



**ONTARIO CLEAN WATER AGENCY**  
**AGENCE ONTARIENNE DES EAUX**

# **Proposal to the Municipality of Temagami for the Design and Tender Administration of a New Temagami North Standpipe**

**SUBMITTED BY**

Ontario Clean Water Agency  
2085 Hurontario Street, Suite 500  
Mississauga, ON L5A 4G1

Date: December 12, 2023

Project No: TEMAGN2320-6030

Rev: 0

December 12, 2023

Sabrina Pandolfo / Barry Turcotte  
Municipality of Temagami  
7 Lakeshore Drive P.O. Box 220  
Temagami, ON P0H 2H0

**Re: Design and Tender Administration of a New Temagami North Standpipe**  
**OCWA Project No: TEMAGN2320-6030, Rev. 0**

On behalf of the Ontario Clean Water Agency (OCWA), we are pleased to submit our proposal to undertake the design and tender administration of a new Glass-Fused-To-Steel Temagami North Standpipe in the Municipality of Temagami.

As a provincial crown Agency, OCWA provides a comprehensive range of reliable, cost-effective, and environmentally responsible water and wastewater operations, maintenance and engineering services to a large number of municipalities, First Nations, and industrial, commercial and institutional organizations in the Province of Ontario.

Should you have any questions or concerns, we would welcome the opportunity to clarify either by phone, writing or in person at your request. OCWA's contact for this proposal is:

Rajkumar Roopchand, P.Eng.  
Direct: 905-491-3055  
Mobile: 416-427-7747  
Email: [RRoopchand@ocwa.com](mailto:RRoopchand@ocwa.com)

2085 Hurontario Street,  
Suite 500, Mississauga, ON,  
L5A 4G1

OCWA's proposal constitutes a firm and binding offer to the Municipality and shall remain irrevocable until January 12, 2024.

Thank you for considering OCWA's services. We look forward to further discussing a partnership that meets your needs.

Sincerely,



Rajkumar Roopchand, P.Eng.  
Senior Project Manager

Lisa Babel, P.Eng, ENV SP  
Director, Project Planning and Delivery

cc: Eric Nielson, OCWA  
Bryce Logan, OCWA

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# 1 Background

## 1.1 Inspection Report

OCWA has reviewed the Landmark Municipal Services (Landmark) inspection report for the Temagami North Standpipe dated November 1, 2019. The report indicated that both the interior and exterior surfaces of the water tower needed repair and made various recommendations for repair and rehabilitation works, including several mandatory safety upgrades. The report recommended that the interior surface spot repairs and complete exterior repair should be completed within 1 to 2 years from 2019. No repair works have been completed to date.

After considering rehabilitation/recoating costs and the cost of a new standpipe (Glass-Fused-To-Steel (GFS) tank) and that the standpipe is over 50 years old, the Municipality is interested in replacing the standpipe with a new GFS tank and requested a proposal from OCWA for the engineering and project management of the replacement of the standpipe.

# 2 Team Profile

## 2.1 OCWA

OCWA's Project Planning and Delivery Group (PPDG) has successfully completed many standpipe/tower/tank rehabilitation, recoating and replacement projects, most recently, the replacement of a painted steel standpipe (Port Lambton Standpipe) with a new Glass-Fused-to-Steel style tank for the Lambton Area Water Supply System. This new tank is noted to be one of the tallest such tanks in North America, being over 45 metres (150 feet) tall.

OCWA's engineering, operational, and support resources combine to provide a multi-layered approach to meet the needs of capital projects. OCWA's 14 professional engineers and support staff have extensive experience in project managing water and wastewater projects to hundreds of municipal clients across Ontario. **OCWA will be the lead consultant in providing the proposed services.**



*Photo 1: New GFS Port Lambton Standpipe*

OCWA PPDG has completed similar work (coatings application, safety upgrades and other repair works) for many municipalities over the last 15+ years. Many of these projects included replacements of pipe works, ladders, rails, fall arrest system, and design and installation of mixing systems. The following is a list of more recent rehabilitation and recoating projects OCWA has completed, and also including a couple that we are currently undertaking:

- Lambton Area Water Supply System – Construction of New GFS Port Lambton Standpipe – 2022 to present (Substantially completed in late November 2023)
- Town of Ramara – Brechin Standpipe – 2022 to present (Substantially completed in early November 2023)
- City of Kawartha Lakes – Bobcaygeon Water Tower – 2021
- Union Water Supply System – Kingsville Water Tower – 2021
- Township of North Stormont – Moose Creek Water Tower & Crysler Water Tower – 2021
- Township of Leeds and the Thousand Islands – Lansdowne Standpipe – 2019
- Union Water Supply System – Essex Water Tower – 2018
- Lambton Area Water Supply System – Forest Standpipe – 2018
- Town of Wasaga Beach – Wasaga Beach Water Tower – 2017
- Union Water Supply System – Leamington Water Tower – 2016
- City of Stratford – Forman Water Tower – 2015

## **2.2 WSP**

To augment OCWA's services, OCWA will partner with WSP for the replacement of the Temagami North Standpipe. WSP is a multi-disciplinary engineering professional service firm with over 1,200 employees in Canada alone. WSP provides solutions for all types of infrastructure problems. One of their core strengths is in water engineering. Their area of expertise includes water research, evaluations and economic planning of supply networks and water treatment facilities, as well as distribution networks. WSP has worked on numerous similar type projects involving water storage and distribution systems.

OCWA has a long standing relationship with WSP and in particular with Dean Whittaker (Director, Water/Wastewater Infrastructure). OCWA partnered with WSP on the Port Lambton Standpipe replacement project in 2022 to present. In 2018, OCWA and WSP also worked on a project to replace the Chatsworth Standpipe with a larger capacity GFS tank on the same location. This project involved a water demand study for the supply area in order to adequately size the new tank. OCWA and WSP teamed up on several other projects including for the Region of Peel and the MECP at the Deloro abandoned mine site. For this Temagami North Standpipe project, we propose that WSP undertake all structural assessment and specific

design as well as providing engineering assistance for any improvements in mechanical works that may be needed.

We believe the team we have assembled will provide the Municipality with the best technical solution for replacing the tower. We are well positioned to jointly deliver this project on time and on schedule.

## **3 Scope of Work and Methodology**

### **3.1 Performance Specifications and RFB Preparation**

OCWA has partnered with WSP to provide assistance to OCWA in the areas of structural and mechanical performance specifications that will be required as part of the Request For Bid (RFB) document. These are areas of specific expertise that OCWA do not presently have internally with our staff. This external third party service will strengthen the quality assurance of the technical expertise that we provide for the assignment. As indicated, this service will be provided as part of OCWA services described herein.

OCWA will develop a RFB in order to select a Design-Build Contractor/Supplier for the works. OCWA will develop the detailed scope of work for the RFB process. The main components of the scope of work for the Contractor/Supplier are as follows:

1. Design, Supply and Install and Commission a glass-fused-to-steel bolted tank of similar shape, height and volume as the existing Temagami North Standpipe. The new tank to be installed on the existing concrete foundation;
2. Design, Supply and Install tank infrastructure components, such as modifications to the existing inlet/out pipe, repairs to the concrete foundation, installation of a mixing system, repairs/improvements to the valve chamber etc;
3. Disconnect, completely dismantle and remove the existing standpipe.

OCWA/WSP will develop the engineering performance specifications for the RFB that will identify the requirements that the Design-Build Contractor will be required to meet in performing the works. These specifications will include all the mechanical, civil, electrical and general performance requirements. Relevant codes, regulations, standards and best practices that are relevant to the works shall be identified and incorporated into the RFB.

Prospective bidders will be required to submit proposals and prices for a new tank based on the sizing and requirements outlined in the RFB. Design will be based on the recommended elevations of the new tank and recommended minimum and maximum flow rates for the tank. The successful Contractor will be required to provide engineered drawings for construction, signed and sealed by a registered professional engineer licensed in Ontario, as well as as-built drawings after installation of the new tank.

Key components of the RFB will include:

- Administrative requirements such as Agreement to Bond, Insurance (including professional and environmental liability).
- Identification of required sizing, flow rates (min/max), elevations, storage volume.
- Requirements for assessing the condition of the existing concrete foundation for improvements/repairs that may be required.
- In the absence of as-built drawings for the existing concrete foundation, requirements for structural engineering assessment/analysis to confirm the suitability of the existing foundation to support the new tank. These requirements will be the responsibility of the design build contractor and will add cost to the contract.
- Requirements for onsite yard piping modifications to connect the new tank to the existing piping and distribution system and disconnection of the existing tank.
- Maintaining and reinstating any instrumentation and control requirements for remote monitoring of water levels in the new tank.
- Required tank accessories, such as vacuum/pressure relief vent, overflow, inspection hatches, safety climbing devices (fixed ladder with slide rail, seat rests, D-Ring tie offs, etc.).
- Installation of a passive mixing system (or reuse existing).
- Antenna support structure on tank roof.
- Improvements to the valve chamber, utility building and other site amenities.
- Cathodic Protection System to supplement corrosion protection of a new tank.
- Applicable codes and regulations to which the design/builder will be required to conform.
- Testing, disinfection and commissioning, as- built drawings, operations and maintenance manual, all other documentation.
- Lightning protection and grounding system.
- Decommissioning, complete dismantling and removal of the existing standpipe.
- The RFB will be prepared and submitted to the Municipality for review. After review, the RFB will be finalized. The final RFB will be issued by OCWA on behalf of the Municipality in an open bid process on the Ontario Tenders Portal.

Prior to issuing an RFB, a Designated Substance Survey (DSS) of the Temagami North Standpipe and site will also be completed. A DSS is required to be provided to the contractor prior to construction work as per the Occupational Health and Safety Act. OCWA will retain a company from OCWA's Vendor of Record to perform the DSS. The DSS report will be included in the RFB for bidders' consideration. We have included for the estimated cost of the DSS in this proposal.



WSP will complete a preliminary condition assessment of the existing concrete foundation of the Standpipe. Information gathered will be included in the RFB documents.

At the early stage of this design phase, OCWA/WSP will also notify the MECP of the proposed works. We will develop the materials to be used in support of the Schedule A – Class Environmental Assessment, and including information for the online Public Information Centre (PIC). At a later stage, before a contract is awarded, OCWA in conjunction with the Municipality will submit a Drinking Water Works Permit (DWWP) amendment for the modification of the Standpipe. Applicable fees to the MECP would be the responsibility of the Municipality and are not included in our proposal fees.

## **3.2 Bidding Phase Services**

The following tasks will be undertaken during the bidding process:

- Arranging and conducting a bidders meeting at the water tower site.
- Recording and answering bidders' questions and issuing addenda.
- Evaluating the bids received, the project team (Municipality, OCWA and WSP) will evaluate the bids.
- Interview with bidders, if necessary.
- Checking bidder reference to confirm bidder experience.
- Providing the Municipality with a recommendation for the award of contract based on qualifications, experience and price. Upon receiving approval from the Municipality for the award of contract, we will:
  - Prepare and issue a contract award letter and a contract agreement for execution. It is our understanding that the contract will be between OCWA and the selected contractor.
  - Arrange and conduct a pre-start meeting with the selected contractor and obtain a preliminary work schedule.

These activities will bring an end to this phase of our services. At this stage, at the request of the Municipality, we shall submit a fee proposal to undertake the Contract Administration on behalf of the Municipality. In that proposal, we will outline all the activities that we will undertake during the pre-construction design, construction and the post-construction warranty phases of the works. This allows OCWA to submit a proposal for the Contract Administration Phase once the full scope of work and schedule is better known, allowing us to more accurately define the scope and budget needed for that phase.

## **4 Project Team**

Our team of OCWA and WSP will provide the necessary staff, resources, and expertise required to complete this project.

Brief descriptions of each team member are provided below and detailed resumes for the OCWA project team members are included in Appendix D.

