

Sherbrooke Sewage Treatment Plant Request for Proposals Supply of Ultraviolet Disinfection Unit



The Municipality Of The District Of St. Mary's
8296 #7 Highway
P.O. Box 296
Sherbrooke, NS
B0J 3C0

May, 2020

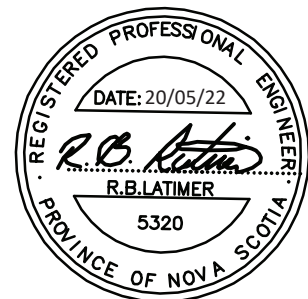


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**COMMUNITY OF SHERBROOKE
SUPPLY OF ULTRAVIOLET DISINFECTION UNITS
MUNICIPALITY OF THE DISTRICT OF ST. MARY'S
NOVA SCOTIA**

PART I - REQUEST FOR PROPOSALS

1.0 Request For Proposals:

Proposals are invited from suppliers for the above noted project electronically in PDF format. Electronic proposals are to be titled "Company Name – SMUV" and are to be sent to the email blatimer@straiteng.com, subject line "MODSM-UV-RFP". It will be the Proponent's responsibility to ensure the proposal submission is received electronically on time. Email submissions will receive a reply back email indicating Proposal submission has been received.

Contact:

Phone: (902) 625-3631 Fax: (902) 625-3634

Email: blatimer@straiteng.com

Attention: Mr. Bruce Latimer, P. Eng.

Proposals will be received until 4:00 pm , Wednesday, June 10th, 2020. (Local time)

The purpose of the request for proposals is to select an Ultraviolet Disinfection Unit (UV) which will be specified in the tendering process for the STP Upgrades at the Sherbrooke sewage treatment plant. The future tender will choose a General Contractor who will carry out all aspects of the projects including:

- Purchase the specified UV equipment and have it installed and commissioned. The General Contractor will also be responsible for shipping and receiving of the UV equipment and all other aspects of STP upgrade construction.

Pricing must be in effect for 60 days from the closing date and will be made available to the General Contractors for inclusion in their bid.

2.0 Project Information:

Located in the heart of Nova Scotia's Eastern Shore, the Municipality of the District of St. Mary's is a rural municipality consisting of seven electoral districts. Incorporated in 1879 the Municipality has a population of 2,233 and is bounded by the counties of Antigonish and Pictou, the municipalities of Halifax and Guysborough, and the Atlantic Ocean. The Community of Sherbrooke, where the STP is located, is located in Guysborough County, Nova Scotia. A locality map (Figure No. 1) is shown on the following page identifying its location. Figure No. 2, following page shows the site location within the community. The Community is a business and commerce center for several nearby communities with school, bank, grocery stores, shops, restaurants, churches, etc.

The community is served by one extended air sewage treatment plant (STP). The purpose of the STP upgrade is the Municipality wish to convert the existing chlorination disinfection system to Ultraviolet (UV) disinfection.

3.0 Examination:

Suppliers shall examine all documents provided and prepare their equipment price based on providing all operating equipment and special materials complete with all accessories and appurtenances which would provide for a complete UV disinfection system.

