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**MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE**  
Notice of Meeting on **Tuesday, November 8, 2016 at 9:30 am**  
Main Conference Room, 479 Island Highway, Victoria, BC

Jim. Petrie (Chair)  
Director Dave Howe

David Reed  
Courtenay Rodash

Kathy Heslop  
Alex Wilson

Joe Gill

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**AGENDA**

1. Approval of Agenda
2. Adoption of Minutes of September 20, 2016
3. Wastewater Infrastructure Projects – Phase 1 Update (information report)
4. Water and Wastewater Operations Report – September/  
October 2016 (information report)
5. 2017 Operating and Capital Budgets (staff report)
6. Review of Action List
  - No current Task/Actions
7. Correspondence
  - No correspondence
8. New Business
9. Motion to Close the Meeting  
That the Magic Lake Estates Water and Sewer Committee close the meeting in  
accordance with the *Community Charter, Part 4, Division 3, 90(1)(g) litigation or potential  
litigation affecting the municipality.*
10. Adjournment

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*To ensure quorum, advise Lorrie Siemens 250.360.3087 or [lsiemens@crd.bc.ca](mailto:lsiemens@crd.bc.ca) if you cannot attend.*



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**Minutes of a Meeting of the Magic Lake Estates Water and Sewer Committee  
Held Tuesday, September 20, 2016 in the Goldstream Conference Room, 479 Island  
Highway, Victoria, BC**

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**PRESENT:** **Committee Members:** J. Petrie (Chair), A. Wilson, K. Heslop, J. Gill, CRD Southern Gulf Islands Director, D. Howe  
**Guest:** Dave Reed  
**Staff:** I. Jesney, Senior Manager, Infrastructure Engineering, M. McCrank, Senior Manager, Infrastructure Operations, M. Cowley, Manager, Wastewater Engineering and Planning, S. Mason, Manager, Water Engineering and Planning, P. Dayton, Senior Financial Analyst, D. Robson, Manager, Saanich Peninsula and Gulf Islands Operations, L. Siemens (recorder)

**ABSENT:** M. Steel, C. Rodash

The meeting was called to order at 9:30 a.m.

**1. Approval of Agenda**

**MOVED** by A. Wilson, **SECONDED** by K. Heslop,  
That the agenda be approved as distributed.

**CARRIED**

**2. Adoption of Minutes of June 14, 2016**

**MOVED** by J. Gill, **SECONDED** by K. Heslop,  
That the minutes of June 14, 2016 be adopted as distributed.

**CARRIED**

**3. Wastewater Infrastructure Projects – Phase 1 Update**

M. Cowley presented a written report.

**MOVED** by A. Wilson, **SECONDED** by Director Howe,  
That the Magic Lake Estates Water and Sewer Committee accept the report for information and approve up to \$4,000 from the Chart Drive replacement capital project to complete the crown grant acquisition of Lot 64.

**CARRIED**

**4. Water and Wastewater Operations Report – July/August, 2016**

D. Robson presented a written report.

**MOVED** by A. Wilson, **SECONDED** by J. Gill,  
That the Magic Lake Estates Water and Sewer Committee receive the report for information.

**CARRIED**

**5. 2017 Operating and Capital Budgets**

**MOVED** by A. Wilson, **SECONDED** by J. Gill,  
That the Magic Lake Estates Water and Sewer Committee be presented with the written report and receive it for information.

**CARRIED**

M. Cowley presented the written report.

**6. Schooner Wastewater Treatment Plant – Request for Expression of Interest to Pilot Treatment Technologies**

M. Cowley presented a written report.

**MOVED** by K. Heslop, **SECONDED** by A. Wilson,  
That the Magic Lake Estates Water and Sewer Committee accept the report for information; and direct staff to cancel RFEI No. 2016-156 – Pilot Testing of Wastewater Treatment Technologies for a Small System at Schooner WWTP.

**CARRIED**

**7. Review of Action List**

There were no outstanding actions from previous meetings.

**8. Correspondence**

Staff presented a letter from Jerry Folk. The committee directed staff to respond to Mr. Folk indicating that he cannot connect to the water system flush pipe.

**9. New Business**

Staff advised that Stage 2 water restrictions are currently being assessed for the Southern Gulf Islands and communications will be sent out shortly.

**10. Adjournment**

**MOVED** by J. Gill, **SECONDED** by A. Wilson,  
That the meeting be adjourned at 11:50 am.

**CARRIED**



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**REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE  
MEETING OF TUESDAY, NOVEMBER 8, 2016**

**SUBJECT     WASTEWATER INFRASTRUCTURE PROJECTS – PHASE 1 UPDATE**

**ISSUE**

To provide an update to the Magic Lake Estates Water and Sewer Committee on the Phase 1 wastewater projects.

**BACKGROUND**

At the October 13, 2015 committee meeting, the committee directed staff to proceed with an Alternative Approval Process to borrow up to \$1.53 million to undertake a number of wastewater infrastructure projects identified as Phase 1. The Phase 1 projects include: replacement of the Chart Drive septic system, replacement of sewer pipe along Buck Lake and Privateers Road, commence with an inflow and infiltration reduction program, and complete a condition assessment of the Schooner wastewater treatment tanks. Phases 2 and 3 of the wastewater renewal program are scheduled over many years in the near future and include: annual pipe replacement, pump stations renewal, and wastewater treatment plant upgrades.

**REPORT**

Since the September 20, 2016 committee meeting, the contractor substantially completed the work on the Chart Drive contract, but upon inspection it was confirmed that the outlet pipe was installed incorrectly, the inlet pipe was still leaking groundwater into the tank and surface water coming off the back of the slope was entering into the electrical shed floor. Therefore, the contractor was requested to address these deficiencies prior to commissioning the pump station. These deficiencies have now been completed and the pump station is scheduled to be commissioned on November 10, 2016.

The financial status of the Chart Drive project is as follows:

<b>Task</b>	<b>Budget</b>	<b>Actual Cost to Date</b>	<b>Cost to Complete</b>	<b>Variance</b>
Engineering and Administration	\$150,000	\$146,431	\$3,569	\$0
Construction Contract	\$540,000	\$374,441	\$155,000	(\$10,559)
Construction Services	\$70,000	\$44,209	\$20,000	(\$5,791)
Project Contingency	\$50,000	\$9,582	\$5,000	(\$35,418)
<b>Total Project</b>	<b>\$810,000</b>	<b>\$574,663</b>	<b>\$183,569</b>	<b>(\$51,768)</b>

As can be seen in the above table, this project is expected to be completed within budget.

Project Plans for the other three Phase 1 projects are being prepared, and the tentative scope, Schedule and budget for those projects are noted as follows:

### **Sewer Pipe Replacement along Buck Lake and Privateers Road**

Scope: The existing 325 metre and 112 metre lengths of 150 mm diameter asbestos cement pipe that run alongside Buck Lake and on Privateers Road are undersized and need to be replaced with larger pipe to increase their capacity. To minimize impacts to residents and Buck Lake, it is proposed to pipe burst the existing AC pipe with a 200mm HDPE pipe. Pipe bursting is a trenchless technology, where a bursting tool is pulled through the existing sewer by a winch or rod located at the upstream manhole and forces its way through pipe compressing fragmented pieces into the soil as it progresses while pulling the new welded pipe in behind. Once the new pipe is pulled into place, small local excavations are made to complete the individual house connections to the new pipe. Survey work to commence with the design is proposed to start before the end of this year and notifications will be sent to residents to inform them of this upcoming work.

Schedule: The design should be complete by spring 2017, with construction tendering to follow, and construction starting in the summer of 2017. The entire project is expected to be completed by the end of 2017.

Budget: The budget for this project as approved in the 2016 Capital Plan is \$628,000.

### **Inflow & Infiltration (I&I) Reduction Program**

Scope: This project involves reviewing previous I&I work to confirm what has been completed to date and what still needs to be completed as part of this program phase. Generally, the scope will include flow monitoring to measure how much groundwater is leaking into the system, CCTV inspection of sewer pipe to verify where defects are located, visual inspection of manholes to verify their condition, completing repairs on some the worst defects, and prioritizing future repairs. Additional flow monitoring is required on the areas where upgrades have been completed in order to quantify if there has been any I&I reduction.

Schedule: Some review and flow monitoring work could commence this winter, a CCTV contract could be issued by spring, spot repairs completed over the summer, and flow monitoring again over the winter 2017/spring 2018, with a final report prepared by Q3 2018.

Budget: The budget for this project as approved in the 2016 Capital Plan is \$217,000.

### **Schooner Tank Assessment**

Scope: This project involves retaining a consultant and materials testing firm to inspect the steel aeration and clarifier tanks to determine their condition and remaining life. The aeration tank will require its sides to be excavated and exposed to allow for testing where below grade. If the tanks do have at least 15-20 years of remaining life, then they can be re-used as part of the future treatment plant upgrade which will significantly save on future upgrade costs for Schooner WWTP. A report will be prepared documenting the condition of the tanks and estimate on their remaining service life.

Schedule: A consultant will be retained in the first quarter of 2017 and a final report should be complete by the end Q2 2017.

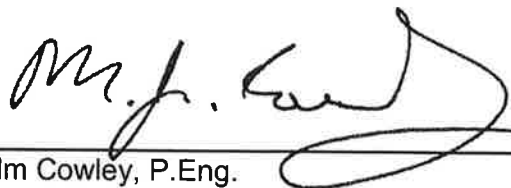
Budget: The budget for this project as approved in the 2016 Capital Plan is \$20,000.