#### **Raj Roopchand, MSc., P.Eng., NACE (now called AMPP) Member – Senior Technical Advisor**

Raj is a registered Professional Engineer in the Province of Ontario and has close to 25 years of experience in design, management of construction, operation and maintenance of water and wastewater systems. Raj has developed over his many years of experience thorough knowledge of pertinent standards and regulations that apply to water and wastewater systems. He holds a Master of Science degree in Engineering Hydrology and has good knowledge and technical skills in water/wastewater systems and network hydraulics. Raj has successfully completed numerous water tower/standpipe rehabilitation projects that are similar to this project. In fact, Raj was involved on all water tower/standpipe rehabilitation projects completed by this department in the last 15+ years. **Raj will be the Technical Advisor and Team Lead for this assignment.**

#### **James Su, P.Eng., LEED Green Associate – Project Manager/Engineer**

James has been in the water/wastewater engineering industry for over 13 years. He has completed various engineering work from water/wastewater plant studies to major construction projects. James has administered and managed many tenders and construction contracts throughout his career, and this experience will be very beneficial for the completion of this project. James has recently successfully completed the recoating and rehabilitation of Bobcaygeon CET, Essex Water Tower, Lansdowne Standpipe, Chesterville Water Tower, and Brechin CET. James is also currently completing the Port Lambton GFS tank with Raj. **James will be the Project Manager/Engineer for this assignment.**

#### **Dean Whittaker, P.Eng. – Senior Design Manager (WSP)**

Dean Whitaker has experience in the water and wastewater infrastructure sector since 2003. He has been responsible for the design and construction of a variety of water and wastewater infrastructure projects for both public and private-sector clients. Dean's past work has included Class EA studies, preliminary design, detailed design as well as contract administration and commissioning for a number of water and wastewater facilities. He has also conducted public private partnership reviews and evaluations for water and wastewater servicing agreements, complete asset management and ten-year capital fiscal infrastructure plans, as well as assisted in the preparation of cost sharing agreements for land development. **Dean will be the Design Consultant and WSP Team Manager for this assignment.**

#### **Richard Liu, M.Eng., P.Eng., PMP – Structural Team Lead (WSP)**

Please refer to WSP proposal (attached) for CV.

#### **Shayan Ataei, M.Eng., P.Eng., PMP, LEED AP (BD + C) – Structural Engineer (WSP)**

Pease refer to WSP Proposal (attached) for CV.

Other OCWA staff will be involved on an as needed basis.

## 5 Schedule

OCWA is ready to start the project immediately upon approval. **Error! Reference source not found.** contains a list of the tentative key milestone dates for the project assuming the proposal is approved by December 15, 2023.

*Table 1: Anticipated Key Milestones*

TASK	TENTATIVE DATE
Project Approval to Start	December 15, 2023
Project Kick Off Meeting	December 19, 2023
Undertake Foundation Assessment	December 31, 2023
Undertake Designated Substance Survey	January 19, 2024
Draft RFB	February 2, 2024
Final RFB	February 9, 2024
Issue RFB	February 14, 2024
RFB Close	March 18, 2024
Contract Award	March 25, 2024
Preliminary Design	April 2024
Public Information Centre (post information online)	April 2024
Completion of 60% Design	May 2024
Completion of 90% Design	May 2024
Design Completion (100%)	June 2024
Construction Start	June 2024
Substantial Performance	December 2024
2 Year Warranty Ends	December 2026

This is a tentative schedule and it may change depending on the final scope of work, timing of Municipality decisions, contractor/equipment availability and weather conditions.

## 6 Proposal Fee

In reviewing the above scope of work, OCWA proposes a total fee of **\$65,930 (exclusive of HST)** for the total professional fees, travel expenses and inclusive of the external party’s cost. OCWA proposes to invoice the Municipality monthly on a time and material basis.

A detailed Time Task Matrix for OCWA services is provided in Appendix A. The fee for WSP Services is detailed in WSP proposal included in Appendix B. If additional services are required outside of the scope of this proposal, this cost will be in accordance with our Engineering Schedule of Rate attached in Appendix C. Table 2 summarizes the budget by task. Note that as this scope of work is not considered operations and maintenance but rather engineering, the full 13% HST will apply to the total fees.

*Table 2: Budget Summary (for Phase 1)*

TASK	BUDGET (EXCLUDING HST)
<b>OCWA Fees</b>	
Overall Project Management & Procuring External Services	\$ 5,657
Performance Specifications and Requirements & RFB Preparation	\$ 16,867
Bidding Phase Services	\$ 5,505
Contingency (10%)	\$ 2,803
<b>Subtotal OCWA Fees</b>	<b>\$ 30,832</b>
<b>External Party Services</b>	
WSP Engineering Services	\$ 26,500
Designated Substances Survey. Note 5% OCWA Admin Fee applies	\$ 8,600
<b>Subtotal External Party Services Fees</b>	<b>\$ 35,100</b>
<b>TOTAL (excluding HST)</b>	<b>\$65,930</b>

## 7 Terms and Conditions

OCWA proposes to undertake this assignment under the terms and conditions of the current OCWA O&M Agreement with the Municipality of Temagami as an out of scope service. Once

the proposal is approved, an Expenditure Request (Change Order) form will be sent to the Municipality for review and signature.

## **8 Assumptions and Limitations**

Based on current understanding of the project, OCWA has assumed the following in development of the scope of work:

- Information required from the Municipality are promptly provided;
- The RFB document will be developed using OCWA standard documents and format;
- There will be no objections or unexpected questions from individuals during the Public Information Centre, that requires extraordinary resources and effort to resolve;
- The new tank will be built on the existing foundation. If a new foundation is required, it will increase the cost of the project significantly over the present cost estimates and a professional fee increase will also be required for the additional work and extended length of the project. The project schedule will also be lengthened beyond the target dates set in Section 6 above.
- Virtual meetings with the Municipality to review and finalize the RFB document

### **COUNTERSIGNATURE:**

By signing below, I accept the scope of work described in the above proposal and provide permission on behalf of the Municipality of Temagami to proceed.

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(Signature)

---

Date

# **APPENDIX A**

## **Time Task Matrix (OCWA Fees)**



Municipality of Temagami  
Engineering Services Proposal for the Replacement of the Temagami North Stand  
Extended Summary

Task Description		Total Hours	PM/Eng. Fees	Disbursements	Direct Expenses	Third Party Consultants	Total Cost
<b>1 Overall Project Management &amp; Procurement of External Services</b>							
1.1	Project management (administration, scheduling & reporting)	19	\$ 3,003.00	\$ 180.18	\$ -	\$ -	\$3,183.18
1.2	Background review of reports	4	\$ 678.00	\$ 40.68	\$ -	\$ -	\$718.68
1.3	Request quotation for DSS, evaluate quotation, contractor agreement with consultant	10	\$ 1,656.00	\$ 99.36	\$ -	\$ -	\$1,755.36
<b>Subtotal Task Hours</b>		<b>33</b>					
<b>Percentage of Overall Task/Activity Time</b>		<b>100%</b>					
<b>Subtotal Costs</b>			<b>\$5,337.00</b>	<b>\$320.22</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$5,657.22</b>
<b>2 Performance Specifications and Requirements &amp; RFB Preparation</b>							
2.1	Project management (administration, scheduling & reporting)	12	\$ 1,905.50	\$ 114.33	\$ -	\$ -	\$2,019.83
2.2	Coordinate concrete foundation assessment by WSP, and review report	7	\$ 1,242.18	\$ 74.53	\$ -	\$ -	\$1,316.71
2.3	Coordinate DSS survey and review report	8	\$ 1,316.34	\$ 78.98	\$ -	\$ -	\$1,395.32
2.4	Coordinate and review Class Environmental Assessment (Schedule A) including the on-line Public Information Centre information	10	\$ 1,705.68	\$ 102.34	\$ -	\$ -	\$1,808.02
2.5	Prepare performance specifications & requirements (Codes, Standards, Guidelines, Ministry Compliance, etc)	18	\$ 3,343.38	\$ 200.60	\$ -	\$ -	\$3,543.98
2.6	Develop detailed scope of work to include Improvements Identified in the Landmark inspection report	12	\$ 2,175.36	\$ 130.52	\$ -	\$ -	\$2,305.88
2.7	Prepare Design-Build RFB Draft	9	\$ 1,511.01	\$ 90.66	\$ -	\$ -	\$1,601.67
2.8	Review draft RFP with Municipality and finalize RFB	7	\$ 1,202.01	\$ 72.12	\$ -	\$ -	\$1,274.13
2.9	Complete and submit DWWP amendment application (application fees are to be paid by the Municipality)	9	\$ 1,511.01	\$ 90.66	\$ -	\$ -	\$1,601.67
<b>Subtotal Task Hours</b>		<b>92</b>					
<b>Percentage of Overall Task/Activity Time</b>		<b>100%</b>					
<b>Subtotal Costs</b>			<b>\$15,912.47</b>	<b>\$954.75</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$16,867.22</b>
<b>3 Bidding Phase Services</b>							
3.1	Project management (administration, scheduling & reporting)	5	\$ 630.00	\$ 37.80	\$ -	\$ -	\$667.80
3.2	Issue RFB on Ontario Tenders Portal	1	\$ 150.00	\$ 9.00	\$ -	\$ -	\$159.00
3.3	Attend and coordinate pre-bid mandatory site visit	9	\$ 1,350.00	\$ 81.00	\$ 414.00	\$ -	\$1,845.00
3.4	Issue addenda to answer questions from bidders	5	\$ 867.00	\$ 52.02	\$ -	\$ -	\$919.02
3.5	Evaluate submissions	5	\$ 828.00	\$ 49.68	\$ -	\$ -	\$877.68
3.6	Prepare recommendation letter to Municipality for award of contract	3	\$ 489.00	\$ 29.34	\$ -	\$ -	\$518.34
3.7	Coordinate signing contract agreement with contractor	3	\$ 489.00	\$ 29.34	\$ -	\$ -	\$518.34
<b>Subtotal Task Hours</b>		<b>31</b>					
<b>Percentage of Overall Task/Activity Time</b>		<b>100%</b>					
<b>Subtotal Costs</b>			<b>\$4,803.00</b>	<b>\$288.18</b>	<b>\$414.00</b>	<b>\$0.00</b>	<b>\$5,505.18</b>
<b>Total Project Hours and Fees</b>							
<b>Total Project Hours</b>		<b>156</b>					
<b>Percentage of Overall Time</b>		<b>100%</b>					
<b>Total Project Fees</b>			<b>\$26,052.47</b>	<b>\$1,563.15</b>	<b>\$414.00</b>	<b>\$0.00</b>	<b>\$28,029.62</b>
<b>Contingency Allowance 10%</b>							<b>\$2,802.96</b>
<b>Overall Project Total</b>							<b>\$30,832.58</b>
<b>HST 13.00%</b>							<b>\$4,008.24</b>
<b>Project Grand Total</b>							<b>\$34,840.82</b>

# **APPENDIX B**

## **WSP Proposal**





November 27, 2023

WSP Canada Group Limited  
100 Commerce Valley Drive West  
Thornhill, Ontario, Canada L3T 0A1  
t: 289.982.4524 | c: 416.358.9324  
Dean.Whittaker@wsp.com | www.wsp.com

Mr. Rajkumar Roopchand, MSc., P.Eng.  
Project Manager  
Engineering Services  
Ontario Clean Water Agency  
2085 Hurontario Street, Suite 500  
Mississauga, ON  
L5A 4G1  
Phone: 905-491-3055  
E-mail: rroopchand@ocwa.com

Dear Mr. Roopchand

Subject: **Temagami North Standpipe Replacement Project**

We are pleased to confirm our interest in providing Consulting Engineering Services to the Ontario Clean Water Agency (OCWA) for the assistance of preparation of design-build contract documents and assistance during tender for the replacement of the existing Temagami North Standpipe, in the Municipality of Temagami. It is our understanding that the Municipality wants to replace the existing metallic water storage standpipe, with a newer water storage standpipe; either like-for-like coated metallic, or glass-fused to steel. We understand the technical scope of work for this project consists of the following:

- Conduct site assessment to ascertain the condition of the existing concrete foundation. The assessment report to be included in the subsequent RFP document.
- Development of the materials to be used in support of the Schedule A – Class Environmental Assessment, including the on-line Public Information Centre.
- Assistance with the development of performance specifications, and select technical specifications and requirements for the design-build contractors.
- Assistance with preparation of RFP document.
- Answering technical questions during tendering, assisting with bidders' evaluation.