4.0 Pricing Preparation:

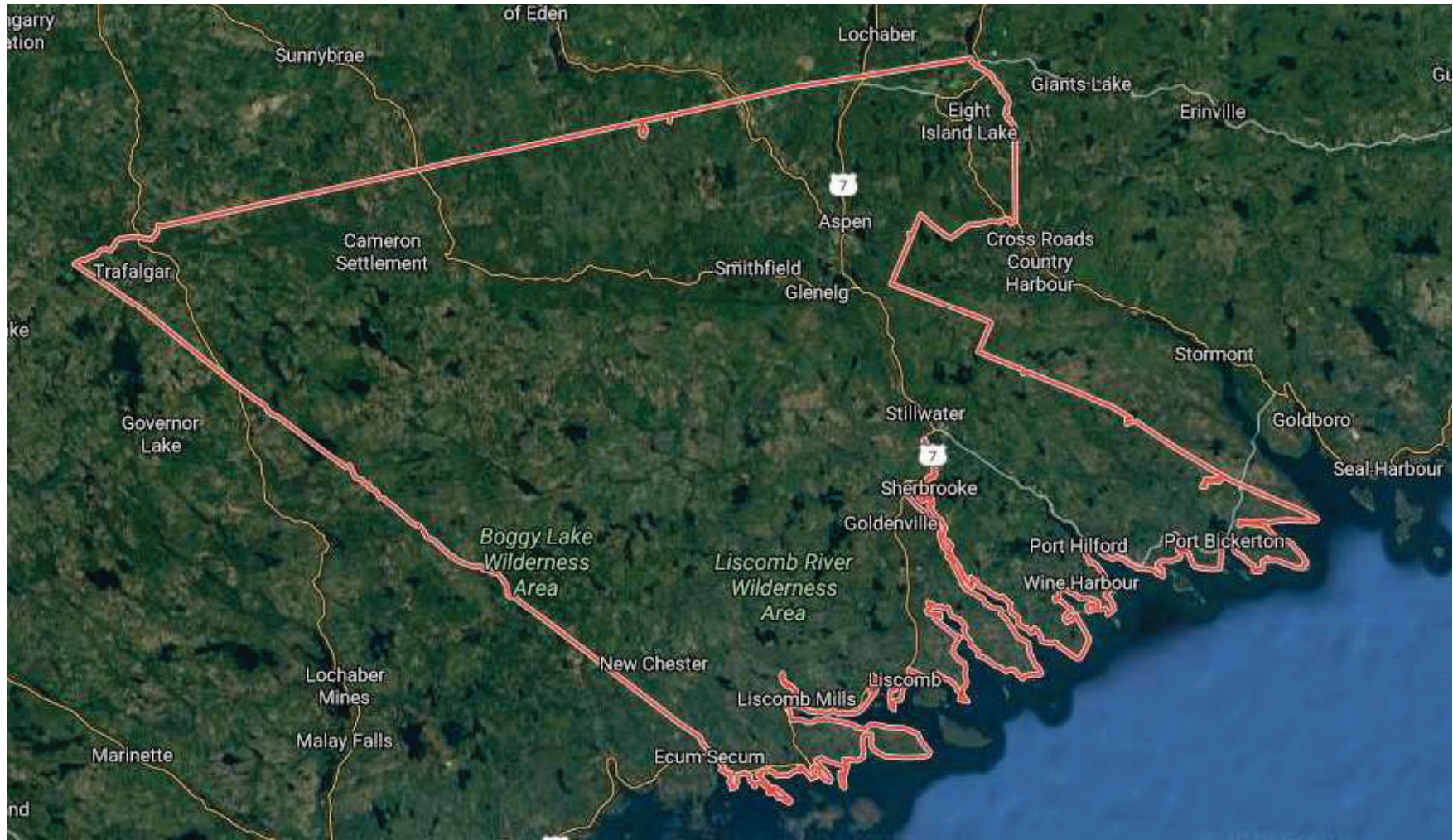
The Supplier shall submit pricing in such a manner to clearly indicate what items are included in the price and anything not to be included in the scope of supply.

Suppliers shall cover the execution of the whole work described in the Specifications, and/or directed in any addenda.

One copy of the Supplier's pricing shall be submitted duly signed by an authorized officer of the company.

Prices shall **include** all applicable excise taxes, duty, foreign exchange, royalties and patent or license fees and shall be f.o.b. the job site. (See also requirements of clause 15 - Receiving and Storage).

Prices quoted shall **exclude** Harmonized Sales Tax (HST).



SEL STRAIT ENGINEERING LTD. CONSULTING ENGINEERS PORT HAWKESBURY, NOVA SCOTIA	PROJECT: SUPPLY OF UV DISINFECTION UNIT MUNICIPALITY OF THE DISTRICT OF ST. MARY'S	PROJECT NO. 19-42
	DATE: APRIL, 2020	TITLE: LOCALITY MAP



SEL STRAIT ENGINEERING LTD. CONSULTING ENGINEERS PORT HAWKESBURY, NOVA SCOTIA	PROJECT: SUPPLY OF UV DISINFECTION UNIT MUNICIPALITY OF THE DISTRICT OF ST. MARY'S	PROJECT NO. 19-42
	DATE: APRIL, 2020	TITLE: LOCATION IN COMMUNITY

5.0 Discrepancies:

Should, during examination of specifications, any discrepancies, omissions, ambiguities or conflicts to or among the documents, or doubt as to their meaning, bring questions to the attention of the Consultant no later than four (4) days before price closing date. The Consultant will review questions and where information sought is not clearly indicated or specified, will have issued a clarifying Addendum which will become part of the Pricing Document. Neither Owner or Consultant will be responsible for any oral instructions.

6.0 Owner Rights:

The Owner reserves the right to reject any or all Proposals or to accept any individual proposal deemed most satisfactory. The Owner also reserves the right to waive any minor informality in any or all proposals.