**RECOMMENDATION**

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



\_\_\_\_\_  
Dale Puskas, P.Eng.  
Project Engineer  
Infrastructure Engineering  
Integrated Water Services



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Malcolm Cowley, P.Eng.  
Manager, Wastewater Engineering & Planning  
Integrated Water Services  
Concurrence



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Ian Jesney, P.Eng.  
Sr. Manager, Infrastructure Engineering  
Integrated Water Services  
Concurrence



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Ted Robbins, B.Sc., C.Tech.  
General Manager, Integrated Water Services  
Concurrence

DP/MC:ls



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**REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE  
MEETING OF TUESDAY, NOVEMBER 8, 2016**

**SUBJECT: WATER AND WASTEWATER OPERATIONS REPORT – SEPTEMBER-OCTOBER 2016**

**PURPOSE**

The purpose of this report is to provide the Magic Lake Estates Water and Sewer Committee general information regarding significant operational activities carried out for the water and wastewater service.

**BACKGROUND**

Daily operations and maintenance for the Magic Lake Estates water and wastewater systems is performed by Capital Regional District (CRD) on-island operations staff. Additional operational support is also provided by CRD Saanich Peninsula operations staff as well as CRD Core Area electrical and mechanical maintenance staff when required.

**REPORT**

During the months of September and October 2016, staff attended to the regular operational and maintenance activities for the water and wastewater service. The activities listed below are intended to capture significant regular maintenance undertakings, capital project activities and unplanned emergency events.

Table 1: Wastewater Service Activities

<b>TASK</b>	<b>DATE</b>	<b>NOTES</b>
Assistance with the Chart Drive Pump Station capital project	Sept/Oct 2016	Operations staff provided support as required with the capital project.
Emergency response to Schooner Wastewater Treatment Plant	Sept/Oct 2016	Several emergency response calls due to ragging of pumps at the Schooner wastewater treatment plant during this period.
Schooner Wastewater Treatment Plant air handling equipment repair	Sept 22, 2016	Electronic analogue process card that controls the air blower equipment failed and required replacement.
Cannon Wastewater Treatment Plant non-compliance reporting	Oct 12, 14, 15, 16, 20, 21, 22, 23, 24 2016	Wastewater treatment plant regulatory daily flow exceedances requiring operational reporting response.
Marine environmental monitoring	Oct 28, 2016	As a result of more than three consecutive days of daily flow exceedances at Cannon Wastewater Treatment Plant, marine environmental monitoring was required. Results reported on November 1 indicate < 3 enterococci CFU/100 mL or Non-detect (recreational limit is 70 enterococci CFU/100 mL).

TASK	DATE	NOTES
Chart Drive septage hauling and disposal	Ongoing	Ongoing operations to haul and dispose of Chart Drive septage. Approximately 7 hours per week of staff time being expended.

Table 2: Water Service Activities

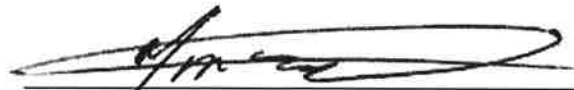
TASK	DATE	NOTES
Facility safety improvements	Sept 19, 2016	Access hatches for abandoned underground vaults were secured properly out of concern for public safety.
Water service connection installation	Oct 14, 2016	2614 Gunwhale Road property was connected to the water system. The work is fully funded by the property owner.
Buck Lake algae raw water sampling	Oct 19, 2016	Algae that has the potential to produce cyanotoxins was found to be present in the Buck Lake raw water source. Additional water sampling and analysis was conducted, as a precaution, to ensure the treated water remains safe.
Emergency response due to power failures	October 2016	During the month of October significant operational effort involved responding to emergencies at various facilities as a result of a major storm event(s) during this period.
Leak repair micro flush station	Oct 20, 2016	The micro flush station at the end of Cannon Crescent was report to be leaking; repairs were performed immediately.

**RECOMMENDATION**

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



Dan Robson, AScT  
 Manager, Saanich Peninsula and Gulf Islands Operations



Matt McCrank, MSc., P.Eng.  
 Senior Manager, Infrastructure Operations  
 Concurrence



Ted Robbins, B.Sc., C.Tech.  
 General Manager, Integrated Water Services  
 Concurrence

DR:ls





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**REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE  
MEETING OF TUESDAY, NOVEMBER 8, 2016**

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**SUBJECT 2017 OPERATING AND CAPITAL BUDGETS**

**ISSUE**

In accordance with Bylaw No. 2339, this report provides a synopsis of the 2017 draft operating and capital budget, highlighting significant proposed changes related to operational expenditures, debt charges, capital expenditures and revenue for the Magic Lake Estates Water and Sewer local service.

**BACKGROUND**

There are three individual service budgets that are presented in this report which are under the jurisdiction of the Magic Lake Estates Water and Sewer Committee including the following:

1. Water Local Service – pertains to the operation and capital plan for the entire water service area.
2. Water (2) Local Service – was created for the sole purpose of recovering debt costs for a specific water main replacement project that was completed in 2003.
3. Sewer Local Service – pertains to the operation and capital plan for the sewer service area.

**WATER LOCAL SERVICE**

**2016 Estimated Actual Revenue and Expense**

The estimated actual operating expense is projected to be \$700 under budget at year end as a result of:

- Lower than budgeted expenditures for:
  - repairs and maintenance
  - electricity
  - supplies
  - other operating expenses
- Higher than budgeted expenditures for:
  - allocations
  - operating labour charges
- Unspent contingency.

The estimated actual operating revenue is projected to be \$3,110 less than budget as a result of lower than expected water sale revenue which was partially offset by sales of equipment.

The transfer to capital reserves is proposed to be decreased by \$2,410 in order to balance the year-end budget.

2017 Operating Expense

A net decrease in the 2017 operating expenses of \$6,620 (-1.2%) is proposed.

This is primarily a result of decreases in:

- Labour charges: \$24,640
  - The labour charge out rate in previous budgets included overhead charges related to vehicles. Vehicle overhead costs are now removed from the labour charge out rate and is now tracked separately as a “vehicle allocation” (\$18,020).
- Contingency: \$10,000
  - Now that a maintenance reserve has been established for the service, the contingency can be lowered as the maintenance reserves can also help support unplanned operational expenses.

And increases in:

- Repairs and maintenance expenditures: \$1,350
- Allocations: \$18,370 – two of the largest differences that result in this increase are highlighted in the following two bullets:
  - Overhead charges related to vehicles were previously accounted for in the labour charge out rate. Vehicle costs are now removed from the labour rate and are now tracked and charged under a vehicle allocation (\$18,020)
  - An allocation for Southern Gulf Islands Administration is included in the budget. (\$1,200)
- Water testing: \$260
- Electricity: \$670
- Supplies: \$740
- Other operating expenses: \$430

2017 Debt/Reserves

**Maintenance Reserve:**

Maintenance reserves are used for the purchase equipment and supplies that are typically not replaced annually such as filter media, ultraviolet lamps and sensors and significant maintenance activities, such as raw water intake inspections and unforeseen operational repairs/expenses. It is proposed that transfers to the maintenance reserves of \$15,000 remain at 2016 amount. The maintenance reserve balance at the end of 2016 is projected to be \$60,000.

**Capital Reserve Fund 1024:**

The Capital Reserve Fund (CRF) is established in order to prepare for and fund anticipated future capital projects. It is proposed that the transfer to the CRF be increased from \$100,000 to \$103,970. The capital reserve fund balance at the end of 2016 is projected to be \$460,400.

**Municipal Finance Authority (MFA) Debt**

Between 2010 and 2013, \$2,560,000 was borrowed in order to fund capital projects. The interest rates on this debt are between 3.15% and 4.50%. The total cost of interest and principal payments in 2017 to service this debt will be unchanged from 2016 at \$219,650.

2017 Revenue (User Charge and Parcel Tax)

It is proposed that:

- Volumetric water rates remain at 2016 levels (these are additional consumption charges over and above the base SFE user charge fee). The rates are as follows:
  - \$0.00/m<sup>3</sup> for 0 m<sup>3</sup> - 50.0 m<sup>3</sup>
  - \$0.50/m<sup>3</sup> for >50.0 m<sup>3</sup> to 80 m<sup>3</sup>
  - \$1.00/m<sup>3</sup> for >80 m<sup>3</sup>
- User charge remain at \$285,920. This will result in a rate per SFE of \$280.31, slightly lower than 2016 because five additional SFE's have been added to the service.
- Parcel tax of \$568,990 be maintained at 2016 level, based on 1,205 taxable folios and including the 5.25% surveyors tax fee, equates to \$496.98.

Capital Plan

The following capital work is planned for 2017:

Referendum - Funding for Future Projects (\$10,000)

The 2016 planning and public engagement session for future projects to communicate the need, rationale and costs of water system improvements to the customers has been carried over into 2017 and will be completed prior to commencing with the Referendum. Public engagement will also include the need, rationale and costs of future wastewater projects, so that customers can be informed on the total infrastructure replacement options and financial implications.

Capstan Way PRV Upgrade (\$100,000)

This PRV upgrade is being combined with the Signal Hill and Schooner PRV upgrades, that were approved in 2015-16, in order to gain design and construction efficiencies and minimize costs. The existing PRV stations are badly corroded and operating with pressures as high as 135psi. Failure could be very serious, with significant loss of water.

