JOINT BOARD OF MANAGEMENT

Wednesday, January 20, 2021
9:00 AM
Virtually in Zoom

AGENDA

A. **Call to Order:**

B. **Election of Chair for the UWSS Joint Board of Management**
UW/01/21 – 2021 Election of the UWSS Joint Board of Management Chair and Vice Chair dated January 31, 2021
Pages 3 - 6

C. **Election of Vice-Chair for the UWSS Joint Board of Management**

D. **Disclosures of Pecuniary Interest:**

E. **Approval of Minutes:**
Minutes of the meeting of the Union Water Supply System Joint Board of Management Meeting held Wednesday, December 16, 2021
Pages 7 - 12

F. **Business Arising Out of the Minutes**

G. **Items for Consideration:**

1. UW/02/21 dated January 15, 2021 re: Changes to the Leamington UWSS Board Member Appointments
   Page 13

2. UW/03/21 dated January 15, 2021 re: Status Update of UWSS Operations & Maintenance Activities and Capital Works to January 15, 2021
   Pages 14 - 15

3. UW/04/21 dated January 14, 2021 re: Filters #2 and #4 Upgrades
   Pages 16 - 19

4. UW/05/21 dated January 14, 2021 re: Clarifier #2 DAF Retrofit – Equipment Supply and Pre-Purchase
   Pages 20 - 22
   Letter from Associated Engineering dated October 26, 2020 re: Recommendation for Award
   Pages 23 – 25

Proposal from Napier-Reid dated October 15, 2020 re: Ruthven WTP DAF Retrofit
Pages 26 - 33

5. UW/06/21 dated January 15, 2021 re: UWSS Water Treatment Capacity Allocation
   Pages 34 - 37
   Letter to CAOs dated November 2, 2020 Re: Proposed Allocation of Remaining Treatment Capacity
   Pages 38 - 40
   Response from Town of Essex dated January 11, 2020 re: Response to Proposed Allocation of Remaining UWSS Treatment Capacity
   Pages 41 - 49

6. UW/07/21 dated January 15, 2021 re: Kingsville Water Tower Rehabilitation Project Tender Results
   Pages 50 - 52

7. UW/08/21 dated January 15, 2021 re: Payments from December 11 to January 15th, 2021
   Pages 53 - 61

H. New Business:

I. Adjournment:

J. Date of Next Meeting: February 17, 2021, Virtually in Zoom

/kmj

UW/01/21

TO: CHAIR AND MEMBERS OF THE UNION WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT

FROM: RODNEY BOUCHARD, UNION WATER MANAGER

DATE: JANUARY 13, 2021

RE: PROCEDURE FOR THE ELECTION OF THE UWSS CHAIR AND VICE CHAIR

AIM:

To inform the Board of the procedure for the election of a Chair and Vice-Chair of the Board for a term ending on December 31, 2021.

BACKGROUND

The Transfer Order which established the Joint Board of Management of the Union Water Supply System sets out certain rules for the Board. The following are among the items specified in the Transfer Order regarding the Chair and Vice-Chair:

- That the Board members are appointed by the municipalities for a term of one year.
- That there is to be a Chair and Vice-Chair elected from amongst the members of the Board.
- That the Chair and Vice-Chair must be from different municipalities.
- That the Chair and Vice-Chair are elected for a term of one year.

DISCUSSION:

Functions of a Chair and Vice-Chair

The Chair and Vice-Chair are positions that are prescribed in the UWSS Transfer Order. The Chair is responsible for the following duties under the Transfer Order:

1. Chairing of meetings of the Joint Board of Management.
2. Calling meetings of the Joint Board of Management.
3. Executing agreements and conveyances entered into by the Joint Board of Management. The Chair co-signs with another member of the Board.

The Vice-Chair is designated under the Transfer Order to act as Chair in the absence of the Chair.

In addition to the functions that are set out in the Transfer Order, the Chair and Vice-Chair undertake the following tasks which have been determined by the Board over the 10 years of its existence.

1. The Chair and Vice-Chair have signing authority on the UWSS bank accounts along with the UWSS Manager and the Leamington Director of Finance. Account transfers require two signatures, one of the Chair or Vice-Chair and one of the Manager or the Finance Director.
2. The Chair and Vice-Chair meet once a month with the Manager to review the proposed agenda for the next Board meeting.
3. The Chair and Vice-Chair conduct an annual performance appraisal of the Manager.

Under the Transfer Order the Chair and Vice-Chair are elected for a one (1) year term and must be from different municipalities. These requirements are intended to ensure that the Board acts in the overall system's interest and in the interest of all of the municipal owners. In some of the other Joint Boards of Management set up under the same legislation, the position of Chair is required to rotate annually or biannually among the municipal owners.

This memorandum is intended to allow the Board members to prepare for the election. Any questions regarding the procedure should be given to the Manager before the meeting if possible.

Election Procedure

The established procedure for the election of the Chair and Vice-Chair of the Joint Board of Management should be as follows:

The Manager will chair the meeting until the election of the new Chair.

The Manager will call the meeting to order.

The first order of business is the election of the Chair.

The Transfer Order under section 1 (g) says that the Chair and Vice-Chair may not be from the same municipality. This means that the election of the Chair must be completed before the Board can determine which members are eligible to be elected as Vice-Chair.

The Manager will ask for nominations from the Board for the position of Chair. Nominees must have a proposer and a seconder (neither of which can be the nominee) and the

nominee will be asked if they are willing to accept the nomination. The list of candidates will be made up of those nominees who accept their nomination.

If there is only one (1) successful nomination, that candidate will be acclaimed as Chair.

If there are two (2) or more nominations, there will be an election. The Manager will state the names of the nominees in alphabetical order by surname. After each name is announced there will be a show of hands by those wishing to vote for that candidate. Board members shall only vote for one candidate. Candidates can vote for themselves.

The Administrative Assistant will record the number of votes for each candidate. The nominee with the most votes will be declared to be the Chair for the year to December 31, 2021.

If there is a tie for the most votes cast, the name of each nominee who is tied will be written on a slip of paper by the Manager and the slips will be placed in a hat or box. The Administrative Assistant will draw one slip and the name on that slip will be declared as the new Chair.

The Manager will ask for a motion confirming the appointment of the successful candidate as Chair.

The new Chair will then take charge of the meeting.

The Chair will then proceed with the election of the Vice-Chair. If the Chair is from a municipality with more than one member on the Board, no Board member from that municipality is eligible to serve as Vice-Chair.

The Chair will ask for nominations from the Board for the post of Vice-Chair. Again, nominees must have a proposer and a seconder and the nominee will be asked if they are willing to accept the nomination. The list of candidates will be made up of those nominees who accept their nomination.

If there is only one (1) nomination, that candidate will be acclaimed as Vice-Chair.

If there are two (2) or more nominations, there will be an election by show of hands. The Chair will say the names of the nominees in alphabetical order by surname. After each name is announced there will be a show of hands by those wishing to cast a vote for that candidate. Board members shall only vote for one candidate. Candidates are allowed to vote for themselves.

The Administrative Assistant will record the number of votes for each candidate. The candidate with the most votes will be declared to be the new Vice-Chair.

If there is a tie for the most votes cast, the name of each candidate who is tied will be written on a slip of paper by the Manager and the slips will be placed in a hat. The

Administrative Assistant will draw one slip and the name on that slip will be declared as the new Vice-Chair.

The Chair will ask for a motion confirming the appointment of the successful candidate as Vice-Chair.

Immediately after the election of the Vice-Chair, the meeting will proceed with the rest of the business on the Agenda.

Respectfully submitted,

Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
rb/kmj

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JOINT BOARD OF MANAGEMENT

Wednesday, December 16, 2020
9:00 AM
Virtually in Zoom

MINUTES

Members Present:	Mayor MacDonald (Chair); Deputy Mayor Verbeke, Councillors Hammond, Tiessen – Leamington Mayor Nelson Santos (Vice-Chair); Deputy Mayor Queen, Councillors DeYong, Neufeld, Patterson – Kingsville Councillor Walstedt - Lakeshore
Members Absent:	Councillor VanderDoelen - Essex
Staff Present:	Andy Graf, Kevin Girard – Essex Shaun Martinho – Kingsville Laura Rauch – Leamington
OCWA Staff Present:	Dale Dillen, Ken Penney, Dave Jubenville

Call to Order: 9:01 am

Disclosures of Pecuniary Interest: none

Adoption of Board Minutes:

No. UW-56-20

Moved by: Councillor Patterson

Seconded by: Councillor Hammond

That Minutes of the UWSS Joint Board of Management meeting of Tuesday, November 17, 2020, 2020 be received.

Carried

Business Arising Out of the Minutes:

There was none.

Report UW/30/20 dated December 11, 2020 re: Status Update of the UWSS Operations & Maintenance Activities and Capital Works to November 13, 2020

The Manager reviews his report with board members.

The Manager notes that the softstart for Pump #4 at the CBS had been failing. A new one was ordered and OCWA staff will be installing the pump. Operations staff noted that air wash actuators were failing on Filter #7. This actuator was originally purchased in 1994 and could not be repaired. An extra one was ordered as back up.

Flow meters on the raw water lines #1 and #2 were installed by Nevtro during the week of December 4, 2020. OCWA staff will be installing the Rotork actuator and flow control valves this week and then leak testing can occur.

The Manager notes that on Filters #2 and #4 have been taken out of service for the installation of new inlet valves. Operations staff have installed during the second week of December and leak testing has been completed. Filters #2 and #4 are starting to fail, these are original to 1959. The other filters have been retrofitted and the Manager notes that #2 and #4 will be retrofitted in 2021.

The Manager reminds the members that the SCADA project is complete, and the contractor is working through the deficiency list, where there appear to be minor issues.

The security system is now active with 21 cameras and 8 still in the process of waiting for communication improvements to take place. The system includes 21 access control points, such as doors and gates etc. throughout the system.

The new lab construction project is currently on hold until 2021 due to scheduling conflict with the contractor.

The Manager notes that a new tower and point to point radio antennas have been installed at the Low Lift for back up communication to the main plant. There was a fiber optic failure in October 2020, which resulted in control issues between the main plant and low lift. This should alleviate the issue.

The Manager notes that he sent a letter to the four (4) CAOs regarding the allocation of the remaining water. The Manager notes that he has received official responses from Leamington and Kingsville. Both Essex and Lakeshore will be bringing this information to their councils. Once all of the feedback has been received he will present a report to the UWSS Board.

The Manager again notes that the flows continue to be high, with some very high days occurring in December, which is not normal for this time of year.

Deputy Mayor Verbeke asks the Manager how much time Essex and Lakeshore have to provide feedback. The Manager notes that he is hoping for a response by the end of the month, but he is planning on having a conversation with staff after this Board meeting. He is hoping to have a response by the January UWSS Board meeting.

The Chair asks the Manager how information is communicated to the public regarding main breaks and any other issues. The Manager notes that it really depends on the situation, however Facebook seems to work well,

No. UW-57-20

Moved by: Councillor Dunn

Seconded by: Councillor Neufeld

That report UW/30/20 dated December 11, 2020 re: Status Update of the UWSS Operations & Maintenance Activities and Capital Works to December 11, 2020 is received.

Carried (UW/30/20)

Report UW/31/20 dated December 8, 2020 re: Draft 2021 UWSS Operations and Capital Budget Report

The Manager reviews his report with the Board. He notes that his recommendation, after the review, is to adopt the draft Budget for 2021. He is proposing a rate increase of 2.58 cents per cubic metre. The new proposed UWSS Wholesale water rate for 2021 would be $0.6716 per cubic metre. The Manager based his draft budget on an anticipated water demand increase of 2%, based on 2020 flows. He does remind members of the board that the summer of 2020 was very hot early on and many new greenhouses came online.

Report highlights include:

- UWSS Revenue for 2021 is estimated at $13,578,000 of which $13,081,000 is from wholesale of water to municipalities, $405,000 from investment revenue, $22,000 from Sundry Revenue and $70,000 from municipal study revenue.
- Operational and Debt Service Expenditures for 2021 are estimated at $8,572,000. This includes $3,397,000 for OCWA Operations and Maintenance services and $2,370,000 for the Sunlife Loan (former MFD Debt).
- A budget of $430,000 has been established for proposed 2021 Operational Studies and Programs.
- 2021 Revenue versus Operational and Debt Service Expenditures are anticipate to result in a surplus of approximately $5,006,000 for 2021 Fiscal Year;
- A Capital Program of $8,155,000 is proposed for 2021; A draw of $3,149,500 from the UWSS Reserves would be needed to fund the 2021 Capital Program.
- Projected total UWSS Reserves for January 1, 2021 are estimated at $21,597,00

The Manager put a graph on the screen to show the water demand increase since 2017, this is attributed to residential as well as greenhouse growth.