These services are proposed for the engineering and tendering phase, which have been identified as Phase 1. If approved by the Municipality, we expect that Phase 1 would commence in December 2023 / January 2024 with tendering in mid 2024.

Our total estimated fee is \$26,500 (including disbursements), exclusive of reasonable expenses and HST. A breakdown of the estimated fee is provided in the table below. The fees should be considered as an upset limit, with actual fees being based on a time basis up to the stated upset limit.



As part of our fee submission, we have included 1 site visit, for 1 person to inspect the standpipe and publish an assessment report. We have assumed that all other meetings will be held virtually with both OCWA and the Municipality.

We have included in our fee for basic drawing production, only, for design-build purposes (i.e., replacement of the standpipe). We have not included for additional technical services, which include civil site modifications, process enhancements, electrical and instrumentation & control improvements, etc. We also have not included for any topographic surveys, geotechnical or hydrogeological services. We have not included for an aerial drone survey of the tank, but have included money to coordinate the survey and findings.

### Fee Breakdown Structure

Design Component	Associated Upper Upset Limit
Site Assessment (Base and Concrete Pedestal, only), including Report (DRAFT and FINAL submission)	\$9,000.00
Assistance with Preparation of Schedule A Letter to MECP, including on-line PIC documentation	\$3,000.00
Assistance with the Development of Performance Specifications for Design-Build Upgrades Project, including Technical Specifications	\$8,500.00
Assistance with Preparation of Design Building – RFP Document	\$4,500.00
Assistance During Tender Period, Evaluation of Bids	\$1,500.00
<b>TOTAL FEE (exclusive of HST)</b>	<b>\$26,500.00</b>

### Additional Assessment/Inspection Services

We can provide additional assessment / inspection services (per person) by our dedicated inspection / engineering specialist(s), if requested by OCWA under the following cost assumptions:

- 4 Hours (Inspection Services); 8 hours (Drive); 12 hours (Total)
- \$800 Disbursements
- \$180 per Hour Specialist Site Inspector
- \$3,000 per Visit

### Dedicated Staff and Rates

WSP has committed senior career professional staff with specialized expertise to this project to ensure we meet all of your objectives. We currently have the staff available to immediately begin working on the project and based on the design information provided, can successfully complete the design identified as follows:

- Project Manager: Dean Whittaker, P.Eng., MBA; \$250 per hour.
- Structural Engineer(s): Richard Liu, P.Eng. ;Shayan Ataei, \$180 per hour.
- Engineering Support: Yasser Elkady, M. Eng.; \$135 per hour.
- Quality Review Engineer; \$180 per hour.
- Additional Technical Support and Drafting; \$110 per hour.

CV have been attached as Appendix B.

We trust that the foregoing is in keeping with the intent of our discussions. However, should you have any questions or concerns with any part of this proposal we would be pleased to discuss these with you at your earliest convenience.



Best regards,

A handwritten signature in black ink, appearing to read 'D. Whittaker', written over a horizontal line.

Dean Whittaker, P.Eng.  
Director – Water & Wastewater  
Transportation & Infrastructure

Notes:

1. The copyright in all drawings, reports, specifications, bills of quantities, calculations, and other documents (the "documents") prepared or provided by the engineer in connection with the project belong to the engineer. But the client shall have a non-exclusive, royalty-free license to use the documents for the purpose of constructing the project.
2. Prior to the transfer of any Electronic Data, WSP may require any party to sign an electronic data transfer agreement. There shall be no third party use of this data without WSP's written consent.

APPENDIX A – STANDARD HOURLY RATES

## **APPENDIX A**

### **HOURLY RATES FOR WATER AND WASTEWATER INFRASTRUCTURE AS OF JANUARY 1, 2022**

	<b><u>Hourly Rate</u></b>
Executive, Director, Senior Vice President	\$320 to \$340
Vice President	\$260 to \$320
Manager	\$190 to \$280
Senior Project Manager	\$180 to \$240
Project Manager, Senior Project Personnel	\$150 to \$180
Professional, Senior Project & Project Personnel	\$110 to \$140
Professional, Senior Technical /Field/CAD/Designer	\$90 to \$110
Technical/Field/CAD/Clerical	\$85 to \$100
Junior Technical/Field/CAD/Clerical	\$75 to \$80
Office Services, Support	\$65 to \$70

**Rates are subject to revision**

APPENDIX B – STANDARD TERMS AND CONDITIONS



## GENERAL TERMS AND CONDITIONS

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### 1. DEFINITIONS

1.1 Except if a different interpretation is required by the context, the following terms shall have the following meanings:

- (a) **Affiliate** has the meaning given to such term in the *Canada Business Corporations Act* or in any replacement thereof or supplement thereto in effect, which meaning shall apply *mutatis mutandis* to partnerships, general partnerships and limited partnerships.
- (b) **Agreement** means (i) the Proposal, (ii) the General Terms and Conditions, (iii) the Purchase Order(s) and (iv) all the other attachments indicated in the Proposal, provided the parties have agreed in writing to be bound by the General Terms and Conditions and have not executed a Services Agreement.
- (c) **Claim** or **Claims** means, as the case may be, one or more of the following: losses, damages, fees, disbursements, penalties, fines, claims, formal demands, motions, petitions or applications, proceedings, legal hypothecs, charges, obligations imposed by law, liabilities, judgments, decisions, decrees, arbitral awards, taxes of any and all kinds, and any other types of costs or expenses (including reasonable lawyers' fees and reasonable expenses incurred thereby), plus the related interest at a rate of one percent (1%) per month.
- (d) **Client** means the party named in the agreement as being the recipient of the services.
- (e) **Completion** means the full and complete performance of the services in accordance with the Agreement.
- (f) **Confidential Information** means all information of a confidential nature, in whatever form and on whatever medium, that the Client and WSP obtain from the other party to the Agreement, directly or indirectly, including information concerning the Client or WSP, particularly regarding the business, affairs, financial position, assets, operations, activities, prospects or trade secrets of such party, as well as all analyses, assessments, compilations, notes, studies or other documents that the Client or WSP, as the case may be, or their respective Personnel have performed or prepared and that rely on or contain such information.
- (g) **Deliverables** means the drawings, plans, models, specifications, reports, photographs, surveys, calculations and other data, including the computer printouts, that shall be used in connection with the Agreement and shall be prepared by or on behalf of WSP.
- (h) **Force Majeure Event** means an event or circumstance beyond the control of a party to this Agreement that hinders or delays the performance by said party of its obligations under the Agreement and that, despite reasonable diligence and proper planning, said party was not or is not able to avoid or overcome.
- (i) **General Terms and Conditions** means this document entitled "General Terms and Conditions" and forming part of the Agreement.
- (j) **Hazardous Substance** means any substance, mixture of substances, product, waste, organism, pollutant, material, chemical product, contaminant, dangerous good, component or other material that is, or becomes, listed in, governed by or subject to a Law or regulation applicable to its use, manufacture, importation, handling, transport, storage, dumping and treatment.
- (k) **Law** or **Laws** means, collectively, all valid and applicable common law, federal, provincial, municipal and other local laws, orders, rules, regulations, bylaws and regulatory body decisions, including occupational health and safety, fire, employment insurance, workers' compensation and environmental protection legislation, building codes, anti-corruption laws or international conventions, that apply now or may apply in the future, and other governmental requirements, labour practices and procedures prescribed by law and related to the Project or the Services.
- (l) **Person** means a natural person, business corporation, company, joint venture, unincorporated association, union, partnership (limited or general), limited liability partnership, trust, trustee, executor, judicial administrator or other legal representative or any other enterprise or association.
- (m) **Personnel** means a party's directors, officers, employees, contractual personnel, representatives, advisors, agents and mandataries, which definition shall also apply *mutatis mutandis* to a party's Affiliates.
- (n) **Project** means the project indicated in the Agreement.
- (o) **Proposal** means the service proposal submitted to the Client by WSP and dated **Proposal date**.
- (p) **Purchase Order** means, if applicable, the purchase orders established by the Client and bearing the numbers **PO number**.
- (q) **Services Agreement** has the meaning given to such term in Subsection 19.1 hereof.
- (r) **Services** means the services indicated in the Agreement.
- (s) **Site** means the place where the Project is located.
- (t) **WSP** means WSP Canada Inc.

### 2. INTERPRETATION

2.1 **Precedence.** In the event of conflict or inconsistency between the documents forming part of the Agreement, the following shall have precedence, from first to last:

- (a) these General Terms and Conditions;
- (b) the Proposal, excluding the General Terms and Conditions and the attachments;
- (c) if applicable, the other attachments to the Proposal;
- (d) if applicable, the Purchase Orders.

2.2 **Severability.** If any term, covenant or condition of these General Terms and Conditions is, to any extent, held to be invalid or unenforceable, then such invalidity or unenforceability shall not affect the remaining General Terms and Conditions other than the General Terms and Conditions



## GENERAL TERMS AND CONDITIONS

that were deemed invalid or unenforceable, and each remaining term, condition or covenant shall be separately valid and enforceable to the fullest extent permitted by Law.

### 3. SCOPE OF SERVICES

- 3.1 **Services.** WSP shall provide the Services in accordance with the Agreement.
- 3.2 **Time.** WSP shall provide the Services and deliver each of the Deliverables in accordance with the work schedule included in or attached to the Proposals.

### 4. OBLIGATIONS

- 4.1 **Standard of Care.** WSP shall provide the Services with such degree of care, skill and diligence as is normally exercised by engineers or consultants in the performance of comparable services at the time and place where the Services are provided.
- 4.2 **Obligations of the Client.** The Client shall discharge all of its responsibilities without delay and shall study WSP's requests for information, instructions or decisions without delay and respond thereto diligently within a reasonable time so as not to delay performance of the Services.
- 4.3 **Information and Data.** The Client shall make available to WSP all Project-related information and data required by WSP for the performance of the Services and, upon receipt of a notice from WSP, shall perform any ancillary service that is necessary to enable WSP to provide the Services.
- 4.4 **Access to the Site.** The Client shall take the necessary steps to ensure that WSP has access to the Site if such access is necessary for the performance of the Services.
- 4.5 **Permits.** The Client shall obtain from the government authorities or any other persons all permits, approvals and licences and any other authorizations or rights that are required to carry out the Project.

### 5. CHANGES

- 5.1 **Changes.** The Client or WSP may at any time propose to the other party changes to the Services, including the addition or removal of Services, changing the work schedule and advancing or postponing the delivery of all or part of the Services.
- 5.2 **Change compensation.** If a proposed change causes, directly or indirectly, an increase or decrease in Service delivery times or costs, the Client and WSP shall negotiate in good faith, without delay, a fair adjustment to the schedule or a financial compensation or both, and shall amend the Agreement in writing accordingly.
- 5.3 **Performance.** WSP shall not proceed with any proposed changes if the Agreement has not been amended in writing by the two parties to reflect the schedule adjustments or a financial compensation or both.

### 6. OWNERSHIP OF DELIVERABLES AND INTELLECTUAL PROPERTY RIGHTS

- 6.1 **Deliverables.** The Deliverables shall be the exclusive property of WSP, whether or not work has been performed in connection with the Project. WSP shall retain the copyrights thereon and on any work that may result therefrom. The Client may retain a copy of the Deliverables in its files.

- 6.2 **Exclusive Use by Client.** Reports, opinions, findings, recommendations, including expert testimony, or other documents prepared under this Agreement are prepared for the exclusive use of the Client identified as the intended recipient. WSP is not responsible for the use of, or reliance on, these documents by any other party without the written consent of WSP. WSP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on these documents.

