project 21-01.

Project Rationale: Upgrade communication equipment at water facilities as part of the wastewater upgrades (under Project 21-01) to make the entire system more secure and reliable.

Project Update and Milestones:

- Preliminary Design was completed in November 2022 for capital project 21-01 and it was recommended to upgrade the water SCADA infrastructure as well for consistency and reliability. Thus, a new capital project was approved by the committee and board.
- Detailed design is being finalized for inclusion in the construction tender for Project 21-01.

Milestone	Completion Date
Detailed Design	January 18, 2023
Tender	February 21, 2023
Construction	November 30, 2023
Commissioning (Substantial Completion)	December 31, 2023
Warranty	December 31, 2025

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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.
- Design was completed.
- Tendering closed on June 29, 2022 but no bids were received.
- CRD had discussions with potential bidders who may be interested in providing quotations for this scope, only PIM was interested in bidding.
- Recommendation to Award to Pacific Industrial Marine (PIM) was signed off on November 4, 2022.
- Contract documents are currently being finalized prior to signatures and the stipulated Substantial Completion date is September 30, 2023.

Milestone	Completion Date
Consultant retained	November 12, 2021
Draft conceptual design report received	December 6, 2021
Design submitted to Front Counter BC for notification	April 21, 2022
Original Tender Closing (no bids)	June 29, 2022
Subsequent bid and Recommendation to Award to PIM	November 4, 2022
Substantial Completion (Anticipated)	September 30, 2023

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 November 26, 2020 staff report outlines the detailed expenditure plan for 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. This was reviewed during the 2022 annual inspection and a scope for warning signage is being proposed to be installed in 2023.
- 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. A draft report was submitted on July 14, 2022 and CRD has returned comments. Final report and recommendations are expected in the first quarter (Q1) of 2023.
- 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 being completed in January 2023.

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Milestone	Completion Date
Consultant retained to conduct dam breach analysis	December 20, 2021
Draft Dam Breach Analysis Complete and Comments returned	July 14, 2022

22-01 | Failed Valve Replacement

Project Description: Replace six failed water main valves.

Project Rationale: Through annual operations of the water system, three valves have been identified as having failed. Funding is required to replace these valves at Capstan Crescent, Schooner Way and Privateers, Rum Road, Schooner Way and Ketch Road, Bosun Way, and 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 has completed three of the six valve locations and determined two of the sites no longer require replacement due to increased corrective maintenance. The remaining valves will be replaced in early 2023.

22-02 | EV Charging Station

Project Description: Construct a new Electric Vehicle (EV) Charging Station at the Water Treatment Plant.

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 Service.

Project Update and Milestones:

- Project delivery is currently being planned with CRD Facilities and Operations.
- This project is now anticipated to be delivered in late 2023 to align with anticipated delivery time of electric vehicles.

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

OPERATIONAL UPDATE

This is an operational update report for November to December 2022.

- Water Treatment Plant:
 - Train 2 Dissolved Air Filtration (DAF) skimmer chain replacement.
 - Train 2 Ultraviolet (UV) system corrective maintenance.
 - Backwash pump corrective maintenance.
 - Emergency response due to extended freezing weather event. The exposed pipe to Captains Reservoir froze.
- Completion of the fire hydrant annual preventative maintenance program.

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- Service line/watermain leak repairs:
 - Schooner Road
 - Pirates Road
 - Mate Road
- Buck Lake and Magic Lake water level staff gauge replacement.
- Bosun Booster water pump station corrective maintenance

Magic Lake Estates Sewer Utility

20-01 | Wastewater Improvements – Sewer Replacement

Project Description:

1. Replace about three kilometers (km) 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 three years from 2021-2023).

Project Update and Milestones:

- No further updates are required until the next phase of sewer replacement work commences which will be after the pump station and treatment plant tender is closed which will determine the remaining funds left from the \$6 million loan. See September 13, 2022 Progress Report for reference on estimated funds that could be available depending on tender results.

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:

- McElhanney has completed the detailed design drawings and technical specifications and the construction tender is planned to be issued on January 18, 2023.
- The pre-purchase tenders for the Gensets, Screen, Membranes, Blowers and Diffusers have closed and the lowest tenders for each of those items are noted in the following table.

