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**REVISION 005 TO A
INVITATION TO TENDER**

**RÉVISION 005 À UNE
INVITATION À SOUMISSIONNER
DEMANDE D'OFFRES À
COMMANDES**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Offer remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'offre demeurent les mêmes.

Issuing Office - Bureau de distribution :
Parks Canada Agency
Calgary, AB

Title - Sujet : Lake Louise Waste Water Treatment Plant Rehabilitation – Banff National Park	
Solicitation No. - N° de l'invitation : 5P420-20-0448/A	Date : April 23, 2021
Amendment No. - N° de modification : 005	
Client Reference No. - N° de référence du client : 1480	
GETS Reference No. N° de reference de SEAG : PW-21-00949500	
Solicitation Closes - L'invitation prend fin : At - à : 2:00 PM On - le : April 29, 2021	Time Zone - Fuseau horaire MDT - HAR
F.O.B. - F.A.B. : Plant - Usine : <input type="checkbox"/> Destination : <input checked="" type="checkbox"/> Other - Autre : <input type="checkbox"/>	
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Destination of Goods, Services, and Construction - Destination des biens, services, et construction : See Herein – Voir ici	
TO BE COMPLETED BY THE BIDDER - À REMPLIR PAR LE SOUMISSIONNAIRE	
Vendor/ Firm Name - Nom du fournisseur/ de l'entrepreneur :	
Address - Adresse :	
Telephone No. - N° de telephone :	Fax No. - N° de télécopieur :
Name of person authorized to sign on behalf of the Vendor/Firm Nom de la personne autorisée a signer au nom du fournisseur/ de l'entrepreneur	
Signature :	Date :

Amendment 005

This amendment is being raised to distribute questions and answers, to make changes to the tender package and make changes to Appendix 1 – Combined Price Form.

A. Question and Answer

Q70. Given the cold winter climate recommend they add a requirement for factory insulation of the vessel such as.....Minimum 2" polyurethane foam insulation with FRP jacket. This could be 2.6.3.8.

A70. Add the following Clause to Section 44 31 31:

Clause 2.6.2.3.8 Provide minimum 2 inch polyurethane foam insulation with FRP jacket. Refer to Section 23 07 13 and TIAC National Standards for details.

Q71. Says fan shall have 460 Volt motor. We can provide 460/480 volt motor but I wonder if they mean 575 volt motor which is more common in Canada? [There are few others places in this section 44 31 31 where 460 or 480 volt is mentioned].

A71. Acceptable motor voltages are to be as follows:

- 480/460Volt, 3Ph
- 240/230/208Volt 3Ph and 1Ph
- 120volt 1Ph

Q72. It is very tight inside this small mechanical room where the fan is located. There is not enough room to put a sound attenuation enclosure. We recommend allowing the option of acoustic blankets. The acoustic blankets wrap around the fan housing and allowing easy to the fan bearings and fan belts.

A72. Acoustic blankets are acceptable.

Delete Clause 2.6.2.10.1 of Section 44 31 31. Replaced with:2.6.2.10.1 Fan enclosures or a common exhaust silencer, or acoustic blankets, or combined measurements, shall be provided to reduce the sound pressure level to 68 dBA or less measured at 1.0 m above ground

Q73. We recommend that the 25mm insulation fibreglass insulation be removed from the BIOTRICKLING FILTER's scope of supply. This is usually done by the installing contractor who looks after insulating the piping.

A73. No removal needed. This is a Contract requirement to the General Contractor. The insulation can be completed by either the General Contractor or the equipment supplier.

Q74. 3.2.5 Recommend adding the requirement that the "circulation vessel" be insulated by the installing contractor.

A74. No change needed. This is a Contract requirement to the General Contractor. The insulation can be completed by either the General Contractor or the equipment supplier.

Q76. Reference section 25 90 01, can you please confirm the manufacture of the original EMCS controls and architecture.

A76. Any alarm or status interface to the plant control system from HVAC equipment will be wired to the new PLC (A-B ControlLogix)

- There is no centralized BMS on the plant. Existing HVAC controls are local (thermostats, on-board local controllers for MAUs etc.) with alarm/statuses to plant PLC.
- Specified HVAC equipment will be locally controlled by thermostats and local controllers with alarms and status outputs to PLC as specified. Refer to EI&C package as well for the interface understanding between HVAC controls and plant PLC.

Q77. Reference section 40 2319.01, item 1.3.1.1.5 "pipe stress analysis" Has the owner already carried out its own Stress Analysis

A77. Replace 1.3.1.1.5 with: Stamp of a Professional Engineer, registered in the Province of Alberta, experienced in pipe support design and pipe stress analysis for the new pipes as specified herein.

Q78. Reference section 40 23 19.02, note 5, "thermal analysis".

a. This note refers to section 15050, please provide a copy.

A78a) Replace "Section 15050" with "Section 40 23 19.01".

b. Please confirm that the drawings currently reflect the owners own thermal analysis, and any changes will be paid under a change order

A78b) Thermal analysis is required to new piping. Detailed information required for calculations will be provided during shop drawing stage.

Q79. Biotrickling filters are not normally supplied with a carbon stage. Carbon would normally be supplied with a two-stage odour control system similar to our Zabocs system. We don't think Carbon media is required, please confirm.

A79. Two stages filtering is required. The Carbon media layer/unit is a backup to biofilter media in case its of a decrease in performance.

