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

Attention: Laura Pyles, A/Director

**RE: SEWPCC BIOLOGICAL NUTRIENT REMOVAL AND UPGRADE PROJECT – 2021
QUARTER 3 SUMMARY REPORT**

The City of Winnipeg is submitting the Quarter 3 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 Licence requirements for the period of July 1 to September 30, 2021.

The following summarizes the works conducted on key areas of the upgrade project.

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

Refurbishment of the secondary clarifiers (SC) 1 & 2 commenced September 20th following the stable operation of SC 4 & 5. Work involves the concrete refurbishment, installation of new weir baffles, electrical controls, mechanical skimmer and walkway. Work Expected to be completed May 2022.

Grit and Screening Building (Area G) Demonstration Testing

The work in Area G remains at 95% complete for this period. Contractor focus has been on Area S and R through this period. Continued deficiency items and commissioning delays have continued to push the area hand over. The expected hand over is February 2022.

Secondary Clarifiers 4 & 5 Demonstration testing

Demonstration testing and stable operation of SC 4 and 5 was achieved during this period. SC 4 and 5 are operating as designed without issue. Handover of SC 4 & 5 was to be completed by end of Q3, however, continued delays by the contractor in completing documentation and contract deliverables has extended the hand over into Q4 2021.

High Rate Clarification system, Demonstration Test

The high rate clarifiers testing and commissioning has been delayed during this period to allow the contractor to focus on Area S and R. Demonstration testing and hand over is expected by Q2 2022 following the spring high flow levels. Work remains at 90% complete.

Chemical Building Testing

On going testing and deficiency clean up of alarms, set points and equipment communication occurred during this period. Work is estimated at 97% complete with operational handover by the end of Q4 2021.

Biological Nutrient Removal, Demonstration Test using chemical addition for phosphorus removal (Licence Conditions)

Testing and deficiency remediation continued through this period. At the end of Q2 2021, the contractor started to fill the BNR tanks to start quality checks on instrumentation and equipment. Wet testing of the BNR equipment started September 27, 2021. Demonstration testing of the BNR to commence once IWT is completed. Continued world-wide shipping delays of the IFAS Media from Korea has been a risk to the start of the demonstration testing. However, sufficient volume of media has arrived to allow seeding to commence as part of demonstration testing. The works are approximately 90% 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. No change on this item.

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.

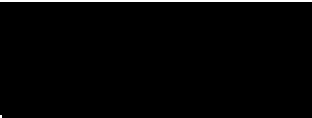
At this point in the construction process there is no effective temporary phosphorus removal system that can be added. Once the BNR demonstration testing is occurring, chemical trimming through the use of Ferric Chloride will be implemented to control phosphorus before the fermenters are commissioned and operating in full biological state.

Status of the trimming process will be updated on future reports and once a detailed schedule of events can be provided. Currently stable operation of BNR is still expected in Q4 2021.

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

| Area | Contractual Dates | % Previously Reported | % Complete Current | Expected Completion | Work Remaining |
|--|-------------------|-----------------------|--------------------|-----------------------------|--|
| Secondary Clarifiers 1 & 2 | March 20, 2019 | 0 | 5 | Q4-2021 Revised Q2 2022 | Work started September 20, 2021 |
| Grit and Screening Building (Area G) Demonstration Testing | August 18, 2019 | 95 | 95 | Q1 2022 | Continued deficiency cleanup with respect to automation and controls |
| Secondary Clarifiers 4 & 5 Demonstration testing | July 30, 2019 | 95 | 98 | Q2-2021 Revised Q4 2021 | Testing completed operating in stable condition. Hand over pending document close out. |
| High Rate Clarification system, Demonstration Test | April 6, 2020 | 90 | 90 | Q4-2021 Revised Q2 2022 | Focus on Area S and R. Commissioning requires spring flow conditions. |
| Chemical Building Testing | April 6, 2020 | 96 | 97 | Q2, 2021 Revised Q4 2021 | IWT completed, demonstration testing to occur with BNR. |
| Biological Nutrient Removal, Demonstration Test using chemical addition for phosphorus removal (Licence Conditions) | August 10, 2020 | 87 | 95 | Q4 2021 | Commissioning and Deficiencies – QA/QC checks IWT started September 27, 2021. |
| Raw Sewage Pump #2, Demonstration Test | March 20, 2021 | 10 | 10 | Q1 2022 | Work not started. To be completed in low flow conditions. |
| HPO Tanks conversion to Fermenters and Biofilter, Demonstration Test with biological nutrient removal system | July 18, 2021 | 0 | 0 | Q3 2022 | Work to start once BNR complete |
| Substantial Performance | August 29, 2021 | 67 | 68 | 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.



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Attachment

CJ/dr

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