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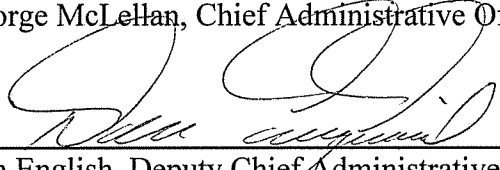
Halifax Regional Council
May 3, 2005

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:



George McLellan, Chief Administrative Officer



Dan English, Deputy Chief Administrative Officer

DATE: April 28, 2005

SUBJECT: Application for PCAP Funding - Wastewater Projects

ORIGIN

Staff.

RECOMMENDATION

It is recommended that:

1. The Mayor forward to the Minister of Service Nova Scotia and Municipal Relations the attached letter of application for funding from the 2005/06 Provincial Capital Assistance Program for three priority wastewater infrastructure projects: Riverwood Drive Pumping Station, Whimsical Lake Pumping Station, and Uplands Park Sanitary and Storm Sewers.

BACKGROUND

There were a number of high priority, debt-funded stormwater and wastewater projects that did not get presented to Regional Council as part of the draft 2005/06 Capital Budget due to insufficient budget allocation. Stormwater and wastewater projects related to local servicing are not eligible to be funded from the Environmental Protection or the Sewer Redevelopment Reserves, and so are funded from debt and other sources. Funding available for stormwater and wastewater projects based on HRM's overall priorities was limited and therefore some projects could not be accommodated within the available allocation.

The Provincial Capital Assistance Program (PCAP) is a possible funding opportunity for some priority wastewater projects to be completed this fiscal year. Service Nova Scotia and Municipal Relations administers this program. A copy of the information on their website regarding PCAP is attached as Attachment 2.

HRM currently receives funding from PCAP for the Harbour Solutions Project (HSP) in the amount of \$2 million per year, administered over a fifteen year period, as agreed to in a Memorandum of Understanding with the Province. HRM has also received a commitment for funding from PCAP's 2004/05 budget for two other projects: Lively Subdivision Servicing, in the amount of \$200,000, and Glenmount/Millview Servicing, in the amount of \$200,000. The PCAP funding being requested in this report is in addition to, and will not affect, the \$2 million contribution to the Harbour Solutions Project for 2005/06.

DISCUSSION

Water, wastewater and solid waste projects are generally eligible for PCAP funding. Staff has determined that wastewater projects have a higher funding priority than water or solid waste infrastructure projects for the 2005/06 fiscal year, given the inadequate levels of funding available for wastewater projects. PCAP funding provides cost sharing up to 50% of the total approved project costs within the defined cost eligibility parameters of the PCAP agreement. Staff have reviewed the three wastewater projects and confirm that they meet the PCAP eligibility requirements.

The three projects that staff have identified, in order of priority, are as follows:

1. Riverwood Drive Pumping Station, Lakeside/Timberlea:	\$250,000
2. Whimsical Lake Pumping Station, Halifax:	\$490,000
3. Uplands Park Sanitary and Storm Sewers:	\$250,000
 TOTAL	 \$990,000

These three projects are all high priority in that they are all required in order to comply with federal and provincial regulations and/or to protect private properties from impacts related to operational problems with these systems. These projects are therefore all considered to be a minimum of "Priority 2 - Compliance" as per the Priority Rating Process proposed by staff and adopted by Regional Council on Feb 1, 2005. Riverwood Drive Pumping Station could be categorized as "Priority 1 - Legal/Liability" because of the potential impact on private properties.

For reference purposes, the Priority Rating Process approved by Regional Council is as follows:

1. Legal/Liability
2. Compliance
3. Operational Efficiency
4. Sewer Extensions to Unserved Communities
5. Non-HRM Issues

A description of each of the projects and justification for their priority follows:

1. Riverwood Drive Pumping Station, Lakeside/Timberlea

The Riverwood Drive Pumping Station was constructed in 1982 and provides wastewater service to a portion of Riverwood Drive, Sprucewood Drive, and White Birch Drive in Timberlea. This Pumping Station is not equipped with back up power, and due to the relative elevation of several residences, there is the potential for wastewater to surcharge into these homes when there is a power outage.

