TOWN OF FORT FRANCES

Operations and Facilities Executive Committee

AGENDA - January 19, 2022, 8:30 AM

MEETING - Civic Centre

Session #002

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2	**Disclosure of pecuniary interest and the general nature thereof**		
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TOWN OF FORT FRANCES

MINUTES | SESSION NO. #001 | January 5, 2022

A meeting of the Operations & Facilities Executive Committee of the Town of Fort Frances was held in the Committee Room and via Microsoft Teams (virtual meeting resources) on Wednesday January 5, 2022 from 8:30 a.m. to 8:46 a.m.

PRESENT: Chairperson R. Wiedenhoeft - Councillor, M. Behan - Councillor, J. McTaggart - Councillor, Mayor J. Caul (ex-officio)

ALSO PRESENT: T. Rob, Manager of Operations & Facilities, Faisal Anwar, CAO, Gabrielle Lecuyer, Clerk (8:30 a.m. to 8:46 a.m.) and Cody Vangel (8:30 a.m. to 8:46 a.m.)

1 Call to Order/Roll Call

1.1 The meeting was called to order at 8:30 a.m.

2 Disclosure of pecuniary interest and the general nature thereof

2.1 None

3 Approval of Previous Committee Minutes

3.1 Minutes from the previous meeting on December 8, 2021 - the minutes were approved as circulated.

4 New Business

4.1 Enter into Easement Agreements - 1203 and 1219 Sunset Drive - the administration report was approved as presented.

5 Information

5.1 Fort Frances Wastewater Treatment Facility November Monthly Report - the November Monthly Report was received and will be forwarded to Council as information only. No action required.

5.2 Airport Statistics 2021 - the airport statistics were received and will be forwarded to Council as information only. No action reqired.

5.3 Sewer and Water Data for 2021 - the sewer and water statistics were received and will be forwarded to Council as information only. No action required.

5.4 Landfill Statistics 2021 - the landfill statistics were received and will be forwarded to Council as information only. No action required.

6 Adjourn / Next Meeting Date

6.1 The meeting was adjourned at 8:46 a.m.

Next meeting January 19, 2022.

_____
Executive Committee Chair

_____
T. Rob, Manager of Operations & Facilities

January 19, 2022

Report To: Mayor and Council

From: Travis Rob, Manager of Operations and Facilities

RE: Memorial Sports Centre Ice Plant Efficiency Study

In June of 2021 the Town retained Stantec to complete a review of the two separate ice plants at the Memorial Sports Centre to look primarily for savings due to efficiencies but also for a reduction in plant size to reduce the staff training required to operate the plants.

Stantec came to site and reviewed the operation of both ice plants, equipment age, physical equipment location as well as location of equipment that could be tied into the ice plants to capture some of the waste heat generated by the plants as an opportunity for energy reduction. This study was funded in part through the Ontario Municipal Modernization Fund.

Attached you will find the complete report from Stantec outlining their findings from the study. The study recommends replacing the two current ice plants with a new stand along ammonia plate and frame system. This change would remove the requirement for Class B Refrigeration or 4th Class Stationary Operating Engineers to operate the plant and could see an estimated energy savings of 52.4%. This option, however, does not come without costs and the estimated cost to replace the current plants with this type of plant is $2,783,000.00.

Given the age of the plants currently in existence and the lifecycle replacements of plant components that the Town has been completing over the past years, neither plant is at end of life and needing replacement. This makes the capital expenditure difficult to justify. Based on the average energy consumption annually, the return on an investment of this type is quite long.

The content of the report is helpful, however for future planning purposes as it can help guide us toward more energy efficient systems and processes when plants or components do reach end of life and it financially makes sense to invest in changing these systems. This report can also support future grant opportunities that may be able to fund the replacement of our systems as it does show a significant opportunity for energy savings which is often a key component to facility grant programs.

It is the recommendation of the Operations and Facilities Executive Committee that the report dated December 17th 2021 from Stantec on the Fort Frances Memorial Sports Complex Ice Plant Study be received.

Respectfully Submitted

Travis Rob, P.Eng

Council approval of this report will agree with the recommendation of the Operations and Facilities Executive Committee that the report dated December 17th 2021 from Stantec on the Fort Frances Memorial Sports Complex Ice Plant Study be received.

Manager of Operations and Facilities

Fort Frances Memorial Sports Complex Ice Plant Study

Comparison of the Options for the Replacement of the Ice Plants

December 17, 2021

Prepared for:

Town of Fort Frances

Prepared by:

Stantec Consulting Ltd

This document entitled Fort Frances Memorial Sports Complex Ice Plant Study was prepared by Stantec Consulting Ltd. ("Stantec") for the account of Town of Fort Frances (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)

Benjamin Ellah

Reviewed by _____
(signature)

Jordan Lanoway

Approved by _____
(signature)

Russell Lavitt

LICENSED PROFESSIONAL ENGINEER
R. J. LAVITT
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21.12.17
PROVINCE OF ONTARIO

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1.0 INTRODUCTION

The Memorial Sports Complex in the Town Fort Frances consists of an Aquatic Centre, dry land sport facilities, conference room, auditorium and two ice surfaces, which are the focus of this project. The two ice surfaces are the 52 Canadians (52C) which was constructed in 1952 and the Ice for Kids (IFK) which was constructed in 2000. The 52C has had several upgrades since it was put into service, the IFK ice plant has had regular required maintenance and end of life replacements but no major upgrades. The 52C and IFK ice surfaces are 58mx24m (190'x80') and 61mx26m (200'x85') respectively.

The objectives of this study are as follows:

- Consolidate the two ice plants into a single ice plant or reduce the plants' over all power rating.
- Eliminate the need for a full-time refrigerant license holder as required by the Provence of Ontario Technical Standards and Safety Act, 2000 O. Reg. 219/01.
- Review and comment on the feasibility of waste heat capture from the new configuration.

1.1 EXISTING EQUIPMENT

The major pieces of equipment in the ice plants for 52C and IFK were installed as follows:

- 2008 – 52C Chiller Cimco 8009992A/8009992B, age 13 year
- 2010 – IFK Cooling Tower, BAC VF1-049-42M, age 11 years
- 2012 – IFK Chiller, Cimco 8017566A/8017566B, age 9 years
- 2013 – 52C Condenser, Evapco ATC-150E-1G, age 8 year
- 2019 – IFK Condenser, Cimco ATC-180, age 2 years

Based on the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) published data each of the pieces of equipment has a life expectancy. For the Chillers, Condensers and Cooling Towers the published mean life expectancy is 20 years. The longevity of equipment can be shortened or extended by factors such as, number or cycles, operating season, local environmental conditions, and maintenance.

Most of the existing equipment serving the 52C and IFK arenas are well into their expected life span. Also, the need to reduce the operator requirements for the 52C and IFK arena necessitates the use of packaged ice plant systems to meet the requirements of Provence of Ontario Technical Standards and Safety Act, 2000 O.Reg. 219/01, as discussed and outlined in the report below. The existing chillers serving 52C and IFK would not be able to be incorporated into a new packaged ice plant. The existing condensers and cooling towers could be modified to serve the new ice plants, but as nearly half of their expected lifespan has been expended and newer technology is more efficient and has a longer life span, replacing the equipment would be recommended.

2.0 ICE PLANT SYSTEMS

The systems used to make mechanically cooled ice surfaces are typically defined by their refrigerant type and in some cases broken down into sub-classifications as follows:

- Ammonia
  - Flooded System (Shell & Tube)
  - Direct Expansion System (Plate & Frame)
- Freon
- CO_2
  - Direct Cooled
  - Indirect Cooled

Ammonia systems use ammonia refrigerant (NH_3) to provide cooling to a brine solution which is then circulated through the floors of the refrigeration plant to produce the arena ice. The flooded system uses a shell and tube type chiller, which is a traditional method of providing the cooling to the brine and is the method that the existing ice plants at 52C and IFK use. This sort of chiller is effective, but they have a large refrigerant charge, typically between 3.6kg (8lbs) and 4.5kg(10lbs) per ton and are typically lower efficiency than a Direct Expansion System. A direct expansion system uses a plate and frame chiller and a much smaller refrigerant charge to cool the brine that serves the refrigerated slab. The typical refrigerant charge in a direct expansion system will be between 0.23kg(0.5lbs) and 0.45(1lbs) per ton. A comparison of the refrigeration plant types is available in Appendix A.

The Freon system uses a manmade refrigerant to provide cooling to a brine solution which is then circulated through the floors of the refrigeration plant to produce the arena ice. As the Freon system uses a manmade refrigerant there is the risk that the refrigerant may become end dated, meaning that it will no longer be produced. If the refrigerant is end dated the refrigerant would need to be replaced which may need costly upgrades to the plant. A comparison of the refrigeration plant types is available in Appendix A.

Carbon Dioxide (CO2) is a refrigerant that naturally occurs in the environment and as such cannot be end dated. A CO2 system uses two different methods of cooling the arena slab to make the artificial ice. The first method is a CO2 Direct method which pumps the cooled CO2 refrigerant directly into the arena slab and makes the ice through that method. To be able to pump the CO2 directly into the slab a special network of metal pipes needs to be installed in the arena slab and since the CO2 refrigerant is outside of the ice plant room additional ventilation needs to be provided for the arena and all the areas that directly interface with the arena. The second method is a CO2 indirect method which is like an ammonia or freon plant which provides cooling to a brine solution which is then circulated to the arena slab for production of the artificially cooled ice. A comparison of the refrigerant plant types can be found in Appendix A

2.1 REFRIGERATION COMPARISON MATRIX

The refrigeration comparison matrix compares eight options for replacement of the existing refrigeration plants. This includes ammonia shell and tube, ammonia direct expansion, freon, CO2 direct and CO2 indirect. The matrix also compares a site-built verses skid mounted ice plant with a separate building. Refer to Appendix A for the comparison matrix and Appendix B for the O.Reg 219/01 Table 6. The recommendation for the system can be found in section 6.0 Recommendations below.

2.2 CONSOLIDATED PLANT VS SEPARATE PLANTS

The 52C and IFK arenas can be served by two separate refrigeration plants as they are now or by a consolidated plant serving both arenas. Both options have pros and cons which can be found in Table 1 below.

Table 1 Plant Consolidation Pros & Cons

Consolidated Plant		Separate Plants	
Pros	**Cons**	**Pros**	**Cons**
• Smaller total plant size • Lower total refrigerant charge • High redundancy • Higher efficiency • Simplified heat recovery • Single service point • Single emergency services reaction point • Electrical upgrade to 52C could be avoided • Consolidated plant building comes with new ventilation system	• Longer brine runs to the arena slabs • Requires finding routing through the facility • Larger total loss of refrigerant in the case of a leak	• Shorter brine runs • Existing layout no additional routing required • Lower total loss of refrigerant in the case of a leak	• Larger total plant size • Larger total refrigerant charge • Lower redundancy • Lower efficiency • More complex heat recovery • Multiple service points • Multiple emergency services reaction points • Electrical upgrade for 52C required • Possible ventilation upgrades

3.0 ICE PLANT CONSTRUCTION

For IFK and 52C, based on the size of the ice sheets, the occupancy, and the possibility of making ice in late August early September we would expect the ice plant for each facility to be approximately 90 tons of refrigeration (TR). The two new plants would install them in the existing plant rooms with the required electrical and ventilation upgrades. A routing for the brine headers would not be required as existing the headers terminate in the mechanical rooms for each space. Connections for future heat recovery would be provided and future routing would need to be provided through the facility to connect to each of the ice plants.

If the two (2) arenas are combined into a single ice plant, then due to redundancy and allowing for only one sheet to be making ice at a time the plant would be approximately 125 TR. To allow for the installation of a single ice plant a location must be found for the new ice plant building and a routing for the brine piping through the facility so that both the IFK and 52C arenas are served from the plant. This option allows for two placement locations that we can identify, one in the existing Ice Plant 122c plant room or a new refrigeration plant mounted by the Northeast Corner of the facility outside of Ice Plant 122c. This location allows for ease of connection for future heat recovery from the ice plant for building heating. Refer to Appendix C for locations of the new ice plant.

From the new ice plant, chilled and warm brine pipes can be routed outside the facility in a purpose-built trench. The brine lines serving IFK arena will connect to the existing header in the floor of Ice Plant 122c. The brine lines serving 52C arena will be routed around the facility in the new trench eventually connecting to the existing header in the floor of 52C arena ice plant. Refer to Appendix C for the proposed routing of the new brine lines.

4.0 ICE PLANT ENERGY USE EXISTING VS OPTIONS

An energy model analysis was performed to investigate the estimated energy consumption of each of the proposed undegraded ice plant configurations as well as the current arena ice plant systems. There are four different ice plant types that were analyzed. Each ice plant type had an A and a B option. Option A represents a single chiller with a capacity of 125 Tons, while option B represents two identical chillers each with a capacity of 90 Tons. It should be noted that the existing ice plant system energy consumption is based on the energy model approximations and not metered energy data. These results are meant to be used as a comparative tool and not as predicated energy consumption results.