The Manager points out the 6 Year Capital Program and notes that he had to make some changes due to COVID19, such as, conferences, training and CO2 gas purchase for the pH adjustment system (as this was a new system) and didn't come completely online until close to the end of the summer. He notes that the north residual pond will need to be addressed. He has moved the water quality and corrosion monitoring over to operations, rather than studies, as this will be an ongoing line item now. He includes $100,000 in

watermain repairs as these keep occurring as well and increased the electricity and natural gas budget by 2% as a general increase.

The Manager informs members that the 2021 Capital works program is fairly robust, however reminds members some items are carried over from 2020. These carry over items could not be completed during the 2020 year due to COVID19, however he feels that going forward they will be completed.

He also notes that some costs have increased, again attributed to COVID19, as new safety measures have had to be accounted for and material costs have increased due to manufacturing and shipping delays. He also explains that studies and programs will be slightly increased for 2021 since most of the 2020 studies had to be delayed. This includes the study with the University of Windsor will require the UWSS to provide a $100,000 in grant matching funds. He notes that this will only happen once the government grant funding is provided. This study will include the installation of a monitoring network in Lake Erie using buoys to monitor any algae blooms in Lake Erie and their potential to impact the UWSS intakes.

The Manager reminds the Board members that the study regarding the potential for emergency connections between UWSS and Windsor Utilities Commission (WUC) has now started, however, most of this work will take place in 2021.

A potentially large project is the need for a third reservoir. The Manager has allocated $30,000 for an optimization study and will hopefully present these findings at a Board meeting early in 2021. The costs for a new reservoir will be a large budget item, but necessary given the changing flows.

The Manager then reviews several more projects planned for 2021, including back up power generation, infrastructure/masterplan review, High Lift pump #7 replacement, ground improvements, and the rehabilitation of the Kingsville Water Tower (KWT). The KWT project has gone through the preliminary bid meeting, and it was noted that four (4) contractors attended and the tender process closes in early January. The Manager hopes to commence this project in the Spring of 2021 with completion by Summer 2021.

One of the bigger projects planned in 2021 is the Dissolved Air Flotation (DAF) project on the Clarifier #2. He notes that the Clarifier #4 is planned for the future. Therefore, 2/3 of the entire project costs have to be incurred during this first stage. The budget for Clarifier #2 is bigger than for Clarifier #4 for that reason. He notes that this project will cost over $4.5 million and costs have increased because of COVID19 and he anticipates that the costs will land at $6 million. He anticipates the start date of late September 2021, as this is when flows typically are low enough to shut down some clarifiers. The tender process will occur in the Spring and then he will have more concrete figures.

The Manager notes that currently the UWSS has approximately $20 million in reserves with $10 million locked away for another 2 years. The UWSS will be adding about $3.5 million to reserves from 2020 and expects a draw of $3.2 million for the 2021 budget.

Counillor Hammond wants to know what a 2.58%rate increase will do the average homeowner's pocketbook. The Manager indicates that is averages out to approximately $8/yr for the average homeowner. Councillor Hammond follows up with question

regarding solar power. The Manager notes that this is part of the back-up generation study that will be happening in 2021. The study will be looking at green energy and solar panels as well.

Councillor Patterson indicates that he would like a full report on the generators used and wants to know if any of this increase in rates is attributed to the greenhouse industry and feels there should be an explanation regarding the rate increase.

Mayor Santos/Deputy Chair notes that the UWSS has established a long term plan regarding investment and rates and asked for clarification on those items. The Manager explains that the UWSS is following the Financial Plan set out by Watson and Associates that was approved in 2019, so any rate increase is according to that plan. This rate increase will assist the UWSS in going forward to cover necessary capital improvements as there are some big capital works items that are necessary in the coming years. Mayor Santos notes that UWSS is following a plan and sticking to it and residents will appreciate that as well as the improvements to the system and the quality of water being produced.

Councillor Hammond needs to excuse himself from the meeting do to a prior engagement, he wishes the Board members a Merry Christmas.

No. UW-58-20

Moved by: Deputy Mayor Queen

Seconded by: Councillor Walstedt

That the Union Water Supply System Joint Board of Management (UWSS Board) adopts the Draft 2021 Operational and Capital Budget for the Union Water Supply System;

And further, that the UWSS Board adopts an increase of $0.0258 per cubic metre for the UWSS Wholesale Rate. The new proposed UWSS Wholesale Rate for 2021 would be $0.6716 per cubic meter.

And further, that the UWSS General Manager be provided the delegated authority to implement the 2021 UWSS Operations & Maintenance Budget and 2021 Capital

Carried (UW/31/20)

The UWSS Joint Board of Management meeting dates for 2021 are presented.

No. UW-59-60

Moved by: Deputy Mayor Verbeke

Seconded by: Mayor Santos

That the meeting dates for 2021 are received.

Carried

Report UW/32/20 dated December 11, 2020 re: Payments from November to December 11, 2020

No. UW-60-20

Moved by: Councillor Patterson

Seconded by: Councillor Dunn

That report UW/29/20 dated November 13, 2020 re: Payments from October to November 13, 2020 is received.

Carried (UW/32/20)

New Business

The Chair wishes everyone a Merry Christmas and notes that the UWSS works well collectively as a unit. She thanks the Manager and the Recording Secretary for their work during the year. She also thanks OCWA for their continued good working relationship.

Adjournment:

No. UW-61-20

Moved by: Councillor Thiessen

Seconded by: Councillor DeYong

That the meeting adjourn at 9:23

Carried

Date of Next Meeting: Wednesday, January 20, 2021 in zoom

/kmj

UW/02/21

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 15, 2021

Re: Changes to Leamington UWSS Board Member Appointments

Recommendation:

That the UWSS Board receives this report for information purposes.

Background:

As part of the Transfer Order for the Union Water Supply System, Transfer Order Union W1/1999 dated January 8, 2001, each municipality that is an owner of the Union Water Supply System has authority to appoint members to the Board in accordance with the provisions of the Transfer Order. Municipal appointments are typically made following a municipal election. However, changes to these appointments can be made at the discretion of the Councils for each municipality.

Discussion:

On December 22, 2020 the UWSS was informed by the Municipality of Leamington's Clerk of the following:

> Please be advised that the Council of the Corporation of the Municipality of Leamington, at its meeting held Monday, December 15, 2020 enacted the following resolution:
>
> **No. C-407-20**
> 3. Councillor Jones be appointed to the Union Water Joint Board of Management (LLS-67-20).
>
> Carried.

The UWSS General Manager would like to welcome Councillor Jones as a Regular member of the Union Water Supply System Joint Board of Management.

Respectfully submitted,

Rodney Bouchard, P. Geo., General Manager
Union Water Supply System Joint Board of Management
rb/kmj

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UW/03/21

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, UWSS General Manager

Date: January 15, 2021

Re: Status Update of UWSS Operations & Maintenance Activities and Capital Works to January 15, 2021

Aim:

To inform the UWSS Board about operational and maintenance activities and capital works projects for the Union Water Supply System since the last Board meeting on December 16, 2020.

Discussion:

The UWSS Manager conducts regular meeting with OCWA Operations staff in regards to on-going operations and maintenance programs for the UWSS facilities. The following provides an update on UWSS operations, regular maintenance and major maintenance and Capital Works at UWSS facilities:

1. Regular Maintenance on all process equipment and analyzers continue to be completed through OCWA's Workplace Maintenance Management System.

2. The new security and access control system that was installed by Empire Communications is now operational. A few remaining minor deficiencies will be addressed during the next few weeks.

3. Greenflag Coatings has been retained to install an epoxy flooring in the new laboratory area. This work will be completed before the end of January 2021.

4. On January 11, 2021, the low lift electrical service from Hydro One was shut down to allow for major electrical upgrades including installation of new transformer (purchased in 2020) and panel/transfer switch upgrades. Phasor Industrial of Kingsville, ON was retained to complete this work. The UWSS' portable backup generator was used to provide power to the Low Lift station during this work. The Hydro One service to the Low Lift Station was scheduled to be put back in service by end of day on January 15, 2021.

5. Clean Harbors was retained to clean out the residual chemicals and to clean out the storage tanks in the Ammonia Building. This work is anticipated to be completed during the week of January 18, 2021. Once this work is complete, the UWSS will begin the task of repurposing this building for use as a maintenance building. UWSS is in process of retaining a design and engineering firm to develop plans for converting the building into a maintenance shop.

6. UWSS retained Golder Associates to provide geotechnical engineering services for the Dissolved Air Flotation (DAF) retrofit of Clarifier #2. Drilling of

geotechnical boreholes were completed on January 14th, 2021. The geotechnical report is anticipated to be complete by the start of February 2021 and will be provided to the project engineer, Associated Engineering.

7. A local tree service company was retained to remove a number of trees in around the Leamington Water Tower property. These trees appeared to be in poor health and posed a hazard from falling branches and potential for blowing over. This work was completed on January 6, 2021.

8. The Lakeshore (Union) Drinking Water System Inspection Report dated January 5, 2021 has been received from the Ministry of Environment, Conservation and Parks (MECP). This report indicates and inspection rating of 100%.

The first chart shows comparative flows for 2017 through 2021 in Mega Litres (ML) and the second chart shows Millions of Imperial Gallons (MIG) for the period January 1st to January 14th, 2021.

	2017	2018	2019	2020	2021
Flow to Date (ML)	368.99	407.29	391.98	418.60	480.08
Max Day (ML)	29.95	35.25	32.21	33.58	39.01
Min Day (ML)	20.73	23.56	20.13	25.44	26.74
Average Day (ML)	26.36	29.09	28.00	29.90	34.29

	2017	2018	2019	2020	2021
Flow to Date (MG)	81.169	89.592	86.226	92.081	105.6038
Max Day (MGD)	6.59	7.75	7.09	7.39	8.58
Min Day (MGD)	4.56	5.18	4.43	5.60	5.88
Average Day (MGD)	5.80	6.40	6.16	6.58	7.54
No of Days	14	14	14	14	14

Flows to date are up 61.48 ML (13.52 MIG) or 14.68% from last year. The 2020 flows to date are up 21.01% over the previous 4 year average.

Recommendation:

That this report be received by the UWSS Board for information purposes.

Respectfully submitted,

Rodney Bouchard, Manager
Union Water Supply System Joint Board of Management
/kmj

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UW/04/21

Report

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 14, 2021

Re: Filters #2 and #4 Upgrades

Recommendation:

That the Union Water Supply Joint Board of Management (UWSS Board) receives this report for information;

And further, that the Board approves a budget of $752,410 to be funded from the UWSS Reserves for Filters #2 and #4 Upgrades including rehabilitation of the cement filter box, installation of new underdrains and installation of new filter media and includes $50,000 for inspection services and contingency purposes.

And further, that the UWSS Board authorizes the UWSS General Manager to direct source this work to:

- **Jacques Daoust Coatings Management, Inc for rehabilitation and recoating of concrete filters boxes for Filters #2 and #4 in the amount of $252,600 ($126,300 per filter) not inclusive of HST and contingency.**
- **Continental Carbon Group for removals work, installation of new underdrains and supply & installation of new filter media in Filters #2 and #4. This work is valued at $269,810 ($134,905 per filter) not inclusive of HST and contingency.**
- **Pro-Aqua, Inc. for supply of the Roberts Filter underdrains for Filters #2 and #4 in the amount of $180,000 ($90,000 per filter) no includes of HST.**

Background:

The water filtration process at the UWSS' Ruthven Water Treatment Plant includes eight (8) dual media water filters. The original four filters (Filters #1- #4) are original to the treatment plant construction in 1959. Filters #5 - #8 were installed during water treatment plant expansion in in 1994. Each filter consists of two concrete basins that are 18ft x 18ft in dimensions. The filter media in each basin consists of 12 inches of filter sand overlain by 18 inches of anthracite.

Since 2012, the UWSS has been upgrading the dual media water treatment filters at the Ruthven Water Treatment Plant. The following work has been completed to date:

- Upgrade of Filter #1 in 2012-2013. This work included the complete rehabilitation of the concrete filter box and installation of new cementitious coating (Gemite) in filter box and fill/drain channels; removal of existing Miller Block underdrains and installation of new Roberts Filter Infinity underdrains; installation of new filter media and installation of Roberts Filter Aries Air Scour backwash system.

- Upgrade of Filter #3 in 2013-2014. This work included the complete rehabilitation of the concrete filter box and installation of new cementitious coating (Gemite) in filter box and fill/drain channels; removal of existing Miller Block underdrains and installation of new Roberts Filter Infinity underdrains; installation of new filter media and installation of Roberts Filter Aries Air Scour backwash system.

- Upgrades of Filters #2 and #4 in 2014. This work included the installation of Aries Air Scour systems within each Filter and rehabilitation of the filter media.

- Installation of new filter media in Filters #5-8. This work was completed from 2015-2017.

Filters #1 and #3 required the full rehabilitation of the concrete filter boxes since these filters had been noted to be leaking. The filter boxes for Filters #2 and #4 were not rehabilitated at that time since no leaking was noted from these filters.