Q80. We can supply inline water heater but in the past have supplied a submersible heater directly into the BTF sump, is that acceptable? A nutrient tank submersible heater is required per spec but the nutrient tank is inside the heated enclosure....is it still required?

A80. Submersible heater is acceptable. Nutrient tank heater is required.

Q81. Enclosure / building should be supplied and fabricated by the installing GC with layout to be confirmed by equipment supplier?

A81. Yes. Or the enclosure could be installed by the equipment supplier with layout approved by GC and Engineer.

Q82. Smoke test are typical for in-ground biofilters which are known to channel but in a BTF this is very uncommon, please confirm if required?

A82. Delete Clause 3.3.6 of Section 44 31 31.

Q83. a) Regarding Invitation to Tender Document, Section SI04 Submission of Bid, can it be clarified as to which submission Appendix 2 – Integrity Provisions belongs to? i.e. Submission #1 or Submission #2?

A83a). Submission #2

b). General Instructions GI09 states that bids are to be delivered in a envelope to an address, Invitation to Tender States that bids can be emailed or faxed? Please confirm that email or fax is acceptable.

A83b). Please submit bids via email or fax.

c). Similarly, General Instructions GI10 states that bids can be revised by letter or fax, Invitation to Tender States that bids can be revised by email or fax? Please confirm that email is acceptable.

A83c). Yes, bids can be revised by email or fax

d). Invitation To Tender states complete the work by March 31, 2022. Can it be confirmed whether this is Substantial Performance or total Completion as described in sections GC1.1.4 and GC1.1.5 of the General Conditions document.

A83d). Completion of work has been updated to August 31, 2022 as per Amendment 2. Final completion is to be completed by this date

Q84. Section 01 29 00 Payment Procedures section 3.1.4 refers to a section "Winter Construction Requirements". This item does not show up on the Appendix 1 – Combined Price Form. Can this be clarified?

A84. Winter construction requirements will be deleted from Section 01 29 00, 3.1.4. Delete Clause 3.1.4 from Section 01 29 00

Q85. Some items on the Tender form are not clear due to overlapping text, such as item E. Bioreactors
A85. See word version of price table in DSP2_20-0448 from Amendment 3

Q86. Tender form item C1.2, D1.3 and E1.7 Concrete Crack Repair. Please confirm epoxy injection repair is required.

A86. Cracks repairs are non-structural epoxy crack repairs to improve watertightness of tank and should be specified by the speciality contractor.

Q87. Tender form item E1.1.5 and E1.3.6 Concrete Waterproofing. Please confirm this is regarding drawing 3.S4-01, Wall Repair Notes #4.

A87. Correct. Wall Repair Notes #4 for Sikagard EWL work to be included in Appendix 1 – Combined Price from, E. Bioreactors Items 1.1.5 and 1.3.6 for Basin 1 and Basin 2, respectively.

Q88. Referencing drawing 3.S2-01, note “Thickening at top of wall for guard rail attachment”, please provide a section view detail

A88. This detail is already included in the drawings, see Detail 7 / 3.S4-01.

Q89. Section 07 61 00 Standing Seam Metal Roofing System does not provide the seam width, height, and profile. Please provide the required information

A89. This information is not required. Roofing to meet the specification.

Q90. Drawing 3.S4-01 Wall Repair Note #1 and Slab Repair Note #1 suggests high-pressure water blasting as one of the possible repair methods. What are acceptable levels of suspended solids and pH levels for the water blasting wastewater to be discharged into the existing system?

A90. The typical acceptable pH limit is 4.5 to 9.5. It also depends on the water amount. The blasting water should be in the acceptable level however the details will be evaluated during construction based on the amount of water used. Evenly discharge the wastewater to the system is required to minimize the loading to the system.

The solids produced during blasting shall not be discharged to the existing system. They should be collected and disposed to the grit bin of the plant.

Q91. Drawing 3.S4-01 Wall Repair Note #4 states to apply coatings from the top of the wall to 1 m below water tank high water level. Please provide the depth of the high-water level. Do the internal walls, baffle walls and/or platforms need to be coated as well?

A91. The high water level elevation is 1523.8 m. All walls within 1m of HWL should receive treatment.

Q92. This was discussed on site and may be answered in the upcoming addendum – a work sequence is described in Section 01 11 00 Summary of Work. No mention of a temporary bypass or treatment system is detailed during construction. Please verify if either is required for the project.

A92. See Amendment 2

Q93. Drawing 1B.G0-20 is the P&ID for this system and clearly shows the pumps, valves, flow meters, tank, etc as part of the vendor package. However, specification section 43 21 00.09 doesn't clearly state the valves and flow meters. Can you please clarify who will be supplying the valves and instruments for this vendor package?

A93. The valves, instruments and control should be provided as an integrated package by the pump vendor as shown in drawing 1B.G0-20.

Q94. The specifications (item 2.4.2) mention this is a skid package, as does the drawing 5.P2-03 (see Notes: 1 & 2).

a. If this is the case, will the pump vendor be supplying all the piping and fittings required for this system?

A94a). The piping and fittings could be supplied and installed by the General Contractor or the Skid Vendor.

b. Please confirm the dimensions of the opening for the room that the equipment can be brought through.