- 6.3 **Intellectual Property Rights.** WSP shall retain all property rights on all patents, trademarks, copyrights, industrial property rights or other intellectual property rights and on the designs, products or processes developed or adapted by it in the performance of the Services. The Client shall not use, infringe or appropriate such exclusive rights without the prior consent of and payment of a financial compensation to WSP.

- 6.4 **Holdback of Deliverables.** Notwithstanding any contrary provision of the Agreement, if the Client is in default under the Agreement, including if a payment is not made by the Client when due, WSP may hold back all Deliverables until the Client has cured said default.

- 6.5 **Client Documents.** WSP may retain in its files a copy of all documents provided by the Client relating to performance of the Services.

### 7. INSURANCE

- 7.1 **Insurance Coverage.** WSP shall obtain, for the entire term of the Agreement, professional liability insurance with such limits per claim and aggregate annual limits as it deems reasonable, covering the professional liability incurred by WSP in the performance of the Services. At the Client's request, WSP shall provide the certificates of insurance within a reasonable time.

- 7.2 **Notice.** WSP and the Client shall notify one another in writing, without delay, of any event or incident that could give rise to a Claim under WSP's professional liability insurance referred to in this section, or of any other matter that WSP is required to disclose to its insurer. In addition, the Client shall provide WSP with all information, reports and documents and any assistance that may be reasonably necessary for the insurance claim to be settled without delay.

### 8. LIABILITY AND INDEMNIFICATION

- 8.1 **Liability of the Parties.** Subject to the limitations of liability indicated in Section 9, each party shall indemnify and save harmless the other party and their respective Affiliates, mandataries, agents and Personnel from and against Claims attributable to the following:

- (a) third persons;
- (b) the negligent or wrongful acts or omissions of the indemnifying party or of any person under the indemnifying party's responsibility.

### 9. LIMITATION OF LIABILITY

- 9.1 **Limitation of Liability.** Each party's liability with respect to the Claims that may be made against it or its Affiliates, mandataries, agents and Personnel, under the Agreement or affecting the Services in any way whatsoever, whether based in contract, tort (including negligence) or any other theory of liability, notwithstanding any other provision of the Agreement, shall be limited to the aggregate amount payable by the Client in consideration of the Services under the Agreement.





## GENERAL TERMS AND CONDITIONS

- 9.2 **Indirect Damages.** The parties shall in no case be liable for indirect or exemplary damages or for damages for loss of profits or income, loss of clients, loss of reputation, loss of financing or loss of business opportunity.
- 9.3 **Prescription Period.** No claim may be made against WSP or its Affiliates, mandataries or agents, including the insurers and their respective personnel, more than one year (or beyond the prescription period provided by law in the jurisdiction in which the Project is carried out) after the Completion of the Services.
- 9.4 **Hazardous Substances.** WSP shall not be responsible for the identification, reporting, analysis, presence, handling, removal or elimination of hazardous substances found on or near the Site, unless otherwise indicated in the Agreement, nor shall it be liable for the exposure of persons, property or the environment to such hazardous substances.
- 9.5 **Information from the Client.** The Consultant shall have the right to assume that all information and data provided by or on behalf of the Client and all information provided by the government authorities and public utilities is accurate and complete.
- 9.6 **Acts of Third Parties.** The Consultant shall not be liable for the acts or omissions of the Client's consultants, the contractors, the subcontractors, the suppliers or the service providers in relation to the Project or for the work they performed. The Consultant shall not monitor, direct or supervise the methods, means, techniques, sequences or construction processes employed by the contractors, subcontractors or service providers in relation to the Project.
- 9.7 **Independent Expert.** The Consultant shall not be liable for any opinions provided by any independent expert engaged by the Client, even if said expert is recommended by the Consultant.
- 9.8 **Manufacturing Defects.** The Consultant shall not be liable for manufacturing defects in equipment, materials or supplies specified or recommended by it.
- 9.9 **Safety.** The Consultant shall not be responsible for the safety measures and programs required for the Project or for general safety at the Site pursuant to the applicable health and safety laws.
- 10. FORCE MAJEURE EVENT**
- 10.1 **Force Majeure Event.** If, owing to a Force Majeure Event, either party is unable to fulfill its obligations under the Agreement, the obligations of such party shall be suspended for the period during which and to the extent that the Force Majeure Event continues to have such effect.
- 11. INDEPENDENT CONTRACTOR**
- 11.1 **Independent Contractor.** Unless otherwise indicated in the Agreement, WSP shall be an independent contractor and not an agent or mandatary of the Client.
- 12. PAYMENT**
- 12.1 **Payment.** WSP shall invoice the Client every month, and the Client shall pay the invoices within thirty (30) days of receipt thereof. If the Client determines that an invoice contains amounts that, in its estimation, it does not owe to WSP, it shall notify WSP within ten (10) days of receipt of the invoice. If the Client does not notify WSP within said ten (10) days, it shall be deemed to have accepted the amounts indicated on the invoice issued by WSP.
- 12.2 **No holdback.** Notwithstanding any other provision of the Agreement, there shall be no holdback of payment for the Services.
- 12.3 **Interest.** The amounts that either party pays to the other party when due under the Agreement shall bear interest as of the initial due date until the actual date of payment, inclusive, at a rate of one percent (1%) per month.
- 13. SUSPENSION OR TERMINATION**
- 13.1 **Expiry or Termination.** The Agreement shall terminate at the earlier of the following dates:
- the Completion date;
  - the termination date if the termination occurs in accordance with this section.
- 13.2 **Termination by the Client.** In the event of a material failure by the Consultant to fulfill any of its obligations under the Agreement, the Client shall notify the Consultant that the default must be cured. If the Consultant fails to cure the default within thirty (30) days of receipt of such notice, if the default cannot be cured immediately, or if the Consultant fails to take reasonable measures within such time to cure it, the Client may terminate the Agreement by a new notice to the Consultant. Such termination shall not relieve the Client of its obligation to pay all of the amounts owed by it to the Consultant for the Services provided up to the termination date, in addition to all the costs incurred by the Consultant up to said date, in the manner set forth in the Agreement.
- 13.3 **Suspension or Termination by WSP.** In the event of a material failure by the Client to fulfill any of its obligations under the Agreement, including if it fails to make the payments in the manner set forth in the Agreement, WSP shall notify it that the default must be cured. If the Client does not cure the default within seven (7) days of receipt of such notice, WSP may cease to provide the Services until it receives payment in full of the amounts owed to it, including accrued interest, or until the default has been cured. If the Client does not cure the default within fifteen (15) days of receipt of the default notice given by WSP, WSP may terminate the Agreement by providing a new notice to the Client. If applicable, the Client shall pay without delay all amounts that it owes to WSP for the Services provided up to the termination date, in addition to all reasonable termination costs, including third party cancellation charges, without prejudice to any other right or remedy available to WSP.
- 13.4 **Suspension or Termination by the Client.** If the Client does not intend or is not able to implement the Project, it may suspend or terminate the Agreement by thirty (30) days' notice to WSP. Upon receipt of such notice, WSP shall cease to provide the Services, except for those Services that are reasonably necessary to enable the suspension or termination of the part of the Project for which it is responsible. If applicable, the Client shall pay without delay all amounts that it owes to WSP for the Services provided up to the suspension or termination date, in addition to all costs incurred by WSP up to said date and all reasonable suspension or termination costs, including third party cancellation charges, without prejudice to any other right or remedy available to WSP.
- 13.5 **Rights of WSP.** If the Client suspends the performance of the Services at any time whatsoever for more than thirty (30) days, whether those days are consecutive or not, WSP may choose, in its entire discretion, to terminate the Agreement upon



## GENERAL TERMS AND CONDITIONS

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delivery of a notice to the Client. If applicable, the Client shall pay without delay any Compensation that it owes to WSP for the Services provided up to the termination date and all reasonable termination costs, including third party cancellation charges, without prejudice to any other right or remedy available to WSP.

### 14. CONFIDENTIALITY

- 14.1 **Confidential Information.** All confidential information received by a party to the Agreement shall be treated as strictly confidential and shall not (i) be disclosed to a third party or (ii) be used in any manner whatsoever, directly or indirectly, for a purpose other than the performance of the Services, subject to the prior consent of the party that provided the confidential information, which consent shall not be unreasonably withheld.

### 15. DISPUTE RESOLUTION

- 15.1 **Negotiations.** In the event of a dispute between the parties regarding the Agreement, the parties shall use all reasonable efforts to resolve the dispute amicably. The parties agree to openly disclose all relevant information and provide all relevant documents within the prescribed time periods without prejudice to the rights and remedies available to them.
- 15.2 **Unresolved Dispute.** If, after negotiations, a dispute remains unresolved, either party may bring it before the courts or, by mutual agreement, refer it to another dispute resolution process, including mediation or binding arbitration.

### 16. NOTICES

- 16.1 **Notices.** Notices shall be given in writing at the party's address indicated in the Agreement. Notices may be delivered in person or by courier or sent by facsimile or electronic mail.

### 17. SURVIVAL OF PROVISIONS

- 17.1 **Survival of Provisions.** In addition to the provisions of the Agreement that, by their very nature, shall continue in full force and effect after the termination or expiry of the Agreement, the following sections shall continue in full force and effect after the termination or expiry of the Agreement: Section 6 *Ownership of Deliverables and Intellectual Property Rights*, Section 8 *Liability and Indemnification*, Section 9 *Limitation of Liability*, Section 14 *Confidentiality*, Section 15 *Dispute Resolution*, and Section 18 *Governing Laws*.

### 18. GOVERNING LAWS

- 18.1 **Governing Laws and Jurisdiction.** The Agreement shall be governed by and construed in accordance with the laws of the province in which the Project is carried out. The parties agree, subject to Section 15 *Dispute Resolution*, to accept and attorn to the exclusive jurisdiction of the courts of the province in which the Project is carried out.
- 18.2 **Venue.** The parties hereby waive any objection based on the venue or the doctrine of *forum non conveniens* in respect of Claims resulting from the Agreement or in any way associated with or related to the Client's and WSP's business in respect to the Agreement or related operations, whether they exist on the date hereof or arise thereafter and whether they arise out of contractual, tort or civil liability or out of the application of any other legal system or specific law.

### 19. GENERAL PROVISIONS

- 19.1 **Legally Binding Agreement.** Before the performance of the Services commences, the parties will attempt to negotiate in good faith a services agreement (the "**Services Agreement**") containing terms and conditions substantially equivalent to the General Terms and Conditions. If a Services Agreement is entered into between WSP and the Client, it shall constitute the sole legally binding agreement binding them with respect to the performance of the Services. If WSP and the Client do not enter into a Services Agreement, they agree to be bound by the General Terms and Conditions, which, in such an event, shall be the sole legally binding agreement binding them with respect to the performance of the Services.
- 19.2 **Assignment.** No party may assign the Agreement without the prior written consent of the other party, which consent may not be unreasonably withheld. Notwithstanding the foregoing, WSP may assign the Agreement, without the Client's consent, to any of its Affiliates or to a third party that amalgamates with WSP or acquires all or substantially all of WSP's assets. Subject to the foregoing, the Agreement shall be binding upon, and enure to the benefit of, the parties and their respective successors and, as regards WSP, its assigns.
- 19.3 **Entire Agreement.** Subject to the provisions of Subsection 19.1 hereof, this Agreement constitutes the entire agreement between the parties and hereby cancels and replaces all previous agreements between the parties in respect of the Services.
- 19.4 **Changes.** No Change made to the Agreement shall be binding upon WSP and the Client unless it is made in writing and executed by the authorized representatives of the parties.
- 19.5 **No Waiver.** Any failure by any party to demand compliance with any term, condition or directive or to exercise any right or privilege granted to it in the event of breach or default shall not constitute a waiver of such term, condition, right or privilege.
- 19.6 **Exclusions.** Unless expressly indicated otherwise in the Agreement, the requests for proposals, tender packages or other similar documents of the Client shall not form part of the Agreement.

