



TOWN OF SHELBURNE

Town of Shelburne
Request for Proposal for
Water Chiller Unit Town Hall
RFP #04-2021

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History of Existing Unit:

The Town of Shelburne is looking to install a new Water Chiller Unit at Town Hall. Location of Town Hall is 203 Main St Shelburne, Ontario L9V 3K7. The existing unit has surpassed its life service and needs to be replaced with a more highly efficient unit. Original unit has had some issues with cooling on the hot humid days in the summer.

When reviewed the existing chilled water system design documentation the following design issues:

1.1 There is no buffer tank. A buffer tank is required to facilitate operation of controls of constant flow chilled water systems at part cooling loads. The tank accumulates chilled water which later can be used for cooling at part loads when it is necessary to supply chilled water to 1 - 4 FCUs. This avoids starting the chiller at low cooling loads. Starting a large constant flow chiller at low cooling loads has multiple negative effects including short-cycling, increased power consumption, temperature swings and low comfort level in the areas which the chiller is serving.

· Too many strainers. The existing design calls for a strainer for virtually each fan coil and Air-Handling Unit. Most of these strainers are very hard to access and they require frequent maintenance. In reality, only one central strainer is required and it can be installed in an easily accessible location such as mechanical room.

1.2 According to heat gain calculations, the peak cooling load is approximately 47 Tons. Chillers must be sized using a diversity coefficient of 0.8 - 0.9 which means that the required chilled water system capacity is approximately 38 - 42 Tons. Capacity of the existing system is 40 Tons which approximately corresponds to our calculations.

1.3 The chiller had been commissioned in the late 90s which means that its 20-year service life is over.

1.4 Chilled water system's static pressure at basement level is 8 PSI, however, a minimum of 30 PSI is required. 8 PSI means that the system is half-empty. The existing automatic make-up (pressurization) system is tied in to the city water service and it is not functioning correctly. The most likely cause is a PRV (Pressure Reducing Valve) malfunction.

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- 1.5 The existing make-up system is not suitable for feeding of glycol solutions.
- 1.6 Chilled water strainers and FCU air filters require regular maintenance which is very complicated because they are located in hard to access areas. We were told that strainers and filters had not been cleaned for many years which may create health issues. It also means that chilled water and airflows are severely restricted.
- 1.7 Constant flow chilled water systems shall operate at standard working fluid temperatures which are 44°F for the supply piping and 54°F for the return. According to current BMS readings, the supply set point temperature is 49°F. Prolong operation at non-standard working fluid temperatures can cause severe compressor damage.
- 1.8 All temperature gauges were out of order.
- 1.9 There is no preventative maintenance schedule. Preventative and routine maintenance is not done. Critical maintenance tasks such as annual glycol solution replacement and strainer/air filter cleaning are not done.
- 1.10 The stationary maintenance ladders lack safe railing which complicates access to critical equipment.

2.0 Recommendations

- 2.1 The existing chiller has exceeded its 20-year service life. We recommend replacing the chiller.
- 2.2 Recommend disconnecting the existing make-up (pressurization) system from city water service and replacing the PRV and backflow preventer with a specialized glycol/feed water make-up unit such as Axiom SF-100. These units are very inexpensive and allow decoupling hydronic glycol systems from city service (eliminating the risk of potable water contamination). They can also be used for preparation/feeding

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of glycol solutions which will significantly facilitate the necessary annual water/glycol solution replacement.

2.3. Remove all strainers used for protection of individual pieces of equipment and install one central strainer in the mechanical room. This will greatly facilitate the critically important strainer maintenance.

2.4. Recommend adding a chilled water buffer tank which can be installed in the mechanical room. The tank can significantly improve chiller controls at part loads. Subsequently, this will improve comfort levels in the air-conditioned areas. This tank shall be sized by a qualified designer and it is only necessary for constant flow chilled water systems. If the existing chiller is replaced by a modern variable flow chiller, then the tank would not be required.

2.5 The existing chilled water system needs to be drained completely and carefully purged. After that it must be pressurized to a minimum of 30 PSI at the lowest point in the mechanical room which should result in approximately 14 PSI at the highest point of chilled water piping on the roof.

2.6 Demolition and removal of existing chiller system, piping, valves and strainers. Install new chiller system and pressurize the system to the recommended specifications of the new water chiller unit.