A94b). Contractor to confirm before fabrication and assemble equipment.

c. Further to this question, if this is a skid package, will the valves/pumps/instruments/etc come prewired to the control panel by the vendor, or will these be ship loose items?

A94c). As specified by Clause 1.4 of Section 43 21 00: Pre-assembled to the degree possible. Inform installer of any Site assembly requirements. Contractor to confirm access limits.

Q95. a) We request our **Apollo # LD141** butterfly Valve be approved as equal

b) We request our **NVC-V2F** Ball Valve be approved as equal to and including 150mm

c) We request our **NVC -V2** Ball Valve be approved as equal

d) We request our **GA industries 250 (Golden Anderson)** Swing Check Valve be evaluated as an equivalent

e) We request our **PMP ZFI-S** Valve be approved as equal

f) We request our **GA Industries (Golden Andersen) GA517 Plug** Valve be approved as equal

A95 a,b,c,d,e,f). Alternate products will be considered for approval after award; proposed alternatives must meet the same performance requirements as outlined in the tender documents. Bidders should bid as per the specifications since there is no guarantee that an alternate will be approved.

Q96. In Section 44 31 31 2.6.12 there is a Grease Filter / Mist Eliminator Assembly. This isn't shown on the drawings and won't fit in the building given its current size. Is this required?

A96. DELETE Clause 2.6.12 of Section 44 31 31.

Q97. Custom Air Products We would like to bid on Tag 02-MAU-01 as an equal

A97. Alternate products will be considered for approval after award; proposed alternatives must meet the same performance requirements as outlined in the tender documents. Bidders should bid as per the specifications since there is no guarantee that an alternate will be approved.

Q98. VTS Group: We would like to bid on Tag 04-MAU-02 as an equal

A98. Alternate products will be considered for approval after award; proposed alternatives must meet the same performance requirements as outlined in the tender documents. Bidders should bid as per the specifications since there is no guarantee that an alternate will be approved.

Q99. Is it possible to replace the AA/PA pipe spec, which is currently referencing A778 gauge piping, with Sch 10S 316 stainless steel?

A99. SCH 10S 316 is acceptable.

Q100. Referencing Appendix 1 – Combined Price Form, items C.1.3, C.2.2, D.1.2, and D.2.3 mention canopies, architectural louvers and eyebrows, however these elements are not shown on the drawings. Please advise.

A100. There are no door canopies or eyebrows included in the project, however there are snow guards above doors and above the condenser as per drawing 2.A2-01. There are louvers required as indicated by Mechanical. There is a canopy required over unit 02-CDR-01 on Drawing 2.M2-02.

- All modifications to Headworks building exterior shown on drawings to be included in Appendix 1 – Combined Price Form C. Headworks 2.2.
- Delete: 'New canopy above doors (2) and window (1)' from Appendix 1 – Combined Price Form C. Headworks Item 2.2

Q101. Referencing Appendix 1 – Combined Price Form, item E.1.2 mentions a new aluminum roof, however the drawings indicate the roofing for the Bioreactors will be new precast panels and checker plate covers. Please advise.

A101. Remove "New roofing, aluminum roof" from Appendix 1 – Combined Price form, E. Bioreactors Item 1.2.

Q102. Section 10 56 13 Metal Storage Shelving is not shown on the drawings. Please confirm if metal shelving is required

A102. Provide three (3) 460W x 1220L x 1830H storage shelves to be installed in Room 14.2 of the Headworks building.

Q103. Reference section 40 23 19.02, please clarify the following.

a. Page 19 has the only Knife Gates specified, noted for wastewater Service, drawing 1B.G0-04 has a valve symbol for the FCV's as a Knife Gate on the AA service, please confirm what is required.

A103a). Provide FCV-11, 12,13 and FCV-21, 22, 23 as per DV1 – Process air, modulating service, of page 21, Section 40 92 13.01.

b. There are no pages/ specifications for the Motorized Flow Control Valves, we have confirmation that some are not within the Vendor packages, please confirm what is required and by whom.

A103b). Provide FCV-11, 12,13 and FCV-21, 22, 23 as per DV1 – Process air, modulating service, of page 21, Section 40 92 13.01.

Q104. Reference section 44 31 31, questions from a supplier of a named manufacturer.

a. Item 2.6.16 thru .19 refers to a Prefabricated Building and its accessories. This equipment should be provided by the Installing Contractor.

A104a). Yes, or it could be by the equipment vendor.

b. Item 2.6.10 calls for a fan sound enclosure. However, it is not shown on the drawings and there is not sufficient space for this equipment within the building surrounding the fan. A sound jacket will be provided instead.

A104b). An acoustic blanket is acceptable. Delete Clause 2.6.2.10.1 of Section 44 31 31. Replaced with: 2.6.2.10.1 Fan enclosures or a common exhaust silencer, or acoustic blankets, or combined measurements, shall be provided to reduce the sound pressure level to 68 dBA or less measured at 1.0 m above ground

Q105. Reference Section 40 70 12, question from a supplier of a named manufacturer. Item 2.21.1 seems to imply that the supply of an AB Control Logix PLC is preferred but just not sure if the odour control supplier is responsible for this, please clarify.

A105. If the vendor is supplying the control panel for the odor control system then they are responsible for providing the PLC within the control panel as well. We would like standard Allen-Bradley components to integrate into the main control system seamlessly.

