Winnipeg | Water and Waste
Eaux et déchets

April 30, 2021

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Manitoba Conservation and Climate
Environmental Stewardship Division
Environmental Approvals Branch
1007 Century Street
Winnipeg, MB R3H 0W4

Attention: Shannon Kohler, Director

RE: SEWPCC BIOLOGICAL NUTRIENT REMOVAL AND UPGRADE PROJECT – 2021 QUARTER 1 SUMMARY REPORT

The City of Winnipeg is submitting Quarter 1 Summary Report for the South End Water Pollution Control Centre (SEWPCC) Biological Nutrient Removal and Upgrade Project operating under Environmental Act License No. 2716RR as required by Manitoba Conservation and Climate on March 12, 2021. This report summarizes the work tasks required to complete the SEWPCC Upgrades required to meet the Environmental Act License requirements for the period of January 1 to March 31, 2021.

The following are the responses to the enquires of the March 12, 2021 letter.

a) a list of tasks and proposed completion dates such that the construction and commissioning of the upgraded wastewater treatment plant shall be completed as soon as possible and in order to meet the effluent limits as specified in Clause 28 of the License.

Secondary Clarifiers 1 & 2
The secondary clarifiers (SC) 1 & 2 were originally on the critical path to be completed prior to the start of commissioning of the biological nutrient removal bioreactor (BNR). With the delays, and coordination it was determined that SC 1 & 2 can be refurbished following the BNR commissioning. SC 1 & 2 will be refurbished once the BNR is stable. This allows some schedule recovery with the BNR commissioning. Refurbishment works on SC 1 & 2 are expected to be completed Q4 2021.

Grit and Screening Building (Area G) Demonstration Testing
The screens and equipment have been installed during the 2020/2021 low flow period. Works are being commissioned with hand over in Q2 2021. The works are approximately 95% complete for this reporting period.

Secondary Clarifiers 4 & 5 Demonstration testing
Testing and commissioning of SC 4 has started at the end of Q1 2021. Testing and commissioning of both SC 4 & 5 is expected to be completed by end of Q2 2021. Once stable

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operation of the clarifiers is achieved, transition into the BNR seeding will commence. The works are approximately 95% complete for this reporting period.

High Rate Clarification system, Demonstration Test
The high rate clarifiers testing and commissioning is ongoing. Demonstration testing and turn over is expected by Q4 2021 and is 90% complete for this reporting period.

Chemical Building Testing
Final testing and commissioning is occurring during this period. Work is estimated at 96% complete with operational handover by the end of Q2 2021.

Biological Nutrient Removal, Demonstration Test using chemical addition for phosphorus removal (Licence Conditions)
Testing and commission of the equipment commenced at the end of Q1, 2021. In Q2 2021, wet testing and filling of tanks will commence. Seeding of the BNR to commence once SC 4 & 5 are stable and operating. Flows from the existing high purity oxygen reactors (HPO) are to be diverted in a controlled manner to maintain stability in the system. The works are approximately 82% complete.

Raw Sewage Pump #2, Demonstration Test
The raw sewage pump #2 to be installed and tested during the low flow period of 2021/2022. Currently it is 10% complete.

HPO Tanks conversion to Fermenters and Biofilter, Demonstration Test
Work on the HPO Tank conversion to fermenters will occur once seeding of the BNR is completed and stable. No work has started on this area. An estimated completion is Q3 2022.

Substantial Performance
Currently substantial completion is estimated for Q3 2022.

b) Measures the City will take such that the requirements to meet the total phosphorus limit of 1.0 mg/L in effluent can be met as soon as possible without any further delay.

At this point in the construction process there is no effective temporary phosphorus removal system that can be added. Once the BNR is stable chemical trimming will be implemented to control phosphorus before the fermenters are commissioned and operating.

Status of the trimming process will be updated on reports and once a detailed schedule of events can be provided. Chemical trimming is currently estimated for the fall of 2021.

Table 1. SEWPCC Contract 4 Tasks and Schedule Milestone Dates:

Area	Contractual Dates	% Complete Current	Expected Completion	Work Remaining
Secondary Clarifiers 1 & 2	March 20, 2019	0	Q4 2021	Work to start once S 4&5 Online (no longer critical path)
Grit and Screening Building (Area G) Demonstration Testing	August 18, 2019	95	Q2 2021	Commissioning and Deficiencies
Secondary Clarifiers 4 & 5 Demonstration testing	July 30, 2019	95	Q2 2021	Commissioning and Deficiencies
High Rate Clarification system, Demonstration Test	April 6, 2020	90	Q4 2021	Commissioning and Deficiencies
Chemical Building Testing	April 6, 2020	96	Q2, 2021	Commissioning and Deficiencies
Biological Nutrient Removal, Demonstration Test using chemical addition for phosphorus removal **(Licence Conditions)**	August 10, 2020	82	Q3 2021	Commissioning and Deficiencies
Raw Sewage Pump #2, Demonstration Test	March 20, 2021	10	Q1 2022	Commissioning and Deficiencies
HPO Tanks conversion to Fermenters and Biofilter, Demonstration Test with biological nutrient removal system	July 18, 2021	0	Q3 2022	Work to start once BNR complete
Substantial Performance	August 29, 2021	67	END Q3 2022	

Should you have any questions on the SEWPCC Biological Nutrient Removal and Upgrade Project, please contact me at 204-986-4408 or by email at cjavra@winnipeg.ca.

Sincerely,

[redacted]

Colin Javra, P. Eng.
Project Director, Winnipeg Sewage Treatment Program

Attachment

CJ/dr

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