7.0 Contract Form:

There will be no contract between the Municipality and the Supplier, however the chosen supplier will be specified for inclusion in the STP Upgrade Project tenders. The successful General Contractor will enter into a contractual agreement after award of the General Contract.

8.0 Payment Terms:

The Owner will provide the following terms in which payment will be made by the Contractor. The Owner will cover the first two 10% instalments for the purchase order and shop drawing submittals as follows:

- 1) Ten percent (10%) of the purchase price with purchase order,
- 2) Ten percent (10%) of the purchase price upon submittal of shop drawings.

The Contractor will enter into a Contract with the Supplier and make payment of the final 80% of the purchase price as below:

- 3) Sixty percent (60%) of the purchase price 30 days after equipment delivery,
- 4) Ten percent (10%) after UV equipment is successfully commissioned,
- 5) Ten percent (10%) 30 days after UV equipment is successfully commissioned,

Any objections by the supplier to the above terms **MUST** be included in the price submission along with a proposed alternative schedule.

9.0 Delivery Date:

Time of delivery for works is important and will be considered in the evaluation of proposals. A schedule showing submission of shop drawings and required information, and delivery to the site based on a one week period for review of shop drawings and submissions must be included at time of proposal submission.

10.0 Compliance To Specifications:

It is expected that all suppliers shall be capable of complying to every requirement of the specifications. The Owner, in exercising their rights under item 6.0 (Owner Rights), shall evaluate the proposals and/or options that may be provided if they are deemed to have benefits to the Owner be it financial, treatment enhancement, operator friendliness, aesthetics, etc.

11.0 Submittal/Shop Drawings/Manuals:

A) Submittal Drawings and Information:

Two complete sets of drawings shall be submitted at time of proposal submission. The drawings shall be of sufficient detail and dimensions to indicate in detail the arrangement and sizing of components and sufficient detail on anchorage, connections, etc.

The following must be included at time of proposal submission:

1. Design Calculations.
2. Complete specifications describing the equipment proposed. Include materials of construction and provide size and capacity of all equipment.
3. Drawings, diagrams, and catalogue cuts for all mechanical and electrical equipment which show all process, structural, or ancillary equipment modifications required to comply with the full intent of the job specifications.
4. A complete list of exceptions to the specifications.
5. Certification of compliance with the materials of construction specified.

6. Maintenance schedule, method of maintenance performance, and life expectancy of all equipment when applied as intended in the specifications.
7. List of all recommended spare parts to be included with scope of supply.
8. Current UV installations complete with contact names and phone numbers.
9. **The supplier shall clearly indicate on his drawings the limit of the equipment included in the proposal.** All items necessary for completing the installation which are not intended to be supplied in respect of the quotation are to be clearly listed as not included.
10. Suppliers shall submit a conceptual plan of the layout and section view of the proposed UV arrangements with their quotations.

To be included is descriptive literature, adequate engineering data, power requirements, and outline drawings showing principal dimensions and weights of the equipment and ancillary items offered.

B) Shop Drawings:

A complete set of shop drawings shall be submitted, within 14 calendar days of receipt of written notification that the equipment will be chosen and specified in the project tender documents. The shop drawings shall show in every detail the complete assembly of equipment and all ancillary items including anchorage and installation details.

The shop drawings are to be used for putting together design drawings for tendering of installation. Any inaccuracies which may result in wrongful work at a cost to the Owner may be subject to deduction from the final payment.

C) Operation - Maintenance Manuals:

Four complete sets of operation and maintenance manuals to cover every aspect of the equipment shall be provided as well as an electronic PDF copy.

12.0 Site Visits:

A technical representative of the equipment supplier is required to be on site during equipment start-up, commissioning and operator training.

The cost for any other site visits which may be necessary as a result of poor equipment performance or malfunction shall be borne by the manufacturer/supplier.

Provide a cost per visit if additional visits are requested by the Owner (visit would include a day trip to the site which would include for any related expenses such as travel).

13.0 Guarantee and Warranty:

The manufacturer/supplier shall guarantee full performance of all equipment supplied and installed under the purchase agreement.

All equipment shall be free from defects in design, manufacture, workmanship or materials. Any part found defective or of unsatisfactory performance shall be fully repaired or replaced at no cost to the Owner for twelve (12) months from start up or a maximum of eighteen (18) months after delivery to the site.

14.0 Patent and License Fees:

Each bidder shall allow in his quotation for the inclusion of all applicable patent or license fees relating to the equipment or process which he is quoting.