Table 2 shows the results of the energy model analysis.

Table 2 Ice Plant Energy Modelling Results

Modelling Scenario	Total Ice Plant Consumption [kWh]	Ice Plant Energy Savings [%]
Existing	576,061	
Option 1A	358,089	37.8%
Option 1B	344,279	40.2%
Option 2A	273,929	52.4%
Option 2B	262,323	54.5%
Option 3A	524,014	9.0%
Option 3B	507,423	11.9%
Option 4A	332,302	42.3%
Option 4B	319,182	44.6%

The results show that Option 2B, the dual ammonia plate and frame ice plant configuration, predicts the greatest energy savings compared to the baseline existing systems. The energy savings of the Option 4 scenarios follow closely behind results of the Option 2 scenarios. The lower system performance of the Option 2 scenarios in the summer months increases the overall energy consumption, lowering the perceived energy savings for that system type. The ice plant capacity curves have also been approximated for all options in this analysis. We do anticipate that the actual capacity curves for the CO2 chillers to provide a more favorable performance in the winter months. Therefore, the actual performance of the Option 2 and Option 4 configurations may be closer depending on the year-round operation of the ice surfaces.

Figure 1 shows the breakdown the energy consumption between the chiller, cooling towers, and pumps for each of the modelled scenarios.

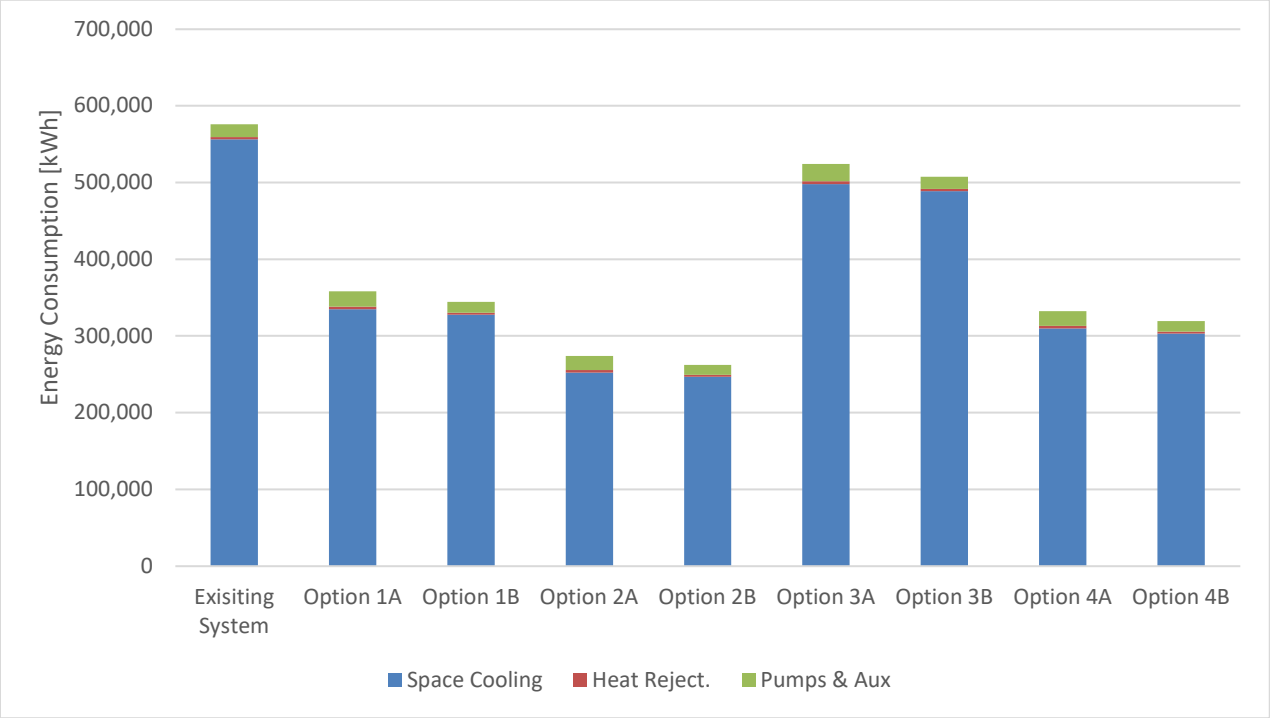


Figure 1 Energy Consumption Breakdown

5.0 CLASS D ESTIMATE

The following costing is to be considered a Class D[1] Estimate. The following costs are based on cost data from the latest edition of RS Means, supplier information and recent construction experience. All costs below are rounded to the nearest $1000. The estimate does not have any allowance for structural to support the new packaged refrigeration plant as unknown ground conditions can have a major effect on the type of structural system that is used and subsequently the cost of the system.

5.1 OPTION 1A AMMONIA SHELL & TUBE SITE BUILT

- Demolition $91,000
- New Construction $2,970,000
- **Total $3,061,000**

5.2 OPTION 1B AMMONIA SHELL & TUBE PACKAGED

- Demolition $91,000
- New Construction $2,422,000
- **Total $2,513,000**

5.3 OPTION 2A AMMONIA PLATE & FRAME SITE BUILT

- Demolition $91,000
- New Construction $2,916,000
- **Total $3,007,000**

5.4 OPTION 2B AMMONIA PLATE & FRAME PACKAGED

- Demolition $91,000
- New Construction $2,692,000
- **Total $2,783,000**

[1] A Class D estimate is generally an estimate based on the initial functional program and broad concept approach. The accuracy of this estimate is generally +/- 20 to 30% accurate depending on the complexity of the project and whether the project is new construction on a greenfield site or a renovation.

5.5 OPTION 3A FREAON SITE BUILT

- Demolition $91,000
- New Construction $1,800,000
- **Total $1,891,000**

5.6 OPTION 3B FREON PACKAGED

- Demolition $91,000
- New Construction $1,693,000
- **Total $1,784,000**

5.7 OPTION 4A CO2 DIRECT SITE BUILT

- Demolition $498,000
- New Construction $6,624,000
- **Total $7,122,000**

5.8 OPTION 4B CO2 DIRECT PACKAGED

- Demolition $639,000
- New Construction $4,447,000
- **Total $5,086,000**

5.9 OPTION 5A CO2 INDIRECT SITE BUILT

- Demolition $91,000
- New Construction $3,564,000
- **Total $3,655,000**

5.10 OPTION 5B CO2 INDIRECT PACKAGED

- Demolition $91,000
- New Construction $2,917,000
- **Total $3,008,000**

5.11 OPTIONAL EXTRA

- **New Prefabricated Plant Building $324,000**

6.0 RECOMMENDATIONS

The production of artificial ice has many valid options but the correct option for any project is the one that best fits the need of the owner and operator of the facility. We feel that the flowing items, in order of importance, are the most critical to the selection of a refrigeration plant for the Town of Fort Frances:

1. Must reduce the operating staff requirements.
2. Must be energy efficient and operationally efficient.
3. Must be affordable.

If we were to provide two separate plants the total system would need to be larger to allow for ice making in the shoulder season and we would get no benefit from non-simultaneous loads e.g., a hockey tournament in IFK while 52C is unoccupied. By providing a factory fabricated packaged plant the Province of Ontario Technical Standards and Safety Act, 2000 O. Reg. 219/01 allows the plant to be registered as a R6, which does not require a fulltime operator, refer to Appendix A and Appendix B. This applies if we use two separate plants or one larger plant. If we were to use a plant that is constructed on-site we would then have to register the plant as a R13, which requires a full time operator, refer to Appendix A and Appendix B.

Each of the refrigerant systems have their own coefficient of performance (COP) with the larger the number the more efficient that the system operates. Some of the refrigerants are also affected by the seasonal conditions and their efficiency drops when the outdoor temperature is higher in the summer. The freon system has the lowest, with a COP between 1.5 and 2.5. The indirect CO2 has a COP of between 2.0 and 3.0. The shell and tube Ammonia has a COP of approximately 3.0. The direct CO2 has a COP of 2.5 and 4.0. Finally, the plate and frame Ammonia system has a COP of approximately 4.0.

The cost of the various plants varies based on the technology and as the existing plants are Ammonia shell and tube, we have used that system as the baseline for cost comparisons. The highest cost refrigerant system is the direct CO2 system which requires the existing slabs to be removed and new slabs to be installed with a network of stainless-steel piping in the slab; it would also require the ventilation system in the arenas to be upgraded to allow for evacuation of the CO2 gas if the refrigerant leaks. The CO2 indirect system would allow for the use of the existing headers and brine piping but since the technology is patented and only available from one supplier, using CO2 indirect has a cost premium. Freon is the lowest first cost option but has a shorter equipment life span as less of the equipment is designed for industrial operation. The Ammonia plate and frame system has a higher first cost than an ammonia flooded system but is less expensive than either of the CO2 options. Ammonia plate and frame also benefits from the same longevity of equipment that the Ammonia shell and tube system enjoys and in the case of the chillers the life span is typically longer than an Ammonia shell and tube. We have not calculated the cost of upgrading the electrical systems for arena 52C but the arena will need some electrical upgrades if individual plants are provided.

In addition to the defined needs of the owner and operator of the facility a critical consideration is the safety of the system to the staff and community. While Ammonia refrigeration has had incidents in the past which have caused injury and death, new systems and technologies have been developed to improve the safety of ammonia refrigerant. Low ammonia charge systems allow for Smart Transfer Systems and water tank discharges so that when the system is being maintained or if there is an emergency the ammonia refrigerant can be held in a separate location or discharged to a water tank so that the ammonia is not discharged to the atmosphere. This will reduce the risk to maintenance staff and to the public at large.

Based on the judging criteria, we recommend that the Town of Fort Frances select and install a new packaged stand-alone Ammonia plate and frame refrigeration plant, or Option 2b as per the refrigeration matrix found in Appendix A. This plant will be capable of providing ice to both the 52C and the IFK arenas with reduced operator requirements a more energy efficient system and redundancy. This system will also allow for connection of energy recovery systems to allow the plant to provide heating to the existing systems and expanded systems in the future.

A summary of the relative rating of the plants, based on the above identified priorities and the refrigeration matrix found in Appendix A, is as follows:

1. Option 2b – Ammonia (Plate & Frame) Skid Package
2. Option 3b – Freon Skid Package
3. Option 1b – Ammonia (Shell & Tube) Skid Package
4. Option 5b – CO2 Indirect Skid Package
5. Option 2a – Ammonia (Plate & Frame) Site Constructed
6. Option 1a – Ammonia (Shell & Tube) Site Constructed
7. Option 3a – Freon Site Constructed
8. Option 5a – CO2 Indirect Site Constructed
9. Option 4b – CO2 Direct Skid Package
10. Option 4a – CO2 Direct Site Constructed