All concrete filter box rehabilitation work for Filters #1 and #3 was completed by Jacques Daoust Coatings Management Inc (JDCMI). All services associated with installation of Roberts Filter Infinity underdrains, Aries air scour backwash systems, and supply & installation of new filter media was provided by Continental Carbon Group (CCG).

Discussion:

Starting in 2019, it was noted that Filters #2 and #4 appeared to be leaking. Further inspection of the interior of concrete filter boxes during for these two filters indicated that the interior of the filter boxes where highly corroded and the concrete was in bad condition. Also, water appeared to be seeping from cracks on the exterior of the concrete filter boxes. As an interim solution, JDCMI was retained to inject epoxy into the noted cracks to minimize leakage and further expansion of existing cracks.

A budget of $400,000 was approved in the 2020 UWSS Budget to complete the rehabilitation of Filter #4. It was planned that Filter #2 would be then be rehabilitated in 2021. However, due to the onset of COVID 19 restrictions, the rehabilitation of Filter #4 was not completed in 2020.

In order to expedite this work and to achieve some potential cost savings, the UWSS General Manager in consultation with OCWA Operations staff though it best to complete the rehabilitation of Filters #2 and #4 at the same time in winter 2021. A budget of $600,000 was included in the 2021 Budget for this work. The 2021 UWSS Budget was approved by the UWSS Board at the December 16, 2020 Board meeting.

The UWSS General Manager feels that it would be in the best interest of UWSS to retain the contractors that previously completed similar work for the Filter #1 and #3 upgrades. The reasoning for this is as follows:

- JDCMI was retained through a tendering process to complete the rehabilitation of concrete filter boxes for Filters #1 and #3. Only selected contractors were invited for this tender since the coating materials specified by the Engineer (OCWA Engineering Services) included a specialty flexible waterproof cementitious coating called Gemite. JDCMI is an approved Gemite installer. The services provided by JDCMI were above expectations. JDCMI has also been retained by a number of water treatment facilities to complete similar coating work.

- CCG was retained through a quoting process to complete supply and install the filter media in all filter media work as described previously in this report. CCG also completed the removal of former Miller Block underdrains in Filters #1 and #3 and installation of the Roberts Filter Infinity underdrains. CCG also installed the Aries Air Scour systems in Filters #1-4. CCG is an approved Roberts Filter installer.

- Roberts Filter Infinity Underdrains for Filters #1 and #3 were selected through a quoting process. The Infinity underdrains have performed well and no issues have been identified since installation of the Infinity Underdrains in these filters. It is preferred to install Infinity Underdrains in Filters #2 and #4 so that the profiles for Filters #1-4 are the same and thus would simplify operations and maintenance.

Quotations were requested and provided from JDCMI, CCG and Roberts Filter (through its Canadian representative, Pro-Aqua). A summary of these quotations are as follows:

JDCMI: Refurbishment of the interior concrete filter boxes for Filters #2 and #4 and associated filling and drainage channels. This work includes sandblasting to remove damaged and corroded concrete and supply and installation of Gemite cementatious waterproof coating system. Quotation provided for this work is $126,300 per filter not including HST.

CCG: For works associated with the removal of existing filter media, removal of Aries Air Scour System, removal of existing Miller Block underdrains; installation of new Roberts Infinity underdrains, re-installation of Aries Air Scour system including supporting gravel layer, supply and installation of new filter

media including 12 inches of filter sand and 18 inches of anthracite. Quotation provided for these services is $134,905 per filter not including HST.

Pro-Aqua: Supply of Roberts Filter Infinity Underdrain system and associated inspection/ testing of underdrain system by Roberts Filter approved inspectors. Quotation provided for these materials and services is $90,000 per filter not including HST.

UWSS proposes to PW Makar Coatings Inspection to provide third party inspection services to UWSS for this work. PW Makar provided similar services to UWSS during rehabilitation of Filters #1 and #3. Estimated cost for these services are $10,000.

Financial Impact:

At the December 16, 2020 UWSS Board meeting, the UWSS Board approved a budget of $600,000 for the rehabilitation of Filters #2 and #4. This budget estimate was generally based on costs for similar services provided to UWSS for Filters #1 and #3. It was also based on the proposed re-use of existing filter media in Filters #2 and #4. However, in discussions with operations staff, filter media suppliers and industry colleagues, it was determined that it would be best to install new filter media as opposed to reuse of existing media.

Based on quotations received from JDCMI, CCG and Pro-Aqua for a total of $702,410 (+HST), the General Manager proposes a budget of $751,410 for completion of this work. The extra $50,000 above quoted prices would be for inspections services ($10,000) and contingency. Sufficient funds are available in UWSS Reserves to fund this work.

Closing Comments:

The UWSS General Manager recommends that the UWSS Board approves a budget of $752,410 for the upgrades to Filters #2 and #4.

The UWSS General Manager also recommends that this work be direct sourced to JDCMI, CCG and Roberts Filter (through Pro-Aqua as the Canadian distributor) due to similar services and materials provided to UWSS for Filters #1 and #3 and due to each contractor's expertise in the services being provided.

Respectfully submitted,

Rodney Bouchard, Manager
Union Water Supply System Joint Board of Management
rb/kmj

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UW/05/21

Report

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 14, 2021

Re: Clarifier #2 DAF Retrofit – Equipment Supply and Pre-Purchase

Recommendation:

That the Union Water Supply Joint Board of Management (UWSS Board) receives this report for information;

And further, that the UWSS Board authorizes the UWSS General Manager to award the pre-purchase of equipment to retrofit Clarifier #2 with a dissolved air flotation (DAF) system to Napier-Reid, Ltd. in the amount of $3,296,540.

Background:

As part of the Union Water Supply System (UWSS) Water Quality Master Plan (WQMP) completed by Associated Engineering (AE) in 2016, the clarification process, consisting of 4 up-flow clarifiers, was identified as the primary limiting process at the Ruthven Water Treatment Plant. Conditions such as periods of elevated raw water turbidity (e.g. storm events), drastic fluctuations in flows and algae blooms in Lake Erie have caused difficulty in the operation of the existing circular up-flow clarifiers. AE's triple bottom line (TBL) and risk evaluation completed as part of the Water Quality Master Plan, identified DAF as the preferred clarification alternative. In AE's WQMP report, a recommendation was made to convert the existing circular up-flow solids contact clarifier process to a DAF process to increase the clarification system robustness.

In 2017, UWSS retained AE to conduct pilot-scale testing to evaluate the feasibility of dissolved air flotation (DAF) as a clarification alternative. The preliminary results from this study indicated that through a multi-stage pre-treatment process that includes both a flotation (DAF) and settling (existing up-flow clarifiers) component, DAF would be a feasible clarification process.

Further testing indicated that a carbon dioxide (CO_2) based raw water pH adjustment system would improve the effectiveness of the existing pre-treatment process as well as the proposed multi-stage DAF pre-treatment process. AE was retained to design the CO_2 raw water pH adjustment system. The CO_2 system has been constructed and was put into operation in July 2020.

With the completion of the CO2 raw water pH adjustment system, the next step to improving the clarification process is to install a DAF system within two of existing Clarifiers. The DAF retrofit would increase clarification system throughput and build additional resiliency for the Ruthven Treatment Plant. In discussions with operations staff and AE, it was decided that Clarifier #2 would be the best candidate for the first DAF retrofit install.

Discussion:

As part of their services to UWSS during and following the development of the WQMP, AE completed an extensive review of reputable DAF suppliers, including Leopold, Veolia, and Napier Reid to identify a suitable design that can be retrofitted to the clarifiers. Napier Reid's circular DAF design was identified as the most suitable to retrofit into the existing circular upflow clarifier tank. All other suppliers were recommending retrofitting their rectangular system within the footprint of the clarifier tank, which would significantly increase project costs. AE completed a preliminary hydraulic review of the proposed hybrid conventional DAF system by Napier Reid and concluded that the Low Lift Pumping Station can accommodate the slight change in the hydraulic gradeline needed for the proposed DAF process.

In February 2020, UWSS retained AE to provide design, engineering and project management services for retrofit of Clarifier #2. Upon further evaluation of hydraulic conditions, existing clarifier construction, and requirements for DAF systems, if was concluded that the Napier Reid hybrid solution would provide the best fit and best cost effective solution for retrofit of DAF at the Ruthven Water Treatment Plant. The proposed solution would also increase the throughput in Clarifier #2 to a maximum of 70 million litres (ML) per day or 15.3 million imperial gallons per day (IGPD) as compared to the existing throughput of 32 ML per day (7 million IGPD).

AE recommended that a proposal and quotation be requested from Napier Reid to supply the equipment needed for their hybrid DAF solution.

AE prepared a Request for Proposal and specifications document that was submitted to Napier Reid on October 1, 2020. A proposal and cost estimate was received from Napier Reid that identified a few alternatives for materials and innovation. A copy of Napier Reid's proposal dated October 15, 2020 is attached to this report.

Upon further review by AE of the Napier Reid proposal and alternatives and discussion between AE, UWSS and contracted operations staff at UWSS, a preferred alternative was selected. AE issued a letter on October 26, 2020 that recommends the preferred solution and associated cost. A copy of AE's letter is attached this this report.

Financial Impact:

As per AE's recommendation letter dated October 26, 2020, the UWSS General Manager recommends award of the contract for the pre-purchase of equipment for the Clarifier #2 hybrid DAF system to Napier Reid in the amount of $3,296,540.

A budget of $4,500,000 for Clarifier #2 upgrade to DAF is included in the 2021 UWSS Capital Budget that was approved by the UWSS Board at the December 16, 2020 UWSS Board meeting. Sufficient funds are available in the UWSS reserves to fund this project.

Closing Comments:

Based on the results of AE's extensive review of qualified DAF suppliers, it was determined that Napier-Reid would be best suited to supply the DAF system that would provide the best and most cost effective solution for retrofit of Clarifier #2 with a hybrid DAF. DAF pilot test completed in 2017, and subsequent bench testing activities related to DAF, the UWSS General Manager believes that retrofitting existing up-flow clarifiers to DAF would be beneficial to the UWSS treatment process as it would achieve the following:

Based on the recent work Associated Engineering have completed at the Ruthven Water Treatment Plant and their familiarity with the treatment process and concerns, the UWSS General Manager recommends that this work be awarded to Associated Engineering.

Respectfully submitted,

Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
rb/kmj

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Associated Engineering
GLOBAL PERSPECTIVE. LOCAL FOCUS.

Associated Engineering (Ont.) Ltd.
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Markham, Ontario, Canada L3T 7V8

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FAX: 416.622.6249
www.ae.ca

October 26, 2020
File: 2020-5461-00

Rodney Bouchard, P.Geo.
General Manager
Union Water Supply Sytem (UWSS)
P.O. Box 340
1615 Union Avenue
Ruthven, ON N0P 2G0

Re: UNION WATER SUPPLY SYSTEM RUTHVEN WTP DAF SYSTEM RETROFIT
EQUIPMENT SUPPLY AND PREPURCHASE
RECOMMENDATION FOR AWARD

Dear Mr. Bouchard:

As part of the Dissolved Air Flotation (DAF) Upgrades project, the existing clarifiers, i.e., Clarifier No.2 and No.4, will be converted into the new DAF systems, i.e. DAF No.1 and No.2. The DAF equipment will be preselected and shop drawings pre-purchased prior to the Novation Agreement with the Contractor for the equipment purchase.

Associated conducted an extensive review of reputable DAF suppliers, including Leopold, Veolia, and Napier Reid to identify a suitable design that can be retrofitted to the clarifiers. Napier Reid's circular DAF design was identified as the most suitable as they were the only vendor willing to customize their DAF system to retrofit into the existing circular upflow clarifier tank. All other suppliers were recommending retrofitting their rectangular system within the footprint of the clarifier tank, which would significantly increase project costs.

Associated further evaluated the Supplier's (i.e., Napier Reid) proposal to verify their project understanding to provide the DAF equipment that will meet the project's objectives and evaluated their pricing and services.

1 SCOPE OF WORKS

The scope outlined in the proposal includes a base scope of $3,153,780 with additional options for using stainless steel and anodized aluminum as out lined below:

1. Option A – 304 SS for all wetted components at $361,380;
2. Option B – 304 SS for non-structural wetted components at $130,510; and,
3. Option C – Aluminum and anodized aluminum for grating & handrails at $12,250.

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2 EVALUATION

Associated has reviewed the proposal from the Supplier and found the proposal costs to be reasonable relative to the 2018 high level estimate of $2.6 millions; after considering the following factors:

- Increased design peak from 62 ML/d to 70 ML/d per DAF system;
- Use of stainless steel materials (base scope);
- Addition of a effluent v-notch weir;
- Addition of control panel, electrical panel, and VFD pumps;
- Inflation; and,
- Recent Social / Economic situations.

The base scope material selection is epoxy coated steel, our recommendation is to accept Option B and Option C. Stainless steel, aluminum, and anodized aluminum will be used in combination with the proposed epoxy coated carbon steel materials. The option items were reviewed and summarized below.