It shall be the full responsibility of the supplier to save the Owner and the Engineer harmless from damage or costs which may arise from any patent infringements and resultant litigation.

15.0 Receiving and Storage:

The equipment and appurtenances shall be delivered to the site of the work in a condition satisfactory to the Engineer and any omissions, discrepancies or damage evident on delivery shall be made good by the supplier.

The successful General Contractor at the job site shall sign the carrier's pro bill to indicate receipt of the required number of crates and packages and shall note thereon any apparent shortages of or visible damage to such crates and packages. The supplier shall furnish to the purchaser, lists showing the contents of the said crates and packages. Such lists shall be furnished sufficiently early so that copies will be available at the job site when delivery of the said equipment and appurtenances is made. Within fourteen (14) days after the date of delivery to the job site, the Owner will notify the supplier in writing of shortages or damage in the equipment delivered.

COMMUNITY OF SHERBROOKE
SUPPLY OF ULTRAVIOLET DISINFECTION UNITS
MUNICIPALITY OF THE DISTRICT OF ST. MARY'S
NOVA SCOTIA

PART II - PROCESS AND EQUIPMENT SPECIFICATIONS

1.0 GENERAL:

The supplier/manufacturer shall design, supply, test, deliver and commission the UV equipment to be supplied for this sewage treatment plant, including all appurtenances, as indicated or specified herein.

The manufacturer shall supply a reference list of equipment successfully operating in installations similar to the St. Mary's requirements.

Included in the previous section for your information are:

- Figure No. 1 - Locality Map
- Figure No. 2 - Study Area Plan
- Sketch No. 1 - Proposed Upgrades

2.0 UV COMPONENTS:

The UV components to be supplied in accordance with this specification and which will be installed by others shall include:

- Stainless Steel (Type 304) Channel c/w inlet and outlet transition boxes, and level control weir.
- UV intensity monitoring system with sensor to monitor lamp age and UV intensity.
- UV modules - completely assembled containing lamps, quartz sleeves and electronic ballast and 3 meter weatherproof cable. Type 316 SS frame.
- Lamps to be low pressure low output or low pressure high intensity type
- Module support rack.
- Maintenance/Cleaning Rack - Type 304 SS
- Spare lamps, sleeves and lamp holders (4 each).
- Operations Kit including face shield and gloves.
- Power Distribution Receptacles (PDRs') - Type 3R impact resistant GFI.

3.0 **PROPOSED ARRANGEMENT:**

It is proposed to install a pipe from the existing chlorine contact tank, directing the treated effluent into a new building which will house the new UV unit. The discharge will be directed to the existing outfall manhole which leads to the River. Sketch No. 1 attached shows the proposed general arrangement.

Original STP Design Criteria:

Flow - ADF = 80,000 USgpd
BOD = 350 mg/l
SS = 350 mg/l

Effluent Criteria: BOD = 30 mg/l
 SS = 30 mg/l
 Chlorine = < 0.5 mg/l

4.0 **DESIGN PARAMETERS/EFFLUENT CRITERIA:**

The following is the Design Criteria.

Effluent Discharge Criteria:

BOD = 25 mg/l
SS = 25 mg/l
Ammonia = 1.25 mg/l
Chlorine Residual = 0.05 mg/l

Disinfection Limit: 200 fecal coliforms per 100 ml, based on a 30 day geometric means of consecutive daily grab samples.

UV Design Criteria:

ADF = 80,000 USgpd
PWWF = 125,000 USgpd
BOD = 25 mg/l
SS = 25 mg/l
UVT = 55%

DATE	FLOW (USgpd)	BOD (mg/l)	SS (mg/l)	UVT (%)
October 22, 2019	33,700	?	?	64
November 18, 2019	86,350	12	27	62
December 3, 2019	89,420	N.D.	35	62

5.0 SUBMISSION REQUIREMENTS:

- Technical literature including rated capacities, sizing, O&M requirements, materials, etc.
- Dimensioned drawings giving general layout.
- Material and parts inventory
- Warranty Information.
- Contact Information
- Delivery Schedule.
- Letter of Undertaking from Insurance Company.
- Representative projects of similar nature.
- Third Party Bioassay Validation of the UV Dose