Residents have recently contacted HRM with reports that the wastewater system was surcharged to their basement level. This resulted in the inability for them to use their sanitary services until power was restored to the pumping station. A clearer understanding by staff as to the impact on private properties has resulted in this project being brought forward at this time.

During power outage events, pumper trucks have been utilized to pump wastewater out of this pumping station to prevent wastewater from surcharging the collection system. This is not a sustainable option, as it is not reasonable to expect to operate an effective, reliable wastewater system where staff must deploy pumper trucks each time the power is lost to a facility.

Design of the backup power system has nearly been completed.

2. Whimsical Lake Pumping Station, Halifax.

The Whimsical Lake Pumping Station is a wet well-dry well pumping station and is located at a cull- de-sac on Inverness Ave near Whimsical Lake. It was constructed in 1969 and services a sewershed area of approximately 25 hectares.

The capital work for this pumping station was one of the recommendations of the Wastewater Pumping Stations and Forcemains Study conducted by SNC-Lavalin in 2003. The following problems were identified in the study:

- a. One of the two operating pumps, pump #2, is the original Chicago pump and is experiencing moderate to high levels of corrosion. Pump #2 also has been found to be leaking and requires new packing. The pipe and valve assembly have undergone moderate corrosion, and leakage around the Uni flanges have been detected.
- b. This pumping station overflows into Whimsical Lake during rainfall events of approximately 35 mm and significant intensity and poses a potential health and environmental problem in the area. If the project is not completed, the pumping station will continue to be out of compliance with Provincial regulations.

This pumping station overflowed during a recent storm event, sending untreated sewage into the local environment. A front-page newspaper article covering this event is included as Attachment 3.

The seriousness of the situation, including public health concerns and impact on the environment has resulted in staff bringing this project forward at this time.

3. Uplands Park Sanitary and Storm Sewers

The Uplands Park sanitary sewer system was constructed in the 1960s and early 1970s. A video inspection of the sanitary sewer system identified that the system has deteriorated structurally and is susceptible to high infiltration/inflow which results in up to 20 times the dry weather flow at the Uplands Park Sewage Treatment Plant. Sections of the sanitary sewer have multiple cracks and fractures which may lead to blockages, surcharge, possible collapse, and the need for emergency repairs.

Utilizing the available funding, Environmental Engineering Services proposes to design and rehabilitate the existing sewer and/or construct new sewers for one section of Uplands Park, so that this work is completed in advance of a planned resurfacing of the local streets. Other remaining sanitary and storm sewer is proposed to be done in 2006/07, which will coincide with the planned resurfacing of another local street.

Under PCAP, projects are required to be completed and invoiced by the end of the fiscal year, i.e. end of March 2006. Detailed designs are completed, or nearly completed, for all three projects, and so the design and construction of each can be completed and invoiced within this time frame.

A letter of application for funding from the 2005/06 Provincial Capital Assistance Program for the three priority wastewater infrastructure projects discussed above has been prepared and attached to this report.

BUDGET IMPLICATIONS

HRM is required to provide matching funds for this work. If any or all of the three projects are approved for PCAP funding, then staff will return to Regional Council with recommendations regarding capital budget increases and potential funding sources.

Any funding received under PCAP for these projects will reduce funding needed from debt next fiscal year, and will enable that funding to be used for other high-priority stormwater and wastewater projects.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

Regional Council could decide to not approve the staff request to apply for PCAP funding. This alternative is not recommended, as the projects for which funding is requested are high priority projects relative to regulatory compliance, public health and environmental protection.

ATTACHMENTS

1. Draft letter of application to the Minister of Service Nova Scotia and Municipal Relations
2. Service Nova Scotia Website Information
3. Halifax Herald Newspaper Article from Thursday, April 7, 2005

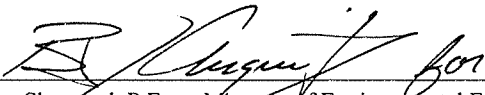
**Application for PCAP Funding -
Wastewater Projects
Council Report**

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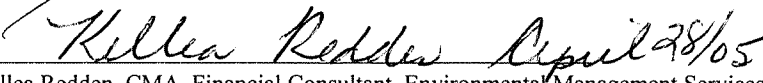
May 3, 2005