ISOPAC Storage and Handling (\$5,000)

Isopac is the name of a liquid chemical coagulant that is used in the water treatment process to help settle out particles to make water clearer. It is shipped to the treatment plant in 45 gallon drums which then has to be maneuvered onto a storage platform using a dolly. The existing process and layout presents a health and safety concern to the operators and the potential to damage equipment is high as the drums are maneuvered. It is proposed to assess options to improve the storage and handling of the drums in 2017 and to complete upgrades in 2018 that will protect plant equipment and improve worker safety.

Capital Project Forecast 2018-2021

A five-year capital and operating budget forecast is provided for information. Future capital expenditures will have to be funded by electoral area ascent with a referendum proposed in 2017.

The following five-year capital expenditures are proposed:

Buck Lake East Dam Remediation – 2018 (\$1,000,000)

The 2013 geotechnical report identifies a sand layer in the dam that may liquefy during an earthquake, leading to possible dam failure. The scope of this project is to complete remediation of the dam.

Replace Distribution Infrastructure, Phases 2, 3, 4 and 5 – 2018 (\$425,000), 2019 (\$450,000), 2020 (\$400,000) and 2021 (\$400,000)

The 2011 Water Distribution Review prepared by AECOM (Strategic Asset Management Plan) recommended a prioritized list of water main replacements; Phase 1 was completed in 2014 as part of the water treatment plant project. The next proposed phases include the following:

- Phase 2 - 534 metres of water main replacement on Schooner Way - Privateers Road for \$425,000 in 2018.
- Phase 3 - 559 metres of water main replacement on Chart Drive - Galleon Way for \$450,000 in 2019.
- Phase 4 - 477 metres of water main replacement on Galleon Way for \$400,000 in 2020.
- Phase 5 - 487 metres of water main replacement on Jolly Roger Crescent - Cutty Sark Crescent for \$400,000 in 2021.

Design Buck Lake and Magic Lake Adjustable Intakes – 2021 (\$25,000)

As directed by the committee, the 2015 Magic Lake Adjustable Intake project was closed and a new project was to be included in the capital plan process to replace both Magic Lake and Buck Lake intakes at the same time (when Buck Lake intake has reached the end of its life in 2021). This item is to complete the design of both intakes and complete a detailed construction cost estimate. The construction of the new intakes will occur in a subsequent year (2022).

**WATER (2) LOCAL SERVICE**

This service exists for the sole purpose of recovering debt costs for a water main replacement project completed in 2003. Once the debt is paid off in 2017, this service will cease to exist.

2016 Estimated Actual Revenue and Expense

The estimated actual operating expense is projected to be \$390 over budget as a result of higher than budgeted internal interest expense.

The estimated actual operating revenue is projected to be \$500 over budget due to higher than budgeted interest income.

This results in a projected year-end surplus of \$110. It is proposed to carry forward the year-end surplus as revenue in 2017.

2017 Operating Expense

An increase in the 2017 operating expense of \$250 is proposed to budget adequately for interest expense.

2017 Debt/Reserves

Municipal Finance Authority (MFA) Debt

In 2001, \$726,000 was borrowed and has been amortized over 15 years since that time. Therefore, it will be paid off in 2016. The remaining debt of \$1,498,900, borrowed in 2002, will be paid off in 2017. Therefore, debt servicing costs in 2017 will decrease by \$92,890 to \$78,080.

2017 Revenue (Parcel Tax)

It is proposed that:

- Parcel tax of \$160,290 be decreased to \$80,149. Based on 893 taxable folios and including the 5.25% surveyor's fee, the parcel tax per parcel equates to \$94.46 (a 50% decrease).

**SEWER LOCAL SERVICE**

2016 Estimated Actual Revenue and Expense

The estimated actual operating expense is projected to be \$69,750 over budget as a result of:

- Higher than budgeted expenditures for:
  - Sludge hauling
  - Grit & waste sludge disposal
  - Allocations
  - Supplies
  - Labour charges
- Lower than budgeted expenditures for:
  - Repairs and maintenance
  - Electricity
  - Other operating costs
  - Unspent contingency

The estimated actual operating revenue is projected to be equal to the budgeted amount.

This results in a deficit of \$69,750, however when adjusted for lower than anticipated MFA debt servicing expenses of \$35,640 and lower anticipated debt reserve fund payment of \$7,850 the projected deficit is \$26,260.

In order to balance the year-end costs so that no deficit is carried forward to 2017, it is proposed that the 2016 transfer to the Capital Reserve Fund be reduced by \$26,260.

2017 Operating Expense

An increase in the 2017 operating expense of \$22,080 (5.2%) is proposed.

This is the result of increases in:

- Sludge hauling: \$12,900
- Grit & waste disposal: \$12,600
- Repairs and maintenance: \$1,730

- Allocations: \$16,220 – two of the largest differences that result in this increase are highlighted in the following two bullets:
  - Overhead charges related to vehicles were previously accounted for in the labour charge out rate. Vehicle costs are now removed from the labour rate and are now tracked and charged under a vehicle allocation (\$13,700)
  - An allocation for Southern Gulf Islands Administration is included in the budget. (\$1,200)
- Electricity: \$830
- Supplies: \$210
- Other operating expenses: \$120

And decreases in:

- Labour charges: \$19,750
  - The labour charge out rate in previous budgets included overhead charges related to vehicles. Vehicle overhead costs are now removed from the labour charge out rate and is now tracked separately as a “vehicle allocation” (\$13,700).
- Contingency: \$5,000
  - Now that a maintenance reserve has been established for the service, the contingency can be lowered as the maintenance reserves can also help support unplanned operational expenses.

### 2017 Debt/Reserves

#### 2017 Maintenance Reserves:

Maintenance reserves are used for the purchase equipment and supplies that are typically not replaced annually such as ultraviolet lamps and sensors and significant maintenance activities, such as outfall inspections and unforeseen operational repairs/expenses.

It is proposed that transfers to the maintenance reserves be increased from \$5,000 to \$8,000. The increase is primarily the result of eliminating the operating contingency and to have sufficient funds to complete the outfalls inspections. The maintenance reserve balance at the end of 2016 is projected to be \$10,000.

#### 2017 Capital Reserve Fund (CRF)

In 2016, the Committee approved the expenditure of \$115,000 from the capital reserve fund to fund costs related to the Chart Drive septic field project. In addition, \$77,240 was transferred from the Equipment Replacement Fund to the CRF. Taking these transactions into account, as well as interest that will be earned and the transfer from the operating budget during 2016, the CRF balance at the end of 2016 is projected to be \$72,710. It is proposed that \$48,930 be transferred to the CRF in 2017.

#### Equipment Reserve Fund (ERF)

As noted above, all of the equipment reserve funds were transferred into the CRF in 2016 as approved by the committee. The transferring of these funds into the CRF will help finance upcoming capital projects in order to minimize parcel tax increases. The ERF balance will remain at zero as no funds are proposed to be budgeted for the ERF in the future.

### Municipal Finance Authority (MFA) Debt

Approval was obtained in April 2016 to borrow \$1,530,000 in order to fund four projects as part of the Phase 1 Wastewater Upgrades (including Chart Drive Replacement, Sewer Pipe Replacement along Buck Lake and Privateers Road, I&I Reduction Program, and Schooner WWTP Tank Assessment). \$745,000 will be borrowed in the fall of 2016 and the remaining \$785,000 will be borrowed in 2017. The estimated debt servicing costs for 2017 are \$176,320.

### 2017 Revenue (User Charge and Parcel Tax)

It is proposed that:

- User charge revenue remain unchanged at \$168,910, based on 623 SFE's, equating to \$271.12 per SFE.
- Parcel tax revenue be increased by \$173,400 to \$508,320 to fund new debt for the 2017 projects as noted below. Based on 714 taxable folios, and including the 5.25% surveyor's fee, this equates to \$749.31 per folio, an increase of \$255.61 from 2016.

### 2017 Sewer Capital Plan

The following capital work is planned for 2017:

#### Schooner WWTP Blower & Electrical Room Roof Replacement: (\$15,000)

The roof for the Schooner WWTP blower and electrical room requires replacement due to age and condition. The scope of this project is to replace the roof.

#### Phase 2 WW Renewal Projects – Public Engagement & Funding Approval: (\$25,000)

To engage the residents of Magic Lake Estates on upcoming projects, an open house will be held to discuss upcoming wastewater and water projects and the approval process required to borrow funds. The budget for this project is for staff time, presentation materials, notifications, advertisements, open house costs, and referendum costs.

#### Schooner Outfall Protection: (\$30,000)

The protective concrete cap (armour) over the outfall pipe has eroded away along the beach shoreline. The armour protects the pipe from becoming damaged by logs and rocks, etc. that wash up onto the shore, and if the pipe breaks wastewater effluent would discharge onto the beach. The budget for this project is for design, permitting/approvals, notification and construction of a new concrete cap.

### Forecast 2017-2021

A five-year capital and operating budget forecast is provided for information.

The following capital projects are proposed:

#### Schooner & Cannon Outfall Inspections – 2018 (\$17,000)

Under the Ministry of Environment's registered discharge permit, the Schooner and Cannon WWTPs outfalls are required to be inspected every 3 years. The last inspection was undertaken in the 2014. Funds from the maintenance reserve will be used to retain a consultant to conduct an inspection of the outfalls.