**END OF DOCUMENT**

APPENDIX C – STAFF CVs



## DEAN WHITTAKER, MBA, P.Eng.

*Director, Water – Wastewater, Vertical Infrastructure*

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### Proposed Role:

*Project Manager*

### Years of Experience:

*in the proposed role*

*14 years*

*with WSP*

*9 years*

*overall*

*22 years*

### Areas of practice

*Water*

*Wastewater*

### Education

*Master of Business  
Administration, Business and  
Economics, Wilfred Laurier  
University, Kitchener, ON, 2010*

*Master of Applied Science,  
Chemical Engineering, University  
of Toronto, ON, 2002*

*Bachelor of Applied Science, Civil  
Engineering, University of  
Waterloo, ON, 2000*

### Professional associations

*Professional Engineers Ontario*

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### PROFILE

Dean Whittaker has experience in the water and wastewater infrastructure sector since 2003. He has been responsible for the design and construction of a variety of water and wastewater infrastructure projects for both public and private-sector clients. Dean's past work has included Class EA studies, preliminary design, detailed design as well as contract administration and commissioning for a number of water and wastewater facilities. He has also conducted public private partnership reviews and evaluations for water and wastewater servicing agreements, complete asset management and ten-year capital fiscal infrastructure plans, as well as assisted in the preparation of cost sharing agreements for land development.

### CATEGORY-SPECIFIC EXPERIENCE

#### *Water*

- Chatsworth Standpipe Replacement Project, Chatsworth, ON (2016-2017): Project Manager and Senior Design Engineer. Responsible for the preliminary assessment and detailed design services associated with an elevated water storage tank (1.5 ML) to service future growth. Responsible for the technical design of all aspects of the project including site plan, associated pumping station modifications to suit the operation of the standpipe, storage requirements in compliance with Regulation 170/03, and Electrical Servicing and Instrumentation and Control infrastructure. Client: Ontario Clean Water Agency (OCWA), Town of Chatsworth.
- Friday Harbour Elevated Storage Facility, Innisfil, ON (2013-2016): Lead Technical Review Engineer responsible for the detailed technical review and Ontario Ministry of Environment and Climate Change (MOECC) Transfer Review Program on behalf of the Town of Innisfil for a 7.5 ML elevated storage facility servicing a major residential and commercial development within the Town. Responsible for the technical review of all aspects of the design including site, grading and stormwater management plan, storage requirements in compliance with Regulation 170/03, HVAC, and Electrical Servicing including emergency power generation. Client: Town of Innisfil.
- West Park Heights Water Storage Facility Upgrades, Keswick, ON (2008-2010): Lead Design Engineer. Responsible for the process mechanical upgrades to the existing 8.7 ML water storage facility, which included the addition of a static in-line mixing system, inlet and outlet piping and valving configuration improvements, as well as health and safety compliance upgrades. Responsible for the preparation of the capital construction cost estimate. Client: York Region.

### ADDITIONAL RELEVANT EXPERIENCE

- Zone 4 Potable Water Reservoir and Zone 5 Pumping Station, Pickering, ON (2018-ongoing): Project Manager, Lead Design Engineer responsible for the overall project implementation of a new reservoir and pumping station in order to facilitate growth within the City of Pickering. Duties include complete project management for scope, price, risk, schedule, and all human resources associated with the project. The project also included process mechanical, building mechanical, SCADA design services, complete with all necessary electrical infrastructure, including motor control centre, primary power supply, standby power generation complete with automatic transfer switch, and all other appurtenances. Client: Durham Region.
- Franklin Pond, Toronto Island Rejuvenation Project, Toronto, ON (2018-2020): Senior Design Engineer. Responsible for the detailed design of a water pumping system for the redeveloped and rejuvenated Franklin Children's Pond on Toronto



Island. Responsible for leading the design of the water intake pumping station, including all civil, structural, process mechanical, electrical and instrumentation and control infrastructure. The pumping and discharge rate for the redeveloped pond was specifically designed to provide necessary water turnover rates to eliminate algae blooms, odour formation and eutrophication. Client: City of Toronto, Parks and Recreation.

- Grimsby Water Storage System, Grimsby, ON (2015-2017): Project Manager and Senior Design Engineer responsible for the detailed design and contract administration of a new 15 ML multi-cellular reservoir, complete with bulk water supply depot, as well as upgrades to a supply booster pumping station. Design and management responsibilities include all process mechanical, building mechanical (HVAC), electrical, instrumentation and control, site works and noise attenuation upgrades. Responsible for the preparation of the capital construction cost estimate. Client: Niagara Region.
- Lambton Area Water Supply System (LAWSS), Forest, ON (2017): Project Manager/ Lead Engineer. Lead engineer responsible for the capital and lifecycle costing and analysis associated with the replacement / rehabilitation with the Forest Elevated Standpipe. Project included detailed capital cost estimation, annual operations and maintenance costs projections and a detailed presentation with recommendations to council.
- North Bay Booster Pumping Station & Elevated Tank, North Bay ON (2007-2008): Design Engineer: Responsible for a new Booster Pumping Station and Standpipe on a common site for the North Bay Zones 4 and 5. The project involves supplying water from the existing Zone 3 feed to the booster pumping station while the peak and fire flows are supplied from the standpipe. The Zone 3 feed is limited to only providing the maximum day flows for both zones. The Zone 4 system is provided with maximum day pumps at the booster pumping station and the Tank provides peak hour and fire flow. The Zone 5 system is a closed system and all the supply to this system is provided by duty pumps equipped with VFDs to provide flow/pressure control while the fire pumps are constant speed pumps. The Zone 5 system is also equipped with pressure tanks to maintain pressure in the system to allow the standby genset to start, otherwise the system may develop negative pressure. An actuated valve also opens to provide the Zone 5 with the pressure from the Tank until the genset starts. The flows and pressures on the suction and discharge for each zone and the feed to and from the tank are monitored with flowmeters and pressure transducers. Client: City of North Bay.
- Ridge Road Reservoir and Booster Pumping Station Upgrades, Aurora, ON (2014-2018): Project Manager, Senior Design Engineer. Responsible for the project management and detailed design of process mechanical, building mechanical (HVAC), electrical, instrumentation and control, site works and noise attenuation upgrades at the 5.5 MLD pumping station. Duties included booster pump sizing and selection, HVAC noise attenuation strategies and complete management across all technical disciplines including structural, architectural, electrical, building mechanical, instrumentation and control. Responsible for the preparation of the capital construction cost estimate. Client: York Region.
- Water Supply Treatment Facility, Hamilton, ON (2012): Project Engineer. Technical evaluation of an existing water supply and treatment facility servicing a private development. Recommendations included necessary upgrades for MOE compliance and expansion to the private development's ultimate build-out. Duties also included preparation of the capital construction cost estimate and forecasting annual operating and maintenance costs. Client: City of Hamilton.
- Beckett Sproule Reservoir and Pumping Station, Brampton, ON (2011): Senior Design Engineer. Responsible for the detailed design of process mechanical and health and safety upgrades at the pumping station. Duties included valve and restrained coupling design and material selection, metallic coating specification and asbestos removal requirements. Responsible for the preparation of the capital construction cost estimate. Client: Ontario Clean Water Agency, Regional Municipality of Peel.
- Bonner Park Pumphouse Upgrades, Uxbridge, ON (2010-2013): Contract Administrator / Senior Site Inspector. Responsible for the construction of a new pumphouse, complete with two groundwater production wells and submersible pumps rated at 3.0 MLD. Duties included technical review of shop drawing, processing payment certificates and complete pumphouse commissioning including all process mechanical, building mechanical, electrical, and instrumentation and control equipment and instrumentation. Client: Region of Durham.
- Peel ISF Watermain Replacements, Mississauga, ON (2009): Project Engineer. Design and tendering of the Infrastructure Stimulus Funding Project, Region of Peel Watermain Replacement Program. This involved the design and tendering of ~10 km of watermain replacement at various locations across the Region of Peel including all construction methodologies; open cut, tunneled and pipe ramming. Client: Region of Peel.



**DEAN WHITTAKER, MBA, P.Eng.**

*Director, Water – Wastewater, Vertical Infrastructure*

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- East Bayfront Stormwater Infrastructure Servicing, Toronto, ON (2006-2009): Design Engineer. Responsible for the process engineering and evaluation of solids handling strategies with respect to stormwater management. Lead technical negotiator with Toronto Public Health to establish safe bacteriological criteria with respect to human contact for treated stormwater. Also responsible for the detailed design of the raw water intake structure to service aesthetic parklands infrastructure. Client: Waterfront Toronto.
- Regent Park – Big Park, Water and Stormwater Infrastructure Servicing, Toronto, ON (2011-2012): Senior Design Engineer. Responsible for the detailed design engineering servicing for water and sanitary infrastructure within the redeveloped park, including unique water features within the park. Lead technical civil servicing engineer responsible for water supply, sanitary drainage and sustainable stormwater servicing including a reverse slopping soccer field to service aesthetic parklands infrastructure. Client: City of Toronto, Parks and Recreation.
- Howard Avenue Storm Water Pumping Station, Windsor, ON (2005-2007): Project Engineer responsible for the process hydraulics, pump selection, piping and valving sizing and arrangement, and site layout for the 4800 L/s capacity submersible station. Client: City of Windsor.
- Heritage Road Transmission Main, Brampton, ON (2003-2005): Project Engineer. Responsible for the detailed design, restrained joint calculation, chamber design and utility alignment of the 8 km transmission main including all construction methodologies; open cut, tunneled and pip ramming. Client: Region of Peel.

#### *Wastewater*

- Humber Wastewater Treatment Plant HVAC and Plumbing Upgrades, Toronto, ON (2017-ongoing): Contract Administrator / Project Coordination during construction for the HVAC and plumbing upgrades throughout the WWTP. Responsible for project direction with respect to processing of shop drawings, requests for information, certificate of payment certificates chairing meeting minutes. Directing the supporting technical engineering team during construction with respect to ongoing construction activities to maintain schedule and overall project costs. Directed the technical team with respect to ensuring quality of all deliverables during construction including process mechanical, building mechanical, electrical, and instrumentation and control. Client: Toronto Water. Project Value: \$30M
- G.E. Booth Wastewater Treatment Plant: Plumbing, Potable and Non-Potable Water Supply Upgrades Project, Region of Peel, (2017-ongoing): Project Manager / Senior Design Engineer. Responsible for the Design and construction oversight of extensive plumbing upgrades throughout the WWTP involving the demolition, removal, and supply, of potable and non-potable water throughout the plant for cooling water, wash water, back-pressure filter cleaning water. Also responsible for complete QA/QC services across all technical disciplines. Client: Ontario Clean Water Agency. Project Value: \$2.5M
- Goudey Drive Sewage Pumping Station, Halifax, NS (2015-ongoing): Senior Design Engineer. Responsible for the design of a new sewage pumping station to service planned growth within airport development lands, to a design capacity of 88 L/s. Duties included process hydraulics and detailed process mechanical design, construction staging implications, full project management for all interdisciplinary services including site works, HVAC, electrical (utility and emergency power generation) and instrumentation and control integration (SCADA). Client: Halifax International Airport Authority, Halifax Water.



## RICHARD LIU, M.Eng., P.Eng., PMP

*Team Lead, Structural / Water and Wastewater Facilities*

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### Proposed Role

*Engineering Structural Lead*

### Years of Experience:

*in the proposed role*

*13 years*

*with WSP*

*6 years*

*overall*

*27 years*

### Areas of practice

*Wastewater*

*Water Supply & Treatment*

*Municipal Infrastructure*

*Institutional & Recreation*

*Transportation*

*Industrial*

*Residential*

*Commercial*

*Condition Assessment & Rehabilitation*

### Education

*Master's Degree in Structural Engineering, Xi'an University of Arch. & Tech., China, 1998*

*Bachelor's Degree in Civil and Industrial Engineering, Xi'an University of Arch. & Tech., China, 1993*

*Project Management Professional, 2022*

### Professional associations

*Professional Engineers Ontario, PEO*

*Engineers and Geoscientists British Columbia, EGBC*

*Association of Professional Engineers and Geoscientists of Alberta, APEGA*

*Project Management Institute, PMI*

### PROFILE

Richard Liu is a Team Lead, Senior Structural Engineer with over 20 years of experience in reinforced concrete, structural steel, masonry, and timber structural analysis and detailed design. His representative projects include environmental engineering, municipal infrastructure, industrial, transportation, institutional, and residential buildings. He is also proficient in structural condition assessment and structural rehabilitation designs, and project management.