Q106. Reference drawing 1B.G0-15, please note that without a scaled plan drawing we can only estimate what is required from the N.T.S detail 1, on drawing 1.P2-01.

A106. For the purpose of cost estimation, use 15.0 m as the length of the 200 mm diameter foul air pipes connecting the septage building, septage tank and the biofilter.

Q107. Reference drawing 1B.G0-20, the following items within the Vendor Package box, are confirmed as not supplied by the Vendor, please confirm who supplies them and what is required.

A107. Either the GC or Pump vendor supply the valves and instruments are acceptable. GC to coordinate the supply and installation.

a. 05-BV-01 & 02.

A107a) . Refer to BV01 for details.

b. 05-FCV-01 to 03, please confirm a specification.

A107b) Refer to BF01 for details.

c. PW Storage Tank.

A107c) Refer to 2.4.14 of Section 43 21 00.09 for details.

d. N/O BFV after the tank.

A107d) Refer to BF01 for details.

e. N/O BFV before 05-FCV-01.

A107e) Refer to BF01 for details.

f. Both PI instruments, including a location on the plan.

A107f) Refer to Drawing 5.I2-02 for PI and PIT locations.

g. Both PIT instruments please provide a detail, including a location on the plan.

A107g) Refer to Drawing 5.I2-02 for PI and PIT locations. Refer to drawing 5.I2-02 for PIT locations.

h. Strainer, please confirm a specification for process strainers greater than 75mm, including a location on the plan.

A107h) Refer to 2.13 of Section 40 23 19.05 for details.

Q108. Reference drawing 8.P4-04, detail 1, et al, does not confirm the Goose Neck material, which typically feed into the Foul Air, HDPE / PVC systems, please confirm what is required.

A108. Provide SCH 10 SS 316 L pipe for Goose Neck.

Q109. Reference sections 23 09 33 & 25 90 01, question from a Controls Contractor. During our initial review of the project, we noticed a few things: - It appears the design for all the controls, including HVAC, will be done using PLCs, not DDCs - Please confirm this is the case - There are some existing PLCs, therefore, the new PLCs will have to match the existing manufacturer to guarantee they are compatible. What type of controllers are existing? - Since there is existing equipment, there is also a high probability that the customer is using an existing software. Would it be possible to know the manufacturer, name and version of the software? If the customer is looking for a new software solution that will connect to the PLCs, please let us know, so we can provide one - What is the SCADA currently installed Thank you in advance for your help.

A109. There isn't a dedicated BMS system on the plant. Existing HVAC controls are via local thermostats and controllers. HVAC building controls information on the current system or architecture is not available. The existing HVAC controls architecture was determined from the visual inspection.

The main plant PLC is A-B ControlLogix. Software information for the existing PLCs and SCADA system is not available. HVAC controls interface to a new A-B ControlLogix remote rack via discrete inputs and discrete outputs through relays only. For HVAC purposes, further system information should not be required.

Q110. I have a few questions about the Pre-Fabricated Building for the Biofilter Trickling Equipment.

a. Section 13 34 23 states to install a 120/240V, 100 amp utility meter socket. Do we require this meter socket?

A110a) No meter is required.

b. I don't see the BioFilter Trickling Building Feeder shown on the Single Line Drawings, from which piece of distribution equipment should we feed this from?

A110b) Refer to drawing 1.E0-00 for the BioFilter unit feeder information.

c. For the Biofilter Trickling Building, do we require install any form of Heat Recovery unit? Also, are you looking for an AC split system to cool the building to maintain the 25 degree maximum interior temp?

A110c) It is a pre-fabricated building provided by the supplier. The Control Panel room has no specific mechanical cooling requirements but should be provided with the baseboard heater of 0.8 kW (supplier shall confirm the capacity) capacity and of regular construction - Ouellett, Dimplex, StelPro. Min indoor setpoint of 10C shall be maintained.

- The blower room is considered Class 1 Zone 2. The blower room shall be at least purged and ventilated on schedule with 100% O/A by a propeller-type wall exhaust fan, spark-proof construction, TEFC motor. Fan shall provide 94 L/s of exhaust airflow. Space heating to be provided by baseboard heater (EBH-xx1) suitable for the Class 1 Zone 2 environment – Eaton – XC series, or Chromalox equivalent (1.2kW - supplier shall confirm the capacity) with wall thermostat to maintain 5 degC min indoor temp. Propeller fan shall be interlocked with both motorized dampers TAMCO 9000. Fan shall be controlled by the Honeywell T775B2016 Nema 4X

(or equivalent) temperature controller on demand by the door switch input (15 min timer) to DI terminal on the controller. Regular non-occupied operation is via scheduling (5 minutes every two days) and in free-cooling mode to maintain 28 degC of the max indoor temperature.

- Recirculation pump room shall be ventilated without scheduling, on demand by the door switch interlock (10 min timer) and on free-cooling call to maintain 28 degC max indoor setpoint. Temperature controller T775B2016 Nema 4X (or equivalent) shall control the fan and dampers. Regular construction baseboard heater 0.8 kW (supplier shall confirm the capacity) shall be provided for the space to maintain 5 deg C min indoor setpoint.
- Refer to the sketch for possible locations of the equipment and other details. Contractor shall submit preliminary design of the mechanical systems for the enclosure with subsequent submission of the final approved design. Contractor shall receive an approval from Engineer after the design was completed to proceed to the fabrication stage.