Appendix A REFRIGERATION COMPARISION MATRIX

Appendix A - Ice Plant Analysis Matrix

Colour Code	Good	Caution	Trouble	Not Required

Type	Option 1A Ammonia (Tube + Shell) Site Constructed	Option 1B Ammonia (Tube + Shell) Skid Package	Option 2A Ammonia (Plate + Frame) Site Constructed	Option 2B Ammonia (Plate + Frame) Skid Package	Option 3A Freon System (R507) Site Constructed	Option 3B Freon System (R507) Skid Package	Option 4A CO2 Direct Site Constructed	Option 4B CO2 Direct Skid Package	Option 5A CO2 Indirect Site Constructed	Option 5B CO2 Indirect Skid Package
Relative Plant Cost	100%	119%	101%	120%	63%	81%	230%	249%	124%	143%
Approximate Lead Time (weeks)	10 to 12	16 to 18	10 to 12	16 to 18	10 to 12	16 to 18	10 to 12	16 to 18	10 to 12	16 to 18
Approximate Installation Time (weeks)	12 to 18	4 to 6	12 to 18	4 to 6	12 to 18	4 to 6	16 to 24 (include ice slab)	10 to 18 (include ice slab)	12 to 18	4 to 6
Approximate Total Installation (weeks)	22 to 30	20 to 24	22 to 30	20 to 24	22 to 30	20 to 24	26 to 36 (include ice slab)	26 to 36 (include ice slab)	22 to 30	20 to 24
Existing Mechanical Room Installation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standalone Plant Building	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Standalone Building Dim LxWxH (m)	Not Applicable	12.2x3.5x3	Not Applicable	12.2x3.5x3	Not Applicable	12.2x3.5x3	Not Applicable	12.2x3.5x3	Not Applicable	12.2x3.5x3
Plant Building Foundation	Not Applicable	Yes	Not Applicable	Yes	Not Applicable	Yes	Not Applicable	Yes	Not Applicable	Yes
Existing Ice Plant Operate During Construction	No	Yes	No	Yes	No	Yes	No	No	No	Yes
Smart Transfer System (STS)	Yes (available)	Yes (available)	Yes (available)	Yes (available)	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
Water Diffuser Tank	Yes (available)	Yes (available)	Yes (available)	Yes (available)	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
Ice Rink Slab Replacement	No	No	No	No	No	No	Yes	Yes	No	No
Use Existing Header Trench	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Smell (refrigerant smell)	Yes (detectable)	Yes (detectable)	Yes (detectable)	Yes (detectable)	No (non-detectable)	No (non-detectable)	No (non-detectable)	No (non-detectable)	No (non-detectable)	No (non-detectable)
Refrigerant Outside of Plant	No	No	No	No	Yes (outside)	Yes (outside)	Yes (in building)	Yes (in building)	No	No
High Pressure	No	No	No	No	No	No	Yes	Yes	Yes (plant only)	Yes (plant only)
Enviromental Impact	Low	Low	Low	Low	High	High	Low	Low	Low	Low
Lifespan (years)	35 to 40	35 to 40	35 to 40	35 to 40	15 to 20	15 to 20	20 to 25	20 to 25	20 to 25	20 to 25
Operating Cost (Ammonia Baseline)	100%	100%	95%	95%	125%	125%	80%	80%	95%	95%
Approximate Coefficient of Perfomance	3.0 Winter / 3.0 Summer	3.0 Winter / 3.0 Summer	4.0 Winter / 4.0 Summer	4.0 Winter / 4.0 Summer	2.5 Winter / 1.5 Summer	2.5 Winter / 1.5 Summer	4.0 Winter / 2.5 Summer	4.0 Winter / 2.5 Summer	3.0 Winter / 2.0 Summer	3.0 Winter / 2.0 Summer
Vestibule Required	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Machine Room (B52 Code)	Class T	Class T	Class T	Class T	Regular Plant Room	Regular Plant Room	Regular Plant Room	Regular Plant Room	Regular Plant Room	Regular Plant Room
Plant Technology	Established	Established	Established	Established	Established	Established	New	New	New	New
Servicability	Good	Good	Good	Good	Good	Good	Cimco Only	Cimco Only	Cimco Only	Cimco Only
Patented Technology	No	No	No	No	No	No	Yes (Cimco only)	Yes (Cimco only)	Yes (Cimco only)	Yes (Cimco only)
Tender (multiple bidders)	Yes	Yes	Yes	Yes	Yes	Yes	No (Cimco only)	No (Cimco only)	No (Cimco only)	No (Cimco only)
Combinded Plant Size	125 TR	125 TR	125 TR	125 TR	125 TR	125 TR	125 TR	125 TR	125 TR	125 TR
Individual Plant Size (52C/IFK)	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR	90 TR / 90 TR
Operator Requirement O. Reg. 219/01 (Combined/Individual)	R13 / R13	R6 / R6	R13 / R13	R6 / R6	R13 / R13	R6 / R6	R13 / R13	R6 / R6	R13 / R13	R6 / R6
Summary	Good - 17 Caution - 8 Trouble - 2 Not Required - 2	Good - 23 Caution - 6 Trouble - 0 Not Required - 0	Good - 18 Caution - 7 Trouble - 2 Not Required - 2	Good - 24 Caution - 5 Trouble - 0 Not Required - 0	Good - 13 Caution - 5 Trouble - 7 Not Required - 4	Good - 19 Caution - 3 Trouble - 5 Not Required - 2	Good - 7 Caution - 5 Trouble - 13 Not Required - 4	Good - 10 Caution - 5 Trouble - 12 Not Required - 2	Good - 10 Caution - 8 Trouble - 7 Not Required - 4	Good - 16 Caution - 6 Trouble - 5 Not Required - 2
notes	Relative costs based on a 100TR Ammonia Shell and Tube Plant, the CO2 direct system cost allows for replacement of the slab R6 - Requirements, unattended, registered, guarded controls & maintenance program R13 - Requirements registered, 3rd class power engineer & 4th class power engineer each shift									

Appendix B ONTARIO TECHNICAL STANDARDS AND SAFETY ACT, 2000 O. REG. 219/01 TABLE 6 EXTRACT

TABLE 6

REFRIGERATION PLANTS REGISTRATION REQUIREMENTS

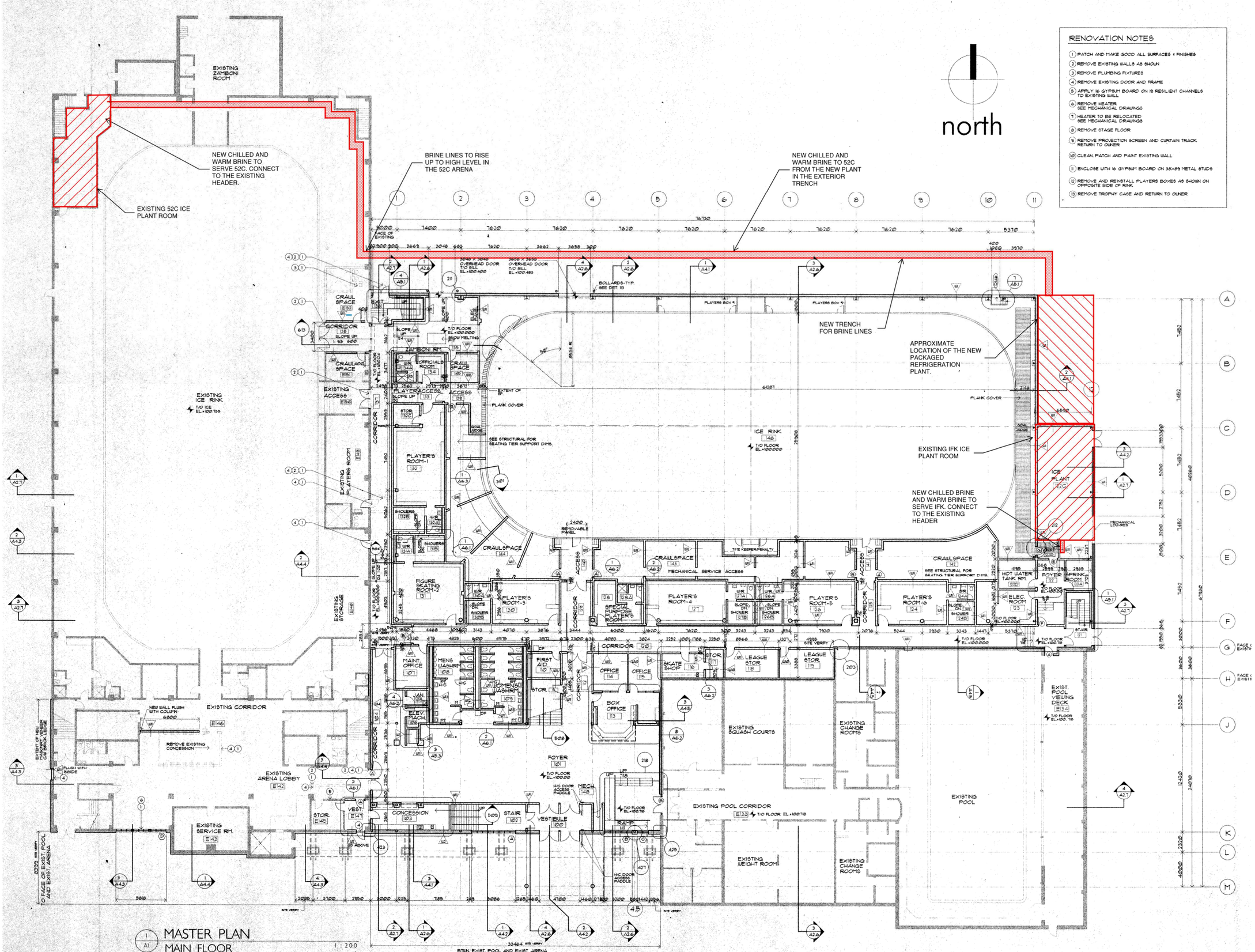
PLANT TYPE (A) IS POWER RATED (B) TO DETERMINE REGISTRATION REQUIREMENT (C)												
EXPLANATORY NOTES AND ADDITIONAL REQUIREMENTS		PLANT REQUIREMENTS FOR REGISTRATION (C)										
Compressor Operator Certificate of Qualification are not approved for the operation of refrigeration compressors. Steam Prime Mover Plants governed by Table 4 or 3, as required. Failure to provide a plant Certificate of Qualification prescribed refrigeration compressor maintenance and service program to a standard prescribed by the refrigeration compressor manufacturer will result in the suspension of non-attended status and the attendance of a certified Operating Engineer/Operator will be required, to the requirements of a guarded plant, until the prescribed maintenance and service requirements are attained. Any refrigeration plant using a refrigerant other than class 1 or 2 must receive the approval of the Chief Officer. Plants designated with guarded controls may operate with operator attendance as prescribed in sections 23-24. Plants - R9, R13, R14 may have guarded controls applied in order to allow operator attendance as prescribed in sections 23-24.		PLANT CODE	UNREGISTERED	UNATTENDED	REGISTERED	GUARDED CONTROLS	MAINTENANCE PROGRAM	ATTENDED - 8HR/DAY OF OPERATION - 4TH CLASS/B-CHIEF	ATTENDED - 8HR/DAY OF OPERATION - 3RD CLASS/B-CHIEF	ATTENDED - 8HR/DAY OF OPERATION-2ND CLASS/A-CHIEF	ATTENDED -3RD CLASS/B-CHIEF & 4TH CLASS/B-EACH SHIFT	ATTENDED - 2ND CLASS/A-CHIEF & 3RD CLASS/B-EACH SHIFT
TYPE OF PLANT REFRIGERATON PLANT (A)	RATING & REFRIGERATON CAPACITY (B)											
LOW PRESSURE • All units or installations	Unlimited	R1	✓	✓								
NON POSITIVE DISPLACEMENT COMPRESSORS	Unit < 97 kW (130 BHP, 3TH)	R2	✓	✓								
• Centrifugal • Turbine	Unit > 97 kW (130 BHP, 3TH) < 969 kW (1300 BHP, 33TH) and installations < 2983 kW (4000 BHP, 102TH)	R3		✓	✓	✓	✓					
• High Pressure • All units or installations	Unit > 969 kW (1300 BHP, 33TH) and installations > 2983 kW (4000 BHP, 102TH)	R4			✓	✓				✓		
SELF CONTAINED SYSTEMS	< 75 kW (100 BHP, 2.45TH)	R5	✓	✓								
	> 75 kW (100 BHP, 2.45TH) < 485 kW (650 BHP, 17TH) and < 2000 lb. (907 KG) of refrigerant	R6		✓	✓	✓	✓					
• No Refrigerant Field Piping • All units or installations	> 485 kW (650 BHP, 17TH) and < 746 kW (1000 BHP, 25TH) < 3000 lb (1361 KG) or refrigerant	R7			✓	✓			✓			
	> 746 kW (1000 BHP, 25TH) < 969 kW (1300 BHP, 33TH) < 4000 lb (1814 KG) of refrigerant	R8			✓	✓				✓		
	> 969 kW (1300 BHP, 33TH)	R9			✓							✓

PLANT TYPE (A) IS POWER RATED (B) TO DETERMINE REGISTRATION REQUIREMENT (C)												
EXPLANATORY NOTES AND ADDITIONAL REQUIREMENTS		PLANT REQUIREMENTS FOR REGISTRATION (C)										
		PLANT CODE	UNREGISTERED	UNATTENDED	REGISTERED	GUARDED CONTROLS	MAINTENANCE PROGRAM	ATTENDED - 8HR/DAY OF OPERATION - 4TH CLASS/B-CHIEF	ATTENDED- 8HR/DAY OF OPERATION - 3RD CLASS/B-CHIEF	ATTENDED - 8HR/DAY OF OPERATION-2ND CLASS/A-CHIEF	ATTENDED-3RD CLASS/B-CHIEF & 4TH CLASS/B-EACH SHIFT	ATTENDED - 2ND CLASS/A-CHIEF & 3RD CLASS/B-EACH SHIFT
TYPE OF PLANT REFRIGERATON PLANT (A)	RATING & REFRIGERATON CAPACITY (B)											
BUILT UP PLANT	< 37 kW (50 BHP, 1.3TH)	R10	✓	✓								
	> 37 kW (50 BHP, 1.3 TH) < 75 kW (100 BHP, 2.5TH)	R11			✓	✓	✓					
• No refrigerant field piping	>75 kW (100 BHP, 2.5TH) < 149 kW (200 BHP, 5TH)	R12			✓	✓		✓				
• Refrigerant piping outside machinery room	> 149 kW (200 BHP, 5TH) < 597 kW (800 BHP, 20TH)	R13			✓						✓	
• All units or installations	> 597 kW (800 BHP, 20TH)	R14			✓							✓