Option	Recommendation
Option B - 304 SS for non-structural wetted components	304 Stainless Steel for the followings: • Inlet well • Flocculation well • Inclined distribution plate well • Scum troughs • Effluent trough with V-notch weir plates, connection adapter and scum baffle plates.
Option C – Aluminum and anodized aluminum for grating & handrails $12,250	• Aluminum for grating and checker plates • Anodized aluminum for handrails

The base scope also includes field services by the supplier and a 24-month warranty from substantial performance. Field services cover 40-day in twelve site visits for assessment/survey, review meetings, equipment inspection, installation assistance, certification, start-up, commissioning, operator training, and performance evaluation.

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3 RECOMMENDATION

Associated recommends that the contract to be awarded to the Supplier by accepting the base scope at $3,153,780 and also including Option B and Option C at $130,510 and $12,250 respectively; for a total cost of $3,296,540.

We trust this submission is satisfactory. Should you have any questions, please contact the undersigned.

Yours truly,

Vincent Laplante, P. Eng.
Project Manager

VL/st

Since 1950
NAPIER-REID
Certified to ISO9001:2015
10 ALDEN RD. MARKHAM, ON. CANADA L3R 2S1 (905) 475-1545 Fax: (905) 475-2021
1-800-615-4406 E-Mail: info@napier-reid.com www.napier-reid.com

Associated Engineering
165 Commerce Valley Dr. W,
Markham, ON L3T 7V8

Date: Oct. 15th, 2020

Attn: Stephen Tang

File: PR-7834

PROPOSAL

Re: Ruthven WTP DAF Retrofit
Union Water Supply System, Kingsville, ON

We are pleased to present this proposal for design and supply of the following DAF equipment for the retrofit of the an existing clarifier system (Clarifier #2) at the Ruthven Water Treatment Plant in Kingsville, ON.

Design Criteria

The proposed DAF system is designed based on the following design parameters, and shall produce clarified water meeting the performance requirements as defined in the specification Section 46 71 23.

Number of units	1
Design influent flowrate	9.8~70ML/d (408~2917m^3/h)
Tank inside diameter (existing)	28.65m
Side wall depth (existing)	5.832m
Influent well diameter	3.50m
Flocculation well diameter	10.00m
Saturated water pipe diameter	10”
Recycle ratio at peak flow	10%
Effective hydraulic surface load	5.49m^3/m^2.h

Please note that our design will be based on the assumption that peak flow rate will only apply in day time during summer days, when water is warm and required flocculation time will be no more than 6 minutes.

Scope of Supply

Inline Dynamic Mixer

ONE Napier-Reid inline dynamic mixer, 750 mm (30”) diameter x 1,250 mm length, to provide maximum G-value of 3000 s^{-1}.

Each inline dynamic mixer consists of following:

1 - Mixing chamber in 304 stainless steel, 750mm (30") dia. x 1,250 mm long pipe, 150# ANSI 304 stainless steel flanged inlet and outlet.

1 - Electric motor, 15 HP motor, 600/3/60, TEFC, Insulation class F, Service factor 1.15, inverter duty. The output speed will be controlled by VFD.

1 - Drive shaft in 304SS.

1 - Set of steady and guide bearings

2 - Sets of flat turbine impellers in 304SS, welded to the shaft hub.

1 - Set of Silicon Carbide Mechanical Seal

1 - 1" NPT injection ports for coagulant feed.

1 - Set of epoxy coated carbon steel support frame for motor support.

LOT – Mounting hardware (bolts, nuts, washers) in 316SS supplied by Napier-Reid.

DAF Clarifier Mechanism

ONE DAF clarifier mechanism to be provided for the retrofit of an existing reactor clarifier. The DAF mechanism consists of the following:

1 - Support bridge fabricated from 304SS, 29.5m long and 1.38m wide, c/w walkway to the centre with 304SS structure, FRP gratings, 304 SS handrails and kick plates.

1- Operating platform to provide access to centre drive unit and four flocculator drives, c/w 304SS structure, FRP grating, 304SS handrails and kick plates.

1 - Drive unit assembly, c/w primary and secondary gear reducer and slewing bearing mechanism, TEFC motor, 3 HP, 1800 rpm, 600/3/60, service factor 1.15, class F insulation.

1 - 400mm dia. support column fixed on concrete bottom of existing tank, made of 304SS pipe to support the bridge and drive unit assembly.

1 - Drive cage 840mm dia. fabricated from 304SS structural members and driven by the slewing bearing mechanism.

1 - 3,500mm dia. inlet well fabricated from 304SS for mounting to the bridge structure. Raw water influent is evenly distributed along the periphery weir of the influent well to the flocculation well. The inlet well will be supplied in sections for field assembly by bolting by others.

1 - 10,000mm diameter flocculation well with 8 anti-rotation baffles for mounting to the bridge structure, all fabricated from 304SS. The flocculation well will be supplied in sections for field assembly by bolting by others.

4 - Set of flocculators inside the flocculation well, each c/w 1200mm dia. impeller and 50mm dia shaft all in 304SS, drive unit with helical gear reducer by Nord and 3 HP inverter duty electric motor suitable for VFD speed control. The flocculators will be mounted from the operating platform.

1 - Set of inclined baffle plates in 304SS for mounting to the bridge structure. The flocculation well will be supplied in sections for field assembly by bolting by others.

1 - 10” diameter saturated water diffuser laterals in 304SS located between the inclined baffle and flocculation well, c/w DAF diffusers.

1- 24” dia. perforated effluent collection pipes in 304SS for mounting on the concrete wall and connect to the existing 30” dia. effluent pipe via a 304SS effluent box.

2 - Sludge scraper arm assemblies c/w truss arm, scrapper, support and squeegees, all made of 304SS.

2 - Skimmer arm support assemblies c/w truss arm in 304SS.

4 - Surface scum skimming arm assemblies, each c/w 304SS support structure and replaceable neoprene wiper strip, supported/driven from the sludge scrapper arm and skimmer arm support assemblies.

4 - Scum troughs with beaching plate and sloped bottom made of 304SS, supported from concrete tank wall. The scum troughs will be connected to the existing sludge well by slopped scum pipes supplied by others.

1 - Lot of bolts, nuts and washes in 316SS.

Notes:

1. The following piping shall be supplied by others.

    - 30” diameter of influent pipe along the bridge and connecting into influent well of DAF tank as per Napier-Reid drawings.

    - 10” piping between DAF effluent connection to recirculation pumps, and from air saturation tank outlet connection back to the saturated water inlet at DAF tank.

    - 6” scum piping from four scum trough outlets, along the DAF tank exterior wall to sludge blow-off well.

2. Scum collected in the scum troughs will be transported to the sludge blow-off tank via slopped 6” scum pipes by gravity. Therefore scum pumps are not required.
3. Spec item 2.4.1.1.4 asks for adjustable effluent weirs. Please note that the perforated effluent collection pipe does not have adjustable weirs. In order to have adjustable effluent weirs we will need to include effluent baffles and effluent troughs. This is quoted as Option 4.

Air Saturation System

ONE Air saturation system pre-assembled on an epoxy-coated steel skid, consists of the following:

2 - Recirculation pumps, each rated for 292 m3/h at 78psi, Goulds, Sulzer or equivalent, c/w 100hp motor, 575/3/60, VFD control, TEFC motor, 1800rpm. 8" inlet, 6" outlet.

2 - Oil-free scroll compressors, rated for 6.4 Acfm of air @100 psi, c/w 3 HP motor, 575/3/60, by Ingersoll Rand or equivalent, c/w air dryer and filter .

1 - 6" magnetic flow meter on inlet line of DAF recycle pump, by ABB (to measure re-circulation flow) or equivalent, c/w transmitter and 4-20 mA output signals.

1 - Saturation tank 2,083m dia x 2,100mm straight wall height & volume of 7.7m3, design pressure 150 psi, c/w lifting lugs & support structure, fabricated from 304SS.

1 - Lot valves, meters and regulators provided for the air saturation system including drain valve, air rota-meter, pressure regulator, solenoid air control valve, check valves & isolation valves.

1 - Pressure transmitter by E+H, ABB or equal, for measurement of air pressure.

1 - Differential pressure transmitter by E+H, ABB or equal, for measurement of saturation tank water level.

1 - Lot piping and fittings in 304SS.

1 - Pump skid frame in epoxy-coated steel.

Notes:

1. Spec item 2.4.3.1 asks for recirculation pumps with available water pressure of 90 psi. Please note that our DAF process only requires pressure up to 78 psi. Therefore pumps with head of 78 psi are quoted.
2. Spec item 2.4.4.1 asks for oil-free piston air compressors, which are not available from our suppliers. We have quoted oil-free scroll compressors instead.

Electrical and Control Panels

ONE Power panel to supply power to all motors in the proposed DAF package, c/w the following.

- NEMA 4X enclosure 72"x72"x20".
- Main Disconnect switch.
- VFDs for recycle pumps and flocculators.
- Motor starters for all other motors.
- Terminals, circuit breakers.
- E-Stop, and other components.

ONE PLC control panel c/w the following.

- NEMA 4X enclosure 60”x48”x20”.
- Main Disconnect switch.
- Allen-Bradley CompactLogix controller and IO Modules.
- 9” HMI Maple L Series.
- Terminals, circuit breakers, transformer and UPS.
- PLC and HMI programming

HMI screens will be provided to the system integrator for its programming of SCADA system.

Notes:

1. Spec item 2.4.6.4 mentioned controls for skimmer drives, augers and thickened WAS pumps. Please note that these items are not required in our DAF package, and are not included.
2. Spec item 2.4.6.4 mentioned controls of “chemical systems, feed pumps and influent feed pumps” as well as “influent flow rate”. Please note that our package does not include these items and we have not included any controls for them. We assume that they will be controlled by the Plant PLC.

Engineering Drawings and Programs

Napier-Reid will provide engineering drawings and documents in PDF format. Final drawings will be sealed by a professional engineer registered in the Province of Ontario. Final drawings in DWG or STEP formats can be provided upon request.

PLC and HMI programs will be provided in their original files to the client only after signing of non-disclosure agreement to protect Napier-Reid’s intellectual property.

Testing and Inspection-Quality Assurance/Quality Control

Napier-Reid will perform its standard QA/QC procedures during the design and manufacture of proposed system including raw material control, in-process inspection, finished inspection, and pre-shipment inspection.

All purchased standard items will have factory’s standard QA/AC documents or compliance statement. Please note that witnessed performance tests of purchased standard items may not be allowed.

Any test/inspection cost of the purchaser/consultant is excluded in this proposal.

Project Management

Napier-Reid will provide project management and coordinate design, fabrication and procurement, site activities and communications between Napier-Reid, its subcontractors, purchaser and the owner’s representatives.

The following senior management personnel will be assigned to this project:

Contract Manager:	Frank Li, P.Eng
Finance Manager:	Tim Otton, P.Eng

Project Manager:	Peggy Pan, P.Eng, PMP
Production Manager:	Bill Otton, CET
Mechanical Engineer:	William Ding, P.Eng
Electrical/Control Engineer:	Bill Deng, P.Eng
QA & Safety Manager:	Karthik Gopal

Field Services

Napier-Reid will provide field services for forty (40) man-days in twelve (12) visits for site assessment/survey, review meetings, equipment inspection upon delivery, installation assistance and certification, start-up, commissioning, operator training and performance evaluation.

Warranty

Napier-Reid Ltd. Warrants all equipment manufactured or supplied by it to be free from defects in design, workmanship and material for a period of twenty-four (24) months from substantial performance, or thirty (30) months from the date of delivery, whichever occurs first.

Insurance Coverage

Napier-Reid will provide the following insurance coverage:

Commercial General Liability:	$2 million each occurrence $5 million general aggregate
Professional Liability:	$2 million each occurrence $4 million general aggregate
Automobile Insurance:	$2 million each accident or occurrence

Performance Bond

Napier-Reid will provide a performance bond for 50% of the total contract value.

Exclusions

Napier-Reid specifically excludes from its scope of supply or responsibility the following:

- Receiving, unloading and storage of all materials at jobsite.
- Site preparation and any civil works including building, concrete foundations and channels, if required.
- Field assembly and installation.
- Field wiring for electrical, communications, instrumentation and controls, field wireways and conduits.
- Main plant PLC/SCADA system and system integration.
- Supply and control of chemical makeup and injection systems. We assume the existing chemical systems will be reused.
- Supply and control of raw water feed pumps and the control of influent flow rate to DAF.
- Sludge pumps, piping and valves. We assume that the existing sludge system will be reused.
- Piping and tubing external to and not forming an integral part of equipment and auxiliary systems of the packages.
- Power, water, and labor for operating the equipment.

- Any field and laboratory testing.
- Field painting, if required.
- Taxes and duties of any kind.
- Any equipment or service not specifically listed in this proposal.
- Any consequential damage, injury, or financial liability, direct or indirect.

TOTAL LOT PRICE FOR ONE DAF SYSTEM…… .....…….....$3,470,750.00

Option #2 – Alternative Materials

Material change for the following components from 304SS to epoxy coated carbon steel.