Q111. On the site visit I did not notice any security systems for any of the buildings, are the electric strike and power supply required as per page 13 of Section 13 34 23

A111. This pertains to the Biofilter building/unit only, not the site in general.

Q112. In the Bioreactors, the Sika MT Primer and Sika Gard EWL are applied 1 meter below the highwater line. Please provide the height of the high-water line.

A112. The high water level elevation is 1523.8 m.

Q113. When the special coatings are applied in the Bioreactors, is removal of the mechanical piping required for coating the slab? Please advise.

A113. Removal of the mechanical piping is required for the coating quality control.

Q114. Section 13 34 23 Pre-Fabricated Structures specifies a rigid frame design, however the building fits the dimensions of a self framer. Would a self framer structure be an acceptable alternative option? Please advise.

A114. Alternate products will be considered for approval after award; proposed alternatives must meet the same performance requirements as outlined in the tender documents. Bidders should bid as per the specifications since there is no guarantee that an alternate will be approved.

Q115. Div. 01 Please confirm only a 10% bid bond is required and there is no requirements for a performance or labour & material bond?

A115. Bid security (ie. 10% Bid bond) is required to be included in a bid package prior to closing time. Contract security (ie. Performance and labour & material bond) are required from the awarded contractor after award.

Q116. Div. 01 Who is to carry the building permit costs?

A116. All required building permits costs will be covered by the Owner.

Q117. Div. 33 Please confirm the minimum depth of the site piping. 1.P2-01 indicates an minimum of 800mm coverage yet detail 1/8.C4-01 indicates a minimum coverage of 2.5m.

A117. The minimum coverage of site piping is 800 mm. If the pipe is installed less than 2.6 m deep, apply insulation as detail 5 Drawing 8.C4-01.

Q118. Div. 33 What is the size of FA-HDPE line going into the septage building & tanks?

A118. Provide 200-FA-PVC connecting to the septage building & tanks as shown in Detail 1 Drawing 1.P2-01.

Q119. Div. 33 Please confirm 30m of potable water line is correct as per the bid form. 1.P2-01 indicates less site piping.

A119. Use 40 m potable water length for the purpose of cost estimation.

Q120.Div. 05 / 07 Please provide the fall arrest detail per bid item C.1.1.

A120. Contractor to assume new fall arrest anchor points will be required. To be included in Appendix 1 – Combined Price Form C. Headworks 2.2

Q121.For the millwork, the specifications call for the following:

- Semi-Exposed: 19mm MDF core with cabinet liner matching exposed surfaces.
- Drawer Boxes: Baltic Birch Veneer core on plywood core, dovetailed or lock-shoulder joined.

The drawings call for:

- Everything: Medex core with laminate finish for including exposed and semi-exposed cabinets and drawer boxes.

Please clarify what is required.

A121. Provide Medex core or equal with laminate finish as indicated on the Drawings.

Q122.Section 06 40 23 Interior Architectural Woodwork Section 2.7.7 Pull-Out Waste Bin specifies a waste bin that does not exist. Please confirm Richelieu 3667030 is acceptable.

A122. Specification Section 06 40 23.2.7.7: Revise to read "...product number 3667030 by Richelieu..."

Q123.Drawing 3.S4-01 Detail 4 shows wall expansion joints. Please provide an approximate quantity and extent of the wall expansion joints as it is not clear from drawing 3.S2-01.

A123. Refer to record drawings.

Q124.Drawing 3.S2-01 shows the horizontal expansion joint potentially on the outside of the bioreactor walls. Please confirm that we will not have to expose the exterior foundations.

A124. Detail will be adjusted to only show repairs to interior expansion joint material.

Q125.Section 07 53 23 Article 1.2.1 specifies the installer of the EPDM roofing to be a CRCA member.

Nearby roofing contractors who regularly do work for Parks Canada are not CRCA members. Please confirm that this can be waived.

A125. Installer of the EPDM roofing shall be a CRCA member, this requirement will not be waived.

Q126.Section 07 53 23 Article 1.6 specifies a 15-year warranty with annual manufacturer inspections for the EPDM roofing. No manufacturers are willing to provide this especially for the limited amount of EPDM roofing. Please confirm this can be waived.

A126. Warranty requirements based on EPDM master specifications and will not be waived.

Q127.For the Biotrickling Filter building, there are no design details to address the power needs of the building, e.g. distribution, lighting, and equipment operations. Please clarify.

A127. As the BioFilter unit/building is a prefab unit, it has a single point of power connection only.

Q128.Drawing 6.M2-01 shows a series of under-slab 100-DR lines, and it's difficult to tell if they are new or existing. Please confirm that the only new construction on this drawing are the clouded labels.

A128. New scope of work is clouded only. Refer to all notes in the clouded area. 100-DR dashed lines are existing in-slab drain lines. The intent is to have new emergency shower pre-fabricated trench drains to be installed in the slab with minimal concrete trenching works on the slab. The shower is surrounded by trench drains from three sides with main line sloping towards the existing 100-FD.

Q129.Drawing 2.S2-22 Plan 1 refers to WB2, but it does not appear to be defined. Please clarify.