2.7 All out-of-order temperature gauges shall be replaced. Localized access to critical operational information such as working fluid temperatures is very important for proper chilled water system maintenance.

2.8 Recommend a careful review of the existing condensate drainage piping. Once the chilled water system starts to operate properly, condensate leakage may become a problem. This may help to avoid flooding of suspended ceilings.

2.9 Recommend implementation of a basic preventative maintenance program. Routine maintenance such as timely cleaning of air-filters and strainers shall also be implemented.

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2.1.1 It is necessary to facilitate access to all equipment that requires maintenance. All fan coils and Air Handling Units shall be made accessible. This might require additional access hatches or enlargement of the existing ones. The minimum requirement for access hatches is that they shall allow replacement of air filters and provide access to motorized control valves. Also, the unit be reconnected to the BAS system that is being used currently.

2.1.2 The Proponent must commission the chiller with the proper regulators Eg. ESA , TSSA.

2.1.3 Proponent must include the cost of the crane rental in the RFP.

2.1.4 Recommended 3-5yr warranty on parts.

3.0 **Specifications of New Water Chiller Unit**
 5.1 New water chiller unit must be similar or comparable to the **Daikin AGZ040E** water chiller unit.

Physical Data	AGZ040E	
	CIRCUIT 1	CIRCUIT 2
UnitCap. @AHRI tons (kW) Note 1	39.2 (137.9)	
Unit Operating Charge lbs (kg)- Sealed Filter Drier	19 (8.6)	19 (8.6)
-Replacement Core Filter Drier	21 (9.5)	21 (9.5)
Unit Dimensions	94.4 x 88 x 100.4in	
L x W x H (mm)	2398 x 2235 x 2550mm	
Package Unit Operating Weight lbs (kg)	2964 (1344)	
Package Unit Shipping weight lbs (kg)	2948 (1337)	
Weight-Add for (upper) Louvered Panels	167lbs (76kg)	
Weight-Add for (lower) Louvered Panels	144lbs (65kg)	

COMPRESSORS, SCROLL, HERMETIC

Nominal HP	10.0 / 10.0	10.0 / 10.0
Oil charge per Compressor, oz (g)	85 (2410)	85 (2410)
Staging, 4 Stages (if circuit is in lead)	0-25-50-75-100	0-25-50-75-100

MICROCHANNEL CONDENSER

Coil Inlet Face Area, sq. ft. (sq.m.)	49.8 (4.6)	49.8 (4.6)
Rows Deep/Fins Per Inch	1 / 21	1 / 21

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CONDENSERS FANS, DIRECT DRIVE PROPELLER TYPE

# of Fans per Circuit – Fan Diameter in (mm)	4-30 (762)	4-30 (762)
Fan Motor, hp (kW)	1.5 (1.1)	
Fan & Motor RPM	1140	
Fan Tip Speed, fpm (m/s)	8950 (45)	
Airflow, cfm (l/s)	40,400 (19,067)	

EVAPORATOR, BRAZED PLATE

Evaporator, Model (1 Evaporator/2 Circuits)	ACH-230DQ-94H
Dry Weight lbs (kg)	98 (44.5)
Water Volume, gallons (litres)	2.4 (9.2)
Victaulic inlet/outlet conn. in. (mm)	2.5 (65)
Max. Water Pressure, psi (kPa)	653 (4502)
Max. Refrigeration Press. Psi. (kPa)	653 (4502)

Note 1: Nominal capacity based on 95 degrees F ambient air and 54 degrees F/44 degrees F water range.

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PROPOSAL REQUIREMENTS:

DATE AND PLACE FOR RECEIVING SUBMISSIONS:

Request for Proposal to be addressed by email only to Carey Holmes, Treasurer at cholmes@shelburne.ca with the subject line clearly stating RFP 04-2021 Submission. Emails must be sent no later than **3:00 p.m. (15:00 hours) local time**, on the specified closing date; **Monday June 28, 2021**. Late bids will not be accepted.