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

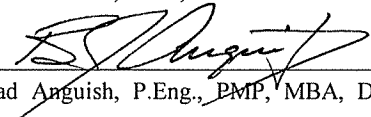
Report Prepared by:


John Sheppard, P.Eng., Manager of Environmental Engineering Services (490-6958)

Financial Review by:


Kellea Redden, CMA, Financial Consultant, Environmental Management Services (490-6267)

Report Approved by:


Brad Anguish, P.Eng., PMP, MBA, Director of Environmental Management Services (490-4825)

ATTACHMENT 1

DRAFT

Date

Service Nova Scotia and
Municipal Relations
Mail Room, 8 South
Maritime Centre
1505 Barrington Street
Halifax, NS B3J 3K5

Attention: Honourable Barry Barnett, Minister

Dear Minister:

I am writing to you to apply for funding from the Provincial Capital Assistance Program (PCAP) for 2005/06.

HRM is in the process of developing a more sustainable funding strategy to allocate limited infrastructure funding in a manner that maximizes the environmental and safety benefit for every dollar spent. Recently, HRM developed a 25 year Stormwater and Wastewater Forecast that identified the long term financial needs of HRM's stormwater and wastewater infrastructure. The forecast predicted funding requirements in the order of \$540 million for stormwater and wastewater projects over the next 25 years. This represents a tremendous challenge for HRM, and we are seeking financial assistance from other levels of government.

HRM Regional Council recently approved the 2005/06 capital budget, including that related to prioritized stormwater and wastewater projects. Funding available for stormwater and wastewater projects based on HRM's overall priorities was limited, as such, some projects could not be accommodated within the available allocation. HRM is therefore requesting funding from PCAP for the three projects listed below. In order of highest to lowest priority, they are:

- | | |
|---------------------------------------------------------|-----------|
| 1. Riverwood Drive Pumping Station, Lakeside/Timberlea: | \$250,000 |
| 2. Whimsical Lake Pumping Station, Halifax: | \$490,000 |
| 3. Uplands Park Sanitary and Storm Sewers: | \$250,000 |

TOTAL	\$990,000
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Detailed descriptions of each project are attached, including sketches. If more information is required, design drawings are available for each project and copies can be provided at your request.

These projects were selected on the basis of the eligibility criteria stipulated in the PCAP website. Consistent with the focus of PCAP, each is a wastewater project that will address environmental and potential health problems. Furthermore, since design work has been completed for each project, the projects can be tendered, completed and invoiced before the end of the 2005/06 fiscal year.

All of these projects are a high priority for HRM in that each is required to get the local wastewater system into compliance with provincial and federal regulatory requirements.

I thank you in advance for your co-operation. Should you require further clarification, please contact me directly, or John Sheppard, P.Eng., who is our Manager of Environmental Engineering Services. His phone number is 490-6958.

Yours truly,

Mayor Peter Kelly

Attachment

cc: George McLellan, Chief Administrative Officer
Dan English, Deputy Chief Administrative Officer
Brad Anguish, P.Eng., Director of Environmental Management Services
Dale MacLennan, Director Financial Services
John Sheppard, P.Eng., Manager of Environmental Engineering Services

PCAP Project List

1. Riverwood Drive Pumping Station

The Riverwood Drive Pumping Station was constructed in 1982 and provides wastewater service to a portion of Riverwood Drive, Sprucewood Drive, and White Birch Drive in Timberlea.

Reason Capital Work is Required: This Pumping Station is not equipped with back up power, and due to the relative elevation of several residences, there is the potential for wastewater to surcharge into these homes when there is a power outage.

Residents have contacted HRM with reports that the wastewater system was surcharged to their basement level. This resulted in the inability for them to use their sanitary services until power was restored to the pumping station.

During power outage events, pumper trucks have been utilized to pump wastewater out of this pumping station to prevent wastewater from surcharging the collection system. This is not a sustainable option as it is not reasonable to expect to operate an effective, reliable wastewater system where staff must deploy pumper trucks each time the power is lost to a facility.

Description of Proposed Capital Work: A backup power system is required so that the pumping station will continue to operate during power outages. This will prevent surcharge of the pumping station into the incoming sewers, which in turn will eliminate the opportunity for surcharge of wastewater into the adjacent residences, and will further ensure that they can use their plumbing facilities during power outages.