A129. Use 2-ply 44x302 2.0E LVL beam

Q130.We would like to submit the following and attached documentations to request the approval prior to tender to accept a true Shotcrete product, rather than the specified Sika 225 mortar. As per the attached letter and documentation from Sika, their recommendation is to specify or at least allow for their MS-D1 shotcrete product to be used for the Type I,II and II proposed Wall repairs as shown in Detail 2 on Drawing 3.S4-01. Sika is proposing the MS-D1 shotcrete for the wall repairs. The MS-D1

product will provide a superior and more durable product, and result in a costs savings due to the product pricing. It also does not require a bonding primer, as indicated in the Sika Alternative Product Recommendation letter attached.

A130. Alternate products will be considered for approval after award; proposed alternatives must meet the same performance requirements as outlined in the tender documents. Bidders should bid as per the specifications since there is no guarantee that an alternate will be approved. Specified product must utilize trained personnel in the application of the product.

Q131. In the Combined Price Form, under E. Bioreactors items 1.1.1., 1.1.2, 1.1.3, 1.3.1, 1.3.2 and 1.3.3, it is requested that the quantities (area) for the walls and slab be separated as different pricing items due to the variable methods, materials and costs.

A131. No changes will be made to the price form at this time.

Q132. Reference Section 26 24 19 2.2.1.1. The approved existing MCC manufacturer is named as Square D Model 6 however the existing MCCs needing modification are Westinghouse. Please refer to attached site visit pictures [below]. Please clarify.





A132. To clarify, the existing MCC product brand and the Square D product as mentioned in the specification are acceptable products.

Q133. Reference Amendment #2, A3. d) i. "Flood each cell with clean water to top of the diffusers" We assume water to be provided free issue to contractor from on-site fire hydrants for initial level and leakage testing.

A133. Yes. The water is free to use without cost to GC.

Q134. The General Conditions require all risk property and boiler/machinery insurance policies to remain in place until Contract Completion. The industry standard policy wording will not allow coverage to extend past Substantial Performance as the coverage is considered only to be in place during the construction phase, not through the operational phase. Please provide confirmation that the owner will provide operational coverage for all risk property and boiler/machinery insurance coverage at the commencement of operational phase of the project.

A134. No boilers in the buildings within the work scope. Heating is provided by propane MAUs and local propane unit heaters, plus electric fan-forced heaters in the occupied areas.

Q135. Reference Section 01 29 00, item 3.2.1. "Gravel road restoration. The price bid shall be considered full compensation for all materials, labour and equipment required for the supply and installation materials required to restore gravel roads to original condition or better as per the drawings and specifications." No drawing detail has been provided for thickness of granular base and granular sub-base. Please clarify thickness of granular base and sub-base required for restoration.

A135. Existing gravel structure unknown. For bid, assume:

- 80 mm Sub Base - 300 mm
- 25 mm Granular Base Course – 100 mm

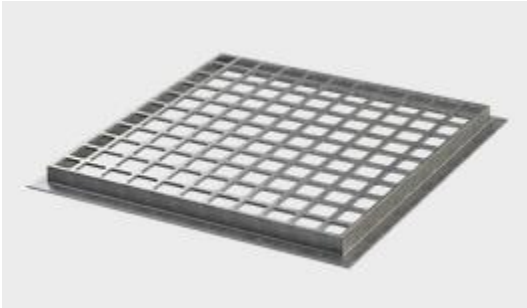
Q136. Reference GC1.8 Laws, permits and taxes, Item 3. "Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than Canada." After repeated attempts of unsuccessfully contacting contact information on <http://improvementdistrict9.ca/planning/>. We cannot find out the required rates and turn-around time for permits. Please provide.

A136. All required building permits costs will be covered by the Owner.

Q137. Reference Amendment No. 002, Revision 002.

a. "ii. Install 25mm trash rack in bypass channel" please provide details, material, size etc.

A137a) As shown in below picture or equal with 25 mm mesh size. The trash rack is to be placed upstream of existing manual bar screen. Contractor to clean the captured debris and maintain the trash rack clean for sewage pass through without flooding to the building.



b. "There are hand gates and gate troughs in both the screen channel and the bypass channel. The Contractor to confirm the condition of the facilities and take measurements to make the isolation watertight for the work." Please confirm if the gates are zero leakage, or what measurements are to be taken.

A137b) The gate is not water tight. The General contractor to provide additional measurements to make them water tight for the work in the channels.

c. "It is acceptable that the Contractor provides enclosure in accordance with the equipment supplier's specifications." None of the named suppliers can or is going to provide a specification for the enclosure of the Odour removal system (Biotrickling system). Please confirm what you require.b

A137c) See Section 13 24 33.

Q138.Amendment 2, Q7. "Provide and install process air flow control valves (FCV-11, 12, 13, 21, 22, 23) as per specified DV1- Diaphragm valves in Section 40 92 13.01, 75 mm diameter." This appears to be an answer to an unknown question, please clarify.

A138. As indicated.

Q139.A28. "Slip on Hinged Caps shall be used for sample ports" please provide a detail of what is required.

A139. Beckett or equal.

Hinged Fill Caps



Economical locking design and cast iron construction. MPT¹ caps in 1½" and 2" sizes. FPT caps in 1½" through 4" sizes. Vented design keeps out debris and water.

Part No.	Description
14164	2" MPT
14171	2" FPT
14173	3" FPT
14174	4" FPT

¹ MPT = Male Pipe Thread, FPT = Female Pipe Thread

Q140.Please confirm which detail is required for the perimeter edge support for the cover plates on drawing 2.S2-01 as the details on 8.S4-01 are not explicitly clear which detail is required.