O. Reg. 219/01, Table 6.

TABLE 7
STEAM TRACTION PLANTS REGISTRATION REQUIREMENTS

Appendix C NEW ICE PLANT LOCATION AND BRINE PIPE ROUTING



RENOVATION NOTES

1. PATCH AND MAKE GOOD ALL SURFACES & FINISHES
2. REMOVE EXISTING WALLS AS SHOWN
3. REMOVE PLUMBING FIXTURES
4. REMOVE EXISTING DOOR AND FRAME
5. APPLY 16 GYPSUM BOARD ON 19 RESILIENT CHANNELS TO EXISTING WALL
6. REMOVE HEATER SEE MECHANICAL DRAWINGS
7. HEATER TO BE RELOCATED SEE MECHANICAL DRAWINGS
8. REMOVE STAGE FLOOR
9. REMOVE PROJECTION SCREEN AND CURTAIN TRACK RETURN TO OWNER
10. CLEAN, PATCH AND PAINT EXISTING WALL
11. ENCLOSE WITH 16 GYPSUM BOARD ON 38x89 METAL STUDS
12. REMOVE AND REINSTALL PLAYERS BOXES AS SHOWN ON OPPOSITE SIDE OF RINK
13. REMOVE TROPHY CASE AND RETURN TO OWNER

Appendix D CLASS D COSTING SUPPORT

	Cost/Unit	Amount	Units		Total
Option 1A Ammonia Shell and Tube Site Built					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 90TR Plant 52C					
New Refrigeration Plant	$800,000.00	1	$/plant		$800,000.00
New 90TR Plant IFK					
New Refrigeration Plant	$850,000.00	1	$/plant		$850,000.00
New Construciton Sub Total					$1,650,000.00
Option 1A Total					$1,700,343.00
Option 1A Total + Local Correction				50%	$2,550,514.50
Option 1A Total + Contingency				20%	$3,060,617.40

Option 1B Ammonia Shell and Tube Packaged					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 125TR Plant					

	Cost/Unit	Amount	Units		Total
New Refrigeration Plant	$1,100,000.00	1	$/plant		$1,100,000.00
IFK Cold Brine Lines (Sched 80 8")	$82.84	69	$/lf		$5,715.96
IFK Cold Brine Fittings (8" 90° Elbow)	$518.83	5	$/fitting		$2,594.15
IFK Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
IFK Warm Brine Lines (Sched 80 6")	$58.49	69	$/lf		$4,035.81
IFK Warm Brine Fittings (6" 90° Elbow)	$257.13	5	$/fitting		$1,285.65
IFK Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Cold Brine Lines (Sched 80 8")	$82.84	1065	$/lf		$88,224.60
52C Cold Brine Fittings (8" 90° Elbow)	$518.83	14	$/fitting		$7,263.62
52C Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
52C Cold Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
52C Warm Brine Lines (Sched 80 6")	$58.49	1065	$/lf		$62,291.85
52C Warm Brine Fittings (6" 90° Elbow)	$257.13	14	$/fitting		$3,599.82
52C Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Warm Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
Pipe Trenching and Burying	$5.69	280	$/lf		$1,593.20
New Construction Sub Total					$1,345,807.26
Option 1B Total					$1,396,150.26
Option 1BTotal + Local Correction				50%	$2,094,225.39
Option 1B Total + Contingency				20%	$2,513,070.47

Option 2A Ammonia Plate & Frame Site Built				
Demolition 52C				
Cooling Tower Removal	$1,741.50	1	$/unit	$1,741.50
Refrigerant Removal	$13.42	750	$/lb	$10,065.00
Ice Plant	$6,665.00	1	$/unit	$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon	$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week	$1,700.00
Demolition IFK				
Cooling Tower Removal	$1,741.50	1	$/unit	$1,741.50
Refrigerant Removal	$13.42	750	$/lb	$10,065.00
Ice Plant	$6,665.00	1	$/unit	$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon	$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week	$1,700.00
Demolition Sub Total				$50,343.00
New 90TR Plant 52C				
New Refrigeration Plant	$810,000.00	1	$/plant	$810,000.00
New 90TR Plant IFK				
New Refrigeration Plant	$810,000.00	1	$/plant	$810,000.00

	Cost/Unit	Amount	Units		Total
New Construciton Sub Total					$1,620,000.00
Option 2A Total					$1,670,343.00
Option 2A Total + Local Correction				50%	$2,505,514.50
Option 2A Total + Contingency				20%	$3,006,617.40

Option 2B Ammonia Plate & Frame Packaged					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 125TR Plant					
New Refrigeration Plant	$1,250,000.00	1	$/plant		$1,250,000.00
IFK Cold Brine Lines (Sched 80 8")	$82.84	69	$/lf		$5,715.96
IFK Cold Brine Fittings (8" 90° Elbow)	$518.83	5	$/fitting		$2,594.15
IFK Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
IFK Warm Brine Lines (Sched 80 6")	$58.49	69	$/lf		$4,035.81
IFK Warm Brine Fittings (6" 90° Elbow)	$257.13	5	$/fitting		$1,285.65
IFK Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Cold Brine Lines (Sched 80 8")	$82.84	1065	$/lf		$88,224.60
52C Cold Brine Fittings (8" 90° Elbow)	$518.83	14	$/fitting		$7,263.62
52C Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
52C Cold Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
52C Warm Brine Lines (Sched 80 6")	$58.49	1065	$/lf		$62,291.85
52C Warm Brine Fittings (6" 90° Elbow)	$257.13	14	$/fitting		$3,599.82
52C Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Warm Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
Pipe Trenching and Burying	$5.69	280	$/lf		$1,593.20
New Construciton Sub Total					$1,495,807.26
Option 2B Total					$1,546,150.26
Option 2B Total + Local Correction				50%	$2,319,225.39
Option 2B Total + Contingency				20%	$2,783,070.47

	Cost/Unit	Amount	Units		Total
Option 3A Freon (R507) Site Built					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 90TR Plant 52C					
New Refrigeration Plant	$500,000.00	1	$/plant		$500,000.00
New 90TR Plant IFK					
New Refrigeration Plant	$500,000.00	1	$/plant		$500,000.00
New Construction Sub Total					$1,000,000.00
Option 3A Total					$1,050,343.00
Option 3A Total + Local Correction				50%	$1,575,514.50
Option 3A Total + Contingency				20%	$1,890,617.40

Option 3B Freon (R507) Packaged					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00

	Cost/Unit	Amount	Units		Total
New 125TR Plant					
New Refrigeration Plant	$695,000.00	1	$/plant		$695,000.00
IFK Cold Brine Lines (Sched 80 8")	$82.84	69	$/lf		$5,715.96
IFK Cold Brine Fittings (8" 90° Elbow)	$518.83	5	$/fitting		$2,594.15
IFK Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
IFK Warm Brine Lines (Sched 80 6")	$58.49	69	$/lf		$4,035.81
IFK Warm Brine Fittings (6" 90° Elbow)	$257.13	5	$/fitting		$1,285.65
IFK Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Cold Brine Lines (Sched 80 8")	$82.84	1065	$/lf		$88,224.60
52C Cold Brine Fittings (8" 90° Elbow)	$518.83	14	$/fitting		$7,263.62
52C Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
52C Cold Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
52C Warm Brine Lines (Sched 80 6")	$58.49	1065	$/lf		$62,291.85
52C Warm Brine Fittings (6" 90° Elbow)	$257.13	14	$/fitting		$3,599.82
52C Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Warm Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
Pipe Trenching and Burying	$5.69	280	$/lf		$1,593.20
New Construciton Sub Total					$940,807.26
Option 3B Total					$991,150.26
Option 3B Total + Local Correction				50%	$1,486,725.39
Option 3B Total + Contingency				20%	$1,784,070.47

Option 4A C02 Direct Contact Site Built					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Disposal	$7.50	1000	$/gallon		$7,500.00
Slab Removal	$5.20	15000	$/sf		$78,000.00
Dumpster Rental (10 Tons/Load)	$850.00	6	$/week		$5,100.00
Trucking	$200.00	57	$/load		$11,400.00
Dumping Fees	$100.00	570	$/ton		$57,000.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Disposal	$7.50	1000	$/gallon		$7,500.00
Dumpster Rental (10 Tons/Load)	$850.00	6	$/week		$5,100.00
Trucking	$200.00	57	$/load		$11,400.00
Dumping Fees	$100.00	570	$/ton		$57,000.00
Demolition Sub Total					$276,943.00

	Cost/Unit	Amount	Units		Total
New 90TR Plant 52C					
New Refrigeration Plant	$990,000.00	1	$/plant		$990,000.00
New Slab	$850,000.00	1	$/slab		$850,000.00
New 90TR Plant IFK					
New Refrigeration Plant	$990,000.00	1	$/plant		$990,000.00
New Slab	$850,000.00	1	$/slab		$850,000.00
New Construction Sub Total					$3,680,000.00
Option 4A Total					$3,956,943.00
Option 4A Total + Local Correction				50%	$5,935,414.50
Option 4A Total + Contingency				20%	$7,122,497.40

Option 4B CO2 Direct Contact Packaged					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Disposal	$7.50	1000	$/gallon		$7,500.00
Slab Removal	$5.20	15000	$/sf		$78,000.00
Dumpster Rental (10 Tons/Load)	$850.00	6	$/week		$5,100.00
Trucking	$200.00	57	$/load		$11,400.00
Dumping Fees	$100.00	570	$/ton		$57,000.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Disposal	$7.50	1000	$/gallon		$7,500.00
Slab Removal	$5.20	15000	$/sf		$78,000.00
Dumpster Rental (10 Tons/Load)	$850.00	6	$/week		$5,100.00
Trucking	$200.00	57	$/load		$11,400.00
Dumping Fees	$100.00	570	$/ton		$57,000.00
Demolition Sub Total					$354,943.00
New 125TR Plant					
New Refrigeration Plant	$1,375,000.00	1	$/plant		$1,375,000.00
IFK Cold Brine Lines (Sched 80 8")	$82.84	69	$/lf		$5,715.96
IFK Cold Brine Fittings (8" 90° Elbow)	$518.83	5	$/fitting		$2,594.15
IFK Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
IFK Warm Brine Lines (Sched 80 6")	$58.49	69	$/lf		$4,035.81
IFK Warm Brine Fittings (6" 90° Elbow)	$257.13	5	$/fitting		$1,285.65
IFK Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Cold Brine Lines (Sched 80 8")	$82.84	1065	$/lf		$88,224.60

	Cost/Unit	Amount	Units		Total
52C Cold Brine Fittings (8" 90° Elbow)	$518.83	14	$/fitting		$7,263.62
52C Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
52C Cold Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
52C Warm Brine Lines (Sched 80 6")	$58.49	1065	$/lf		$62,291.85
52C Warm Brine Fittings (6" 90° Elbow)	$257.13	14	$/fitting		$3,599.82
52C Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Warm Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
Pipe Trenching and Burying	$5.69	280	$/lf		$1,593.20
New Slab	$850,000.00	1	$/slab		$850,000.00
New Construciton Sub Total					$2,470,807.26
Option 4B Total					$2,825,750.26
Option 4B Total + Local Correction				50%	$4,238,625.39
Option 4B Total + Contingency				20%	$5,086,350.47

Option 5A CO2 Indirect Site Built					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Slab Demolition					
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 90TR Plant 52C					
New Refrigeration Plant	$990,000.00	1	$/plant		$990,000.00
New 90TR Plant IFK					
New Refrigeration Plant	$990,000.00	1	$/plant		$990,000.00
New Construction Sub Total					$1,980,000.00
Option 5A Total					$2,030,343.00
Option 5A Total + Local Correction				50%	$3,045,514.50
Option 5A Total + Contingency				20%	$3,654,617.40

	Cost/Unit	Amount	Units		Total
Option 5B CO2 Indirect Packaged					
Demolition 52C					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Disposal	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition IFK					
Cooling Tower Removal	$1,741.50	1	$/unit		$1,741.50
Refrigerant Removal	$13.42	750	$/lb		$10,065.00
Ice Plant	$6,665.00	1	$/unit		$6,665.00
Brine Removal & Storage	$5.00	1000	$/gallon		$5,000.00
Cartage, Dumpster and Dumping Fees	$850.00	2	$/week		$1,700.00
Demolition Sub Total					$50,343.00
New 125TR Plant					
New Refrigeration Plant	$1,375,000.00	1	$/plant		$1,375,000.00
IFK Cold Brine Lines (Sched 80 8")	$82.84	69	$/lf		$5,715.96
IFK Cold Brine Fittings (8" 90° Elbow)	$518.83	5	$/fitting		$2,594.15
IFK Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
IFK Warm Brine Lines (Sched 80 6")	$58.49	69	$/lf		$4,035.81
IFK Warm Brine Fittings (6" 90° Elbow)	$257.13	5	$/fitting		$1,285.65
IFK Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Cold Brine Lines (Sched 80 8")	$82.84	1065	$/lf		$88,224.60
52C Cold Brine Fittings (8" 90° Elbow)	$518.83	14	$/fitting		$7,263.62
52C Cold Brine Fittings (8" Flange Set)	$260.25	4	$/fitting		$1,041.00
52C Cold Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
52C Warm Brine Lines (Sched 80 6")	$58.49	1065	$/lf		$62,291.85
52C Warm Brine Fittings (6" 90° Elbow)	$257.13	14	$/fitting		$3,599.82
52C Warm Brine Fittings (6" Flange Set)	$152.30	4	$/fitting		$609.20
52C Warm Brine Insulation/Jacketing	$30.94	1065	$/lf		$32,951.10
Pipe Trenching and Burying	$5.69	280	$/lf		$1,593.20
New Construciton Sub Total					$1,620,807.26
Option 5B Total					$1,671,150.26
Option 5B Total + Local Correction				50%	$2,506,725.39
Option 5B Total + Contingency				20%	$3,008,070.47

Optional Extra Standalone Plant Building				
Plant Building	$150,000.00	1	$/building	$150,000.00
Piling/Foundations	$15,000.00	1	$/building	$15,000.00
Utility Connections	$15,000.00	1	$/building	$15,000.00

	Cost/Unit	Amount	Units	Total
Optional Extra Total				$180,000.00
Optional Extra Total + Local Correction			50%	$270,000.00
Optional Extra Total + Contingency			20%	$324,000.00

January 19, 2022

Report To: Mayor and Council

From: Travis Rob, Manager of Operations and Facilities

RE: Contribution agreement with the Federal Economic Development Agency for Northern Ontario

This past spring the Town applied to the Federal Economic Development Agency for Northern Ontario (FedNOR) for funding to support the Northern Ontario Heritage Fund funding for the dock replacement at the Sorting Gap Marina.