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Item	Vendor	Tender Amount (plus GST)
Gensets	Total Power Ltd.	\$151,200
Screen	Claro	\$356,909
Membranes	EcoFluid	\$449,082
Blowers	Aerzon Canada Inc	\$104,432
Diffusers	Environmental Dynamics Int.	\$54,367
TOTAL		\$1,115,990

- All planned pre-purchased equipment procurements are now complete and the total cost has exceeded the budget estimate by about 11% which is within the anticipated accuracy for a Class B cost estimate (+/- 15% to 25%). The additional cost can be funded from the project contingency allowance. The financial status of both projects (20-01 and 21-01) is summarized in the following table: Refer to the September 13, 2022 Progress Report for comparison.

Task	Budget	Actual and Committed Cost To Date	Remaining Cost To Complete	Variance
20-01 Pipe Replacement (Phase 1)	\$3,693,916	\$2,363,357	\$280,000 <i>Note 1</i>	\$1,050,559
21-01 WWTP and Pump Station (Phase 2/3)	\$7,709,350	\$1,949,150	\$6,810,759	(\$1,050,559)
<i>Construction</i>	\$5,350,000	\$1,115,990	\$5,799,010	(\$1,565,000)
<i>Implementation</i>	\$ 200,000	\$2,343	\$197,657	\$0
<i>Design and Inspection</i>	\$ 900,000	\$830,817	\$0	\$69,183
<i>Contingency</i>	\$1,259,350	\$0	\$814,092 <i>Note 2</i>	\$445,258
Project Management	\$250,000	\$83,986	\$166,014	\$0
Total (both projects)	\$11,653,266	\$4,396,493	\$7,256,773	\$0

- Remaining cost to complete is shown as \$280,000 to portray a scenario where some pipe replacement funds (variance) are allocated to Phase 2/3
- Contingency lowered to cover actual equipment costs to date (about 15% remains for construction)

- As part of the permitting process with the Ministry of Environment, staff were informed that the Schooner WWTP site is considered a wetland and the CRD is required to prepare an Environmental Impact Assessment and obtain approval from the Ministry prior to disturbing the land. This was not anticipated in the original project scope and could cost in the order of \$30-40,000 to complete which will be funded from the project contingency allowance. The application under the *Water Sustainability Act* will be submitted in mid-January 2023 and it is expected to take up to two months for approval.
- Overall, the project schedule has slipped a bit, but the project is still anticipated to be substantially complete by the end of 2023 depending on the contractor's schedule.

Milestone	Completion Date
Preliminary Design (30%)	August 31, 2022
Detailed Design (80%)	November 15, 2022
Tender Period	January 18 – February 21, 2023
Construction (Substantial Completion)	December 31, 2023
Warranty Period	December 31, 2025

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OPERATIONAL UPDATE

This is an operational update report for November to December 2022.

- Schooner WWTP corrective maintenance in the headworks grinder/macerator.
- Prepaid water sewer connection for Cutlass Court.

Table 1: Operating Permit Regulatory Non-compliance reporting for November to December 2022

Facility	October Reports Issued	Reports YTD 2022	Total Reports 2021	Cause
Schooner WWTP	8	19	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 (< 640m ³ /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	6	12	52	Exceeding maximum daily flows due to storm water entering through I&I. However other non-compliances can be <ul style="list-style-type: none"> • Permit exceedance: total suspended solids (TSS) (<60mg/l) and carbonaceous biochemical oxygen demand (CBOD) (<45mg/l) • Toxicity testing

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Jared Kelly, P.Eng., Manager, Capital Projects
Submitted by:	Malcolm Cowley, P.Eng., Manager, Wastewater Engineering and Planning
Submitted by:	Dan Robson, A.Sc.T., Manager, Saanich Peninsula and Gulf Islands Operations
Concurrence:	Joseph Marr, P.Eng., Acting Senior Manager, Infrastructure Engineering
Concurrence:	Jason Dales, B.Sc., WD IV., Senior Manager, Wastewater Infrastructure Operations
Concurrence:	Ian Jesney, P.Eng., Acting General Manager, Integrated Water Services