- Main support bridge
- Walkway including grating, checker plates and handrails
- Drive cage
- Influent well, flocculation well and inclined plates
- Sludge collector assemblies including truss arms, scrapers, etc.
- Scum skimmer assemblies including scum troughs, skimmers and skimmer support arms, etc.
- All supports for piping and equipment.

TOTAL LOT PRICE DEDUCTION…… ..... ……....$442,916.00

Option #3 Removal of Power Panel

Remove power panel c/w VFD's and motor starters.

TOTAL LOT PRICE DEDUCTION…… ..... ……....$105,820.00

Option #4 Change Clarifier Effluent Collection from Effluent Pipes to Baffle and Trough

In order to have adjustable effluent weirs as requested under Spec item 2.4.1.1.4 a conventional baffle and trough style effluent collection system is required. Adjustable V-notch weir plate will be mounted on the effluent trough.

TOTAL LOT PRICE ADDITION…… ..... ……....$145,290.00

Option #5 Change of Baffle and Piping Design for Field Assembly by Welding

In order to meet the spec requirement of no field welding the baffles and pipes proposed in our package will have flanges and 316SS fasteners to allow for field assembly by bolting. Should it be possible to assemble these components by field welding (by installation contractor) we can delete flanges and fasteners to reduce equipment supply cost.

TOTAL LOT PRICE DEDUCTION…… ..... ……....$72,500.00

Terms:

- FOB truck nearest curbstop, jobsite, Kingsville, ON
- HST excluded, if applicable.
- Payment shall be net 30 days upon valid invoice according to the following payment schedule:
  - 5% with order
  - 5% upon approval of shop drawings
  - 20% upon arrival of major steel materials at Napier-Reid's facility
  - 60% upon deliver to site
  - 5% upon completion of site installation
  - 5% upon completion of start-up, commissioning and training, and submission of O&M manuals
- Price valid for 60 days.
- All components and materials must be shipped from GTA, ON, Canada within 12 months of receipt of purchase order & down payment, or price is subject to review and adjustment.
- Napier-Reid Ltd. reserves the right to withhold equipment and/or services when payment is not received as per our terms, without penalty, notwithstanding the purchaser's terms and conditions.

NAPIER-REID LTD.

Peggy Pan, P.Eng., PMP,
Project Manager

UW/06/21

Report

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 15, 2021

Re: UWSS Water Treatment Capacity Allocation

Recommendation:

It is recommended that the Union Water Supply Joint Board of Management (UWSS Board) receives this report for information;

And further, that the UWSS Board supports the formation of a working group consisting of UWSS and municipal administration representatives to address the issue of treatment capacity allocation and develop a more robust and equitable application process for allocation of UWSS treatment capacity;

And further, that the UWSS Board directs the UWSS General Manager to send written correspondence to Administration of UWSS owner municipalities requesting their support and participation of the aforementioned working group.

Background:

The Union Water Supply System Board of Management is responsible under Transfer Order Union W1/1999 for considering any application by a municipality for adding a large water service. The UWSS strives to accommodate the requests of an applying municipality while ensuring that the level of service to the existing water system users is not adversely impacted.

New large water users are required to seek approval for water allocations prior to construction. This includes new greenhouse developments or proposed expansions. There are two parts to the greenhouse water allocation review and approval process. One is focused on whether UWSS has sufficient spare water treatment capacity to support the proposed development. The other step is to determine whether the water distribution system can deliver the required water to the location of the proposed greenhouse development. UWSS is only responsible for the water treatment capacity requirements while the water distribution portion is the responsibility of the respective municipality.

Review of large service application for water treatment capacity allocation is completed by Stantec Consulting on behalf of the UWSS. Upon completion of the review, Stantec

issues a letter that includes a recommendation in regards to treatment capacity allocation for the proposed development. In most cases, Stantec will also conduct a review of distribution capacity on behalf of the municipality and a recommendation on distribution capacity will also be included in the letter.

A review of available records indicates that since the creation of the UWSS Joint Board of Management in 2001, it appears that almost all large service applications have been for greenhouse expansions and new greenhouse developments. It should be noted that records also indicate that most, if not all, large service applications for UWSS treatment capacity have been reviewed and addressed on a "first come, first served" basis. Very little consideration, if any, has been given to location of the proposed development associated with the large service application (i.e. in what municipality the development is proposed).

Discussion:

At the October 21st, 2020 meeting of the UWSS Board meeting, UWSS General Manager presented report *UW/24/20 Update on UWSS Water Demand, Treatment Capacity, Restructuring and Common Assets*. This comprehensive report included details on UWSS water demand and treatment capacity related issues from 2001 to 2020. The report highlighted following important points:

- Potable water demand from the UWSS has been on a steady increase since 2015. Water demand in 2020 was projected to be approximately 950 MIG or 30% higher than the annual demand in 2015. (It should be noted that actual demand for 2020 is actually 32.8% greater than 2015 demand and the increase in water demand between 2019 and 2020 is 13.2%).

- The remarkable increase in water demand between 2015 and 2020 is attributed to moderate increase in residential growth within the 4 municipalities served by the UWSS but mainly due to significant greenhouse growth in Kingsville and Leamington. Further, some of the water demand increase is likely related to greenhouse crop switchover from food crop to cannabis. It is assumed that cannabis crops consumes more water than typical greenhouse crops such as tomatoes, cucumbers and peppers.

- Of the approved 24.7 million imperial gallons per day of treatment capacity for the UWSS, approximately 2 million IGPD remains to support growth in the UWSS service area. This remaining treatment capacity was calculated based on i) the approved maximum regulated flows to greenhouses development and it's proportional use of total UWSS water demand; ii) existing water demand from other large water users; iii) proportional peak water demand from residential and commercial/industrial sector

- Due to limited remaining available treatment supply for allocation, a process is needed to determine how to allocate the estimated 2.0 MGD of existing capacity. Should the remaining capacity be allocated on a first come/first served basis or should it be allocated to each municipality based on current ownership share of UWSS?

Following receipt of report UW/24/20, the UWSS Board directed the UWSS General Manager to send correspondence to the Administration of the municipal owners to seek feedback and/or support of the proposed plan to allocate remaining UWSS treatment capacity based on current municipal ownership shares of the UWSS.

The UWSS General Manager issued written correspondence to the administration of municipal owners in a letter dated November 2, 2020 seeking feedback and support of the allocation proposal for remaining UWSS treatment capacity. A copy of the UWSS' November 2nd, 2020 is attached. The UWSS General Manager followed up the letter with verbal conversations in November and December 2020 with pertinent senior management staff of the owner municipalities.

As of the date of this report, written correspondence has been received in regards to the UWSS' November 2nd, 2020 letter from the Municipality of Leamington, Town of Kingsville and Town of Essex. It is anticipated that correspondence from Lakeshore is forthcoming.

Received written correspondence indicate support by the Town of Kingsville and Municipality of Leamington on the proposal to allocate remaining UWSS Treatment capacity based on municipal ownership shares.

A letter received from the Town of Essex dated January 11, 2021 indicates that the Town of Essex administration and Council does not support the allocation proposal. Further, the letter suggests that the UWSS proposes a new model for future unallocated treatment capacity that includes an equitable process that enables owner municipalities to secure treatment capacity to accommodate growth. Based on a review of the information provided in the Town of Essex' January 11, 2021 letter, the UWSS General Manager agrees that the Town of Essex raises valid points to support its concern regarding the methodology that has historically been used for treatment capacity allocation.

Closing Comments and Recommendations:

The UWSS is currently implementing a capital improvement program that is designed to increase treatment capacity of the Ruthven Water Treatment Plant by up to 5 million IGPD within the next 5 years. The UWSS General Manager suggests that this is an opportune time to review the methodology for treatment capacity allocation so that an improved process can be put in place to equitably allocate future treatment capacity.

Current treatment capacity allocation methodology has been mostly focused on the growth in the greenhouse industry and has not really taken into consideration other types of growth in the UWSS service area. For example, the UWSS does not receive applications for treatment capacity from developers (or from the municipalities in which developments are occurring) for residential subdivision developments. Based on the substantial growth in the residential sector within the UWSS service area over the last 5 years and project near future growth in this sector, such developments should be included in the treatment capacity allocation process.

In order to address this issue in a fair and comprehensive manner, the UWSS General Manager would suggest the establishment of a working group consisting of representatives from UWSS and representatives from municipal administration to review this issue and develop a more robust and equitable application process from treatment capacity allocation.

Respectfully submitted,

Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
rb/kmj

Attachments
Filename: t:\union wtr\reports to board\2021\uw06-21 uwss water treatment capacity allocation.docx

Union Water Supply System

P.O. Box 340, 1615 Union Avenue, Ruthven, Ontario, N0P 2G0
Tele: 519-326-1668 Fax: 519-326-3490
Email: rbouchard@unionwater.ca
www.unionwater.ca

SENT BY: EMAIL

November 2, 2020

Municipality of Leamington
38 Erie St. N.
Leamington, Ontario
N8H 2Z3
Attention: Mr. Peter Neufeld, Chief Administrative Officer

Town of Kingsville
2021 Division Road North
Kingsville, Ontario
N9Y 2Y9
Attention: Mr. John Norton, Chief Administrative Officer

Town of Essex
33 Talbot Street South
Essex, Ontario
N8M 1A8
Attention: Mr. Chris Nepszy, Chief Administrative Officer

Town of Lakeshore
419 Notre Dame Street
Belle River, Ontario
N0R 1A0
Attention: Mr. Truper McBride, Chief Administrative Officer

Dear Colleagues:

RE: Proposed Allocation of Remaining UWSS Treatment Capacity

At the October 21sth, 2020 meeting of the Union Water Supply System Joint Board of Management (Board), the UWSS General Manager presented a report to the Board on the significant increase in potable water demand over the last few years and its effect on water treatment capacity, water storage and transmission capacity. The report highlighted the following:

- Potable water demand for 2020 is projected at 4,112 million imperial gallons (MIG) or 18.71 million cubic metres (m3). This is approximately 30% greater than 2015 annual demand and over 11% greater than 2019 demand.

- Potable water demand increases over the last 4 years are associated with increased residential development in each of the 4 owner municipalities and significant growth in greenhouse development since 2017. The main driver in the potable water demand appears to be greenhouse sector development.

- Peak day water treatment plant production reached 21.4 million imperial gallons per day (MIGD) or 100.1 million litres per day (ML/day) in 2020. This is the highest peak day demand since 2007 and the first time that peak day demand has been over 20 MIGD since 2007.

- During the late June and early July 2020 hot weather period, there were a number of days where daytime afternoon water demand exceeded hourly production capacity of the water treatment plant. When hourly demand is greater than production capacity, this results in depletion of water stored in the water towers and reservoirs thus putting the UWSS potable water supply at risk.

- Capital infrastructure upgrades will be required in the near future to mitigate potable water demand increases should the recent trend continue. These upgrades would likely include a new reservoir at the treatment plant, with an estimated cost of $20 million.

The approved maximum treatment capacity of the UWSS' Ruthven Water Treatment Plant is 27.4 MIGD (124.5 ML/day). Based on available data from various sources including municipal partner data and greenhouse data, the majority of UWSS' treated water production (approximately 55%) is used by greenhouse operations. The remaining water use is from residential and commercial/industrial sectors. As of October 15, 2020 there were 2,716 acres of existing greenhouse operations being serviced from the UWSS treatment plant, with an additional 1,067 acres approved (including treated water allocations) but not yet constructed.

Based on the UWSS' water treatment plant production capacity of 27.4 MIGD and approved treated water allocations and proportional peak day water demands from residential, commercial, industrial and greenhouse sectors, the UWSS can likely support an additional 2.0 MGD in additional water demand for growth under the current approved treatment capacity.

Due to limited remaining available treatment supply for allocation, the UWSS proposes that the remaining water treatment capacity be allocated to each owner municipality based on the latest system interest calculations dated 2017.

RE: Proposed Allocation of Remaining UWSS Treatment Capacity
November 2, 2020

Table 1 provides the current ownership share for each municipality based on the 2017 System Interest calculations and the proportionate share of remaining treatment plant allocations.

Municipality	2017 System Interest	Proportional Share of Remaining Treatment Plant Capacity (Imp. Gallons/day)
Leamington	50.55%	1,011,000
Kingsville	40.33%	806,600
Essex	5.97%	119,400
Lakeshore	3.15%	63,000

The UWSS General Manager is seeking support from the administration of owner municipalities on the proposed allocation of remaining UWSS treatment capacity prior to making a recommendation of approval to the UWSS Board at the November 2020 UWSS Board meeting.

Should you have any questions or concerns, please do not hesitate to contact me at your earliest convenience.