Attached to this report is a contribution agreement between the Federal Economic Development Agency for Northern Ontario and the Town of Fort Frances for Waterfront Development Marina Upgrades under the FedNOR Tourism Relief Fund. The funding totals $124,994 for works completed in 2021 and to be completed in 2022.

It is the recommendation of the Operations and Facilities Executive Committee to enter into a contribution agreement with the Federal Economic Development Agency for Northern Ontario and further that a by-law be prepared authorizing Mayor and Clerk to execute the agreement on behalf of the corporation.

Respectfully Submitted

Travis Rob, P.Eng

Council approval of this report will agree with the recommendation of the Operations and Facilities Executive Committee to enter into a contribution agreement with the Federal Economic Development Agency for Northern Ontario and further that a by-law be prepared authorizing Mayor and Clerk to execute the agreement on behalf of the corporation.

Manager of Operations and Facilities

2022Jan19 Contribution Agreement FedNOR Sorting Gap Dock replacement

Government of Canada Gouvernement du Canada

Federal Economic Development Agency for Northern Ontario
19 Lisgar Street
Suite 307
Sudbury, Ontario
P3E 3L4

Agence fédérale de développement économique pour le Nord de l'Ontario
19 rue Lisgar
Bureau 307
Sudbury (Ontario)
P3E 3L4

Protected B

Project Number: 851-513586

THIS AGREEMENT made as of:

BETWEEN

The Federal Economic Development Agency for Northern Ontario (the "Agency")
As represented by the Minister of Indigenous Services and Minister responsible for the Federal Economic Development Agency for Northern Ontario

– AND –

The Corporation of the Town of Fort Frances
(the "Recipient")

WHEREAS in response to an application from the Recipient received March 2, 2021, the Agency has agreed to provide a non-repayable Contribution to the Recipient (the Agency and the Recipient collectively referred to as the Parties and individually as a Party) under the Northern Ontario Development Program for the Project described in Annex 1 on the terms and conditions herein contained.

IN CONSIDERATION of the mutual covenants and agreements herein contained (the receipt and sufficiency of which is hereby acknowledged), the Parties hereto hereby covenant and agree as follows:

1.0 The Agreement

1.1 a) The following Annexes form part of this Agreement:

Annex 1 – The Project – Statement of Work
Annex 2 – Costing Memorandum

(collectively the "Agreement")

This Agreement supersedes all prior agreements, documents, undertakings and negotiations, whether oral or written of the Parties, related to its subject matter.

b) Neither this Agreement nor any part thereof shall be assigned by the Recipient without the prior written consent of the Agency.

c) This Agreement shall enure to the benefit of and be binding upon the Recipient, its successors and permitted assigns.

d) No amendment to this Agreement shall be effective unless it is made in writing and signed by the Parties hereto.

1.2 Precedence

In the event of, and only to the extent of, any conflict or inconsistency between the part of the Agreement that precedes the signatures of the Parties, and the annexes that follow, the part of this Agreement that precedes the signatures of the Parties shall apply. The order of precedence amongst the annexes of this Agreement will be:

Annex 1 – The Project – Statement of Work
Annex 2 – Costing Memorandum

1.3 Headings

The headings used in this Agreement are inserted for convenience of reference only and shall not affect its interpretation.

1.4 Date of Acceptance

The date of acceptance shall be the date the duplicate copy of this Agreement, unconditionally accepted and duly executed by the Recipient, is received by the Agency (the "Date of Acceptance").

1.5 Duration of Agreement

This Agreement comes into force on the Date of Acceptance and will terminate twelve (12) months after:

a) the Completion Date; or

b) upon the date on which all amounts due by the Recipient to the Agency under this Agreement, have been paid in full,

whichever is the later, unless terminated earlier in accordance with the terms of this Agreement.

1.6 Survival

Notwithstanding the provisions of subsection 1.5 above, the rights and obligations of the Parties set forth in the following sections, shall survive the expiry or early termination of this Agreement, and shall remain in full force and effect for a period of six (6) years after the expiry or early termination of this Agreement:

a) Section 4 – Total Canadian Government Funding

b) Section 7 – Monitoring and Audit

c) Section 8 – Representations

d) Section 12 – Indemnification and Limitation of Liability

e) Section 13 – Default and Remedies

f) Section 14 – Project Assets

g) Section 15 – General

2.0 The Project

2.1 The Recipient shall ensure that the Project described in Annex 1 (the "Project") commences on or before June 1, 2021 (the "Commencement Date") and is completed on or before October 31, 2022 (the "Completion Date").

2.2 The Recipient shall not alter the scope, timing or location of the Project without the prior written consent of the Agency.

3.0 The Contribution

3.1 The Agency will make a Contribution (the "Contribution") to the Recipient in respect of the Project in an amount not exceeding the lesser of:

a) 22.5% of the incurred Eligible & Supported Costs of $555,530 of the Project outlined in Annex 1, and

b) $124,994.

3.2 The Agency shall not normally contribute to any Eligible and Supported Costs incurred prior to April 19, 2021 or later than the Completion Date.

The Agency shall not make any payment of the Contribution in respect of costs for which the Recipient has entered into a legal commitment prior to the Application Received Date.

3.3 Notwithstanding 3.2 the Agency may, at its sole discretion, limit to 10% of the Contribution the amount paid towards Eligible and Supported Costs incurred by the Recipient between the date that the completed and signed Application was received and the Commencement Date.

3.4 The Recipient shall use the Contribution solely and exclusively to support the Eligible and Supported Costs of the Project as detailed in Annexes 1 and 2 and shall carry out the Project in a diligent and professional manner.

3.5 The Recipient shall be responsible for all costs of the Project, including cost overruns, if any.

3.6 Payment by the Agency of amounts due under this Agreement shall be conditional on there being a legislated appropriation for the fiscal year of the Government in which the payment is due. The Agency shall have the right to terminate or reduce the Contribution in the event that the amount of the appropriation is reduced or denied by Parliament. In the event that any portion of the Contribution has been paid to the Recipient and the legislated appropriation for the fiscal year of the Government in which such payment is made is not obtained, the Agency shall have the right to recover the amount so paid from the Recipient.

4.0 Total Canadian Government Funding

a) The Recipient hereby confirms that for the purposes of this Project, the following additional sources of Canadian government funding including without limitation, federal, provincial, municipal or local government assistance has been requested or received:

Northern Ontario Heritage Fund Corporation	$376,995

b) The Recipient shall promptly inform the Agency in writing in the event additional Canadian government funding for the purposes of this Project has been requested or received during the Term of this Agreement and acknowledges and agrees that an adjustment to the amount of the Contribution and a request for repayment of part or all of the amounts paid to the Recipient may be made as a result thereof. The amount of such repayment requested will constitute a debt due to Her Majesty and will be recovered as such from the Recipient.

c) In no instance will the total Canadian government funding towards the Eligible Costs be allowed to exceed one hundred percent (100%) of the total Eligible Costs.

5.0 Intellectual Property

5.1 Title to any intellectual property created solely by the Recipient as part of or in respect of the Project will vest with the Recipient or will be determined by applicable Canadian law.

5.2 Copyright

All reports and other information that the Agency collects, manages or has a right to receive or produce in accordance with this Agreement, or that the Recipient collects, creates, manages and shares with the Agency, shall be deemed to be "Canada Information". The Agency shall have the right, subject to the provisions of the Access to Information Act, to release to the public, table before Parliament, or publish by any means, any Canada Information, including such excerpts or summaries of the Canada Information as it may, from time to time, determine.

6.0 Claims and Payments

6.1 Payment Procedures

Payments will be made on the basis of documented claims for reasonable eligible and supported costs incurred. Reporting requirements, specific to the Project are detailed in Annex 1.

a) The Recipient shall submit claims for Eligible and Supported Costs incurred, in a form satisfactory to the Agency. Each claim will include the following information:
   i) a list of Eligible and Supported Costs incurred;
   ii) a certification, by an authorized signatory of the Recipient, with respect to the accuracy of the claim and submitted documentation and with respect to its compliance with the terms and conditions of the Agreement; and
   iii) any other documentation in support of the claim as may be required by the Agency.

b) The Agency shall review and approve the documentation submitted by the Recipient following the receipt of the Recipient's claim, or will notify the Recipient of any deficiency in the documentation submitted which deficiency the Recipient shall immediately take action to address and rectify.

c) Subject to the maximum Contribution amounts set forth in subsection 3.1 and all other conditions in this Agreement, the Agency shall pay to the Recipient the Agency's portion of the Eligible and Supported Costs set forth in the Recipient's claim in accordance with the Agency's customary payment practices.

d) The Agency may request at any time that the Recipient provide satisfactory evidence to demonstrate that all Eligible and Supported Costs claimed have been paid.

e) The Agency may require that any claim submitted for payment of the Contribution be certified by the Recipient's external auditor or by an auditor approved by the Agency.

6.2 Final Claim Procedures

a) In addition to the requirements set out in subsection 6.1, the Recipient's final claim for any Eligible and Supported Costs and/or the final reconciliation of any outstanding advances, accompanied by the following, in a form satisfactory to the Agency in scope and detail:
   i) a final statement of total Project costs;
   ii) a statement of the total funding provided from all sources for the Project, including total Canadian government funding received;
   iii) a Final Activity Report on the Project;
   iv) a Final Results Report on the outcomes and impacts of the Project for evaluation purposes, as described in Annex 1; and
   v) a certification, by an authorized signatory of the Recipient, that this is the final claim for payment and includes all final Eligible and Supported Costs Incurred and Paid submitted for payment.

b) The Recipient shall submit the final claim for Eligible and Supported Costs to the satisfaction of the Agency no later than six (6) months after the Completion Date or early Termination Date of the Project. The Agency shall have no obligation to pay any claims submitted after that date.

6.3 If the Recipient earns any interest as a consequence of an advance payment of the Contribution or earns any revenue as a result of the Project or if it receives any revenue from another level of government for the Project, the Agency may in its absolute discretion reduce the Contribution by all or by such portion of the revenue (including the interest) as it deems appropriate.

6.4 Holdback

Notwithstanding any other provision of this Agreement, the Agency may, at the Agency's sole discretion, withhold up to 10% of the Contribution amount until:

a) the Project is completed to the satisfaction of the Agency;

b) the Final Report has been submitted to the satisfaction of the Agency;

c) audits, where required by the Agency have been completed to the satisfaction of the Agency; and

d) the Agency has approved the final claim described in subsection 6.2.

6.5 Overpayment or Non-entitlement

Where for any reason the Recipient is not entitled to the Contribution or the amount paid to the Recipient exceeds the amount to which the Recipient is entitled, the Contribution or the amount in excess, as the case may be, shall constitute a debt due to Her Majesty the Queen in Right of Canada and shall be recovered as such from the Recipient. The Recipient shall repay the Agency promptly and in any case no later than 30 days from the date of the Agency's demand for payment, the amount of the Contribution disbursed or the amount of the overpayment, as the case may be, together with the average bank interest rate in accordance with the Interest and Administrative Charges Regulations, in effect on the due date, plus 3% compounded monthly on overdue balances payable, from the date of the demand, until payment in full is received by the Agency.