Project Status: The design of the backup power system has nearly been completed. Funding is being requested for construction during the 2005 construction season.

Project Costs:

Construction:	\$185,000
Inspection:	\$ 20,000
Project Completion:	\$ 5,000
Tax:	\$ 7,200
Contingency:	\$ 32,800

Total Project Cost: \$250,000

Implementation:

If PCAP funding is provided, the project will be tendered and awarded in conformance with HRM's Procurement Policy. The construction is expected to take approximately six months, so that completion will be well in advance of the end of March 2006.

Operation and Maintenance:

HRM currently owns 157 wastewater pumping stations. These are operated and maintained by qualified and competent staff in the Technical and Underground Services division of Transportation and Public Works. This project is a rehabilitation and upgrade of an existing pumping station, and operation and maintenance will continue to be provided by the same staff.

2. Whimsical Lake Pumping Station, Halifax

The Whimsical Lake Pumping Station is a wet well-dry well pumping station and is located at a cul-de-sac on Inverness Ave near Whimsical Lake. It was constructed in 1969 and services a sewershed area of approximately 25 hectares.

Reason Capital Work is Required: The capital work for this pumping station was one of the recommendations of the Wastewater Pumping Stations and Forcemains Study conducted by SNC-Lavalin in 2003. The following problems were identified in the study:

- 1) One of the two operating pumps, pump #2, is the original Chicago pump and is experiencing moderate to high levels of corrosion. Pump #2 also has been found to be leaking and requires new packing. The pipe and valve assembly have undergone moderate corrosion and leakage around the Uni flanges have been detected.
- 2) This pumping station overflows into Whimsical Lake during rainfall events of approximately 35 mm and significant intensity and poses a potential health and environmental problem in the area. If the project is not completed, the pumping station will continue to be out of compliance with Provincial regulatory compliance.

Description of Proposed Capital Work: The capital work proposed consists of:

- 1) replacing pump #2 with a larger close-coupled submersible pump
- 2) providing an emergency power generator so that the pumping station remains operational in the event of a power failure. An addition to the building will also have to be constructed to provide housing for the new generator.
- 3) miscellaneous works such as replacing ladders in the wet/dry well, providing minor electrical work, piping, replacing doors, constructing perimeter fencing, controls and providing emergency lighting.

Project Status: The design was completed in October 2004. Funding is being requested for construction.

Project Costs:

Construction:	\$330,000
Inspection:	\$ 35,000
Project Completion:	\$ 5,000
Tax:	\$ 55,500
Contingency:	\$ 64,500
 Total Project Cost:	 \$490,000

Implementation:

If PCAP funding is provided, the project will be tendered and awarded in conformance with HRM's Procurement Policy. The construction is expected to take approximately six months, so that completion will be well in advance of the end of March 2006.

Operation and Maintenance:

HRM currently owns 157 wastewater pumping stations. These are operated and maintained by qualified and competent staff in the Technical and Underground Services division of Transportation and Public Works. This project is a rehabilitation and upgrade of an existing pumping station, and operation and maintenance will continue to be provided by the same staff.

3. Uplands Park - Sanitary and Storm Sewers

The Uplands Park sanitary sewer system was constructed in the 1960s and early 1970s.

Reason Capital Work is Requested: A video inspection of the sanitary sewer system identified that the system has deteriorated structurally and is susceptible to high infiltration/inflow which results in up to 20 times the dry weather flow at the Uplands Park Sewage Treatment Plant. Sections of the sanitary sewer have multiple cracks and fractures which may lead to blockages, surcharge, possible collapse, and the need for emergency repairs.

Description of Proposed Capital Work: Utilizing the available funding, Environmental Engineering Services proposes to design the sanitary and storm sewers for this section of Uplands Park and to construct the new sanitary and storm sewers.

It is planned to construct the remaining sanitary and storm sewer in 2006/07, which will coincide with the planned resurfacing of Crestfield Drive.

Project Status: The design was completed in 2004. Funding is being requested for construction.