Annual Pipe Replacement – 2019 (\$512,000)

Much of the wastewater collection system is comprised of asbestos cement (AC) pipe ranging in age up to 50 years old. AC pipe, depending on the soil conditions, can lose structural integrity leading to inflow and infiltration. Funding is required to replace pipe that is undersized or in poor condition.

Upgrade 5 Lift Stations – 2019 (\$1,000,000)

The 2012 Stantec assessment report identified that the Masthead, Galleon, Cutlass, Capstan and Buccaneers pump stations pumps, pipes and valving were in need of replacement due to age and condition. This project is for replacement of the pumps, pipes and valving at the 5 pump stations.

Schooner Lift Station Upgrades – 2020 (\$557,000)

The Schooner Lift Station is past its serviceable life – the pumps, process piping and valves, pump lifting rails and electrical all have to be replaced. Additionally, confined space entry is required to isolate the pump station. The budget for this project is for design and the upgrades required for the Schooner Lift Station.

Replace Cannon WWTP with Pump Station and Forcemain – 2021 (\$1,826,000)

The Canon wastewater treatment plant is nearing the end of its design life and is subject to overloading during heavy rainfall events which has resulted in numerous marine discharges that have exceeded the Ministry of Environment's discharge permit. In addition, the site is fully built out and there is no more room for expanding the plant. The 2012 Stantec report recommends replacement of the treatment plant with a new pump station and forcemain that would direct the wastewater towards Schooner WWTP.

Schooner Clarifier and Aeration Tanks – 2021 (\$2,056,000)

The Schooner wastewater treatment plant is subject to overloading during heavy rainfall events, which has resulted in numerous marine discharges that have exceeded the Ministry of Environment's discharge permit. The budget for this project is for design and construction of a new clarifier and aeration tanks.

**RECOMMENDATIONS**

That the Magic Lake Estates Water and Sewer Committee recommend that the CRD Board:

**Water**

1. Approve the 2017 operating and capital budget for the Magic Lake Estates Water Service as presented;
2. Authorize the 2017 Parcel Tax of \$496.98 and User Charge of \$280.31 for the Magic Lake Estates Water Service;
3. Balance the Magic Lake Estates Water Service 2016 actual revenue and expense on the 2016 transfer to the capital reserve fund;

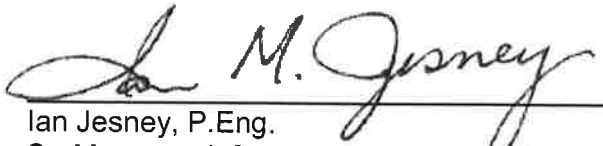


**Water (2)**

4. Approve the 2017 operating for the Magic Lake Estates Water (2) Service as presented;
5. Authorize the 2017 Parcel Tax of \$94.46 for the Magic Lake Estates Water (2) Service;
6. Balance the Magic Lake Estates Water (2) Service 2016 actual revenue and expense on the 2017 Parcel Tax;

**Sewer**

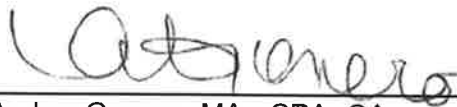
7. Approve the 2017 operating and capital budget for the Magic Lake Estates Sewer Service as presented;
8. Authorize the 2017 Parcel Tax of \$751.00 and User Charge of \$271.12 for the Magic Lake Estates Sewer Service; and
9. Balance the Magic Lake Estates Sewer Service 2016 actual revenue and expense on the 2016 transfer to the capital reserve fund.



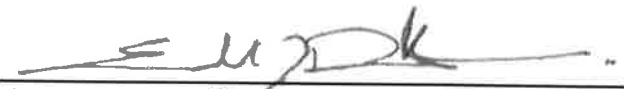
Ian Jesney, P.Eng.  
Sr. Manager, Infrastructure Engineering  
Integrated Water Services



Matthew McCrank, P.Eng.  
Sr. Manager, Infrastructure Operations  
Integrated Water Services



Amber Genero, MA., CPA, CA  
A/Manager, Financial Planning & Analysis  
Financial Services



Ted Robbins, B.Sc., C Tech.  
General Manager, Integrated Water Services  
Concurrence

DR/SM/MC/PD:ls  
Attachments: 3

# **CAPITAL REGIONAL DISTRICT**

## **2017 Budget**

### **Magic Lake Estates Water (Pender)**

#### **Committee Review**

Compiled and Presented by CRD Finance

Nov 2016

**Service:** 2.630 Magic Lake Estates Water (Pender) **Committee:** Electoral Area Services

**DEFINITION:**

LSA -1 To provide and operate water supply and distribution facilities for the Magic Lake Estates Water System. Specified Area on North Pender Island. Bylaw No. 1874 (June 11, 1991).

**PARTICIPATION:**

Local Service Area # 1 - D(764) LSA #9.

**MAXIMUM LEVY:**

Greater of \$160,000 or \$3.50 / \$1,000 of actual assessed value of land and improvements. To a maximum of \$1,151,419

**MAXIMUM CAPITAL DEBT:**

AUTHORIZED:	LA Bylaw No. 3633 (Nov 2009).	\$ 2,560,000
BORROWED:	SI Bylaw 3677 (Feb 2010).	\$ (723,000)
BORROWED:	SI Bylaw 3769 (Feb 2011).	\$ (250,000)
BORROWED:	SI Bylaw 3850 (Aug 2012).	\$ (559,500)
BORROWED:	SI Bylaw 3882 (Apr 2013).	\$ (1,002,500)
BORROWED:	SI Bylaw 3910 (July 2013).	\$ (25,000)
REMAINING AUTHORIZATION:		\$ 0

**COMMITTEE:**

Magic Lake Estates Water & Sewer Committee established by Bylaw No. 1870 (November 28, 1990).

**FUNDING:**

Any deficiencies after user charge and/or frontage tax or parcel tax to be levied on taxable school assessments.

**User Charge:**

Annual charge per single family equivalency unit connected to the system.  
The consumption charge for water will be the total volume of water metered to the water service connections, measured in cubic meters at the following rate: (BL3987 March 2015)

- Greater than 50 cubic metres - \$0.50 / cubic metre
- Greater than 80 cubic metres - \$1.00 / cubic metre

**Parcel Tax:**

LSA-1 Annual charge only on properties capable of being connected to the system.

**Turn on/Turn Off Fee:**

\$0 during normal working hours; \$25 outside of normal working hours

**Connection Charges:**

Actual Engineering and Construction costs, plus 15% Administration costs. The minimum charge is \$500 - Bylaw No. 3987 (Mar 2015)

**RESERVE FUND:**

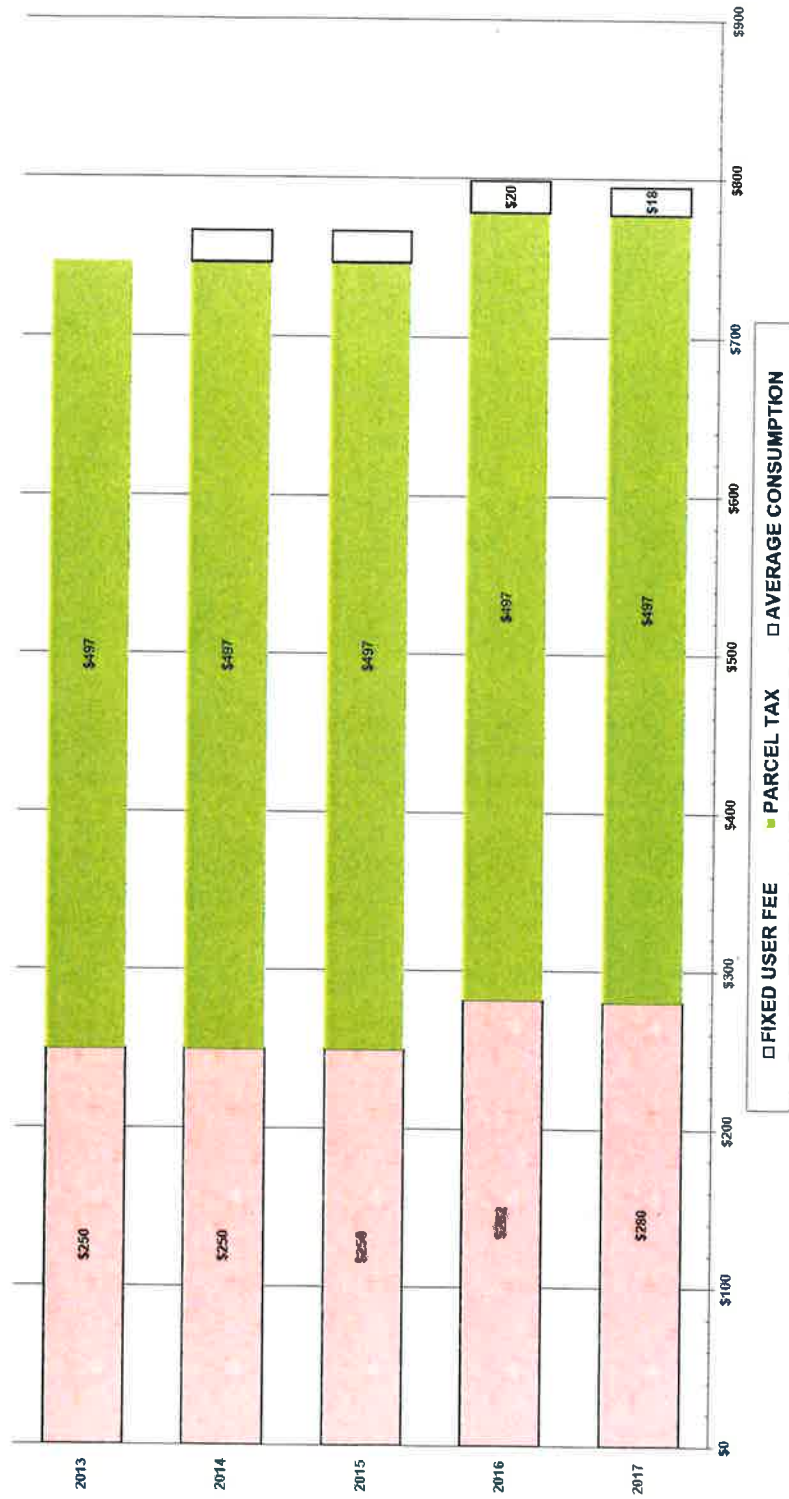
Magic Lake Estates - Water System Capital Reserve Fund. Bylaw No. 1498