6.6 Sharing Ratios

If the Agency makes individual payments that represent higher sharing ratios than those authorized for the total Contribution, in no event shall the overall sharing ratio calculated on the total Eligible and Supported Costs of the Project exceed the maximum authorized sharing ratios as provided in subsection 3.1 a.

6.7 Advance Payments

Where the Agency is satisfied and has determined that the Recipient requires an advance against the Contribution amounts payable under this Agreement in order to meet cash flow requirements of the Recipient and that the advance payment is critical for the success of the Project, the Agency may, at its sole discretion, make advance payments to the Recipient.

7.0 Monitoring and Audit

7.1 For evaluation purposes, the Recipient shall, in addition to reporting measures outlined in subsections 6.1 and 6.2, submit performance reports on the schedule outlined in Annex 1.

7.2 The reports referred to in subsection 7.1 shall contain information sufficient to allow the Agency to assess the progress of the Project, including for example, a description of work completed to date; a percentage of completion report signed-off by the managing architect or engineer (where applicable); photos that demonstrate the progress of the Project (where applicable); and a report on implementation of environmental mitigation measures (where applicable). Upon request of the Agency and at no cost to it, the Recipient will promptly elaborate upon any report submitted.

7.3 The Agency may request that the Recipient submit a copy of its financial statements (audited, if produced), within 120 days of each Recipient fiscal year end or within such longer period as may be authorized by the Agency.

7.4 The Recipient shall provide to the Agency a copy of any report or publication produced as a result of this Agreement, whether interim or final, as soon as the same becomes available.

7.5 The Recipient shall, throughout the term of this Agreement, at its own expense:

a) keep, maintain, preserve and make available for audit and examination by the Agency's representatives, proper books, accounts and records of the costs of the Project, wherever such books, and records may be located, and permit any authorized representative of the Agency to conduct such independent audits and evaluations as the Agency in its discretion may require;

b) permit any authorized representatives of the Agency reasonable access to the Recipient's premises to inspect and assess the progress and results of the Project; and

c) supply promptly, on request, such information in respect of the Project and its results as the Agency may require for purposes of this Agreement and for statistical purposes.

7.6 The Agency shall have the right, at its own expense, and as and when it determines necessary, to perform audits of the Recipient's books, accounts, records, financial statements and claims for Eligible and Supported Costs, and the Recipient's administrative, financial and claim certification processes and procedures, for the purposes of verifying the costs of the Project, validating claims for Eligible and Supported Costs, ensuring compliance with the terms of this Agreement, and confirming amounts repayable to the Agency under the provisions of this Agreement.

7.7 Any audits performed hereunder will be carried out by auditors selected by the Agency, which may include any of the following: Agency Officials, an independent auditing firm, and the Recipient's external auditors. The Agency will provide the Recipient with a description of the scope and criteria of the audit and the expected time frames for completion of the audit and public release of the related reports.

7.8 Auditor General of Canada

The Recipient acknowledges that the Auditor General of Canada may, at the Auditor General's cost, after consultation with the Recipient, conduct an inquiry under the authority of subsection 7.1(1) of the Auditor General Act in relation to any funding agreement (as defined in subsection 42(4) of the Financial Administration Act) with respect to the use of funds received.

For purposes of any such inquiry undertaken by the Auditor General, the Recipient shall provide, upon request and in a timely manner, to the Auditor General or anyone acting on behalf of the Auditor General:

a) all records held by the Recipient, or by agents or contractors of the Recipient relating to this Agreement and to the use of the Contribution; and

b) such further information and explanations as the Auditor General, or anyone acting on behalf of the Auditor General, may request relating to this Agreement or the Contribution.

8.0 Representations

The Recipient represents and warrants that:

a) it is a municipality and in good standing under the laws of Canada and Ontario, and it shall remain as such for the duration of the Agreement.

b) it has the power and authority, and has met all legal requirements, necessary to carry on business, hold property, and to enter into, deliver and perform this Agreement;

c) the signatories to this Agreement, on behalf of the Recipient, have been duly authorized to execute and deliver this Agreement;

d) this Agreement constitutes a legally binding obligation of the Recipient, enforceable against it in accordance with its terms, subject to a court's discretionary authority with respect to the granting of a decree ordering specific performance or other equitable remedies;

e) the execution and delivery of this Agreement and the performance by the Recipient of its obligations hereunder will not, with or without the giving of notice or the passage of time or both:
   i) violate the provisions of the Recipient's by-laws, any other corporate governance document subscribed to by the Recipient or any resolution of the Recipient;
   ii) violate any judgment, decree, order or award of any court, government agency, regulatory authority or arbitrator; or
   iii) conflict with or result in the breach or termination of any material term or provision of, or constitute a default under, or cause any acceleration under, any license, permit, concession, franchise, indenture, mortgage, lease, equipment lease, contract, permit, deed of trust or any other instrument or agreement by which it is bound.

f) there are no actions, suits, investigations or other proceedings pending or, to the knowledge of the Recipient, threatened and there is no order, judgment or decree of any court or governmental agency which could materially and adversely affect the Recipient's ability to carry out the activities contemplated by this Agreement; and

g) the Recipient has acquired adequate property damage and general liability insurance that is consistent with the level of risk exposure associated with the Project and will maintain such from the Commencement Date to the Completion Date.

9.0 Announcements, Events and other Communications Activities

The Recipient hereby consents to participate in a public announcement of the Project by or on behalf of the Agency in the form of a news release and/or media event. The Agency shall inform the Recipient of the date the public announcement is to be made, and the Recipient shall maintain the confidentiality of this Agreement until such date. The Recipient agrees to satisfy the event/announcement requirements which can be found in the Communications Requirements section of the FedNor website (fednor.gc.ca), located under Resources; For funding recipients.

The Recipient hereby agrees to place federal government logos on all Project-related promotional or advertising materials (unless prior exemption is obtained from Federal Economic Development Agency for Northern Ontario), including, but not limited to, electronic media (web, television, video), and print media (print advertising, brochures, magazines, maps, posters). In addition, the Recipient may be required to produce and display recognition signage. The Recipient agrees to satisfy the federal visibility and signage requirements which can be found in the Communications Requirements section of the FedNor website (fednor.gc.ca), located under Resources.

10.0 Official Languages

10.1 The Recipient may carry out the Project in the official language of the Recipient's choice.

11.0 Environmental and Other Requirements

11.1 The Recipient represents that the Project is not a "designated project" as defined in the *Canadian Impact Assessment Act*, S.C. 2019, c. 28, s. 1 (IAA) and that an impact assessment (IA) or a determination under section 82 of IAA, are not required for the Project.

11.2 Aboriginal consultation

The Recipient acknowledges that the Agency's obligation to pay the Contribution is conditional upon Canada satisfying any obligation that Canada may have to consult with or to accommodate any Aboriginal groups that may be affected by the terms of this Agreement.

12.0 Indemnification and Limitation of Liability

12.1 This Agreement is a Contribution Agreement only, not a contract for services or a contract of service or employment, and nothing in this Agreement, or the parties' relationship or actions is intended to create, nor shall be construed as creating, a partnership, employment or agency relationship between them. The Recipient is not in any way authorized to make a promise, agreement or contract or to incur any liability on behalf of the Agency, nor shall the Recipient make a promise, agreement or contract and incur any liability on behalf of the Agency, and the Recipient shall be solely responsible for any and all payments and deductions required by applicable laws.

12.2 The Recipient shall at all times indemnify and save harmless the Agency, its officials, employees and agents, from and against all claims and demands, losses, costs, damages, actions, suits or other proceedings (including, without limitation, those relating to injury to persons, damage to or loss or destruction of property, economic loss or infringement of rights) by whomsoever brought or prosecuted, or threatened to be brought or prosecuted, in any manner based upon, caused by, or arising directly or indirectly from:

a) the Project, its operation, conduct or any other aspect thereof;

b) the performance or non performance of this Agreement, or the breach or failure to comply with any term, condition, representation or warranty of this Agreement, by the Recipient, its officers, employees and agents, or by a third party or its officers, employees, or agents; or

c) any omission or other wilful or negligent act or delay of the Recipient or third party and their respective employees, officers, or agents,

except to the extent to which such claims and demands, losses, costs, damages, actions, suits, or other proceedings relate to the wilful act or omission of an official, employee, or agent of the Agency in the performance of its duties.

12.3 The Agency shall have no liability under this Agreement except for payments of the Contribution in accordance with the provisions of this Agreement. Without limiting the foregoing, the Agency shall not be liable for any direct, indirect, special or consequential damages, or damages for loss of revenues or profits of the Recipient.

12.4 The Agency, its agents, employees and servants will not be held liable in the event the Recipient enters into loan, a capital lease or other long-term obligation in relation to the Project for which the Contribution is provided.

13.0 Default and Remedies

13.1 Events of Default

The following constitute events of default:

a) the Recipient becomes bankrupt or insolvent, goes into receivership, or takes the benefit of any statute from time to time in force relating to bankrupt or insolvent debtors;

b) an order is made or resolution passed for the winding up of the Recipient, or the Recipient is dissolved;

c) in the opinion of the Agency, the Recipient ceases to operate or has sold all or substantially all its assets;

d) the Recipient has submitted incomplete, false or misleading information to the Agency, or makes a false representation in this Agreement or any document relating to the Contribution;

e) in the opinion of the Agency, there is a material adverse change in risk;

f) in the opinion of the Agency, the Recipient fails to comply with a term, undertaking or condition of this Agreement; or

g) in the opinion of the Agency, the Recipient has failed to proceed diligently with the Project including, but not limited to, failure to meet deadlines stipulated in this Agreement except where such failure is due to causes which, in the opinion of the Agency, are beyond the control of the Recipient.

13.2 Notice and Rectification Period

The Agency may make a declaration of default by providing written notice to the Recipient of the condition or event which, in the Agency's opinion, constitutes an event of default under subsection 13.1. Except in the circumstances described in subsections (a) and (b) of section 13.1, the Agency may, in its discretion, advise the Recipient of the condition or event, and allow the Recipient a period of fifteen (15) days, or such other time as the Agency may in its sole discretion deem appropriate, to correct the condition or event complained of, or to demonstrate to the satisfaction of the Agency that it has taken the necessary steps to correct the condition, failing which the Agency may immediately declare that an event of default has occurred. Notification by the Recipient of rectification shall be made in writing within the period of fifteen (15) days or such other time as the Agency may decide.

13.3 Remedies

If the Agency declares that an event of default has occurred, the Agency may immediately exercise any one or more of the following remedies:

a) terminate any obligation by the Agency to make any payment under this Agreement, including any obligation to pay an amount owing prior to such termination;

b) suspend any obligation by the Agency to make any payment under this Agreement, including any obligation to pay an amount owing prior to such suspension;

c) require the Recipient to repay forthwith to the Agency all or part of the Contribution which amount shall constitute a debt due to Her Majesty; and

d) exercise any other remedy available to the Agency at law.

14.0 Project Assets

14.1 Disposal of Assets

The Recipient shall retain title to, and ownership of, the capital assets, the cost of which has been contributed to by the Agency under this Agreement for a minimum of two (2) years after the expiry or early termination of this Agreement, and shall not dispose of the same for a period of two (2) years after the expiry or early termination of this Agreement, without the prior written consent of the Agency. As a condition of such consent, the Agency may require the Recipient to repay the Agency the whole or any part of the Contribution paid to the Recipient hereunder.

15.0 General

15.1 Canadian Goods and Services

The Recipient in purchasing goods and services for the performance of the Project, shall provide a full and fair opportunity for use of Canadian carriers, suppliers and sub contractors to the extent that they are competitive and available.

15.2 If the Recipient acquires supplies, equipment or services with the Contribution it shall do so through a process that promotes the best value for money. The Recipient must provide and adhere to current Recipient procurement policies with evidence of competitive process and selection methodology. In the absence of Recipient procurement policy, if the Recipient is selecting contractors from which to acquire supplies, equipment or services for the project for an amount greater than twenty-five thousand dollars ($25,000) a competitive process must be used, including a written request for at least three proposals, written evaluation of bids received and a written agreement with the successful contractor. The Agency may, at its sole discretion, consent in writing to single sourcing if details of urgency, special expertise, confidentiality, savings or other circumstances warrants it.

15.3 Without limiting the scope of the Set-off Rights provided for under the Financial Administration Act, it is understood that the Agency may set off against the Contribution, any amounts owed by the Recipient to Her Majesty the Queen in Right of Canada under legislation or contribution agreements and the Recipient shall declare to the Agency all amounts outstanding in that regard when making any claim under this Agreement.

15.4 Subject to the Access to Information Act (Canada), the Privacy Act, the Library and Archives Act of Canada, and to section 9.0 of this Agreement, the Parties shall keep confidential and shall not disclose the contents of this Agreement or the transactions contemplated hereby without the consent of all Parties. Notwithstanding the foregoing, the Agency may:

a) disclose the contents of this Agreement and any documents pertaining thereto, whether predating or subsequent to this Agreement, or of the transactions contemplated herein, where in the opinion of the Agency such disclosure is necessary to the defence of Canada's interests in the course of a trade remedy investigation conducted by a foreign investigative authority and is protected from public dissemination by the foreign investigative authority. The Agency shall notify the Recipient of such disclosure;

b) disclose the contents of this Agreement and documents and information related thereto as may be required pursuant to obligations contained in trade agreements to which Canada is a party; and

c) disclose information which may be required by government policies including a policy related to proactive disclosure.