June 14, 2021	Request for Proposal Issued
June 23, 2021 by 4:30 pm <i>(questions & addendums (if any))</i>	Deadline for electronic questions to Municipality imoss@shelburne.ca from Interested Suppliers; Replies will be circulated to all Suppliers: Addendums (if necessary) will be the responsibility of the bidder to download from the town website at shelburne.ca or merx.com
June 28, 2021 (3:00 pm)	Closing date for Proposal Submissions
July 12th, 2021	The Municipality will award the Request for Proposal and notify the successful Proponent

2. PROPOSAL FORMAT:

Proposals will not be considered unless:

- Received by date and time specified – **June 28, 2021 – 3:00 pm EST**
- Received signed Tender Form signed by Proponent with authority to binds the Company
- Specifications of new Water Chiller Unit
- Company Profile including Certifications and Accreditations along with relevant experience
- References of similar projects from previous/existing Vendors.
- Copy of Contractor's current insurance certificates.
- WSIB clearance certificate.

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3. PROPOSAL EVALUATION CRITERIA:

Proposals will be assessed on the information provided in the proposal. Evaluation will be based upon the following items:

- Price-30%
- Conformity to Specification - 30%
- Customer Service and Part Support - 20%
- Conformity to Town of Shelburne -10%
- Value added features or Options - 10%

Note: Lowest or Any Proposal not necessarily accepted.

4. WITHDRAWAL OF PROPOSALS:

A Proponent may, without prejudice to himself, withdraw his tender at any time up to twenty-four (24) hours before the time set for the closing of the tender. Such withdrawal shall be made in writing and be received by the Town within the specified time. The Proponent who has withdrawn their proposal may submit a new Proposal but must be received by the Town on or before the closing date and time. After closing, the Proposals are final and binding on the Proponent.

5. TOWN'S RIGHT TO ACCEPT OR REJECT:

The Town of Shelburne reserve the right to reject any proposal, even if that proposal is the lowest in dollar amounts and may award the contract to the Proponent that the evaluation team finds the most appropriate. The Town will not be liable for any incurred costs that may arise from submitting the proposal.

It is not the intention of the Town to award this RFP to any Supplier who does not furnish satisfactory evidence that he/she has the ability and experience in this class of work, and that he has sufficient capital and plant to enable him to prosecute and complete the same successfully, and to complete it in the time stated in this Tender. It will be the Supplier's responsibility to clarify any details in questions before submitting a proposal. **All questions, technical or otherwise, pertaining to this Request for Proposal should be directed by email only:**

Jim Moss, Director of Development & Operations,
Town of Shelburne
jmoss@shelburne.ca

The Town of Shelburne will not bear any fault for any oral communications. The Town reserves the right to re-tender the Project or potentially negotiate a contract with a suitable Proponent.

Proponents are required to disclose their legal status as to whether they are a Federal, Provincial or Foreign Corporation, a partnership or an individual and to state the names and addresses of the responsible officers or partners.

6. INSTALLATION DATE:

The Proponent is responsible for providing a firm installation date. The Town has the expectation of a completed installation date of the water chiller unit at Town Hall by **August 31, 2021 or tentative to supply shortages.**

7. TOWN'S AUTHORITY:

The Director of Development & Operations shall be the Contract Administrator as identified in Ontario Provincial Standards (O.P.S.) Section GC 3.01 of the General Conditions. It is mutually agreed between the parties of this Contract that the Town's Director of Development & Operations or designated representative, shall supervise, direct and approve all work included herein, and in all cases shall decide every question which may arise relative to the execution of the work to be performed under this Contract as per Section GC 7.0 – Contractor's Responsibilities and Control of the work.

8. FAILURE OR DEFAULT OF PROPONENT:

If the Proponent, for any reason, fails or defaults in respect of any matter or thing which is an obligation of the Proponent under the terms of the RFP, the Town may disqualify the Proponent from the RFP and/or from competing for future bid opportunities (RFTs/RFQs/RFPs/etc.) issued by the Town. In addition, the Town may at its option either: 1. Consider that the Proponent has withdrawn any offer made, or abandoned the Agreement if the offer has been accepted, whereupon the acceptance, if any, of the Town shall be null and void; or 2. Require the Proponent to pay the Town the difference between its Proposal and any other Proposal which the Town accepts, if the latter is for a greater amount and, in addition, pay the Town any cost which the Town may have incurred, by reason of the Proponent's failure or default, and further, the Proponent will indemnify and save harmless the Town its officers, employees and agents from all loss, damage, Liability, cost, charge and expense whatever, which it, they or any of them may suffer, incur due to the failure of the proponent.