Yours truly,

Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
RB/kmj

January 11, 2021

Union Water Supply System
163 E. County Road 34
Kingsville, Ontario
N0R 1B0

Attention: Rodney Bouchard

Re: Response to Proposed Allocation of Remaining UWSS Treatment Capacity

In response to your correspondence dated November 2nd, 2020 attached, please accept this letter as the response from the Town of Essex for the proposed allocation of the remaining Union Water Supply System (UWSS) treatment capacity. Please ensure that this response letter is shared with the UWSS board.

After careful review of correspondence that was sent to the Town of Essex and other owner municipalities, the Town of Essex respectfully disagrees, and does not support the treatment capacity allocation being proposed. The proposed allocation letter recommends that the remaining treatment capacity of 2.0 MIGD be allocated to municipalities based on the 2017 system interest calculations, where the treatment capacity should be allocated based on the water treatment plant's total capacity of 27.4 MIGD as shown below:

Municipality	2017 System Interest	Proportional Share of Total Treatment Plant Capacity (MIGD)
Leamington	50.55%	13.851
Kingsville	40.33%	11.050
Essex	5.97%	1.636
Lakeshore	3.15%	0.863

If the total treatment plant capacity of 27.4 MIGD is considered, the Town of Essex share of the total treatment capacity is approximately 1.636 MIGD, using the 2017 interest calculation of 5.97%. By our calculations, the Town of Essex is using approximately 0.491 MIGD of this, which leaves approximately 1.145 MIGD of unused treatment capacity for the Town of Essex, where the proposed allocation suggests that the remaining capacity for the Town of Essex be 0.119 MIGD. Therefore, the Town of Essex will ultimately be limited to residential, commercial, and industrial growth if capacity is not increased with future capital and/or plant expansion. The UWSS proposed allocation of 0.119 MIGD will only allow for an equivalent residential growth

33 Talbot Street South
Essex, Ontario N8M 1A8
www.essex.ca
t 519 776 7336
f 519 776 8811

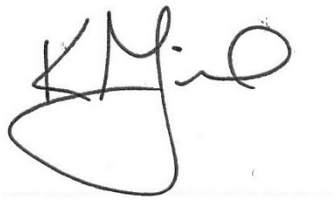
of approximately 900 single detached homes as opposed to approximately 8,300 homes if treatment capacity of the entire plant were being allocated. Based on this rationale, the Town of Essex is of the opinion that the treatment plant capacity be allocated based on the total capacity of the UWSS treatment plant.

As indicated in the November 2nd, 2020 correspondence, the increase in demand on the UWSS treatment plant and subsequent limited treatment plant capacity is due to greenhouse growth. The Town of Essex firmly believes that residential, commercial, and industrial growth in the Town of Essex should not be limited by greenhouse growth. Further, that future greenhouse growth should not limit any owner municipality's ability to provide residential, commercial, and industrial growth. The first come, first serve method of treatment allocation is not equitable to our region's residents and owners when the average residential home uses approximately 138 Imperial gallons per day and greenhouses are typically permitted to use up to approximately 6,000 imperial gallons per day, **per acre**.

It is further suggested that a new model be proposed by the UWSS for future unallocated treatment plant capacity so that owner municipalities can have an equitable means of securing treatment plant capacity to accommodate growth.

In addition to this letter, please find attached a copy of the Council report that was presented to Town of Essex Council on December 21, 2020.

Cordially,



Kevin Girard, P.Eng, MBA
Director, Infrastructure Services

Cc: Chris Nepszy, Chief Administrative Officer, Town of Essex
Chris Vander Doelen, Town of Essex Councilor, UWSS Board member
Town of Essex Council

Appended:
Town of Essex Council Report titled, "Proposed Allocation of Remaining UWSS Treatment Capacity".

Report to Council

Department:	Infrastructure Services
Division:	Infrastructure Services
Date:	December 21, 2020
Prepared by:	Kevin Girard, P.Eng, MBA Director, Infrastructure Services
Report Number:	Infrastructure Services-2020-14
Subject:	Proposed Allocation of Remaining UWSS Treatment Capacity
Number of Pages:	9 (including attachments)

Recommendation(s)

That Infrastructure Services – 2020-14 entitled, "Proposed Allocation of Remaining UWSS Treatment Capacity" prepared by Kevin Girard, Director, Infrastructure Services, dated December 21, 2020 be received, and

That Council authorize the Director of Infrastructure Services to draft and send a response letter of non-support for the correspondence received on November 2nd, 2020 from Union Water Supply System regarding the proposed allocation of remaining water treatment capacity.

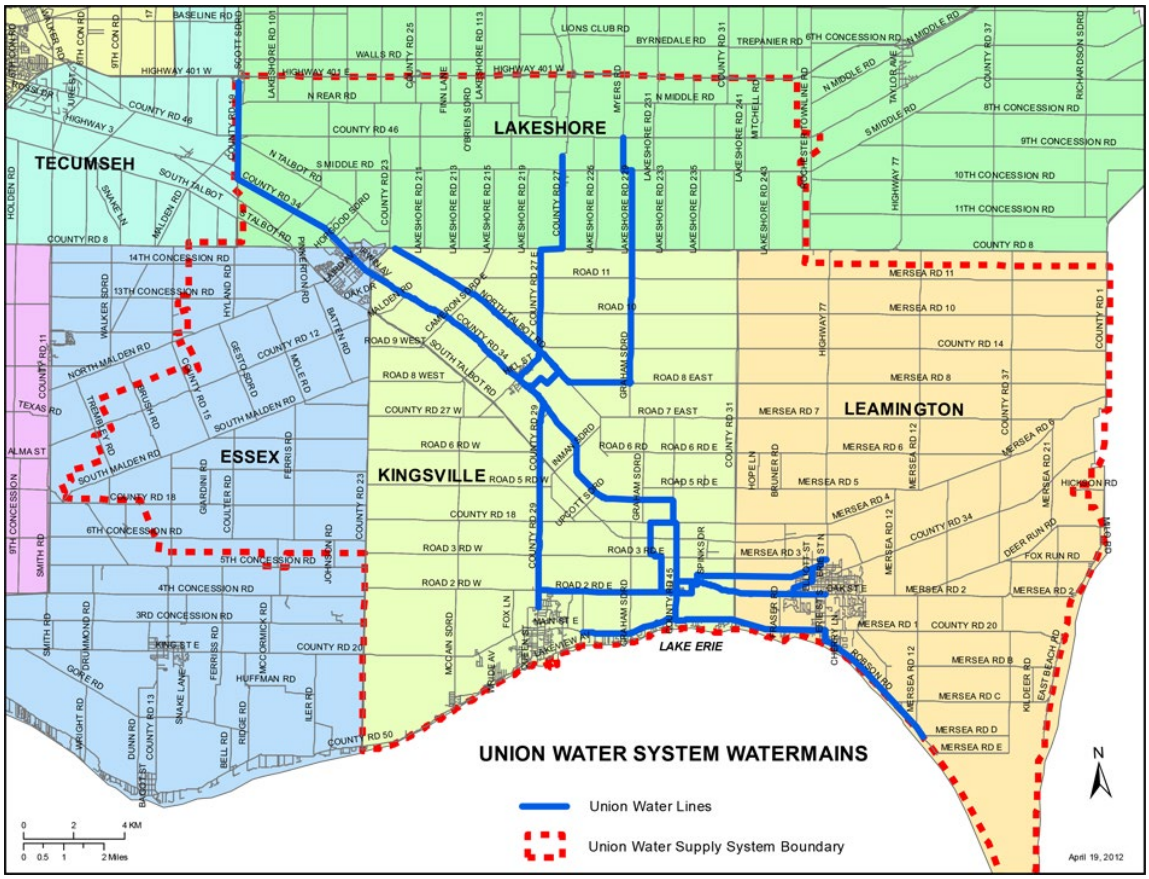
Purpose

To inform Council on the correspondence received on November 2nd, 2020 from the Union Water Supply System (UWSS) regarding the proposed allocation of remaining water treatment plant capacity.

Background and Discussion

The UWSS owns one water treatment plant located in the hamlet of Ruthven in the Town of Kingsville. Raw water is taken from the western basin of Lake Erie through two offshore intakes. The water treatment plant has a rated capacity of 27.4 Million Imperial Gallons per day (MIGD). There is a booster pumping station and in-ground reservoir in the hamlet of Cottam in Kingsville and elevated towers in Leamington, Essex, and Kingsville. The UWSS contracts with The Ontario Clean Water Agency (OCWA) for operation of the plant and its associated facilities. The UWSS service area is shown in Figure 1.

Figure 1: UWSS Service Area



The Union Water Supply System (UWSS) is owned by the Towns of Kingsville, Lakeshore, Leamington, and Essex and is managed by the UWSS Joint Board of Management. The board consists of twelve (12) members from each of the four (4) owner municipalities. The number of

board members for each owner municipality is determined by system interest, which was last calculated in 2017 as shown in Table 1. Town of Essex Council appointed Councilor Chris Vander Doelen as the Town's Joint Board Member for the UWSS.

Table 1: 2017 UWSS Interest Calculations

Municipality	2017 System Interest	Number of Board Members (12 total)
Leamington	50.55%	6
Kingsville	40.33%	4
Essex	5.97%	1
Lakeshore	3.15%	1

On November 2nd, 2020, the Chief Administrative Officers (CAO) of each of the owner municipalities received the appended correspondence regarding capacity at the UWSS water treatment plant and UWSS's proposed allocation of the remaining treatment plant capacity.

The correspondence identifies that UWSS has experienced a significant increase in potable water demand over the last few years. The correspondence also indicates the following:

- Potable water demand for 2020 is projected at 4,112 million imperial gallons (MIG) or 18.71 million cubic metres (m3). This is approximately 30% greater than 2015 annual demand and over 11% greater than 2019 demand.
- Potable water demand increases over the last 4 years are associated with increased residential development in each of the 4 owner municipalities and significant growth in greenhouse development since 2017. The main driver in the potable water demand appears to be greenhouse sector development.
- Peak day water treatment plant production reached 21.4 million imperial gallons per day (MIGD) or 100.1 million litres per day (ML/day) in 2020. This is the highest peak day demand since 2007 and the first time that peak day demand has been over 20 MIGD since 2007.
- During the late June and early July 2020 hot weather period, there were a number of days where daytime afternoon water demand exceeded hourly production capacity of the water treatment plant. When hourly demand is greater than production capacity,

this results in depletion of water stored in the water towers and reservoirs thus putting the UWSS potable water supply at risk.

- Capital infrastructure upgrades will be required in the near future to mitigate potable water demand increases should the recent trend continue. These upgrades would likely include a new reservoir at the treatment plant, with an estimated cost of $20 million.

Further, that the approved maximum treatment capacity of the UWSS' Ruthven Water Treatment Plant is 27.4 MIGD. Based on available data from various sources including municipal partner data and greenhouse data, the majority of UWSS' treated water production (approximately 55%) is used by greenhouse operations. The remaining water use is from residential and commercial/industrial sectors. As of October 15, 2020 there were 2,716 acres of existing greenhouse operations being serviced from the UWSS treatment plant, with an additional 1,067 acres approved (including treated water allocations) but not yet constructed.

In summary, the UWSS has determined that the Ruthven water treatment can likely support an additional 2.0 MIGD in additional water demand for growth. Of this remaining capacity, UWSS is proposing to allocate this remaining capacity based on the 2017 system interest calculations shown in Table 2.

Table 2: Proposed Allocation of Remaining Treatment Capacity

Municipality	2017 System Interest	Proportional Share of Remaining Treatment Plant Capacity (MIGD)
Leamington	50.55%	1.0110
Kingsville	40.33%	0.8066
Essex	5.97%	0.1194
Lakeshore	3.15%	0.0630

Town of Essex Administration is of the opinion that the allocation of treated water from UWSS should not be allocated based on remaining capacity, but rather that the capacity should be allocated based on the total treatment plant capacity. If the total treatment plant capacity of 27.4 MIGD is considered, the Town of Essex share of the total treatment capacity is approximately 1.636 MIGD, using the 2017 interest calculation of 5.97%. Using estimated daily

water demand, the Town of Essex is using approximately 0.491 MIGD of this, which leaves approximately 1.145 MIGD of unused treatment capacity for the Town of Essex, where the proposed allocation suggests that the remaining capacity for the Town of Essex be 0.119 MIGD. Therefore, the Town of Essex will ultimately be limited to residential, commercial, and industrial growth if capacity is not increased with future capital and/or plant expansion. To provide some perspective of this impact, the UWSS proposed allocation of 0.119 MIGD will only allow for an equivalent residential growth of approximately **900 single detached homes** as opposed to approximately **8,300 single detached homes** if treatment capacity of the entire plant were being allocated. This does not include any additional demand that would be created by industrial, commercial, and higher density development which would further reduce the estimated home count.

As indicated by UWSS, the increase in demand on the UWSS treatment plant and subsequent limited treatment plant capacity is due to significant greenhouse growth. With capacity becoming limited at UWSS, future greenhouse growth should not limit any owner municipality's ability to provide residential, commercial, and industrial growth. The first come, first serve method of treatment allocation is not equitable to our region's residents and owners when the average residential home uses approximately 138 Imperial gallons per day and greenhouses are typically permitted to use up to approximately 6,000 imperial gallons per day, **per acre**.