15.5 Notwithstanding subsection 15.4, the Recipient waives any confidentiality rights to the extent such rights would impede Canada (Her Majesty the Queen in Right of Canada) from fulfilling its notification obligations to the World Trade Organization under Article 25 of the Agreement on Subsidies and Countervailing Measures.

15.6 The Recipient shall comply with all federal, provincial, territorial, municipal and other applicable laws governing the Recipient or the Project, or both, including but not limited to, statutes, regulations, by-laws, rules, ordinances and decrees. This includes any legal requirements and regulations relating to the environment.

15.7 This Agreement shall be subject to and construed in accordance with the laws of Canada and of Ontario and the parties hereto acknowledge the jurisdiction of the superior court of such province as defined in the *Interpretation Act* R.S., c. I-23, as amended from time to time.

15.8 If a dispute arises concerning the application or interpretation of this Agreement, the Parties shall attempt to resolve the matter through good faith negotiation, and may, if necessary and the Parties consent in writing, resolve the matter through mediation by a mutually acceptable mediator or arbitration in accordance with the Commercial Arbitration Code set out in the schedule to the *Commercial Arbitration Act (Canada)*, and all regulations made pursuant to that Act.

15.9 Any tolerance or indulgence demonstrated by one Party to the other, or any partial or limited exercise of rights conferred on a Party, shall not constitute a waiver of rights, and unless expressly waived in writing both Parties shall be entitled to exercise any right and seek any remedy available under this Agreement or otherwise at law. Either Party may, by notice in writing, waive any of its rights under this Agreement.

15.10 The Recipient represents and warrants that no member of the House of Commons or the Senate of Canada shall be admitted to any share or part of this Agreement or to any benefit arising from it, that is not otherwise available to the general public.

15.11 The Recipient confirms that no current or former public servant or public office holder to whom the Values and Ethics Code for the Public Service or the Conflict of Interest Act apply, shall derive direct benefit from the Agreement, including any employment, payments or gifts, unless the provision or receipt of such benefits is in compliance with such codes and legislation. Where the Recipient employs or has a shareholder who is either a current or former (in the last twelve months) public office holder or public servant in the federal government, the Recipient shall demonstrate compliance with these codes and legislation.

15.12 It has not directly or indirectly promised or offered to any official or employee of the Agency, any bribe, gift, or other inducement, nor has it authorized any person to do so on its behalf, for or with a view to obtaining this Contribution.

15.13 The Recipient represents and warrants that:

a) any person (other than an employee) who, for consideration, directly or indirectly, communicated with or arranged a meeting with a public office holder, in respect of any aspect of this Agreement, prior to the execution of the Agreement, was in compliance with all requirements of the *Lobbying Act*, as amended from time to time;

b) any person (other than an employee) who, for consideration, directly or indirectly, during the term of this Agreement and in respect of any aspect of this Agreement, communicates with or arranges a meeting with a public office holder, will be in compliance with all requirements of the *Lobbying Act*;

c) at all relevant times it has been, is and will continue to remain in compliance with the *Lobbying Act*;

d) it has not, nor has any person on its behalf, paid or provided or agreed to pay or provide, to any person (other than an employee), directly or indirectly, a commission, contingency fee or any other consideration (whether monetary or otherwise) that is dependant upon the execution of the Agreement or the person arranging a meeting with a public office holder; and

e) it will not, during the term of this Agreement, pay or provide or agree to pay or provide to any person (other than an employee), directly or indirectly, a commission, contingency fee or any other consideration (whether monetary or otherwise) that is dependant upon the person arranging a meeting with any official or employee of Her Majesty the Queen in Right of Canada.

The Recipient acknowledges that the representations and warranties in this section are fundamental terms of this Agreement. The Agency may terminate this Agreement in the event of a breach of any of the above representations or warranties, and may also recover from the Recipient the full amount of any compensation paid by the Recipient in breach of subsections (d) or (e).

16.0 Notice

16.1 Any notice, information or document required under this Agreement shall be effectively given if delivered or sent by letter, electronic correspondence or facsimile (postage or other charges prepaid). Any notice that is delivered shall be deemed to have been received on delivery; any notice sent by electronic correspondence or facsimile shall be deemed to have been received one working day after being sent, any notice that is mailed shall be deemed to have been received eight (8) business days after being mailed.

16.2 Any notice or correspondence to the Agency shall be addressed to:

Federal Economic Development Agency for Northern Ontario
201 May Street North, Suite 301
Thunder Bay ON P7C 3P4

Attention: Mr. Jeffrey O'Brien
Tourism Relief Fund - Destination Development (Capital)
Northern Ontario Development Program

or to such other address as may be designated by the Agency in writing.

16.3 Any notice or correspondence to the Recipient shall be addressed to:

Mr. Travis Rob
Manager of Operations and Facilities
The Corporation of the Town of Fort Frances
320 Portage Avenue
Fort Frances ON P9A 3P9

16.4 Either of the Parties may change the address which they have stipulated in this Agreement by notifying the other Party of the new address in writing, and such change shall be deemed to take effect fifteen (15) days after receipt of such notice.

Project Number: 851-513586

IN WITNESS WHEREOF the Parties hereto have executed this Agreement

The Federal Economic Development Agency for Northern Ontario (the "Agency")
As represented by the Minister of Indigenous Services and Minister responsible for the Federal Economic Development Agency for Northern Ontario

Per: Perreault, Lucie Digitally signed by Perreault, Lucie Date: 2021.12.20 08:39:58 -05'00'
Name: Lucie Perreault
Title: Program Director, Federal Economic Development Agency for Northern Ontario (FedNor)
Date:

RECIPIENT

Per:
Name:
Title:
Date:

Per:
Name:
Title:
Date:

I/we have authority to bind The Corporation of the Town of Fort Frances

Annex 1

THE PROJECT - STATEMENT OF WORK

Recipient: The Corporation of the Town of Fort Frances

Project Number: 851-513586

I. PROJECT SCOPE

i) Description:
The project will support the waterfront development upgrades at the Sorting Gap Marina. Specifically, the project will support: the installation of low maintenance modular floating docks; upgrades to the lighting system; and upgrades to the electrical system (some dock slips will be upgraded to include shore power). The project will also include an upgrade to the current security system and lot grading around the marina building.

ii) Project Location:
Fort Frances, ON

iii) Dates:
a) Commencement Date - June 1, 2021
b) Completion Date - October 31, 2022

iv) Key Workplan Activities, Timelines and Milestones:
Start dock upgrades - Summer 2021
- Upgrade two of five dock sections
- Old dock sections to be removed
Complete site drainage upgrades - Summer 2021
Tender electrical design - Fall 2021
Complete dock upgrades - Summer 2022
- Remaining three dock sections to be upgraded
Tender electrical upgrades including light fixture upgrades - Spring 2022
Upgrade security system - Summer 2022
- Installation of cameras and remote wireless equipment

v) Performance Measures and Tracking Plan:

The anticipated measurable results of the project include:
- One enhanced and expanded community tourism infrastructure asset;
- Three Full-Time Equivalent (FTE's) positions maintained; and
- Increased level of service to the main waterfront facility.

vi) Project Costs and Financing:

Project Costs:		Financing:	
Eligible Costs		FedNor	$124,994
- Supported	$555,530	Other Federal	$0
- Not Supported	$0	Provincial	$376,995
Ineligible Costs	$160,234	Municipal	$0
		Financial Institution	$0
		Recipient	$213,775
		Other	$0
Total	$715,764		$715,764

	Supported	Not Supported	Total
Eligible Costs:			
Dock Upgrades 2022	$400,530		$400,530
Electrical, Lighting, and Security Upgrade	$145,000		$145,000
Site Drainage Upgrades	$10,000		$10,000
TOTAL ELIGIBLE COSTS	$555,530		$555,530
Ineligible Costs			
Dock Upgrades 2021			$160,234
TOTAL INELIGIBLE COSTS			$160,234
TOTAL PROJECT COSTS			$715,764

* Eligible Costs include the amount of Harmonized Sales Tax, (HST), net of any refund or eligible credits due from the Canada Revenue Agency.

vii) Official Languages Obligations:
For greater certainty, Section 10.0 includes:

The Recipient may carry out the Project in the official language of the Recipient's choice.

II. PROJECT FUNDING CONDITIONS

i) Variance of any of the Eligible Supported Costs
Variance of any of the Eligible Supported Costs listed above in excess of 15% requires the prior written approval of the Agency.

ii) Pre-disbursement Conditions
Prior to receiving payment towards Eligible and Supported Costs incurred, the Recipient, on or before the date of first payment, shall:

a) provide evidence that it has arranged for the balance of the funding required to enable the Project to proceed, on terms and conditions that are satisfactory to the Agency; and

b) provide evidence that all permits, licences, approvals and authorizations required to complete the Project have been secured.

iii) Advance Payments:

a) The Agency has approved advances calculated on the basis of projected cash flow requirements of the Recipient submitted by the Recipient and approved by the Agency.

III. REPORTING REQUIREMENTS

The Recipient shall submit the following reports in a form satisfactory to the Agency:

i) Progress Reports and claims for Eligible and Supported Costs incurred as per a schedule provided by the Agency.

ii) A Final Activity Report by the Final Claims Reporting Date;

iii) Performance Reports, including:
a) a Final Results Report at project end on results achieved between the project start and end date;

b) a Two-Year Follow-up Results Report for projects forecasting additional outcomes within two (2) years of project completion. If applicable, completed reports are to be submitted within one (1) month of receiving the report template; and

c) a Five-Year Follow-up Results Report for projects forecasting additional outcomes within five (5) years of project completion. If applicable, completed reports are to be submitted within one (1) month of receiving the report template.

Annex 2

COSTING MEMORANDUM
Tourism Relief Fund - Destination Development (Capital)

1.0 General Conditions

1.1 Costs are Eligible Costs for the purposes of this Agreement only if they are, in the opinion of the Agency,

a) directly related to the Project;

b) reasonable;

c) appear in the "The Project-Statement of Work";

d) incurred in respect of activities which are incremental to the usual activities of the Recipient; and

e) incurred between April 19, 2021 and the Completion Date.

1.2 Costs incurred by way of the exercise of an option to purchase or hire are eligible only if the exercise of the option is at the sole discretion of the Recipient and the option has been exercised between April 19, 2021 and the Completion Date.

1.3 Costs of all goods and services (including labour) acquired from an entity which is, in the opinion of the Agency related to the Recipient, shall be valued at the cost which, in the opinion of the Agency, represents the fair market value of such goods or services, which cost shall not include any mark up for profit or return on investment.

1.4 No cost described in section 2.0 shall be eligible for inclusion in Eligible Costs unless the Recipient causes the supplying entity to maintain proper books, accounts and records of the costs related to the Project, and to provide to any representative of the Agency access to such books, accounts and records.

2.0 Eligible Costs

Where consistent with the approved Eligible and Supported costs, as defined in Annex 1 - The Project - Statement of Work, the following criteria will be used in determining eligibility of costs:

2.1 Travel Costs - Prime Transportation

Eligible travel costs are those which are deemed necessary to the performance of the Project. To be eligible, travel costs must be clearly documented as to the purpose of each trip. Travel expenses, at economy rates, shall be charged as at actual costs, but only to the extent that they are considered reasonable by the Department.

Necessary return airfare, train fare or bus fare at economy rates for participation personnel. Where a personal automobile is to be used, kilometre (mileage) allowance will be based on current Treasury Board of Canada Travel Directives. Eligible Costs shall be limited to the cost that would have been incurred and paid had normal public transportation at economy rates been used.

Actual costs at the destination will be allowed for food, accommodation and surface transportation (i.e., taxis, etc.). Meal rates will be based on current Treasury Board of Canada Travel Directives. Please note receipts are required for all items except meals. Entertainment (hospitality) costs are not eligible.

2.2 Audit of Project Costs

If expressly approved in writing by the Agency, Eligible Costs may include the cost of professional accountants certifying the accuracy of any costs claimed.

2.3 Contractor/Consultants

Save as herein provided, the direct costs of studies and/or services carried out by a private contractor, consultant or Canadian University or Research Institute are eligible.

Where a contractor or consultant is to be used, prior consultation with the Agency is advised to ensure that the costs for these services are eligible. The Agency may not contribute to the cost of goods or services that are not, in the opinion of the Agency, provided by an entity who is at arm's length from the Recipient

The contractor, consultant, University or Institute shall not acquire any rights to the product or process developed as a result of services provided.