	2016		BUDGET REQUEST			FUTURE PROJECTIONS				
	BOARD BUDGET	ESTIMATED ACTUAL	2017 CORE BUDGET	2017 ONGOING	2017 ONE-TIME	2017 TOTAL	2018	2019	2020	2021
<b>Magic Lake Estates Water (Pender)</b>										
<b>OPERATING COSTS:</b>										
Repairs & Maintenance	25,000	15,000	26,350	-	-	26,350	26,870	27,410	27,950	28,500
Allocations	34,490	35,290	54,060	-	-	54,060	55,120	56,220	57,350	58,500
Water Testing	17,500	17,500	17,760	-	-	17,760	18,120	18,480	18,850	19,230
Electricity	45,000	40,000	45,670	-	-	45,670	46,580	47,510	48,460	49,430
Supplies	49,500	49,300	50,240	-	-	50,240	51,230	52,250	53,290	54,350
Labour Charges	324,210	355,000	299,570	-	-	299,570	305,570	311,680	317,910	324,270
Contingency	15,000	-	10,000	-	-	10,000	10,200	10,400	10,610	10,820
Other Operating Expenses	38,610	36,520	39,040	-	-	39,040	39,830	40,620	41,440	42,290
<b>TOTAL OPERATING COSTS</b>	<b>549,310</b>	<b>548,610</b>	<b>542,690</b>	<b>-</b>	<b>-</b>	<b>542,690</b>	<b>553,520</b>	<b>564,570</b>	<b>575,860</b>	<b>587,390</b>
*Percentage Increase over prior year						-1.2%	2.0%	2.0%	2.0%	2.0%
<b>DEBT/RESERVES</b>										
Transfer to Maintenance Reserve	15,000	15,000	15,000	-	-	15,000	15,300	15,610	15,920	16,240
Transfer to Capital Reserve Fund	100,000	97,590	103,970	-	-	103,970	127,870	105,800	105,830	64,620
MFA Debt Reserve Fund	-	-	-	-	-	-	-	-	-	-
MFA Debt Principal	127,850	127,850	127,850	-	-	127,850	201,700	225,020	245,750	267,780
MFA Debt Interest	91,800	91,800	91,800	-	-	91,800	139,300	178,050	198,890	219,720
<b>TOTAL DEBT / RESERVES</b>	<b>334,650</b>	<b>332,240</b>	<b>338,620</b>	<b>-</b>	<b>-</b>	<b>338,620</b>	<b>484,170</b>	<b>524,480</b>	<b>566,390</b>	<b>588,360</b>
<b>TOTAL COSTS</b>	<b>883,960</b>	<b>880,850</b>	<b>881,310</b>	<b>-</b>	<b>-</b>	<b>881,310</b>	<b>1,037,690</b>	<b>1,089,050</b>	<b>1,142,250</b>	<b>1,155,750</b>
<b>FUNDING SOURCES (REVENUE)</b>										
Estimated balance C/F from 2016 to 2017	-	-	-	-	-	-	-	-	-	-
Balance C/F from 2015 to 2016	-	-	-	-	-	-	-	-	-	-
Sales - Water	(20,000)	(14,700)	(18,000)	-	-	(18,000)	(18,360)	(18,730)	(19,100)	(19,480)
Connection Charges	(8,100)	(8,100)	(8,100)	-	-	(8,100)	(8,260)	(8,430)	(8,600)	(8,770)
Lease Revenue	(285,920)	(285,920)	(285,920)	-	-	(285,920)	(291,640)	(297,470)	(303,420)	(309,490)
User Charges	(950)	(3,140)	(300)	-	-	(300)	(310)	(320)	(330)	(340)
Other Revenue	(314,970)	(311,860)	(312,320)	-	-	(312,320)	(318,570)	(324,950)	(331,450)	(338,080)
<b>TOTAL REVENUE</b>	<b>(568,990)</b>	<b>(568,990)</b>	<b>(568,990)</b>	<b>-</b>	<b>-</b>	<b>(568,990)</b>	<b>(719,120)</b>	<b>(764,100)</b>	<b>(810,800)</b>	<b>(817,670)</b>
<b>REQUISITION - PARCEL TAX</b>										
*Percentage Increase over prior year requisition						0.0%	26.4%	6.3%	6.1%	0.8%

**Service: 2.630 Magic Lake Estates Water (Pender) Committee: Electoral Area Services**

<u>Year</u>	<u>Taxable Folios</u>	<u>Parcel Tax</u>	<u>SFE's</u>	<u>User Charge**</u>	<u>Tax &amp; Charges</u>	<u>Assessments \$(000's)</u>
2012	1,206	\$496.57	1,005	\$250.00	\$746.57	390,273
2013	1,206	\$496.57	1,008	\$250.00	\$746.57	356,311
2014	1,206	\$496.57	1,011	\$250.00	\$746.57	336,526
2015	1,206	\$496.57	1,012	\$250.00	\$746.57	327,129
2016	1,205	\$496.98	1,015	\$281.69	\$778.67	327,129
2017	1,205	\$496.98	1,020	\$280.31	\$777.29	328,977

**CAPITAL REGIONAL DISTRICT  
MAGIC LAKE ESTATES WATER, #1 ONLY  
FUNDING ANALYSIS  
2013-2017**



Actual Costs 2013-2016, Projected 2017  
Prepared by CRD Finance  
10/31/2016

**CAPITAL REGIONAL DISTRICT CAPITAL PLAN**

**CAPITAL BUDGET FORM**

**2017 & Forecast 2018 to 2021**

**Bold Project Description Denotes New Identified Projects**

**Service #:** 2.630

**Service Name:** Magic Lake Estates Water (Pender)

By Capital Expenditure											
Capital Exp. No.	Capital Type	Capital Project Description	Asset Class	Funding Source	Carry Forward	2017	2018	2019	2020	2021	Total Project Budget
13-01	New	Magic Lake North Dam License Agreement	L	Res	10,000						10,000
14-01	Renewal	Magic Lake South Dam Safety Upgrade (siphon)	E	Res	15,000						39,000
15-01	Replacement	Signal Hill PRV	E	Res	30,000						50,000
16-01	Replacement	Buck Lake East Dam Detailed Design	E	Res	80,000						120,000
16-02	Renewal	Public Engagement for Future Projects	E	Res	10,000						10,000
16-03	Replacement	Schooner PRV Upgrade	E	Res	100,000						100,000
17-01	Renewal	Referendum - Funding for Future Projects	E	Res		10,000					10,000
17-02	Replacement	Capstan Way PRV Upgrade	E	Res	100,000						100,000
17-03	New	<b>ISOPAC Storage and Handling</b>	E	Res	<b>5,000</b>		<b>10,000</b>				<b>15,000</b>
18-01	Renewal	Buck Lake East Dam Remediation	E	Debt		1,000,000					1,000,000
18-02	Replacement	Replace Distribution Infrastructure-Phase 2	E	Debt		425,000					425,000
19-01	Replacement	Replace Distribution Infrastructure-Phase 3	E	Debt			450,000				450,000
20-01	Replacement	Replace Distribution Infrastructure-Phase 4	E	Debt				400,000			400,000
21-01	Replacement	Replace Distribution Infrastructure-Phase 5	E	Debt					400,000		400,000
21-02	Replacement	Design Buck Lake and Magic Lake Adjustable Intakes	E	Debt						25,000	25,000
						<b>245,000</b>	<b>115,000</b>	<b>1,435,000</b>	<b>450,000</b>	<b>400,000</b>	<b>425,000</b>
											<b>3,154,000</b>
											<b>3,070,000</b>

**TOTAL ANNUAL CAPITAL EXPENDITURES**  
**FIVE YEAR TOTAL (including carry-over)**

Funding Source Codes	
Debt	= Debenture Debt (new debt only)
ERF	= Equipment Replacement Fund
Grant	= Grants (Federal, Provincial)
Cap	= Capital Funds on Hand
Other	= Donations / Third Party Funding
Res	= Reserve Fund
STLoan	= Short Term Loans

Asset Class	
L	- Land
E	- Engineering Structure
B	- Buildings
V	- Vehicles
Eq	- Equipment