The attached correspondence is requesting that a response in support be provided to UWSS on the proposed allocation of the remaining treatment plant capacity. It is recommended that Council authorize the Director of Infrastructure Services to draft and send a response letter of non-support for the correspondence received on November 2nd, 2020 from Union Water Supply System regarding the proposed allocation of remaining water treatment capacity. The letter will be drafted using the rationale generally provided within this report.

Financial Impact

There are no direct financial impacts to the Town of Essex as a result of the response to UWSS. However, it should be noted that future capital projects approved and completed by UWSS will have a financial impact. The Town of Essex is responsible to pay a portion of all UWSS capital expenditures proportional to our system interest which is currently 5.97%.

Consultations

Andy Graf, Manager, Environmental Services
Jeffrey Morrison, Director, Corporate Services
Chris Nepszy, Chief Administrative Officer

Link to Strategic Priorities

- ☒ Manage, invest and plan for sustainable municipal infrastructure which meets current and future needs of the municipality and its citizens.
- ☐ Create a safe, friendly and inclusive community which encourages healthy, active living for people of all ages and abilities.
- ☐ Provide a fiscal stewardship and value for tax dollars to ensure long-term financial health to the municipality.
- ☒ Manage responsible and viable growth while preserving and enhancing the unique rural and small town character of the community.
- ☐ Improve the experiences of individuals, as both citizens and customers, in their interactions with the Town of Essex.
- ☐ Improve the Town's capacity to meet the ongoing and future service needs of its citizens while ensuring the corporation is resilient in the face of unanticipated changes or disruptions.

Report Approval Details

Document Title:	Proposed Allocation of Remaining UWSS Treatment Capacity - Infrastructure Services-2020-14.docx
Attachments:	- Letter to CAOs.Proposed Allocation of Remaining UWSS Treatment Capacity.November 2, 2020.pdf
Final Approval Date:	Dec 15, 2020

This report and all of its attachments were approved and signed as outlined below:

Chris Nepszy, Chief Administrative Officer - Dec 15, 2020 - 11:18 AM

UW/07/21

Report

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 15, 2021

Re: Kingsville Water Tower Rehabilitation Project Tender Results

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Recommendation:

That the Union Water Supply System (UWSS) Board receives this report for information;

And further that the UWSS Board approves a budget of $1,650,000 for the Rehabilitation of the Kingsville Water Tower;

And further that the UWSS Board authorizes the UWSS General Manager to award the Kingsville Water Tower Rehabilitation Project contract to Jacques Daoust Coatings Management Inc. (JDCMI) of Cambridge, Ontario for a sum of $1,596,500.

Background:

The Kingsville Water Tower (KWT) is a 250,000 gallon elevated water tower located in the Town of Kingsville. The water tower is over 40 years old and was last recoated more than 20 years ago. An inspection of the water tower by PW Makar in 2009 indicated that the top coat of the exterior coating system was not well bonded to the primer and subject to failure if overcoated in the future. Subsequent inspections have also noted that a number of safety upgrades should be undertaken to make the tower safer for anyone that may need to climb it for maintenance purposes.

On January 6th, 2020 PW Makar completed an inspection of the Kingsville Water Tower. This inspection was completed to provide detailed information on the exterior coating, interior coating, and operational and safety components that required upgrading. The results of the inspection were intended for use to develop a scope of work for rehabilitation of the Kingsville Water Tower.

PW Makar's January 6th, 2020 inspection report indicated the following:

- Numerous safety related items and systems needed to be upgraded;
- Exterior surface coating of tower bowl and legs are in decent condition; however the top coat is not well bonded to the primer coating and is subject to failure.

- Surface coating of interior of tank bowl is in poor to moderate condition with surface corrosions above water line and ice damage and blistering below water line;
- Ladder system upgrades were needed to meet the safety concerns for Fixed Rail Ladders as identified in a Ministry of Labour alert;
- Catwalk guardrails to be extended from 36 inch height to 42 inch height to meet code requirements;
- The catwalk is narrow in certain areas and needs to be expanded to meet code requirements
- Other items such as hatches and shell manways should be reviewed and upgraded/ installed to improve access to exterior locations and interior of the tank and to meet code requirement.
- Overflow drain was broken at ground level and requires significant repairs to the pipe and concrete;
- Concrete pads for the legs are moderately weather and spalling. Refurbishment is required;
- Moderate to severe corrosion is noted on piping and equipment in valve chamber
- Testing of the exterior coating of water tower for lead indicated elevated concentration of lead up to 1.5%

Discussion:

As part of the 2020 UWSS Budget development process, the UWSS Board approved a preliminary budget of $1,300,000 for the Kingsville Water Tower Rehabilitation Project. This budget was generally based on the cost of refurbishment of the Essex Water Tower that was completed in 2018.

In March 2020 UWSS retained OCWA Engineering Services (OCWA ES) to prepare a tender package and to coordinate the tendering of the KWT Rehabilitation Project. The tender package would be based on full encapsulation of the KWT and removal of existing exterior coating. Work associated with tender package development and recoating works was put on hold in later March 2020 due to the restrictions associated with COVID 19.

OCWA ES resumed work on the tender package in October 2020 with the intention that a new budget for this work would be included in the proposed 2021 UWSS Capital Budget.

The KWT Rehabilitation Project tender was released on December 1, 2020 to seven (7) qualified contractors. A mandatory pre-bid meeting was scheduled at the KWT site on December 10th, 2020. The tender for the KWT Rehabilitation was closed on January 14, 2021. A total of four (4) bids were received for this project. The bids were opened and read publicly at the OCWA ES Mississauga, Ontario office.
OCWA ES conducted a full review of the received bids to ensure that all required components were provided. No major issues were identified with any of the received bids. The results of the Tender review identified Jacques Daoust Coatings Management Inc. (JDCMI) of Cambridge, Ontario as the low bidder in the amount of $1,596,500, which

includes provisional items in the amount of $178,600 and a contingency in the amount of $100,000

Based on their review of the bids, OCWA ES prepared a tender summary and has issued a Recommendation Letter to UWSS dated January 15, 2021 recommending award of the contract to JDCMI as the low bidder for the KWT Rehabilitation Project Tender. Table 1 provide a summary of bids received.

Table 1: KWT Rehabilitation Project Tender Summary

Tenderer	Base Price	Provisional Items Cost	Total Cost including Provisional Items	Time for Completion (days)
Jacques Daoust Coating Management Inc (JDCMI)	$1,417,600	$178,600	$1,596,500	**90**
Dayson Industrial Services	$1,672,235	$199,325	$1,871,560	**131**
Landmark Municipal Services	$1,999,000	$289,700	$2,288,700	**190**
MacDonald Applicators	$2,095,046	$223,705	$2,318,751	**200**

Financial Implications:

The approved 2021 UWSS Budget includes a capital budget of $1,400,000 for the KWT Rehabilitation Project. The results of the Tendering for the KWT Rehabilitation Project indicate that the low bid from JDCMI is $1,596,500, which includes provisional items in the amount of $178,600 and a contingency in the amount of $100,000

This low bid exceeds the approved budget, as such, a budget increase of $250,000 for a total budget of $1,650,000 is recommended to undertake this work. Sufficient funds are available in the UWSS Reserves to fund this work

Closing Comments:

Based on the results of the Tendering for the KWT Rehabilitation Project, it is recommended that the contract be awarded to the low bidder, JDCMI, in the amount of $1,596,500 and that the UWSS Board approves a new budget of $1,650,000 to undertake this work.

Respectfully submitted,

Rodney Bouchard, P. Geo., Manager
Union Water Supply System Joint Board of Management
rb/kmj

Filename: t:\union wtr\reports to board\2021\uw07-21 -kingsville water tower re-coating tender results(3).january 15, 2021.docx

UW/08/21

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: January 15, 2021

Re: Payments for the UWSS from December 11th, 2020 to January 15th, 2021

Aim:

To provide the Board with a copy of payments made by the Union Water Supply System from December 11th, 2020 to January 15th, 2021.

Recommendation:

For information purposes.

Respectfully submitted,

Rodney Bouchard, Manager
Union Water Supply System Joint Board of Management
/kmj

Filename: t:\union wtr\reports to board\2021\uw08-21 payments from dec 2020 to jan 2021.docx

Vendor : 0011450 To PT00000209
Batch : All
Department : All
Cheque Print Date : 11-Dec-2020 To 16-Dec-2020
Bank : 07 To 08
Class : All

Vendor / Invoice	Vendor Name / Description	G.L. Account	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System									
020120	**BELL MOBILITY CELLULAR**									
514877178 - DI	MONTHLY CELL PHONE CHARGES	70-5-0700-7110	002070	002083		Telecommunications Usage	703	01-Dec-2020	15-Dec-2020	21.53
								Department Totals :		**21.53**

Vendor : 0011450 To PT00000209
Batch : All
Department : All
EFT Paid Date : 11-Dec-2020 To 16-Dec-2020
Bank : 07 To 08
Class : All

Vendor Code / Invoice No. / G.L. Account	Vendor Name / Description	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System								
050099	**ENBRIDGE GAS INC**								
1929770217397	917.79M3 GAS - LOW LIFT					697	25-Nov-2020	10-Dec-2020	
70-5-0700-7410			002073		Gas				321.83
190755	**SUN LIFE ASSURANCE COMPANY OF CANADA**								
DEC-20	DEC/20 UNION WATER LOAN 3724:1					697	10-Dec-2020	10-Dec-2020	
70-5-0700-6000			002020	006901	Debenture Principal				46,821.29
70-5-0700-6100			002010	006901	Debenture Interest				94,255.44
							Department Totals :		**141,398.56**

Vendor : 0011450 To PT00000210
Batch : All
Department : All
Cheque Print Date : 17-Dec-2020 To 23-Dec-2020
Bank : 07 To 08
Class : All

Vendor / Invoice	Vendor Name / Description	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System								
050003	**E.L.K. ENERGY INC**								
40010915-01 N	3465KWH - ESSEX WATER TOWER					715	25-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-117.82
70-5-0700-7420		002073			Electricity				416.41
40010915-01 C	3420KWH - ESSEX WATER TOWER					715	03-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-103.44
70-5-0700-7420		002073			Electricity				367.58
40047150-03 N	1270KWH - METER#9					715	25-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-46.21
70-5-0700-7420		002073			Electricity				163.22
40047150-03 C	649KWH - METER#9					715	03-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-24.22
70-5-0700-7420		002073			Electricity				86.06
51976611-00 N	605KWH - KINGSVILLE WATER TOWER					715	25-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-65.25
70-5-0700-7420		002073			Electricity				230.60
51976611-00 O	618KWH - KINGSVILLE WATER TOWER					715	03-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-54.53
70-5-0700-7420		002073			Electricity				193.76
90006300-01 N	33120KWH - COTTAM BOOSTER STATION					715	25-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-1,379.48
70-5-0700-7420		002073			Electricity				4,911.58
90006300-01 C	38400KWH - COTTAM BOOSTER STATION					715	03-Nov-2020	16-Dec-2020	
70-5-0700-7420		002073			Electricity				-1,261.38
70-5-0700-7420		002073			Electricity				4,482.27
140135	**NEVTRO SALES (2004) LTD**								
8028	VALVE/FLOWMETER INSTALLATION					715	01-Dec-2020	16-Dec-2020	
70-7-0700-8745		700100			Treatment Plant				19,004.57
230440	**WILLIS BUSINESS LAW**								
14180	LEGAL FEES - RESTRUCTURING					715	31-Oct-2020	16-Dec-2020	
70-5-0700-7950		002070			Professional Services				2,455.21
14398	LEGAL FEES - RESTRUCTURING					715	30-Nov-2020	18-Dec-2020	
70-5-0700-7950		002070			Professional Services				1,233.96
14399	LEGAL FEES - LEASE AGREEMENT - KINGSVILLE					715	30-Nov-2020	18-Dec-2020	
70-5-0700-7950		002070			Professional Services				4,844.59
230685	**WIRED SOLUTIONS**								
14497	WEBSITE UPDATES - ZOOM LINKS					715	18-Nov-2020	18-Dec-2020	
70-5-0700-7270		002070	008002		Software Purchases				316.40
							Department Totals :		**35,653.88**