Richard has detailed knowledge of OBC, ABC, BCBC, NBCC, CSA-A23.1, 2, 3, CSA-S16.1, CSA-S304.1, and ACI 318, ACI 350. He has expertise skills in structural analysis and design software such as SAP2000, Staad Pro, RAM Structural System, Etabs, SAFE, etc.. His knowledge and expertise obtained in multiple areas of the structural engineering field enable him to serve as the structural lead in a team of engineers and designers for a wide variety of large-scale projects. His skills in multidiscipline coordination and project detail development always make him a strong contributor to the project's success.

### CATEGORY-SPECIFIC EXPERIENCE

#### *Water Production and Supply*

- Niagara Falls Water Treatment Plant, Filters Building Roof Upgrades, Niagara Falls, ON, Canada (2016): Structural Engineer responsible for structural design and contract administration of the replacement of the existing at the Niagara Falls Water Treatment Plant Filters Building Plant 1 and Plant 2. The project includes the demolition of the existing roof structure housing the filters and the design of a new building envelope superstructure. Client: Regional Municipality of Niagara. Project Value: \$3.5M.
- Ellesmere Pumping Station Non-Emergency Generator Building, Toronto, ON (2016): Structural Lead. Responsible for all stages of the building structural design, including reinforced concrete shear wall system design, suspended beam and slab system design, and 1.8 m diameter inlet pipe connections to existing reservoir design. Client: City of Toronto. Project Value: \$25M.
- Victoria Feeder mains, Mayfield Road Sub-Transmission Mains and Local Distribution Works, Brampton, ON, Canada (2016): Structural Engineer responsible for part of the analysis and design of 6 different sizes and depths of underground chambers using software STAAD Pro. 3D model. The project includes crossing of CN Railway, Highway 410, and watercourses by various trenchless methods including jack and bore, horizontal directional drilling, and micro-tunneling. Client: Regional Municipality of Peel. Project Value: \$150M.

### ADDITIONAL RELEVANT EXPERIENCE

- Bayview Pumping Station Generator Building, Markham, ON, Canada (2017): Structural Lead responsible for the structural design of a 2-story reinforced concrete moment frame with hollow core slab building. Client: Regional Municipality of York. Project Value: \$5M.
- Meadowvale North Pumping Station and Reservoir Standby Power Upgrades and Miscellaneous Station Improvement, Mississauga, ON, Canada (2016): Structural Lead responsible for the structural design of the re-chlorination building and reservoir upgrade. Client: Region of Peel. Project Value: \$19M.



- Alloo Feedermain, Brampton, ON, Canada (2016): Structural Engineer responsible for cast-in-place feedermain manholes structural design and contract administration. Client: Peel Region. Project Value: \$49M.
- Washburn Reservoir Expansion, Burlington, ON, Canada (2015): Structural Engineer responsible for structural design and project specification, cost estimations for the second cell (10 ML) reservoir expansion at Washburn Reservoir and Pumping Station. The scope includes the addition of 10 ML second cells and various pumping station upgrades inside the existing building including the installation of 4 surge tanks and a standby generator. Client: Regional Municipality of Halton. Project Value: \$7.4M.
- Taza Park Reservoir and Pumphouse, Lift Stations, Calgary, AB (2019-ongoing): Structural Lead. Responsible for the underground reservoir and two lifting stations' structural design. The underground reservoir has a capacity of 6500 m<sup>3</sup> with a one-story 18 m x 18 m pumphouse being on top of the reservoir. Two new lift stations are comprised of a one-story control building and an underground wet well for each. The project is currently in the design phase. Estimated Project Value: \$10.2M.
- Churchill Reservoir and Pumphouse, Kneehill County, AB, Canada (2018-2019): Structural lead responsible for timber structural and foundation design for this 12.0 m x 12.0 m one-story pumphouse. Client: Kneehill County.
- Armena and Ervick Reservoirs and Pumphouse, Camrose County, AB, Canada (2018-2019): Structural lead responsible for the structural design of the pre-fab reservoir tanks and pre-fab one-story pump house structural and foundation designs. Client: Camrose County. Estimated Project Value: \$1.5M.
- Peterborough Airport Reservoir Expansion, Peterborough, ON, Canada (2018-2019): Structural Lead responsible for structural analysis and detailed design of 500,000 L capacity underground reservoir with a one-story pump room above the reservoir. Project Value: \$ 2.5M.
- Erin Wastewater Treatment Plant, Erin, ON (2020-ongoing): Lead Structural Engineer. responsible for structural designs of the entire plant facilities. The facility includes admin. building, headworks, effluent pumping station and septage receival building, chemical thickening building, blower, membrane and UV building, bioreactor and primary tanks, secondary clarifier buildings, and solid treatment facility. Client: Town of Erin. Project Value: \$63M.
- Erin Sewage Pumping Station, Town of Erin, Ontario (2022-ongoing): Lead structural engineer responsible for the 15m deep underground concrete wet well, inlet channel and above-ground valve chamber, pumping station building with steel platforms attached to the building. The structural design also addressed the High groundwater table and flooding-proof structural design requirements for the facility. Client: Town of Erin, Ontario. Project Value: \$9.85M.
- Big White Wastewater Treatment Plant Upgrade, Big White Ski Resort in the Regional District of Kootenay Boundary, BC (2021-ongoing), Structural lead responsible for the structural design of the new plant including headworks building, four membrane bioreactor trains, mechanical room, office building, and dewatering system. Client: Regional District of Kootenay Boundary. Project Value: \$14.7M.
- Tofino Wastewater Treatment Plant and Conveyance System, Tofino, BC (2021-ongoing): Lead structural engineer responsible for the foundation designs of Pre-Engineered headworks building and pre-engineered mechanical building, facility platforms inside the buildings, pipe rack and foundations between and inside the buildings, underground chambers, foundation designs of all the tanks and process equipment in the plant, conveyance system structural designs for the underground wet wells and valve chamber. Client: District of Tofino. Project Value: \$60M.
- Clover Point Sewage Pumping Station, Victoria, BC (2017-2022): Lead Structural Engineer. Project for new / expanded pumping station structural design. The new pumping station combined with the existing pumping station, considered seismic load, tsunami load, static and dynamic earth pressure, hydrostatic and hydrodynamic pressures from groundwater loading cases and combinations in a 3-D SAP2000 structural model. A permanent caisson wall shoring system combined with building shear walls supporting precast double-tee and core slab diaphragms formed a lateral SFRS system. Client: Kenaidan Contracting Limited. Owner: Capital Regional District (CRD). Project Value: \$22M.
- McVean Sewage Pumping Station Upgrades, Brampton, ON (2022-ongoing): Structural lead responsible for the structural upgrade designs to the existing McVean Sewage Pumping Station, and structural designs for the new one-story headworks facility with 10m deep underground overflow tanks. Client: Region of Peel. Project Value: \$31M.





- District of Lake Country Wastewater Treatment Plant Upgrade, Kelowna, BC, Canada (2020-2023): Lead structural engineer responsible for the structural design of the filter building, bioreactor, and clarifier facilities. Project Value: \$9.8M.
- Comox Valley Water Treatment Project (Design-Build), Comox, BC (2019-ongoing): Peer Review Structural Engineer. Responsible for Owner Structural Engineering services, all design documents peer review, and comments for the new 75 MLD filtration plant for treatment of the Comox Lake water supply that meets the BC Drinking Water Protection Act. Owner's Engineer activities include the development of the Indicative Design, interim UV disinfection treatment upgrades, permitting, background studies (geotechnical and environmental), RFQ, RFP, and Statement of Requirements. Client: Comox Valley Regional District. Project Value: CAD \$120M.
- Caledonia North Sewage Pumping station, Caledonia, ON (2019-2022): Structural Lead. Responsible for structural analysis and design for this new sanitary pumping station (Initial design capacity: 95 L/s, Ultimate design capacity: 150 L/s) with submersible pumps, two cells wet well, valve room, and superstructure complete with control room and odor control room. Client: Gateway Commercial (Caledonia) Ltd. Project Value: \$6.5M.
- Mulberry Lane Sewage Pumping Station, Pickering, ON (2018-2023): Structural Lead. Responsible for underground emergency storage tank and wet well with a one-story pump house on top for this new 82 L/s sewage pumping station. Client: Regional Municipality of Durham. Estimated Project Value: \$600K.
- Watersedge Sewage Pumping Station and Richard's Memorial Sewage Pumping Station Upgrades, Mississauga, ON, Canada (2018-ongoing): Structural lead responsible for structural design for the underground wastewater storage tank, valve chamber, grinder manhole, structural upgrades to the wet well roof, removal of existing generator building canopy. Client: Region of Peel. Project Value: \$4.9M.
- Bermuda International Airport Water and Wastewater Treatment Plants, Bermuda (2019-2021): Structural Lead responsible for the structural design of the underground reinforced concrete tanks for this 5 L/s wastewater treatment plant. Structural design was based on IBC and ACI code requirements. Client: AECON. Project Value: \$2.5M.
- Port Weller Wastewater Treatment Plant Aeration Tank Upgrades, Niagara Falls, ON, Canada (2017): Structural Lead responsible for structural design, rehabilitations, modifications, and additions to influent pumping station new wet well, primary clarifier effluent channel, aeration tank baffle wall, and new blower building. Client: Regional Municipality of Niagara. Project Value: \$16M.
- Acton Wastewater Treatment Plant Phase 1 Expansion, Acton, ON, Canada (2016): Structural Engineer responsible for the structural design, specifications, cost estimations, constructability review of the primary, secondary, and aeration tanks, digester, digester building, and tertiary filter building. Conception design of the shoring system to isolate the new constructions from existing buildings. Client: Regional Municipality of Halton. Project Value: \$30M.
- Scarborough Transfer Station Single Stream Recyclable Materials (SSRM) Bunker Replacement, Scarborough, ON (2018-ongoing): Structural Engineer responsible for the reinforced concrete solid waste storage bunker, salt storage bunker, and structural steel tarping platform structural designs and detailing for the facility upgrades. Client: City of Toronto. Project Value: \$7.0M.
- Hamilton Biosolids Management Project, Hamilton, ON, Canada (2016-2017): Structural Lead responsible for preliminary and detailed structural analysis and design of the biosolids facility at Woodward Avenue Wastewater Treatment Plant. The facility is a 20 m high, 1700 sq.m structural steel building combined with a concrete shear wall, cross-bracing SFRS system supporting OWSJ, and composite steel decking. 3-D RAM structural analysis and design model was created considering seismic, wind, dead and live load, equipment loads, and all load combinations. Connecting the new building to the existing foundation walls, and reusing part of the existing floor slab and foundations were part of the challenge of the project. The design-build project teamed up with Bird Construction. Owner: Harbour City Solution. Project Value: \$70M.



# SHAYAN ATAEI, M.Eng., P.Eng., PMP, LEED AP (BD+C)

## Structural Engineer, Infrastructure Facilities

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### Areas of practice

*Project Management*

*Team Leadership*

*Municipal Infrastructure*

*Condition Assessment and Rehabilitation Structural Engineering*

*Residential / Commercial Structural Engineering*

*Construction Support Structural Engineering*

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### PROFILE

Since 2014, Shayan has amassed expertise in project management, team leadership, and the practice of structural engineering. His extensive background encompasses the management, leadership, coordination, review, and design of a diverse array of structural and interdisciplinary projects. These projects span across various domains, including municipal infrastructure facilities, as well as high-rise residential and commercial structural design and construction management.