A140. For pricing purposes assume detail similar to 9/S4-01 and details on 8.S4-01. Support of cover plate will need to be coordinate with field conditions.

Q141. Detail 5 on drawing 3.S4-01 does not have anchorage details for the new access hatches. The called out reference (8.S4-05) does not exist. Please advise.

A141. Refer to typical details on S8.4-01

Q142. Div. 03 Please provide the specifications and scope definition for the concrete crack repair. I.e. locations, depth, width, etc.

A142. Crack repairs shall be a non-structural epoxy injection. Repairs shall be by the speciality contractor as per manufacturer direction. The full extent of concrete crack repair has not been surveyed. Unit prices to be provided for work.

Q143. Div. 03 Please confirm the high water elevation in the bioreactor tanks.

A143. The high water level elevation is 1523.8 m.

Q144. Div. 03 Please confirm where on the bid form you'd like the bioreactor expansion joint replacement quoted?

A144. Bioreactor expansion joint replacement to be included in Appendix 1 – Combined Price from, E. Bioreactors Items 1.1.4 and 1.3.5, for Basin 1 and Basin 2, respectively.

Q145. Div. 05 / 07 Please provide details and locations for new canopies and eyebrows as indicated on the bid form item C.1.3 & C.2.2.

A145. See response to question 100 above.

Q146. Div. 03 / 05 Please provide a support detail for checker plate to pre-cast panel on the bioreactor structures. Details are missing on 2/3S3.-01

A146. Detail for pre-cast support of check plate is shown on detail 5/8.S4-01. Detail to be confirmed with pre-cast manufacturer.

Q147. Div. 11 Please confirm appliances are owner supplied and installed.

A147. The fridge and microwave are Not in Contract.

Q148. Div. 06 / 07 Please provide the "38 x 89 wood furring" detail indicated on R3 roof assemblies which appears to be missing on structural.

A148. Roof Assemblies: Revise R3 Roof Assembly to read: 38 Metal Roofing, Self-Adhering Roof Underlayment (Grace Ice and Water Sheild, Henry Blueskin Ice and Water Barrier RF200, or Equal), 19 Plywood Sheathing, 301 Engineered Wood Truss Refer to Structural, 300 Min. Batt Insulation, Air/Vapour Barrier Membrane, 19 Furring Channel @ 600 O.C., 2 Layers 16 Gypsum Board.

- Drawing 2.A2-02, Detail 1, Building Section: Revise R4 above Cover Walk 20 to read R3.



38 METAL ROOFING
19 PLYWOOD SHEATHING
38x89 WOOD FURRING,
REFER TO STRUCTURAL
19 PLYWOOD SHEATHING
301 ENGINEERED WOOD TRUSS,
REFER TO STRUCTURAL
300 MIN. BATT INSULATION
AIR/VAPOUR BARRIER MEMBRANE
19 FURRING CHANNEL @600 O.C.
2 LAYERS 16 GYPSUM BOARD

Q149.Div . 07 Please confirm there is existing siding on both the north & south elevations of headworks behind the cladding which is being removed per 2.A0-02. 2.A2-01 suggests this area will not need to be re-cladded.

A149. Yes, there is existing cladding behind the overhangs being removed on the North and South sides of the Headworks building.

Q150.Section 06 40 23 Clause 2.2.1.1 requires FSC certification. However, it is difficult to obtain FSC certification for

A150. There will be no change in requirements at this time

Q151.Please provide what bonding primer is specified for the Bioreactor Items 1.1.4 and 1.3.5 Concrete replacement to walls, strengthening and remediation. Also is the bonding primer only required on Type II and Type III area? It is not shown on the detail for Type I on the drawings.

A151. Provide Bonding agent to Type I repairs as well. SikaTop Armatec-110 EpoCem is compatible with Repair products.

Q152.Do the pre-cast roof sections received the protective lining (Sikagard EWL TG) as well? Also, do the cast in place section of the roof structure at the ends of the Bioreactor have the protective lining (Sikagard EWL TG) installed under these two Items?

A152. No, only on the walls.

Q153.Basin 2 has a line item (Item 1.3.4) for disposal of demolished concrete and clean up, however Basin 1 does not. Is this line item for the precast roof structure, or is it for the disposal of concrete rubble from the wall and floor slab remediation? If for the wall and floor slab remediation, should there be a line item for Basin 1 as well?

A153. Delete: Appendix 1 – Combined Price form, E. Bioreactors Items 1.3.4 *Disposal of demolished concrete and cleanup.*

- As per Section 01 29 00 Clause 3.5.1 removal and disposal of concrete and dump fees are incidental to surface removal from concrete walls and floor slab.
- As per Section 01 29 00 Clause 3.5.5 removal and disposal of existing structure are incidental to roof replacement.

Q154.What is the specified finish on the 2 specified Sika products (SikaRepair 225 and 223)? Also what are the tolerances for levelness of the spray applied concrete repair materials?

A154. Provide a steel trowel finish to all surfaces. Concrete tolerances shall be as per CSA A23.1, comparable to conventional cast in place concrete.

Q155.Drawing 3.S4-01 in the wall and floor repair notes states to Provide a Unit Rate for Type II and Type III repairs, however there is not a line item in the tender form for these unit rates. Are contractors to

include this pricing in the removal items (IE. Bioreactor Item 1.1.2, Item 1.1.3 Item 1.3.2 and Item 1.3.3)?