**Capital Expenditure Type**

New	Expenditure for new asset only
Renewal	Expenditure replaces an existing asset and extends the service ability or enhances technology in delivering that service
Replacement	Expenditure replaces an existing asset

<b>13-01</b>	<p><b>Magic Lake North Dam License Agreement</b>                  This project was initially approved in 2013 and its purpose was to negotiate right-of-ways with two property owners to access a portion of the north dam that is on their properties. More recently, in 2016, the scope has been revised to acquire License Agreements with the land owners (instead of SRW's). This project will be completed in 2016.</p>	<b>\$10,000</b>
<b>14-01</b>	<p><b>Magic Lake South Dam Safety Upgrade (siphon)</b>                  The 2012 dam safety review recommended installation of a siphon in order to drain the reservoir in a controlled manner in the event of an emergency. The design is complete and the next phase of the project will commence in 2016.</p>	<b>\$35,000</b>
<b>15-01</b>	<p><b>Signal Hill PRV</b>                  Confined space PRV stations on the system (Signal Hill, Schooner, and Capstan Way) are badly corroded and operating with pressures as high as 135psi. Failure of could be very serious, with significant loss of water. This project is to replace the first station at Signal Hill.</p>	<b>\$50,000</b>
<b>16-01</b>	<p><b>Buck Lake East Dam Detailed Design</b>                  The 2013 geotechnical report identifies a sand layer in the dam that may liquefy during an earthquake, leading to possible dam failure. This item is to complete detailed design and obtain regulatory approvals for the remediation option selected in the preliminary design stage. Also included in this item is engineering contract administration which will take place during the project.</p>	<b>\$120,000</b>
<b>16-02</b>	<p><b>Public Engagement for Future Projects</b>                  Proposed planning and public engagement session for future projects to communicate the need, rationale and costs of water system improvements to the customers. It is proposed to combine this project with the engagement session for the wastewater projects too, in order to minimize engagement costs and provide the complete financial picture to customers.</p>	<b>\$10,000</b>
<b>16-03</b>	<p><b>Schooner PRV Upgrade</b>                  Confined space PRV stations on the system (Signal Hill, Schooner, and Capstan Way) are badly corroded and operating with pressures as high as 135psi. Failure of could be very serious, with significant loss of water. This is to replace the second station at Schooner.</p>	<b>\$100,000</b>
<b>17-01</b>	<p><b>Referendum - Funding for Future Projects</b>                  Upon completion of public engagement, a referendum is proposed to obtain elector assent to fund future capital projects. It is proposed to combine the referendum with the wastewater projects in order to minimize costs and provide the complete financial picture to customers. This budget item is for presentation materials, notifications, advertisements and other referendum costs.</p>	<b>\$10,000</b>
<b>17-02</b>	<p><b>Capstan PRV Upgrade</b>                  Confined space PRV stations on the system (Signal Hill, Schooner, and Capstan Way) are badly corroded and operating with pressures as high as 135psi. Failure of could be very serious, with significant loss of water. This is to replace the third station at Capstan Way.</p>	<b>\$100,000</b>
<b>17-03</b>	<p><b>ISOPAC Storage and Handling</b></p>	<b>\$15,000</b>



		This budget item is to improve the handling and storage of ISOPAC chemical drums to prevent damage to plant equipment and improve worker safety. An assessment will be completed in 2017 for \$5,000 and upgrades are proposed in 2018 for \$10,000.	
<b>18-01</b>	<b>Buck Lake East Dam Remediation</b>	The 2013 geotechnical report identifies a sand layer in the dam that may liquefy during an earthquake, leading to possible dam failure. This item is to complete remediation of the dam in accordance with the Dam Safety Regulations.	<b>\$1,000,000</b>
<b>18-02</b>	<b>Replace Distribution Infrastructure Phase 2</b>	The 2011 Water Distribution Review (Strategic Asset Management Plan) recommended a prioritized list of water main replacements, Phase 1 was completed as part of the water treatment plant project. Phase 2 is for 534 metres of water main replacement on Schooner Way and Privateers Road.	<b>\$425,000</b>
<b>19-01</b>	<b>Replace Distribution Infrastructure Phase 3</b>	Phase 3 in the recommended/prioritized list of water main replacements, includes 559 metres of main replacement on Chart Drive and Galleon Way.	<b>\$450,000</b>
<b>20-01</b>	<b>Replace Distribution Infrastructure Phase 4</b>	Phase 4 in the recommended/prioritized list of water main replacements, includes 477 metres of main replacement on the remainder of Galleon Way.	<b>\$400,000</b>
<b>21-01</b>	<b>Replace Distribution Infrastructure Phase 5</b>	Phase 5 in the recommended/prioritized list of water main replacements, includes 487 metres of main replacement on Jolly Roger Crescent and Cutty Sark Crescent.	<b>\$400,000</b>
<b>21-02</b>	<b>Design Buck Lake and Magic Lake Adjustable Intakes</b>	Magic Lake currently does not have an adjustable intake and the Buck Lake adjustable intake is expected to reach the end of its design life by 2021. This budget item is just to complete a detailed design that can be used for both lakes, and the construction of the new intakes is proposed for 2022.	<b>\$25,000</b>

**Magic Lake Estates Water  
Reserves Summary  
2017 - 2021 Financial Plan**

**Reserve/Fund Summary**

	2016 Estimate	Budget				
		2017	2018	2019	2020	2021
Maintenance Reserve	60,000	75,000	90,300	105,910	121,830	138,070
Capital Reserve Fund	460,399	449,369	567,239	673,039	778,869	843,489
<b>Total</b>	<b>520,399</b>	<b>524,369</b>	<b>657,539</b>	<b>778,949</b>	<b>900,699</b>	<b>981,559</b>

**Reserve Schedule**

**Reserve Fund: 2.630 Magic Lake Estates Water (Pender) Capital Reserve Fund - Bylaw 1498**

**Reserve Cash Flow**

	Estimate 2016	Budget				
		2017	2018	2019	2020	2021
<b>Fund: 1024 Fund Center: 101368</b>						
<b>Beginning Balance</b>	613,809	460,399	449,369	567,239	673,039	778,869
<b>Transfer to Cap Fund (Based on Capital Plan)</b>	(251,000)	(115,000)	(10,000)	-	-	-
<b>Transfer from Operating Budget</b>	97,590	103,970	127,870	105,800	105,830	64,620
<b>Interest Income*</b>	-	-	-	-	-	-
<b>Ending Balance \$</b>	<b>460,399</b>	<b>449,369</b>	<b>567,239</b>	<b>673,039</b>	<b>778,869</b>	<b>843,489</b>

**Assumptions/Background:**  
Transfer sufficient amounts to mitigate costs of debt

\* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

# **CAPITAL REGIONAL DISTRICT**

## **2017 Budget**

### **Magic Lake Estates Water (2)**

#### **Committee Review**

Compiled and Presented by CRD Finance

Nov 2016

Page 1

Service: 2.635 Magic Lake Estates Water (2)

Committee: Electoral Area Services

**DEFINITION:**

LSA-2 A second LSA was established to improve the works and services of Magic Lake Estates Water System. Bylaw No. 2798 (Sept. 27, 2000).

**PARTICIPATION:**

Local Service Area # 2 - Q(764) LSA #40

**MAXIMUM LEVY:**

Greater of \$388,140 or \$2.65 / \$1,000 of actual assessed value of land and improvements. To a maximum of \$865,390.

**MAXIMUM CAPITAL DEBT:**

AUTHORIZED:	LA Bylaw No. 2799 (September 2000)	2,900,000
BORROWED:	S.I. Bylaw No. 2902 (August 2001)	(726,000)
	S.I. Bylaw No. 2963 (2002)	(1,498,900)
		Refinanced @3.05% from 5.69%
		Refinanced @3.05% from 6.06%

REMAINING AUTHORIZATION	675,100
PREPAIDS (312):	0
REDUCES remaining borrowing to:	

**COMMITTEE:**

Magic Lake Estates Water & Sewer Committee established by Bylaw No. 1870 (November 28, 1990).

**FUNDING:**

Any deficiencies after user charge and/or frontage tax or parcel tax to be levied on taxable school assessments.

User Charge: No User Charge

Parcel Tax: LSA-2 Annual parcel tax levied only on properties capable of being connected to the system, and participation in debt servicing. Commuted Parcel Tax for prepayment 2001 - 312 properties.