Shayan also possesses substantial experience in the inspection, evaluation of conditions, and rehabilitation of a wide range of existing structures. These structures include municipal facilities, retaining walls, detention tanks, commercial, and residential buildings. His well-rounded knowledge equips him to excel in his current role as a Structural Engineer within the Infrastructure Facilities group, with a focus on solid and wastewater facilities.

### Education

Master of Engineering, Structural Engineering, Toronto Metropolitan University (TMU)	2019
Bachelor of Engineering, Civil Engineering, Azad University Tehran Central Branch (IAUCTB)	2016

### PROFESSIONAL ASSOCIATIONS

Professional Engineers Ontario (PEO), Professional Engineer #100540712, since 2022	P.Eng.
Project Management Institute (PMI), Project Management Professional, since 2020	PMP
U.S Green Building Council (U.S.G.B.C), Leadership in Energy and Environmental Design Accredited Professional, since 2021	LEED AP (BD+C)

### CAREER

Experienced Structural Engineer, Infrastructure Facilities, WSP	2023 – Present
Structural Engineer, Buildings, Tatham Engineering Ltd.	2021 – 2023
Structural Engineer In Training, Newton Group Ltd.	2020 – 2021
Structural Engineer In Training, Z Modular	2019 – 2021
Project Manager, Fresh Home Innovations	2017 – 2019
Project Manager/Field Engineer, Iran Sazeh Gostar Pishran Co.	2014-2017

### PROFESSIONAL EXPERIENCE

#### Infrastructure Facilities

- Group Seven (7) Storm Water Pumping Stations Upgrades including three sites (Bloor Storm Water Pumping Station, Islington Storm Water Pumping Station, and Martin Grove Storm Pumping Station), Toronto, ON (2023-ongoing): Structural design services for the upgrade required as part of recommended repairs for the three existing facilities noted above during the tender and construction issue. The upgrades various structural upgrades to existing infrastructure. Client: City of Toronto, Project Value: \$15M.
- Humber Wastewater Treatment Plant, Toronto, ON (2023): Project Engineer for construction and structural design of the flood wall upgrades at Humber Wastewater Treatment plant. Shayan provided extensive and special coordination



## SHAYAN ATA EI, M.Eng., P.Eng., PMP, LEED AP (BD+C)

*Structural Engineer, Infrastructure Facilities*

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with TRCA and the City of Toronto which was required for the establishment of a long-term maintenance and inspection program. Client: City of Toronto, Project Value: \$2M.

- Decew Water Treatment Plant 2 upgrades, Niagara Region, ON (2023-ongoing): The project Engineer in charge of the structural upgrades identified in the Alternative Analysis report that the region needs as part of the conceptual upgrade package. The conceptual design included a review of various structural deficiencies and providing rehabilitation/repair design ideas with respect to the medium and long-term economic and management repercussions. Client: Niagara Region, Project Value: \$3.5M.
- Richview Reservoir Facility Upgrades: Toronto, ON (2023-ongoing): Structural engineering and contract administrative services for the multi-disciplinary upgrades project involving two reservoir tanks upgrades, in addition to the existing pumping station building. Project management and coordination to resolve multiple RFIs and Change Order packages and negotiate with the contractor to resolve contractual issues. Client: City of Toronto, Project value: \$52M.
- Adelaide Pumping Station, London, ON (2023-ongoing): Design and construction services related to the construction of a new pumping station and building as part of the local municipality's capacity increase. The pump station building and reservoir included temporary shoring, cast-in-place, and precast concrete members. Client: City of London, Project Value: \$16M.

### *Commercial and Residential*

- Renovation and Expansion of Fire Station, Markham, ON (2021-2023): Project Engineer and manager responsible for overseeing each phase of the project since conceptual design in 2021. The project included pre-design, detailed design, tender, and construction, as well as project management for the structural design of the renovation and addition portions. Client: City of Markham, Project Value: \$5.8M.
- North Bay Mall Renovations, North Bay, ON (2021-2023): Project Engineer responsible for the design and construction review of a mall fit-out renovation project. The fit-out included building and ramp addition, roof analysis for the new mechanical unit, and mezzanine structural modification. Client: McCowan & Associates, Project Value: \$2.4M.
- North Bay Multi-Unit Building, North Bay, ON (2021-2023): Project Engineer responsible for the design and construction review of a pre-engineered multi-unit commercial building in North Bay. The project included foundation design on helical piles, grade beams, and pre-engineered building verifications. Client: McCowan & Associates, Project Value: \$3.5M.

### *Condition Assessment and Rehabilitation Structural Engineering*

- Minden Hills Municipal Building, Minden Hills, ON (2022-2023): structural repair engineer, and inspector for the structural assessment of the existing Municipal Facility including a court building, administration office, and Building Department office. The assessment included the footing and foundation review, retaining wall review, floor/roof framing review, waterproofing, floor vibration analysis, and rehabilitation design. Client: Township of Minden Hills, Project Value: \$420k.
- RBC Bank Building, Sudbury, ON (2022): Engineer, repair designer, and inspector for the building with damaged roof framing in Sudbury. The project involved a damage assessment of the existing roof framing and the replacement of the damaged column during the demolition. Client: Private Sector, Project Value: \$440k.
- Central North Correctional Facility Structural Assessment, Penetanguishene, ON (2022): Engineer, Repair Designer, and Inspector for the assessment of the deflected masonry exterior wall of yard 4 of the facility. The project included the structural assessment and rehabilitations to determine the root cause of the wall deflection and slab on grade cracks such as foundation rotation/freeze-thaw cycling and roof framing temperature analysis. Client: Infrastructures Ontario, Project Value: \$350k.

# **APPENDIX C**

## **Schedule of Rates**

## Engineering Schedule of Rates – 2024

CATEGORY	DESCRIPTION	HOURLY RATE
<b>Director</b>	Director	\$200.00
<b>E04</b>	Senior Specialist Engineer /Project Manager	\$189.00
<b>E03</b>	Senior Engineer/Project Manager	\$168.00
<b>E02</b>	Engineer/Project Manager	\$150.00
<b>E01</b>	Engineer In-Training	\$117.00
	Student Engineer	\$100.00
	Administrative Assistant	\$67.00
	Financial Analyst	\$97.00

**Currency:** Canadian Dollars, excluding HST

**Expenses and Disbursements:**

General office expenses including long distance, cellular/data charges, printing, office supplies and courier charges will be charged at 6% of Professional Fees.

Special expenses such as travel and living expenses, third party consultants, capital equipment, contractors fees, permitting fees and any other items not otherwise listed will be charged at cost plus 5% administration fee.

**Invoicing:**

Professional fees and expenses will be invoiced monthly unless otherwise stated and are payable within 30 days. Taxes will be added as applicable.

**Technology and Operations Expertise:**

Technology and Operations experts will be charged at specific individual rates to be provided as needed.

**Overtime:**

Overtime will be charged at 1.5 times the rates stated above, but only if pre-approved by client.

**Terms and Conditions:**

OCWA standard terms and conditions will apply.

**Revision:**

This Schedule of Rates is valid until December 2024 after which time it will be reviewed and updated for 2025.

# **APPENDIX D**

## **OCWA Team CVs**

# Rajkumar Roopchand, M.Sc. Eng, P.Eng.

## Senior Project Manager

### EDUCATION

BSc. Civil Engineering,  
University of the West Indies, Trinidad

M MSc. Engineering Hydrology,  
University of Newcastle  
Upon Tyne, United Kingdom

### COURSES/WORKSHOPS

NACE Northern Area Conference  
2019, Ottawa, Canada

Basic Corrosion Course, NACE  
International

Project Management, Toronto

Management of Construction,  
University of Toronto

Confined Space Entry Procedures,  
Ontario Clean Water Agency, Toronto

Public Procurement, Workshop  
Certificate, Osgoode Professional  
Development, Ottawa 2009

AUTOCAD (Module I), Durham  
College, Oshawa

Hydrological Models, Barbados

How to Manage Multiple Projects,  
Meet Deadlines and Achieve  
Objectives, British Virgin Islands

Operations - Applications and Operations,  
Trinidad

Mechanics of Sediment Transport,  
Trinidad

Top Management Effectiveness,  
Trinidad

### PROFESSIONAL BACKGROUND

#### Ontario Clean Water Agency

1999 to Present

#### *Engineer and Project Manager*

- Work on numerous municipal water and wastewater projects in Ontario. Project Manager on behalf of the Owner. Responsibilities include procurement and management of consulting engineer, review of and preparation of engineering specifications, technical advisor to Owner, overall reporting of project budget and schedules, and general contract administration for construction projects
- GE Booth Wastewater Treatment Plant. Replacement of deteriorated city water, seal water and effluent water pipes comprising mostly of steel and ductile iron, with stainless steel and including new insulation throughout the service tunnels at GE Booth WWTP
- Installation of access platforms on the appliances and equipment at the Thermal Oxidation Facility at GE Booth WWTP to allow operations and maintenance personnel to safely access the equipment to perform duties
- Condition Assessment and Rehabilitation of multiple water towers and elevated tanks in Ontario
- Install recirculation pipe system at Indian Road Pumping Station, LAWSS
- Sizing, selection and installation of standby generation appliances at several treatment facilities
- Lakeview WWTP, Region of Peel. Selection and Installation of high pressure air compressor
- Lakeview WWTP, Region of Peel. Repair and rehabilitation of boiler economizer unit
- Lakeview WTP, Region of Peel. Coordination and site supervision for regeneration of GAC filter media
- Beckett Sproule PS, Region of Peel. Rehabilitation of pipe suction & discharge headers
- Beaver Valley Ski Club. Engineering Assessment Report for Water Systems

## COURSES/WORKSHOPS

Management Effectiveness - Effective Areas, Team Operating Skills, Style Appraisal and Situational Management, Trinidad

Ground Water Flow, Trinidad

Managing Strategic Change, Trinidad

Fluid Dynamics, Trinidad

Water Resources Development and the Environment, Trinidad

## ASSOCIATIONS/ MEMBERSHIPS

Member of the Professional Engineers of Ontario (PEO)

Member of the National Association of Corrosion Engineers (NACE) International,

Former member of the Association of Professional Engineers of Trinidad & Tobago (APETT)

- Township of Essa. Preparation of Management Plan (25 years) for Water and Sewerage Services
- Lambton. Waterproofing of reservoir roof
- City of Belleville. Sewer Cleaning and CCTV of trunk Sewer
- Installation of Interval Power Meters in a Power Monitoring System at Water and Waste facilities in readiness for the deregulation of the Ontario Energy Market
- Region of Waterloo. Preparation of O&M Manuals for wastewater treatment plants
- Region of Peel. Rehabilitation and recoating of several concrete membrane filter tanks at Lakeview WTP
- Region of Peel. Repair of major leak on the Silverthorn Feedermain (1500mm dia.)
- Smithville PCB Remediation Site, Ministry of the Environment. Repair and upgrades of building and treatment facilities. Included the removal of PCB contaminated materials and decommissioning of wells
- Deloro Arsenic Treatment Plant, Ministry of the Environment. Condition assessment, rehabilitation, repair and equipment upgrades at the Deloro Arsenic Treatment Plant at the abandoned Deloro Mine
- Region of Peel. Condition assessment, design repair and restoration and implementation on valves and valve chambers on major transmission main
- Bridgeport Sewage Lift Station, Region of Waterloo. Repair and replacement of check valves and other appliances, which included repairs to the forcemain
- Desludging of sewage lagoons at multiple locations in Ontario
- Town of Kingsville. Capacity assessment of the Cottam Sewage Lagoon and upgrade of the facility by installation of Intermittent Sand Filtration
- Elmvale Wastewater Treatment Facility. Condition assessment of the inlet works
- Coboconk Sewage Lagoon, Kawartha Lakes. Investigation and recommendation for implementation of odour control measures
- Region of Peel. Implementation of the Technical Standards and Safety Authority (TSSA) Quality Assurance Facility (QAF) program at water pumping stations