A155. See Appendix 1 – Combined Price Form E. Bioreactors Items 1.1.1 to 1.1.3 for Type I to III, respectively.

Q156. Do the Effluent Boxes receive the Type I repair with the Specified lining as well?

A156. Yes

Q157. Wall repair Notes. Item #4 - Sikagard EWL coating system is only to be applied from top of wall down 1m below high water level

a. What is the High Level water level as we could not locate this?

Q157a) The high water level elevation is 1523.8 m.

b. What category in the Price Table would this coating fall under

Q157b) Sikagard EWL work to be included in Appendix 1 – Combined Price form, E. Bioreactors Items 1.1.5 and 1.3.6 for Basin 1 and Basin 2, respectively.

Q158. Regarding the Type 1 repair for the special coatings in the Bioreactors, is there a requirement to apply Sika 225 (wall surface) or Sika 223 (floor slab surface) over the whole blasted surface in an effort to fill in all exposed aggregate after abrasive blasted has been completed? Or will the aggregate be left exposed? Please advise.

A158. Apply repair materials over all blasted surfaces.

Q159. Regarding the special coatings in the Bioreactors, Type 1 repair does not mention any bonding agent (primer) between concrete and the Sika grout material; however, it is identified in both Type 2 & 3 repairs. Please confirm if a bonding agent should also be used in the Type 1 repair

A159. Use bonding agent in Type 1 repair detail as well.

Q160. The screen specification has several paragraphs about the requirement for a deflector plate and it seems like an important feature (Section 44 43 33.02, 2.9.1-5 & three other sections). Does the screen we carry need to have this feature?

A160. The deflector plate is required.

Q161. The specification repeats several times that the screen needs to be able to pivot without disassembly or movement of the compactor or its inlet chute (Section 44 43 33.02, paragraph 2.4.12 & 2.11.1.1). Does the screen we carry need to have this feature?

A161. The pivot feature of the screen is required.

B. Tender Package Revisions

ADD: DSP4_20-0448

*DWG_Lake Louise WWTP 1984 As-Built Drawings
LLWWTP_biotrickling_enclosure_HVAC_sketch_SP_090421*

Specifications

IN: Section 44 31 31

ADD: Clause 2.6.2.3.8 Provide minimum 2 inch polyurethane foam insulation with FRP jacket. Refer to Section 23 07 13 and TIAC National Standards for details.

IN: Section 44 31 31

DELETE: Clause 2.6.2.10.1

REPLACE WITH: 2.6.2.10.1 Fan enclosures or a common exhaust silencer, or acoustic blankets, or combined measurements, shall be provided to reduce the sound pressure level to 68 dBA or less measured at 1.0 m above ground

IN: Section 40 2319.01

DELETE: 1.3.1.1.5

REPLACE WITH: 1.3.1.1.5 Stamp of a Professional Engineer, registered in the Province of Alberta, experienced in pipe support design and pipe stress analysis for the new pipes as specified herein.

IN: 40 23 19.02, note 5

DELETE: "Section 15050"

REPLACE WITH: "Section 40 23 19.01"

IN: Section 44 31 31

DELETE: Clause 3.3.6

IN: Section 01 29 00

DELETE: Clause 3.1.4

IN: Section 44 31 31

DELETE: Clause 2.6.12

IN: Section 06 40 23.2.7.7

Revise to read "...product number 3667030 by Richelieu..."

C. Appendix 1 – Combined Price Form

In B. Siteworks, update quantity from 30 to 40.

DELETE:

2.3	Division 01 Section 31 23 33 Section 33 11 00	Potable Water Line	Linear Metre	30	\$	\$
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REPLACE WITH:

2.3	Division 01 Section 31 23 33 Section 33 11 00	Potable Water Line	Linear Metre	40	\$	\$
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In C. Headworks "New canopy above doors (2) and window (1)" as shown in red below.

2.2	Division 01 Section 05 12 23 Division 07 Division 08 Sections 09 90 00, 09 91 10, 09 91 13	Modifications to building exterior, including: - Remove and dispose of side roof overhang - New canopy above doors (2) and window (1) - Architectural louvers and eyebrows. - Refurbish and repaint remaining fascia walls	Lump Sum			\$
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In E. Bioreactors, line item 1.2 has been modified to remove “New roofing, aluminum roof” as shown in red below

1.2	Division 01 Section 03 20 00, 30 41 00 Section 05 51 00	Roof replacement (Basin 1), including: - Concrete roof removal & Disposal - Removal & disposal of galv. checker plate covers, access ladders and supporting structure - New roofing, aluminum roof - New roofing, Solid prestress precast panels - Installation of galv. checker plate covers, support structure and access ladders	Lump Sum			\$
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In E. Bioreactors, delete item 1.3.4 *Disposal of demolished concrete and cleanup.*

1.3.4	Division 01 Section 03 30 00 Section 09 91 13	Disposal of demolished concrete and cleanup	Lump Sum			\$
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Bidders are instructed to make this change accordingly. If this is missed in the bidders bid, Canada will make this change on behalf of the bidder and use the unit price provided to obtain the correct total extended price.

ALL OTHER TERMS & CONDITIONS REMAIN UNCHANGED