Project Costs:

Construction:	\$202,000
Inspection:	\$ 20,000
Project Completion	\$ 5,000
Tax:	\$ 7,784
Contingency:	\$ 15,216
 Total Project Cost:	 \$250,000

Implementation:

If PCAP funding is provided, the project will be tendered and awarded in conformance with HRM's Procurement Policy. The construction is expected to take approximately six months, so that completion will be well in advance of the end of March 2006.

Operation and Maintenance:

HRM currently owns hundreds of kilometers of sewers. These are maintained by qualified and competent staff in the Technical and Underground Services division of Transportation and Public Works. This project is a rehabilitation and upgrade of existing sewers, and maintenance will continue to be provided by the same staff.

ATTACHMENT 2

Community Programs & Infrastructure - Provincial Capital Assistance Program

Assistance for Municipal Infrastructure Projects

Program Purpose

Eligible Projects

Program Emphasis

Eligible Project Costs

Engineering

Construction/Equipment

Land

Program Administration

Assistance For Eligible Projects

Application Requirements

General Conditions and Requirements

1. Program Purpose

The Government of the Province of Nova Scotia recognizes that the cost of undertaking water supply, sewer disposal and solid waste projects can place significant financial burdens on municipal governments and taxpayers alike. The Provincial Capital Assistance Program is designed to enable the Government of Nova Scotia to contribute financially towards the cost of high priority municipal infrastructure projects in order that this cost burden might be reduced to an affordable level.

2. Eligible Projects

The following projects are eligible for funding assistance under this program:

- Construction or expansion of facilities for the treatment and disposal of sanitary sewage.
- Construction of sanitary sewage collection systems.

Installation of individual and communal in-ground sewage disposal facilities within a Wastewater Management District.

- Construction of water intake, treatment, pumping and storage facilities.

- Installation of water transmission and distribution systems.
- Construction, acquisition, upgrading or expansion of solid waste management facilities and equipment.
- Municipal infrastructure engineering and research studies.

3. Program Emphasis

The amount of funding available for distribution on an annual basis is limited. Program funding applications are ranked according to the severity of the problems being addressed, as well as other factors. Generally, funding requests for projects designed to eliminate serious environmental and health problems (actual and potential) are accorded priority attention in the allocation of program funding. Pollution abatement is a primary emphasis of the program.

In allocating program funds, emphasis will be placed on projects designed to eliminate existing problems. Funding will not generally be available under this program for projects designed to open up land for new development (residential, commercial or industrial).

The provincial government wishes, where practical, to encourage intermunicipal cooperation in the provision of water supply, sewage disposal and solid waste management. Consequently, intermunicipal projects may receive special consideration in the distribution of program funding.

4. Eligible Project Costs

The following components of an Eligible Project qualify for cost sharing under the Provincial Capital Assistance Program:

a. Engineering:

- Cost of preliminary engineering studies.
- Cost of preparing design drawings and specifications.
- Cost of construction inspection and administration.

b. Construction/Equipment:

- Cost of construction and equipment acquisition as per plans and specifications.

c. Land

- Cost of acquiring land and property easements.

Interim financing costs are not considered eligible for sharing under this program.

5. Program Administration

The Provincial Capital Assistance Program will be administered by the Department of Service Nova Scotia and Municipal Relations.

Grant funds will be paid out over the term of the project upon receipt, by the Department, of periodic progress claims including copies of all paid invoices. Upon completion of a project, the Department will require a final statement of claim, certified by a registered municipal auditor.

6. Assistance For Eligible Projects

Grants of up to 50% may be made towards the cost of eligible infrastructure projects.

Grants of up to 100% may be made towards the cost of engineering studies and investigations.

7. Application Requirements

Municipal units wishing to obtain assistance under the Provincial Capital Assistance Program shall submit a formal written request to the Department of Service Nova Scotia and Municipal Relations. Requests should be directed to the Minister.

Unless otherwise agreed to by the Department, requests for assistance shall be accompanied by:

- a, Documentation clearly substantiating the need for the capital work. The nature and extent of problems being addressed shall be described in detail.
- b. A detailed project description, including a drawing showing the layout of individual project components.
- c. A total estimated cost for the project, a detailed cost breakdown for individual project components showing quantities and assumed unit prices and a proposed implementation and cash flow schedule.
- d. A report describing the proposed financing arrangement for the project and substantiating the municipal units financial and technical ability to operate and maintain the project under completion.
- e. And, in addition, for water projects:
 - A report which indicates the impact that financing the project, with and without provincial assistance, will have on water rates.