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Vendor Code / Invoice No. / G.L. Account	Vendor Name / Description	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System								
010045	**AIR LIQUIDE CANADA INC.**								
72181072	CARBON DIOXIDE DELIVERY					720	20-Nov-2020	18-Dec-2020	
70-5-0700-7080			002080		Operational Supplies				3,045.93
040094	**DIGITAL WATER SOLUTIONS INC**								
DW11919-2	HYDRANT RETROFIT PROGRAM					720	25-Sep-2020	18-Dec-2020	
70-7-0700-8750			002206		Watermains				94,257.20
DW11919-3	HYDRANT RETROFIT PROGRAM					720	04-Dec-2020	18-Dec-2020	
70-7-0700-8750			002206		Watermains				3,414.30
050099	**ENBRIDGE GAS INC**								
1929770177678	876.30M3 GAS - COTTAM BOOSTER STATION					720	10-Dec-2020	18-Dec-2020	
70-5-0700-7410			002073		Gas				307.78
1929770177678	569.54M3 GAS - COTTAM BOOSTER STATION					720	11-Nov-2020	18-Dec-2020	
70-5-0700-7410			002073		Gas				213.27
080250	**HYDRO ONE NETWORKS INC**								
200141677460-I	NOV/20 HYDRO - RUTHVEN WATER TREATMENT PLANT					720	08-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				68,492.87
200141680692-I	NOV/20 HYDRO - LOW LIFT					720	08-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-28.13
70-5-0700-7420			002073		Electricity				33,707.21
200141680894-I	NOV/20 HYDRO - LEAMINGTON WATER TOWER					720	01-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-173.34
70-5-0700-7420			002073		Electricity				611.67
200141681706-I	NOV/20 HYDRO - METER#2					720	27-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-15.23
70-5-0700-7420			002073		Electricity				53.87
200141682009-I	NOV/20 HYDRO - ALBUNA WATER TOWER					720	02-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-159.01
70-5-0700-7420			002073		Electricity				556.62
200141683019-I	NOV/20 HYDRO - METER#3					720	01-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-13.08
70-5-0700-7420			002073		Electricity				46.16
200141683120-I	NOV/20 HYDRO = METER#5					720	02-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-11.75
70-5-0700-7420			002073		Electricity				41.41
200141683423-I	NOV/20 HYDRO - METER#6					720	01-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-12.43
70-5-0700-7420			002073		Electricity				43.62
200141683524-I	NOV/20 HYDRO - METER#8					720	27-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-13.52
70-5-0700-7420			002073		Electricity				47.80
200141683726-I	NOV/20 HYDRO - METER#15					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-12.16
70-5-0700-7420			002073		Electricity				43.22
200141687362-I	NOV/20 HYDRO - METER#22					720	27-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-11.40
70-5-0700-7420			002073		Electricity				40.36
200141687766-I	NOV/20 HYDRO - METER#29					720	27-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-12.19
70-5-0700-7420			002073		Electricity				43.11
200141687867-I	NOV/20 HYDRO - METER#24					720	27-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-11.40

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DEPARTMENT 0700	Union Water System								
70-5-0700-7420			002073		Electricity				40.33
200141690190-I	NOV/20 HYDRO - METER#26					720	26-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-19.95
70-5-0700-7420			002073		Electricity				70.67
200152134969-I	NOV/20 HYDRO - METER#17					720	08-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-12.92
70-5-0700-7420			002073		Electricity				45.03
200208899066-I	DEC/20 HYDRO - METER#16					720	14-Dec-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-33.57
70-5-0700-7420			002073		Electricity				114.25
200208899066-I	383KWH - METER#16					720	16-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-38.47
70-5-0700-7420			002073		Electricity				135.13
200220161473-I	NOV/20 HYDRO - METER#14					720	26-Nov-2020	18-Dec-2020	
70-5-0700-7420			002073		Electricity				-12.20
70-5-0700-7420			002073		Electricity				42.25
130120	**MAPLE REINDERS CONSTRUCTORS LTD**								
PC#15 25568	PMT#15 CO2 INJ/CL2					720	31-Oct-2020	18-Dec-2020	
70-7-0700-8745			700200		Treatment Plant				19,533.85
140040	**NAPIER-REID**								
C12304R1	DAF - DRAWINGS					720	24-Nov-2020	18-Dec-2020	
70-7-0700-8745			700220		Treatment Plant				61,020.00
190185	**SGS CANADA INC. ENVIRONMENTAL SERVICES**								
11380459	WATER QUALITY STUDIES CORROSION-LAKESHORE					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				196.62
11380460	WATER QUALITY STUDIES CORROSION-LEAMINGTON					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
11380465	WATER QUALITY STUDIES CORROSION-UWSS					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				1,005.70
11380545	WATER QUALITY STUDIES CORROSION-ESSEX					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
11380550	WATER QUALITY STUDIES CORROSION-KINGSVILLE					720	25-Nov-2020	18-Dec-2020	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
190751	**SUMMA ENGINEERING LIMITED**								
PC#10 115410	PMT#10 SCADA UPGRADES					720	12-Nov-2020	18-Dec-2020	
70-7-0700-8780					SCADA System				104,464.97
PC#11 115458	PMT#11 SCADA UPGRADES					720	07-Dec-2020	18-Dec-2020	
70-7-0700-8780					SCADA System				115,226.36
PC#6 115411	PMT#6 SCADA UPGRADES					720	12-Nov-2020	18-Dec-2020	
70-7-0700-8780					SCADA System				49,177.93
70-7-0700-8780					SCADA System				5,464.21
PC#7 115463	PMT#7 SCADA UPGRADES					720	08-Dec-2020	18-Dec-2020	
70-7-0700-8780					SCADA System				21,083.87
70-7-0700-8780					SCADA System				2,342.65
							Department Totals :		**584,634.40**

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DEPARTMENT 0700	Union Water System								
050003	**E.L.K. ENERGY INC**								
40010915-01 -	11-1522.39KWH - ESSEX WATER TOWER					747	31-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				-86.47
70-5-0700-7420		002073			Electricity				297.92
40047150-03 -	11-882.76KWH - METER#9					747	31-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				180.01
70-5-0700-7420		002073			Electricity				-52.63
51976611-00 -	11-1407.63KWH - KINGSVILLE WATER TOWER					747	31-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				-77.82
70-5-0700-7420		002073			Electricity				266.77
90006300-01 -	11-18420.24KWH - COTTAM BOOSTER STATION					747	31-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				-1,361.22
70-5-0700-7420		002073			Electricity				4,677.10
150415	**ONTARIO MUNICIPAL WATER ASSOCIATION**								
2021-M-001 - L	2021 MEMBERSHIP					2	01-Jan-2021	07-Jan-2021	
70-5-0700-7020		002070			Dues, Memberships and Subscriptions				918.13
180325	**RICOH CANADA INC**								
SCO93052616	COPIER CONTRACT - OCT22-NOV30					747	30-Nov-2020	07-Jan-2021	
70-5-0700-7010		002070			Office Supplies				100.20
							Department Totals :		**4,861.99**

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Vendor Code / Invoice No. / G.L. Account	Vendor Name / Description	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System								
010103	**ASSOCIATED ENGINEERING (ONT) LTD**								
528668	SCADA - PROCESS NARRATIVE					752	16-Dec-2020	07-Jan-2021	
70-7-0700-8780					SCADA System				1,511.60
528670	SCADA-ADDITIONAL SUPPORT					752	16-Dec-2020	07-Jan-2021	
70-7-0700-8780					SCADA System				9,710.09
528671	CO2 PH ADJUSTMENT					752	17-Dec-2020	07-Jan-2021	
70-7-0700-8745		700200			Treatment Plant				3,178.31
528673	RUTHVEN WTP DAF RETROFIT PHASE 1					752	16-Dec-2020	07-Jan-2021	
70-7-0700-8745		700220			Treatment Plant				33,397.67
528674	COTTAM BOOSTER RESERVOIR FLOW STUDY					752	16-Dec-2020	07-Jan-2021	
70-5-0700-7989		002075			Operational Programs & Studies				9,960.95
528675	INFRASTUCTURE NEEDS STUDY					752	16-Dec-2020	07-Jan-2021	
70-5-0700-7989		002075			Operational Programs & Studies				6,108.22
030004	**C3 WATER INC**								
202011-410	UWSS WATER MODEL SUPPORT					752	30-Nov-2020	07-Jan-2021	
70-5-0700-7989		002075			Operational Programs & Studies				532.15
202011-467	UNION-WINDSOR WATER SERVICE REDUNDANCY STUDY					752	30-Nov-2020	07-Jan-2021	
70-5-0700-7989		002075			Operational Programs & Studies				2,746.75
030217	**CANADIAN WATER NETWORK**								
2021CMWC20	2021 YEARLY DUES					18	25-Nov-2020	07-Jan-2021	
70-5-0700-7989		002075			Operational Programs & Studies				25,000.00
030405	**COLLABRIA**								
AWWA-7001841	AWWA MEMBERSHIP					1	01-Jan-2021	07-Jan-2021	
70-5-0700-7020		002070			Dues, Memberships and Subscriptions				281.49
CWWA - 22697	NAT'L WATER&WASTEWATER VIRTUAL WEBINAR					746	18-Nov-2020	07-Jan-2021	
70-5-0700-7050		002070			Conferences				282.50
STAR - NOV20	SUBSCRIPTION					746	13-Nov-2020	07-Jan-2021	
70-5-0700-7020		002070			Dues, Memberships and Subscriptions				16.94
ZOOM-INV5515	ZOOM SUBSCRIPTION					746	01-Dec-2020	07-Jan-2021	
70-5-0700-7270		002070	008002		Software Purchases				229.39
040094	**DIGITAL WATER SOLUTIONS INC**								
DW21-12	HYDRANT RETROFIT PROGRAM					752	15-Dec-2020	07-Jan-2021	
70-7-0700-8750		002206			Watermains				1,409.56
050099	**ENBRIDGE GAS INC**								
1929770208308	14501.11 M3-WTP					752	21-Dec-2020	07-Jan-2021	
70-5-0700-7410		002073			Gas				4,687.87
1929770217397	1564.48 M3-LOW LIFT					752	23-Dec-2020	07-Jan-2021	
70-5-0700-7410		002073			Gas				521.99
080250	**HYDRO ONE NETWORKS INC**								
200141680894[illegible]	DEC 20/HYDRO-LEAMINGTON WATER TOWER					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				494.18
70-5-0700-7420		002073			Electricity				-145.19
200141681706[illegible]	DEC 20-METER #2					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				-16.27
70-5-0700-7420		002073			Electricity				55.37
200141682009[illegible]	DEC 20-ALBUNA WATER TOWER					752	30-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				875.52
70-5-0700-7420		002073			Electricity				-257.23
200141683019[illegible]	DEC 20-METER #3					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420		002073			Electricity				49.18

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Vendor Code / Invoice No. / G.L. Account	Vendor Name / Description	CC1	CC2	CC3	GL Account Name	Batch	Invc Date	Invc Due Date	Amount
DEPARTMENT 0700	Union Water System								
70-5-0700-7420			002073		Electricity				-14.44
200141683120[	DEC 20-METER #5					752	30-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				42.34
70-5-0700-7420			002073		Electricity				-12.45
200141683423[	DEC 20-METER #6					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				46.07
70-5-0700-7420			002073		Electricity				-13.53
200141683624[	DEC 20-METER#8					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				49.48
70-5-0700-7420			002073		Electricity				-14.54
200141683726[	DEC 20-METER #15					752	23-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				44.58
70-5-0700-7420			002073		Electricity				-13.07
200141687362[	DEC 20-METER #22					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				40.48
70-5-0700-7420			002073		Electricity				-11.89
200141687766[	DEC 20-METER #29					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				43.69
70-5-0700-7420			002073		Electricity				-12.83
200141687867[	DEC 20-METER #24					752	28-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				-11.85
70-5-0700-7420			002073		Electricity				40.33
200141690190[	DEC 20-METER #26					752	24-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				68.48
70-5-0700-7420			002073		Electricity				-20.12
200220161473[	DEC 20-METER #14					752	22-Dec-2020	07-Jan-2021	
70-5-0700-7420			002073		Electricity				44.31
70-5-0700-7420			002073		Electricity				-13.02
190185	**SGS CANADA INC. ENVIRONMENTAL SERVICES**								
11386948	WATER QUALITY & CORROSION MONITORING KINGSVILLE					752	21-Dec-2020	07-Jan-2021	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
11386952	WATER QUALITY & CORROSION MONITORING LEAMINGTON					752	21-Dec-2020	07-Jan-2021	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
11387039	WATER QUALITY & CORROSION MONITORING ESSEX					752	21-Dec-2020	07-Jan-2021	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				98.31
11387044	WATER QUALITY & CORROSION MONITORING UWSS					752	21-Dec-2020	07-Jan-2021	
70-5-0700-7961			002075		Water Quality/Corrosion Monitoring Prgm				375.16
190755	**SUN LIFE ASSURANCE COMPANY OF CANADA**								
JAN2021	JANUARY LOAN REPAYMENT					18	01-Jan-2021	07-Jan-2021	
70-5-0700-6000			002020	006901	Debenture Principal				48,378.68
70-5-0700-6100			002010	006901	Debenture Interest				93,843.97
							Department Totals :		**243,805.80**

Total Unpaid for Approval :	**0.00**
Total Manually Paid for Approval :	**0.00**
Total Computer Paid for Approval :	**4,861.99**
Total EFT Paid for Approval :	**243,805.80**
Grand Total ITEMS for Approval :	**248,667.79**