- Callander Sewage Lagoon, Town of Callander. Capacity assessment and preparation of the tender specifications for the desludging of the Callander Sewage Lagoon
- Condition assessment and rehabilitation of concrete filter boxes at the Union Water Treatment Plant (Union) and Dunneville Water Treatment Plant (Haldimand)

**Water and Sewerage Department, Government of  
the British Virgin Islands**

**1993 to 1997**

*Engineer (Water and Sewerage)*

- Engineer responsible for the operation and maintenance of the entire water and sewerage system for the main Island of Tortola, the following were the main duties performed and including some of the specific projects that I worked on:
  - Designed and project managed sewer forcemain installation
  - Designed and project managed extension of water distribution and sewerage services for industrial park
  - Designed and operated water distribution schedules entailing the operation of storage reservoirs, booster pumps and pipe networks
  - Developed and implemented preventative maintenance schedules for plant and equipment
  - Troubleshooting water distribution and sewerage problems, made changes, repaired and developed systems on as required basis
  - Supervised operational personnel in the operation and maintenance of distribution systems, collection systems and reservoirs
  - Trained staff in Standard procedures and methods for improved reliability of service
  - Identified and procured pipes, parts, fittings, hydrants, pumps and other water and sewage appurtenances

**Water Resources Agency,  
Government of Trinidad and Tobago**

**1977 to 1993**

*Senior Engineer/Assistant Director, 1984 to 1993*

- Assistant Director responsible for the establishment, development, operation and maintenance of the hydrometeorologic data collection network for the islands of Trinidad and Tobago. The following are main duties performed and including some of the specific projects:



- Project management of an Island wide Automatic Hydrometeorological Data Collection System
- Conducted special hydrologic and hydrogeological studies for the provision and derivation of planning information relative to water supplies, town planning, drainage works and water conservation
- Carried out hydrologic and hydraulic analyses for preparation and presentation of relevant statistical data in respect to water resources
- Prepared detailed engineering design and specifications in respect to hydrological stations and flow metering structures in watercourses
- Conducted staff training in operational hydrology and research techniques
- Assisted in the design of hydrological database management system
- Participated in national committees engaged in planning and implementation of projects related to water resources
- Exercised general supervision over technical staff engaged in the collection, processing and publication of hydrological data

#### *Regional Engineer (Engineer Level III), 1979 to 1983*

- Regional Engineer responsible for the water supply and sewerage services for a large region of the Island of Trinidad. Supervised several junior engineers, technicians, skilled and semiskilled staff. The following are main duties performed and including some of the specific projects:
  - Prepared development plans for the improvement of water and sewerage services for the Region
  - Project Management for multiple projects involving the construction and repair of water supply mains and sewers in water services region (several water zones/districts)
  - Designed booster pumps and distribution network improvements for the supply of water services
  - Coordinated the control of water treatment plants, reservoirs and booster pumps to ensure the reliability of water supply services to the public
  - Managed reservoir outflows and ground water well production to minimize the impact of seasonal changes

- Prepared and controlled annual operation and maintenance budgets

#### *District Engineer (Engineer Level II), 1977 to 1979*

- District Engineer responsible for the water supply and sewerage services for a district comprising of several municipalities (or counties) in the Island of Trinidad. Several superintendents, technicians, skilled and semiskilled staff were under my supervision. The following are main duties performed and including specific projects:
  - Project Management for multiple projects involving the construction and repair of water supply mains and sewers in water district
  - Operated and maintained water treatment plants and sewerage system, including wastewater treatment plants and sewer lift stations
  - Prepared water distribution schedules and troubleshooting water supply and sewerage problems
  - Procured materials and prepared work schedules, job estimates, etc
  - Liaised with other district engineers in the utilization of regional supply sources
  - Prepared and implemented preventative maintenance programs for the plant and equipment

#### **TECHNICAL PAPERS**

- Joint presentation of a Paper on 'Engineering Approach to Capital Planning, Case Study of Thunder Bay Capital Plan, presented at the 4th annual conference of the NWOWWC, Thunderbay, Ontario
- Water Resources for Agriculture and Industry in Trinidad and Tobago, Availability, Quality and Management, presented at the 6<sup>th</sup> Annual Technical Conference of the Association of Professional Engineers of Trinidad and Tobago
- A Draft Water Resources Management Policy for Trinidad and Tobago, presented at the Caribbean Basin Water Management Project Workshop/ Seminar, University of the West Indies, St Augustine, Trinidad
- Derivation of Reservoir Control Curve for NAVET Reservoir, Trinidad, presented at the Caribbean Basin Water Management Workshop/Seminar, University of the West Indies, St Augustine, Trinidad

# James Su, P.Eng., LEED Green Associate

## Project Engineer

### EDUCATION

B.Eng. (Chemical),  
Ryerson University, 2008

### CERTIFICATIONS

LEED® Green Associate, Green  
Building Certification  
Institute, 2012

### COURSES/WORKSHOPS

Certified Energy Manager  
Program, Canadian Institute for  
Energy Training

Writing in the Sciences, Stanford  
University (Online Education)

Introduction to Sustainability,  
University of Illinois (Online  
Education)

AutoCAD course, George  
Brown College

### ASSOCIATIONS/ MEMBERSHIPS

Member of Professional  
Engineers Ontario, (P.Eng.), 2014

Member of the Green Building  
Certification Institute, 2012


### PROFESSIONAL BACKGROUND

**Ontario Clean Water Agency** **2009 to Present**  
*Project Engineer / Manager*

- Water Tank Recoating and Rehab for Brechin, Chesterville, Bobcaygeon, Kingsville, Lansdowne, Essex, 2018 - Present. Project management and engineering for the interior/exterior recoating and rehabilitation along with various safety upgrades.
- Construction of New Port Lambton Standpipe, Lambton Area Water Supply System, 2022 - Present. Project management for demolition of existing standpipe and construction of a new glass-fused-to-steel standpipe.
- Financial Plans for O.Reg. 453/07 - Municipality of Greenstone & Monteith Correctional Complex, 2021. Completing financial plans for water systems for the renewal of DWWP.
- Killarney Sewer System Rehab, Township of Killarney, 2017-2020. Project management and engineering for the rehabilitation of manholes and pipes for the reduction of infiltration.
- G.E. Booth WWTP Hazardous Materials Survey in Various Buildings, Region of Peel, 2018-2019. Project management of a hazardous materials survey at the Admin building, Heating building, WAST building, Quonset Hut, Decant Tanks 4-7 prior to construction work.
- Wasaga Beach Water System Permit To Take Water Renewal, Town of Wasaga Beach, 2019. Completed PTTW application, retained and managed consultant for a water quality study.
- Wasaga Beach Water and Wastewater Systems 10 Year Capital Plan, Town of Wasaga Beach, 2019. Developed a 10 year capital plan for all water and wastewater systems.
- Water and Sewer Feasibility Study, Township of Puslinch, 2019. Project management of a municipal water and sewer feasibility study. Evaluated options and costs.
- G.E. Booth WWTP Scum Hoppers Replacement, Region of Peel, 2019. Procurement and management of consulting engineer from design to construction completion, replaced two scum hoppers along with pumps and controls at \$1M project value.




- Bruce Power Domestic Water System Assessment, Bruce Power L.P., 2018. Engineering assessment of the domestic water system to confirm compliance with O.Reg. 319/08.
- Lindsay Lagoon Sludge Removal, City of Kawartha Lakes, 2018-2019. Project management and procurement of contractor for sludge removal from a sludge storage cell.
- Spanish Lagoon Lift Station Upgrade, Town of Spanish, 2016-2017. Turn-key project for the lift station upgrades, new access road, storage shed, pumps, generator and septage receiving station. Project value of \$438,000.
- Thorne WWTP Upgrade, LSB of Thorne, 2016-2017. Turn-key project for the Thorne WWTP upgrades, new RBC, pumps, generator, electricals. Project value of \$800,000.
- Feasibility Study for Moose Factory WTP Upgrade, Moose Cree First Nation, 2016. Preparation of a feasibility study report for the upgrade of the Moose Factory WTP along with the raw water intake structure and water storage.
- Water/Sewer Capital Plan and Rate Study, Town of Kirkland Lake, 2016. Completion of a 20-year capital plan and rate study.
- Kirkland Lake WWTP Construction, Town of Kirkland Lake, 2009-2015. Assistant project manager and technical advisor for the \$32M new WWTP construction. Responsibilities included procurement and management of consulting engineer from Class EA to construction completion, technical/regulatory advisor to Town staff, overall reporting of project budget to funding agencies.
- Kitchener WWTP Influent Flume Concrete Rehabilitation, Region of Waterloo, 2015. Prepared specifications and tendering document, and procured contractor for the concrete rehabilitation of the raw sewage influent flume. Project value of \$600k.
- Temagami North Lagoon ECA Amendment, Municipality of Temagami, 2014-2015. Preparation of Design Brief and application package for aeration system upgrade.
- Iroquois WWTP Upgrade, Municipality of South Dundas, 2009-2014. Assistant project manager and technical advisor for the \$18M WWTP upgrade. Responsibilities included procurement and management of consulting engineer from Class EA to construction completion, technical/regulatory advisor to municipal staff, overall reporting of project budget to funding agencies.
- Sewer System Rehabilitation, Municipality of South Dundas, 2012-2014. Assistant project manager and technical advisor for the \$3M sewer system rehabilitation (cure-in-place pipe). Responsibilities included procurement and management of consulting engineer to



construction completion, technical/regulatory advisor to municipal staff, overall reporting of project budget to funding agencies.

- Sewer Metering Verification, Region of Waterloo, 2014. Preparation of process flow diagrams for all WWTPs in the Region, reviewed and evaluated plant metering layouts to ensure flows related to billing are measuring accordingly.
- Energy Audit in various WTPs and WWTPs, Town of Shelburne, City of Temiskaming Shores, Town of Swastika, Municipality of Strathroy-Caradoc, Norfolk County, Town of St. Marys, and Town of Bancroft - 2012-2014. Project managing an energy audit in various water and wastewater treatment facilities under the Ontario Power Authority (OPA) saveONenergy incentive program.
- Haileybury WWTP Aeration System Upgrade, City of Temiskaming Shores, 2013. Engineering and design for grinder and aeration system (blower and diffusers) upgrade, prepared design brief and ECA application to the MOECC, project managing the installation of equipment. Energy efficiency project under the OPA saveONenergy program - obtained \$30,000 funding from the OPA.
- Inspections of Water/Wastewater Facilities, Mohawks of the Bay of Quinte (First Nation), 2013. Conducted 2012/13 annual inspections of water/wastewater facilities for Ontario First Nation Technical Services Corporation.
- Foleyet Lagoon Alternative Operating Method Study, LSB of Foleyet, 2013. Assessment of an alternative operating/discharge method for the Foleyet Lagoon, coordinating with MOECC.
- Fauquier-Strickland WTP Chloramination Pilot Study, Township of Fauquier-Strickland, 2012. Full-scale chloramination pilot study in the Township, coordinating with MOECC approvals and operating authority.
- Water Supply Feasibility Study, City of Temiskaming Shores, 2012. Investigation of the possibility of connecting two water systems.
- Energy Consumption and Greenhouse Gas Emissions Template Pilot, Ministry of Energy, 2012-2013. Project lead on conducting pilot project for the Ministry. Completed the Energy Consumption and Greenhouse Gas Emissions template (Green Energy Act - O.Reg. 397/11) and provided comments in the first and second year of its first roll out.
- Lakeview WTP Filter Media Replacement, Region of Peel, 2012. Project management activities for the filter media replacement at the Lakeview WTP, ensured safety measures are adhered to at all times, coordinated activities between contractors and operations staff.



*Compliance Technician, Office of VP Operations, 2008 to 2009*

- Ensured non-compliance with regulatory requirement issues are resolved on time
- Collected and analyzed various data and reports from OCWA's 500 water and wastewater facilities to provide conclusions on issues, trends, and recommendations

**TECHNICAL PAPERS**

- Fast Tracking the Kirkland Lake Wastewater Treatment Plant Upgrade, Environmental Science & Engineering Magazine, September/October 2012