8. General Conditions and Requirements

Municipal units undertaking projects with financial assistance from the Province of Nova Scotia through the Provincial Capital Assistance Program shall comply with the following general conditions and requirements:

1. Provincial Capital Assistance Program funding for the construction of a project will not be advanced to a municipal unit until such time as:
 - a. all necessary regulatory approvals have been obtained by the project proponent; and
 - b. project financing arrangements have been finalized and all necessary borrowing and/or withdrawal from special reserve approvals have been obtained.
2. Work carried out in violation of conditions set by regulatory authorities will not be cost shared by the Department.
3. Grants for tendered projects will be based upon the price submitted by the lowest qualified bidder. Unless otherwise agreed to, Municipal Units will be required to follow the Nova Scotia Government Procurement Policy in awarding engineering and construction contacts.
4. Municipal units may be required to submit general progress and evaluation reports during the course of construction on an approved project and will be required to co-operate with Departmental staff in monitoring the implementation of approved projects.

Other project specific conditions and requirements may be included in the approval documentation.

Contact:

Mr. Marvin MacDonald, Director
Grants and Programs
Service Nova Scotia and Municipal Relations
P.O. Box 216
Halifax, N.S.
Phone: 424-3858
Email: mrmacdon@gov.ns.ca

Thursday, April 7, 2005
The Halifax Herald Limited

Community fed up with sewage 'geyser'

By AMY PUGSLEY FRASER / City Hall Reporter

Homeowners along Joyce Avenue were horrified last week after raw sewage gushed up from a manhole cover, out onto a pathway and into some backyards.

"It was like a geyser," said resident Alanna Kerr, noting the spray reached as high as a half-metre.

"You (could) see toilet paper, fecal matter and condoms. It's pretty disgusting."

It's not the first time that residents near the paved pathway that links Joyce and Inverness avenues in Spryfield have been greeted with such a mess.

"When there are heavy rains, the rainwater seeps into the sewer system and overloads it and causes it to back up," Mrs. Kerr said, noting an upgrade a few years ago hasn't solved the problem.

She's concerned not only because it's a health issue, but also for the potential environmental impacts on nearby Whimsical Lake.

Although the lake was closed to swimming before she moved to the area in 2003, the quality of the water had recently improved.

But the latest sewage backup threatens it again, she said.

"Because, obviously, the fecal coliform level will go through the roof whenever you have one of these incidents."

Last week, the constant bubbling at the sewer's edge was "enough to be spectacular for little kids," she said.

"They look at it and think, 'Oh, great!' "

Her neighbour, Patrick Abbott, whose backyard is on the receiving end of sewer run-off from the pathway, has three kids who are six, eight and 10.

He's concerned for the health of his children, particularly the younger two, he said, because they are boys "who are active and dirty, the way young boys are."

The kids never tire of catching frogs in his backyard pond, he said.

"But they can't do that anymore," Mr. Abbott said. "God knows what they are going to catch in there now."

He says the problematic sewer backs up six to 10 times a year - whenever there's a particularly heavy rain - and the sewer residue remains in his backyard or on the path long after the rain is gone.

After last week's rain, the city spent a day pumping out the sewer in what he said amounted to "a very quick fix."

More in-depth work is needed, he said.

"I'd hate to see them dig up the whole area, but the . . . work has to be done properly."

Problems like that shouldn't be happening, he said, given the quality of the neighbourhood.

"Joyce Avenue and Inverness Avenue are two nice streets, so you figure with the property taxes and everything, that people are supposed to be having nicer things."

A senior engineer with the city's environmental management services department said that the city started an investigation into the Joyce Avenue situation on Wednesday.

Charles Lloyd said he expects part of the problem might be tied to the nearby Whimsical Lake pumping station.

The station was in line for a \$425,000 upgrade, he said, but the department didn't get enough funding to go ahead with it this year.

A recent study examined all of the municipality's 160 pumping stations, prioritizing 40 of them because of their proximity to lakes and their age.

The Whimsical Lake station isn't the only one from which sewage is ending up on the street, he said.

"We have a lot of areas that need attention and we try to do as much as we can with the budget that we get."