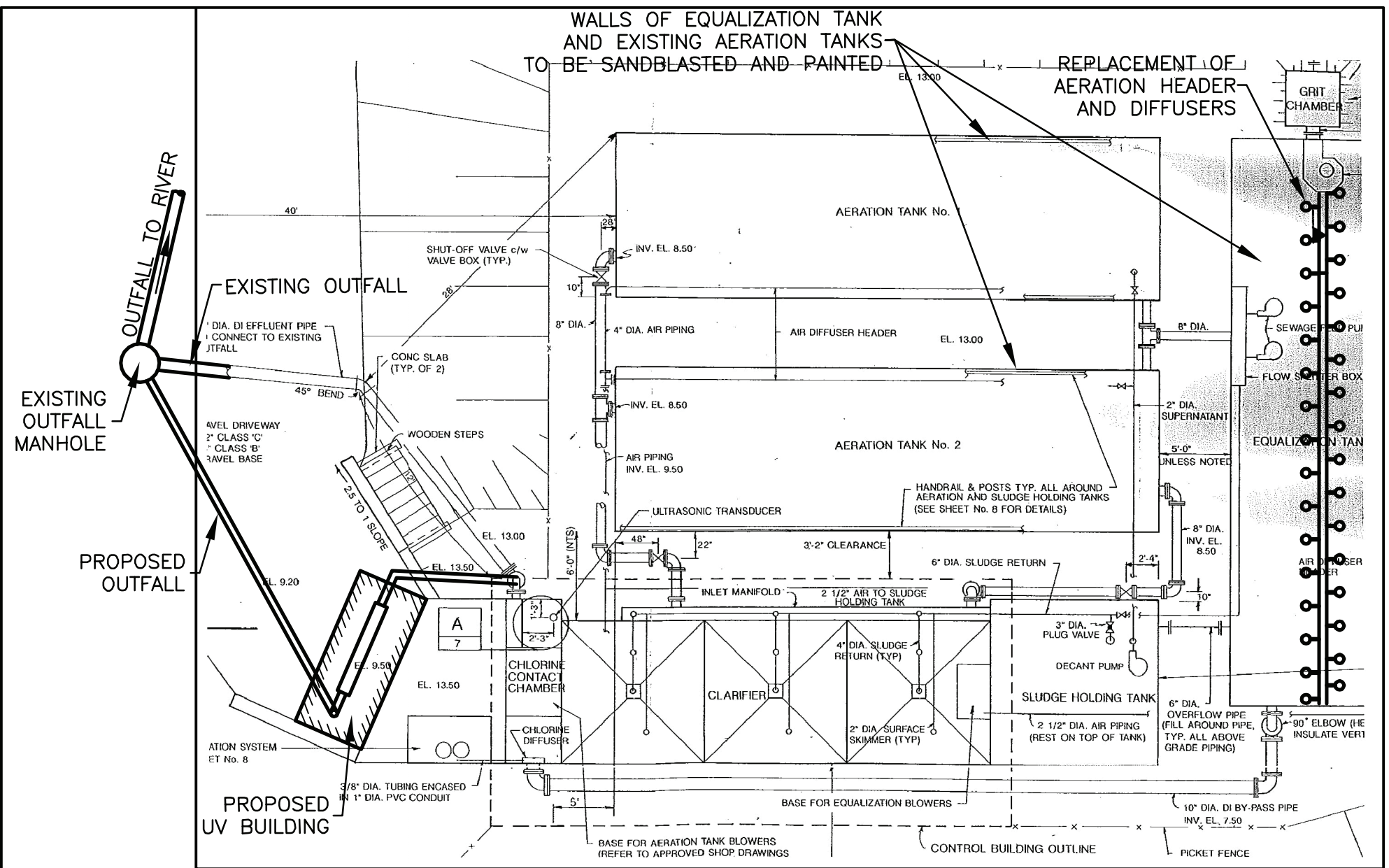
6.0 ITEMS BY OTHERS:

The following list of items and work not included in this specification and to be provided by others include the following:

- Building/enclosure.
- Treatment plant building upgrades.
- Piping to and from supplied components.
- Electrical supply to building.

WALLS OF EQUALIZATION TANK AND EXISTING AERATION TANKS TO BE SANDBLASTED AND PAINTED

REPLACEMENT OF AERATION HEADER AND DIFFUSERS



SEL STRAIT ENGINEERING LTD.
CONSULTING ENGINEERS
PORT HAWKESBURY, NOVA SCOTIA

DATE: **JANUARY 2019**

PROJECT: **MUNICIPALITY OF THE DISTRICT OF ST. MARY'S SEWAGE TREATMENT PLANT UPGRADES**

TITLE: **PROPOSED UPGRADES**

SKETCH: **SK-1**

SCALE: **NTS**