Connection Charges: N/A

	2016 BOARD ESTIMATED ACTUAL		BUDGET REQUEST				FUTURE PROJECTIONS				
	2016 BOARD BUDGET	2016 ESTIMATED ACTUAL	2017 CORE BUDGET	2017 ONGOING	2017 ONE-TIME	2017 TOTAL	2018	2019	2020	2021	
<b>Magic Lake Estates Water (2)</b>											
<u>OPERATING COSTS:</u>											
Allocations	2,420	2,420	2,280	-	-	2,280	-	-	-	-	
Other Operating Expenses	10	400	400	-	-	400	-	-	-	-	
<b>TOTAL OPERATING COSTS</b>	<b>2,430</b>	<b>2,820</b>	<b>2,680</b>	<b>-</b>	<b>-</b>	<b>2,680</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
*Percentage Increase over prior year											10.3%
<u>DEBT/RESERVES</u>											
MFA Debt Principal	103,110	103,110	69,460	-	-	69,460	-	-	-	-	
MFA Debt Interest	67,860	67,860	8,619	-	-	8,619	-	-	-	-	
<b>TOTAL DEBT / RESERVES</b>	<b>170,970</b>	<b>170,970</b>	<b>78,079</b>	<b>-</b>	<b>-</b>	<b>78,079</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>TOTAL COSTS</b>	<b>173,400</b>	<b>173,790</b>	<b>80,759</b>	<b>-</b>	<b>-</b>	<b>80,759</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<u>FUNDING SOURCES (REVENUE)</u>											
Estimated balance C/F from 2016 to 2017	-	110	(110)	-	-	(110)	-	-	-	-	
Balance C/F from 2015 to 2016	(13,110)	(13,110)	-	-	-	-	-	-	-	-	
Grants in Lieu	-	-	(500)	-	-	(500)	-	-	-	-	
Other Revenue	-	(500)	(500)	-	-	(500)	-	-	-	-	
<b>TOTAL REVENUE</b>	<b>(13,110)</b>	<b>(13,610)</b>	<b>(500)</b>	<b>-</b>	<b>-</b>	<b>(500)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>REQUISITION</b>	<b>(160,290)</b>	<b>(160,290)</b>	<b>(80,149)</b>	<b>-</b>	<b>-</b>	<b>(80,149)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
*Percentage increase over prior year requisition											-50.0%

**Service: 2.635 Magic Lake Estates Water (2) Committee: Electoral Area Services**

<b>MLE - LSA # 2</b>					
<b>Year</b>	<b>Taxable Folios</b>	<b>Parcel Tax</b>	<b>Actual Assessments</b>	<b>Converted Assessments</b>	
2011	895	\$279.39	393,681,900	39,523,039	
2012	894	\$199.15	390,174,100	39,172,961	
2013	894	\$199.15	355,759,000	35,728,747	
2014	894	\$199.15	335,956,601	33,740,591	
2015	894	\$199.15	326,562,300	32,793,591	
2016	893	\$188.92	328,253,800	32,960,922	
2017	893	\$94.46			

# **CAPITAL REGIONAL DISTRICT**

## **2017 Budget**

### **Magic Lake Sewer Utility (Pender)**

#### **Committee Review**

Compiled and Presented by CRD Finance

Nov 2016



**Service: 3.830 Magic Lake Sewer Utility (Pender)**

**Committee: Electoral Area Services**

**DEFINITION:**

To provide, operate and maintain sewage collection and disposal facilities for the Magic Lake Estates Sewerage System Specified Area on North Pender Island (Local Service Establishment Bylaw No. 1873 - June 26, 1991).

**PARTICIPATION:**

Specified Area - B(764) SA#8

**MAXIMUM LEVY:**

Greater of \$200,000 or \$7.10 / \$1,000 to a maximum of \$1,421,860 on actual assessed value of land and improvements.

**MAXIMUM CAPITAL DEBT:**

AUTHORIZED: LA Bylaw No. 4048 (Dec 2015). Fall Borrowing \$1,530,000 for 10 years

**COMMITTEE:**

Magic Lake Estates Water & Sewer Committee established by Bylaw No. 1870 (November 28, 1990).

**FUNDING:**

Any deficiencies after user charge and/or frontage tax or parcel tax to be levied on taxable school assessments, excluding property that is taxable for school purposes only by Special Act.

**User Charge:**

Per single family equivalency unit to connected properties only (Bylaw 4074, April 13, 2016)

**Parcel Tax:**

Only on properties capable of being connected to system.

**Connection Charge:**

Actual Engineering and Construction costs, plus 15% Administration costs. The minimum charge is \$500 - Bylaw No. 4074 (April 2016)

**RESERVE FUND:**

Magic Lake Estates sewage system capital reserve fund (Dec 17, 1986). Bylaw No. 1497.

Magic Lake Sewer Utility (Pender)	2016 BOARD ESTIMATED ACTUAL BUDGET		BUDGET REQUEST			FUTURE PROJECTIONS				
	2016 BUDGET	2016 ESTIMATED ACTUAL	2017 CORE BUDGET	2017 ONGOING	2017 ONE-TIME	2017 TOTAL	2018	2019	2020	2021
<b>OPERATING COSTS:</b>										
Sludge Hauling Contracts	43,000	54,950	55,900	-	-	55,900	57,020	56,160	59,320	60,510
Grit & Waste Sludge Disposal	42,000	59,000	54,600	-	-	54,600	55,690	56,800	57,940	59,100
Repairs & Maintenance	6,360	2,530	8,110	-	-	8,110	8,270	8,440	8,610	8,780
Allocations	32,070	32,870	48,290	-	-	48,290	49,250	50,220	51,210	52,240
Electricity	20,670	19,400	21,500	-	-	21,500	21,930	22,370	22,820	23,280
Supplies	14,260	28,700	14,470	-	-	14,470	14,750	15,030	15,320	15,610
Labour Charges	234,200	273,510	214,450	-	-	214,450	218,750	223,120	227,580	232,130
Contingency	7,780	-	5,000	-	-	5,000	5,100	5,200	5,300	5,410
Other Operating Expenses	27,340	26,490	27,460	-	-	27,460	28,000	28,560	29,130	29,700
<b>TOTAL OPERATING COSTS</b>	<b>427,700</b>	<b>497,450</b>	<b>449,780</b>	-	-	<b>449,780</b>	<b>458,760</b>	<b>467,900</b>	<b>477,230</b>	<b>486,760</b>
*Percentage Increase over prior year						5.2%	2.0%	2.0%	2.0%	2.0%
<b>DEBT/RESERVES</b>										
Transfer to Capital Reserve Fund	53,930	27,670	48,930	-	-	48,930	48,930	48,930	48,930	48,930
Transfer to Maintenance Reserve Fund	5,000	5,000	8,000	-	-	8,000	8,160	8,320	8,490	8,660
Debt Reserve Fund	15,300	7,450	7,850	-	-	7,850	25,850	20,710	6,310	-
MFA Principal Payment	-	-	130,420	-	-	130,420	130,420	264,390	371,720	371,720
MFA Interest Payment	38,250	2,610	38,050	-	-	38,050	59,590	184,560	276,100	276,100
<b>TOTAL DEBT / RESERVES</b>	<b>112,480</b>	<b>42,730</b>	<b>233,250</b>	-	-	<b>233,250</b>	<b>272,950</b>	<b>526,910</b>	<b>711,550</b>	<b>705,410</b>
Sludge Disposal Recovery	(5,000)	(5,000)	(5,000)	-	-	(5,000)	(5,100)	(5,200)	(5,300)	(5,410)
<b>TOTAL COSTS NET OF RECOVERIES</b>	<b>535,180</b>	<b>535,180</b>	<b>678,030</b>	-	-	<b>678,030</b>	<b>726,610</b>	<b>989,610</b>	<b>1,183,480</b>	<b>1,186,760</b>
<b>FUNDING SOURCES (REVENUE)</b>										
Estimated balance C/F from 2016 to 2017	-	-	-	-	-	-	-	-	-	-
Balance C/F from 2015 to 2016	(30,550)	(30,550)	-	-	-	-	-	-	-	-
User Charges	(168,910)	(168,910)	(168,910)	-	-	(168,910)	(172,290)	(175,740)	(179,250)	(182,840)
Grants in Lieu	-	-	(800)	-	-	(800)	(820)	(840)	(860)	(880)
Other Revenue	(800)	(800)	(800)	-	-	(800)	(820)	(840)	(860)	(880)
<b>TOTAL REVENUE</b>	<b>(200,260)</b>	<b>(200,260)</b>	<b>(169,710)</b>	-	-	<b>(169,710)</b>	<b>(173,110)</b>	<b>(176,580)</b>	<b>(180,110)</b>	<b>(183,720)</b>
<b>REQUISITION- PARCEL TAX</b>	<b>(334,920)</b>	<b>(334,920)</b>	<b>(508,320)</b>	-	-	<b>(508,320)</b>	<b>(553,500)</b>	<b>(613,030)</b>	<b>(1,003,370)</b>	<b>(1,003,040)</b>
*Percentage increase over prior year requisition						51.8%	8.9%	46.9%	23.4%	0.0%

Service: 3.830 Magic Lake Sewer Utility (Pender) Committee: Electoral Area Services

<u>Year</u>	<u>Taxable Folios</u>	<u>Parcel Tax</u>	<u>SFE's</u>	<u>User Charge</u>	<u>Tax &amp; Charges</u>	<u>Bylaw</u>	<u>Assessments \$(000's)</u>
2012	714	\$414.76	617	\$272.00	\$686.76	3823	238,971
2013	714	\$414.76	621	\$272.00	\$686.76	3892	217,896
2014	714	\$414.76	620	\$272.00	\$686.76	3924	205,430
2015	714	\$414.76	621	\$272.00	\$686.76	3987	199,869
2016	714	\$493.70	623	\$271.12	\$764.83	4074	200,262
2017	714	\$749.31	623	\$271.12	\$1,020.43		

# CAPITAL REGIONAL DISTRICT MAGIC LAKE ESTATES SEWER FUNDING ANALYSIS 2013-2017



Actual Costs 2013-2016, Projected 2017  
Prepared by CRD Finance  
10/31/2016

## CAPITAL REGIONAL DISTRICT CAPITAL PLAN

**CAPITAL BUDGET FORM**  
 2017 & Forecast 2018 to 2021  
 \$0,000 in 2017 Dollars

Service #:  
 Service Name:

3.830  
 Magic Lake Estates Sewer

No.	Project Code	Capital Project Description	Asset Class	Funding Source	Carry Forward	2017	2018	2019	2020	2021	Total Project Budget
16-01	Renewal	Replace 325m of Pipe Along Buck Lake	S	Cap	480,000						480,000
16-02	Renewal	Replace 112m of Pipe on Privateer R	S	Cap	130,000						130,000
16-03	Renewal	Ultrasonic Testing of Schooner Tanks	S	Cap	15,000						15,000
16-04	Renewal	Inflow/Infiltration Reduction Program	S	Cap	200,000						200,000
17-01	Replacement	Schooner WWTP Blower & Elec Rm	S	Res		15,000					15,000
17-02	New	Phase II WW System Public Consultation	S	Res		25,000					25,000
17-03	Renewal	Schooner Outfall Protection	S	Res		30,000					30,000
18-01	Renewal	Schooner & Cannon Outfall Inspection	S	Res		17,000					17,000
19-01	Renewal	Annual Pipe Replacement Program	S	Debt			512,000				512,000
19-02	Renewal	Upgrade 5 Lift Stations	S	Debt			1,000,000				1,000,000
20-01	Renewal	Upgrade Schooner Lift Station	S	Debt					557,000		557,000
21-01	Replacement	Replace Cannon WWTP with Pump Station	S	Debt						1,826,000	1,826,000
21-02	New	Schooner Clarifier & Aeration Tank	S	Debt						2,056,000	2,056,000
					825,000	70,000	17,000	1,512,000	557,000	3,882,000	6,863,000

**TOTAL ANNUAL CAPITAL EXPENDITURES**  
**FIVE YEAR TOTAL (including carry-over)**

**Funding Source Codes**  
 Debt = Debt/ure Debt (new debt only)  
 ERF = Equipment Replacement Fund  
 Grant = Grants (Federal, Provincial)  
 Cap = Capital Funds on Hand  
 Other = Donations / Third Party Funding  
 Res = Reserve Fund  
 STLoan = Short Term Loans

**Asset Class**  
 L - Land  
 S - Engineering Structure  
 B - Buildings  
 V - Vehicles  
 E - Equipment

**Capital Expenditure Type**  
 New Expenditure for new asset only  
 Renewal Expenditure replaces an existing asset and extends the service ability or enhances technology in delivering that service  
 Replacement Expenditure replaces an existing asset

**Service: 3.830 Magic Lake Estates Sewer**

16-01	Replace 325m of Pipe Along Buck Lake	\$480,000
	The existing Asbestos Concrete 150mm diameter sewer along the east side of Buck Lake does not have sufficient capacity, has a shallow grade or reverse grade and needs to be increased to ensure the sewer system does not backup during peak flow events.	
16-02	Replace 112m of Pipe on Privateer R	\$130,000
	The existing Asbestos Concrete 150mm diameter sewer on Privateers from Dubloon Road to Brigadoon Road does not have sufficient capacity and needs to be increased to a 200mm diameter pipe to ensure the sewer system does not backup during peak flow events.	
16-03	Ultrasonic Testing of Schooner Tanks	\$15,000
	The steel tanks at the Schooner WWTP are of questionable condition, a condition assessment is required to determine how much serviceable life is left. Once the serviceable life is determined, the most appropriate route for upgrading the Schooner WWTP can be chosen. Funding is required to retain a consultant to undertake a condition assessment on the steel tankage.	
16-04	Inflow/Infiltration Reduction Program	\$200,000
	Both Schooner and Cannon wastewater treatment plants are subject to overloading during heavy rainfall events which has resulted in numerous marine discharges that have exceeded our Ministry of Environment discharge permit requirements. A project plan will be developed in 2016, with key areas of investigation identified for further investigation or remediation.	
17-01	Schooner WWTP Blower & Elec Rm Roof Replacement	\$15,000
	The roof for the Schooner WWTP blower and electrical room has been identified by Operations as requiring replacement due to age and condition. Funds are required to replace the roof.	
17-03	Schooner Outfall Protection	\$17,000
	The protective concrete cover (armour) over the outfall pipe has eroded away along the beach shoreline. The armour protects the pipe from becoming damaged by logs and rocks, etc. that wash up onto the shore, and if the pipe breaks wastewater effluent would discharge onto the beach. The budget for this item is for design, permitting/approvals, notification and construction of a new concrete cap.	
20-01	Upgrade Schooner Lift Station	\$557,000

Public engagement is required to determine the direction that the residents will approve for an Infrastructure Replacement program. The budget for this item is for staff time, materials, notification and advertisement to hold and address an open house and town hall and referendum process to seek the residents' input on an infrastructure replacement program for the Magic Lake Estates Sewer Local Service Area.

<b>18-01</b>	<b>Schooner &amp; Cannon Outfall Inspections</b>	\$17,000
	Under the Ministry of Environment's registered discharge permit, the Schooner & Cannon WWTPs outfalls are required to be inspected every 3 years. The last inspection was undertaken in the 2014. Funds from an operation reserve are required to retain a consultant to conduct and inspection of the outfall.	
<b>19-01</b>	<b>Annual Pipe Replacement Program</b>	\$512,000
	Much of the wastewater collection system is comprised of asbestos cement (AC) pipe ranging in age up to 50 years old. AC pipe, depending on the soil conditions, can lose structural integrity leading to inflow and infiltration. Funding is required to replace undersized or pipe in poor condition.	
<b>19-02</b>	<b>Upgrade 5 Lift Stations</b>	\$1,000,000
	In 2011 Stantec undertook a condition assessment and identified 5 pump stations, Galleon, Cutlass, Masthead, Bucaneers and Capstan Pump stations, requiring mechanical and electrical upgrades to maintain the current level of service. Funding will be for design and upgrades.	
<b>20-01</b>	<b>Upgrade Schooner Lift Station</b>	\$557,000
	The Schooner Lift Station is past its serviceable life – the pumps, process piping and valving, pump lifting rails and electrical all have to be replaced. Additionally, confined space entry is required to isolate the pump station. The budget for this item is for design and the upgrades required for the Schooner Lift Station.	
<b>21-01</b>	<b>Replace Cannon WWTP with Pump Station &amp; FM</b>	\$1,826,000
	The Cannon wastewater treatment plant is subject to overloading during heavy rainfall events which has resulted in numerous marine discharges that have exceeded our Ministry of Environment discharge permit requirements and is at end of life. Additionally, the site is fully built out; no more expansion of the Cannon wastewater treatment plant is possible. The 2012 Stantec report recommends replacement of the Cannon wastewater treatment plant with a pump station and new forcemain, pumping sewage to the Schooner wastewater treatment plant via the Schooner Lift Station.	
<b>21-02</b>	<b>Schooner Clarifier &amp; Aeration Tank</b>	\$2,056,000
	The Schooner wastewater treatment plant is subject to overloading during heavy rainfall events, which has resulted in numerous marine discharges that have exceeded our Ministry of Environment discharge permit requirements. The budget for this item is for design and construction of the new clarifier and aeration tanks.	

Magice Lake Sewer Reserves  
 Summary Schedule  
 2017 - 2021 Financial Plan

Reserve/Fund Summary

	2016 Estimate	Budget				
		2017	2018	2019	2020	2021
Maintenance Reserve	10,000	18,000	26,160	34,480	42,970	51,630
Equipment Replacement Fund	-	-	-	-	-	-
Capital Reserve Fund	73,833	52,763	84,693	133,623	182,553	231,483
<b>Total</b>	<b>83,833</b>	<b>70,763</b>	<b>110,853</b>	<b>168,103</b>	<b>225,523</b>	<b>283,113</b>



**Reserve Schedule**

**Reserve Fund: 3.830 Magic Lake Sewer Utility (Pender) Capital Reserve Fund (Bylaw No.:1497)**

**Reserve Cash Flow**

**Fund: 1042 Fund Center: 101386**

	Budget					
	Estimate 2016	2017	2018	2019	2020	2021
<b>Beginning Balance</b>	83,829	73,833	52,763	84,693	133,623	182,553
<b>Transfer to Cap Fund (Based on Capital Plan)</b>	(115,000)	(70,000)	(17,000)			
<b>Transfer from Operating Budget</b>	27,670	48,930	48,930	48,930	48,930	48,930
<b>Transfer from Equipment Replacement Fund</b>	77,242	-	-	-	-	-
<b>Interest Income*</b>	92	-	-	-	-	-
<b>Ending Balance \$</b>	<b>73,833</b>	<b>52,763</b>	<b>84,693</b>	<b>133,623</b>	<b>182,553</b>	<b>231,483</b>

\* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

<b>Reserve Schedule</b>	
<b>Reserve Fund: 3.830 Magic Lake Sewer Utility (Pender) Equipment Replacement Fund</b>	

**Reserve Cash Flow**

	Estimate 2016	Budget				
		2017	2018	2019	2020	2021
<b>Fund: 1022 Fund Center: 101724</b>						
<b>ERF Group: MGCLKSWR.ERF</b>						
<b>Beginning Balance</b>	77,242	-	-	-	-	-
<b>Transfer to Capital Reserve Fund</b>	(77,242)	-	-	-	-	-
<b>Ending Balance \$</b>		-	-	-	-	-