9. ADDENDUM:

If an addendum is found to be necessary, it will be released to all companies that have submitted an RFP. If the Town revises this RFP, any revisions will be included on this Addendum. The Addendum shall advise any changes to the Proposal submission Date, if more time is allowed for all Proponents to revise their proposals. It will be the responsibility of all Proponents to download from Town website or Merx.com.

10. WORKPLACE SAFETY AND INSURANCE BOARD:

A Certificate of Clearance from the Workplace Safety and Insurance Board (WSIB) must be provided prior to the commencement of the project, providing adequate proof that all payment by the Proponent have been made.

The Proponent clearly understands and agrees that they are **not**, nor is anyone hired by the Proponent, covered by the Corporation of the Town of Shelburne under the Workplace

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Safety & Insurance Board Act, The Unemployment Act, or any other Act, whether Provincial or Dominion, in respect of the Proponent, their employees and operations, and shall upon request furnish the Town with such satisfactory evidence that the Proponent has complied with the provisions of any such Acts.

The Town of Shelburne is not to be deemed the employer of the supplier or their personnel under any circumstances whatsoever.

11. INSURANCE:

The party to whom this Contract is awarded shall supply the Town with proof of insurance and a copy of the policy, prior to signing of the Proponent by Town officials, and provide coverage throughout the term of the Proposal in the amounts outlined below.

Comprehensive General Liability Insurance with a minimum limit of liability of \$5,000,000.00 inclusive of any one occurrence. Comprehensive General Liability Insurance shall cover all operations and liability assumed under the Contract with the Town. The Comprehensive General Liability Insurance shall include premises and operations liability, Proponent's contingency liability with respect to the operations of Sub-contractors completed operations liability and automobile liability (owned, non-owned or hired units).

All premiums and expense incurred with this insurance shall be paid for by the Contractor. Failure to maintain adequate insurance, the Proponent shall be totally responsible for all claims for damage.

12. INDEMNIFICATION:

The Proponent shall indemnify and save harmless the Corporation of the Town of Shelburne, its elected officials, officers, employees and agents from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgements of every nature and description made, brought or recovered against the Town by reason of any act or omission of the Proponent, his agents or employees, in the execution of his work. This indemnity shall be in addition to and not in lieu of any insurance to be provided by the successful proponent in accordance with the RFP.

13. LIMITS AND LAWS/CONFORMITY TO LEGISLATION:

The Proponent shall obtain, and pay for all required permits from Federal, Provincial and Municipal Authorities having jurisdiction over the work. The Proponent shall comply with all applicable laws, ordinances, rules and regulations including but not limited to, Occupational Health and Safety Act, the Labour Act, Environmental Protection Act and Highway Traffic Act.

14. INFORMAL PROPOSALS:

Proposals that are incomplete, conditional, illegible, or obscure or that contain additions not called for, reservations, erasures, alterations or irregularities of any kind, may be

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rejected as informal. Bidders are required to fill in all the blanks.

15. CONFIDENTIALITY:

In accordance with the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, as amended, Proponents are advised that all correspondence provided by a Proponent responding to this RFP as hereby collected under the authority of the Municipal Act, 2001 and will be used exclusively in the RFP process.

The Town will treat all proposals as confidential within the boundaries of the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) but may be released pursuant to the Act.

All public reports approved by the Town of Shelburne will become public information. Notwithstanding the foregoing, Proponents recognize and agree that the Town will not be liable in any way for any losses that the Proponent may suffer from the disclosure of information to third parties.

16. CONFLICT OF INTEREST:

The Proponent must disclose to the Town any potential conflict of interest that might compromise the project. In the case where there might be a conflict of interest, the Town may refuse to consider the proponent. The proponent must fully disclose any potential conflict of interest with a Town employer, board member or commission that may have a financial gain with the awarding of the contract and state the nature of that interest.

17. NON-COLLUSION:

A Proponent is prohibited from any communication, directly or indirectly, with any other Proponent/Agent or representative of the Proposal. If a breach is discovered, the Town reserves the right to disqualify the Proposal.

18. PAYMENT:

Once the project has started, payment shall be monthly, based on work completed to date and provided the work has been satisfactorily completed.

The Proponent shall show its HST Registration number on each invoice. The amount of HST being charged shall be shown separately on all invoices.

Prices contained in submission are to be in Canadian Funds, and to include all necessary labour, travel, and equipment required for execution of the work.