2.4 Calculation of Direct Labour Costs

The Recipient may claim only that time worked directly on the Project by its employees and may not claim for indirect time, non-project related time, holidays, vacation, paid sickness, etc. Paid overtime, where considered reasonable in the opinion of the Agency, may be claimed. Time in lieu of payment is eligible if taken and paid within the project period. Time claimed will normally be expressed in hours.

The payroll rate is the actual gross pay rate for each employee (normal periodic remuneration before deductions). The payroll rate excludes all premiums (e.g., overtime), shift differentials and any reimbursement or benefit conferred in lieu of salaries or wages except as noted in the last paragraph.

Employment benefits (CPP, EI, holidays, and vacations, etc.) not exceeding 20% of direct labour costs may be claimed (supporting documentation not required).

2.5 Harmonized Sales Tax (HST)

Eligible Costs include the amount of Harmonized Sales Tax (HST), net of any refund or eligible credits due from the Canada Revenue Agency.

In order to have the HST approved as an eligible cost on future claims, the Recipient may be required to provide documentation verifying the organization's status under HST legislation.

3.0 Ineligible Costs

For greater certainty, any costs not specifically described as Eligible Costs in accordance with section 2.0, shall be ineligible for inclusion in the Eligible Costs.

January 19, 2022

Report To: Mayor and Council

From: Travis Rob, Manager of Operations and Facilities

RE: Renewal of Enterprise Annual Lease

Please find attached a report prepared by Tom Batiuk, Airport Supervisor, outlining the annual lease agreement with Enterprise Rent-A-Car Canada Limited for counter and storage space within the terminal building. These lease agreements are required to be executed by the Corporation at this time. The rates in the lease agreement reflect a 4% increase for counter space. This increase follows with the increase in the Town user fees for 2022.

The Operations & Facilities Executive Committee recommends the following:

1) That the lease agreements with Enterprise Rent-A-Car Canada Limited be executed.
2) That the Mayor and Clerk be authorized to execute the lease agreements on behalf of the Corporation.

Respectfully Submitted

Travis Rob, P.Eng

Council approval of this report will agree with the recommendation of the Operations and Facilities Executive Committee that:

1) **That the lease agreements with Enterprise Rent-A-Car Canada Limited be executed.**
2) **That the Mayor and Clerk be authorized to execute the lease agreements on behalf of the Corporation.**

Manager of Operations and Facilities

2022Jan19 Enterprise Lease Renewal

2022-01-11

To: Travis Rob, O&F Division Manager

From: Tom Batiuk

Re: Enterprise car rental counter lease renewal

Please find attached the lease renewal for Enterprise car rental. This lease is an annual renewal that commences January 1st, 2022 and ends Dec 31st, 2022. This tenant is in good standing and it is my recommendation to the O&F Committee to approve these and forward to Town Council for final approval.

Kind Regards,

Tom Batiuk
Airport Supervisor

THIS AGREEMENT made this 1st day of January, Two Thousand and Twenty Two

BETWEEN:

THE CORPORATION OF THE TOWN OF FORT FRANCES
(The "Town")

-And-

ENTERPRISE RENT-A-CAR CANADA LIMITED
(The "Tenant")

WHEREAS:

A. The Town and the Tenant hereinafter collectively referred to as the "Parties" entered into an agreement of lease (the "Lease") dated January 1, 2006 with respect to the property ("Demised Premises") described as: Counter space comprising of a total area of 3.3 square metres at the Fort Frances Airport.

B. The copy of the lease dated January 1, 2006, in each of the Parties possession forms Part of this Agreement as Schedule "A".

C. The term (the "Term") of this lease and subsequent renewals is due to expire and end December 31, 2021.

D. The Town desires to lease to the Tenant and the Tenant desires to lease from the Town the Demised Premises for a further Term, namely, from January 1, 2022, to and including December 31, 2022, on substantially the same terms and conditions as set out in the Lease, save and excepting the additional clause E, as set out below.

E. The annual rental fee will be annually increased on renewal by the greater of the amounts calculated as follows:

    1) An amount equal to that produced by applying the Previous year's Ontario consumer price index to the previous year's annual rental fee;

    2) An amount calculated as 4.0 % over the previous year's annual rental fee

NOW THEREFORE the Parties agree as follows:

1. The Town agrees to lease to the Tenant and the Tenant agrees to lease from the Town the Demised Premises for a further Term from and including January 1, 2022, to December 31, 2022.

2. The amount payable by the Tenant to the Town in respect of the Tenant's lease of the Demised Premises for the Term January 1, 2022, to December 31, 2022 shall be the sum of $1380.39, plus applicable taxes, which amount shall be payable by the Tenant to the Town upon the signing of this lease agreement.

3. Except as set out in this agreement, the Lease by the Tenant of the Demised Premises from the Town for the term shall be upon the same terms and conditions as set out in the Lease.

IN WITNESS WHERE OF the Parties have executed this Agreement.

For the Corporation of the Town of Fort Frances:

Per: _____
Mayor

Per: _____
Clerk

For Enterprise Rent-A-Car Canada Limited:

Witness:_____ Per: _____

"I have the authority to bind the corporation"

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
200 McIrvine Rd
Fort Frances, Ontario
P9A 3S3
Tel: 807-274-3121
Fax: 807-274-8381

January 12, 2022

Town of Fort Frances
320 Portage Avenue
Fort Frances Ontario
P9A 3M5

Attention: Mr. Craig Miller
Environmental Superintendent

Dear Craig:

Re: Fort Frances Wastewater Treatment Facility
December 2021 Monthly Report

As per the operating agreement, the attached document is the December 2021 monthly report for the Fort Frances Wastewater Treatment Facility.

The report highlights the influent and effluent quality and the process parameters. Additionally, the routine operation and maintenance activities conducted by the operators are summarized.

If you have any questions regarding this report do not hesitate to contact Mr. Ty Maurice, Senior Operations Manager.

Yours truly,

Kelly Cunningham
Team Lead

For Ty Maurice
Senior Operations Manager

The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
December 2021 Monthly Operations Report

INTRODUCTION

In accordance with the Agreement between the Ontario Clean Water Agency (Operating Authority) and the Town of Fort Frances, the Fort Frances Sewage Treatment Plant is required to prepare a monthly report. This document covers the reporting month of December 2021; the facility performance report summarizes important information regarding the quality of the effluent, wastewater, analytical test results, maintenance operations, and relevant activities of the WWTP.

DESCRIPTION OF WORKS

Capacity of Works	9000 m^3/day (average flow)
Service Area	Town of Fort Frances and Couchiching Reserve
Service Population	9000
Effluent Receiver	Rainy River
Major Process	Secondary treatment facility complete with a phosphorus removal system; ultra violet disinfection; aerobic sludge stabilization and dewatering

The Fort Frances Sewage Treatment Plant operates under *Environmental Compliance Approval Number 6786-A44PWG*. The ECA outlines the terms and conditions, and the report captures these terms and conditions in the following sections.

LABORATORY

ALS Laboratory Group – Thunder Bay is contracted to conduct the required analytical tests of the influent (raw) and effluent samples; weekly requirement.

DECEMBER 2021 EFFLUENT QUALITY

Parameters	***Monthly Actual Concentration* mg/L**	***Compliance Criteria Concentration* mg/L**	***Performance Objective Concentration* mg/L**	***Monthly Actual Loading,* kg/d**	***Compliance Criteria Loading* kg/d**	***Performance Objective Loading* kg/d**
$CBOD_5$	2.6 mg/L	25 mg/L	15 mg/L	14.7 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	2.6 mg/L	25 mg/L	15 mg/L	14.5 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.12 mg/L	1.0 mg/L	0.9 mg/L	0.69 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	9.90 mg/L 5.50 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli	30.3 count/100 ml (geometric mean)		200 count/100ml (geometric mean)		E-coli not to exceed 150 organisms/100ml (monthly geometric mean density)	
pH			pH range 7.2 to 7.5; average pH was 7.4			
Temperature degrees C			Temperatures ranged from 10.0 to 13.0 C; average temperature of effluent was 11.5 C			

Compliance criteria are mandatory requirements of the ECA and performance objectives are a goal to be achieved using best reasonable efforts.

WASTEWATER LIQUID PROCESS

The average daily flow for December was 5626.2 m^3 /day. This represents 63% of the design average flow. Total treated flow for the month was 174412 m^3. The Fort Frances WWTP met all effluent compliance criteria for the parameters listed above and additionally was well within the recommended more stringent monthly performance objectives as outlined in the Environmental Compliance Approval.

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations. The activities are highlighted as follows and a summary will be included:

Treatment Plant:

- Alternated lead/lag pumps
- Adjusted fluidizing water to head cell and grit snail as needed
- Greased all blowers
- Regular cleaning of head works EW basket strainer
- Greased Grit Snail and lubricated drive chain. Hosed Snail
- Monthly inspection of spiral screen access hatch, removed wrapped debris
- Weekly manifold wash and restrictor cleaning on the Fournier press
- Inspected teacup
- Cleaned DO probes in aeration tanks
- Replaced a longitudinal collector shear pin and adjusted the chain tensioner arm
- Replaced a portable heater in digester doghouse

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Replaced a PLC card at White Pine lift station
- Replaced the low level float switch at White Pine lift station
- Peterbilt replaced the radiator on White Pine lift station genset
- Peterbilt purged air from the fuel line on the Fifth Street genset
- Pulled and cleaned pump 1 at White Pine lift station

PROCESS AND OPTIMIZATION ISSUES

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 119.3 m3 (13 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 18.8 % TS for the month but slump test results from the landfill site have not been provided.
The Fournier press ran for 156 hours in the past month.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were no bypass events in the reporting period.

COMMENTS

Plant power consumption for the month was 479 (x 180 multiplier) kWh.
The Fournier press has been operated 1471.5 hours in 2021.
New starter and overloads are on order for White Pine and Boundary Road lift stations as is a new pressure transducer for White Pine lift station.

REPORTS

ALS – Environmental Analytical Reports (on-file at plant)
Fort Frances WPCP Equipment Run Time Report (on-file at plant)
Bypass Report (on-file at plant as per occurrence)
Incident Report (on-file at plant as per occurrence)

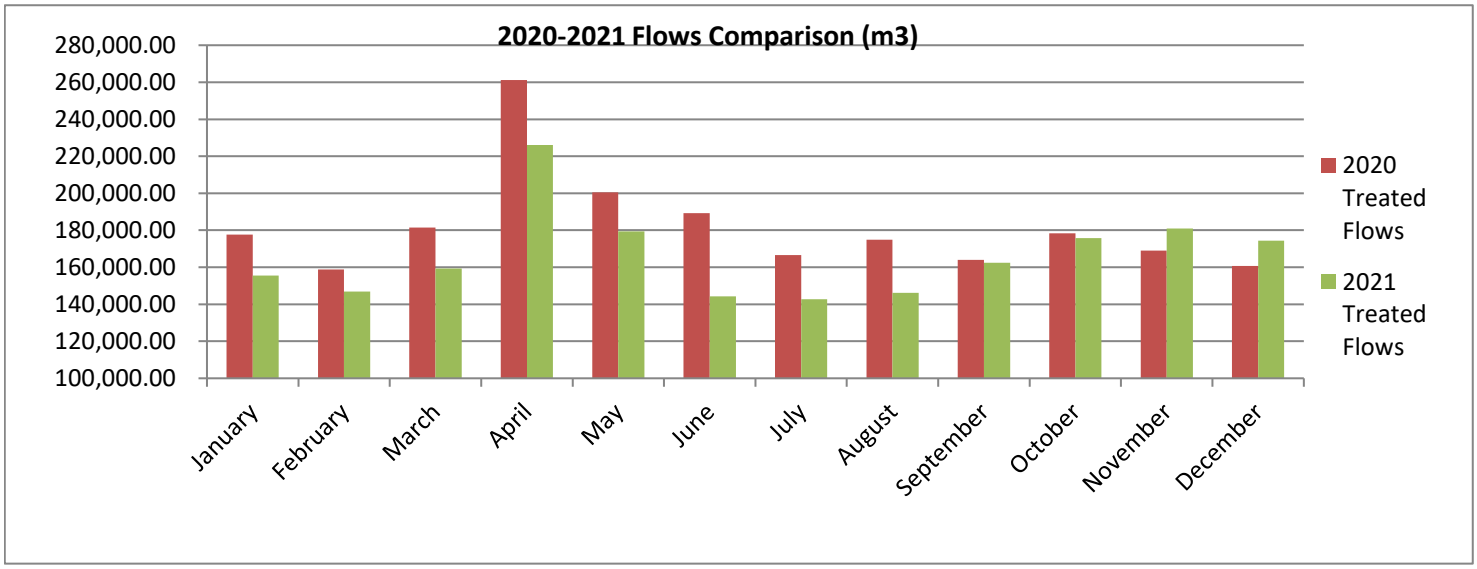
2021 Fort Frances Wastewater

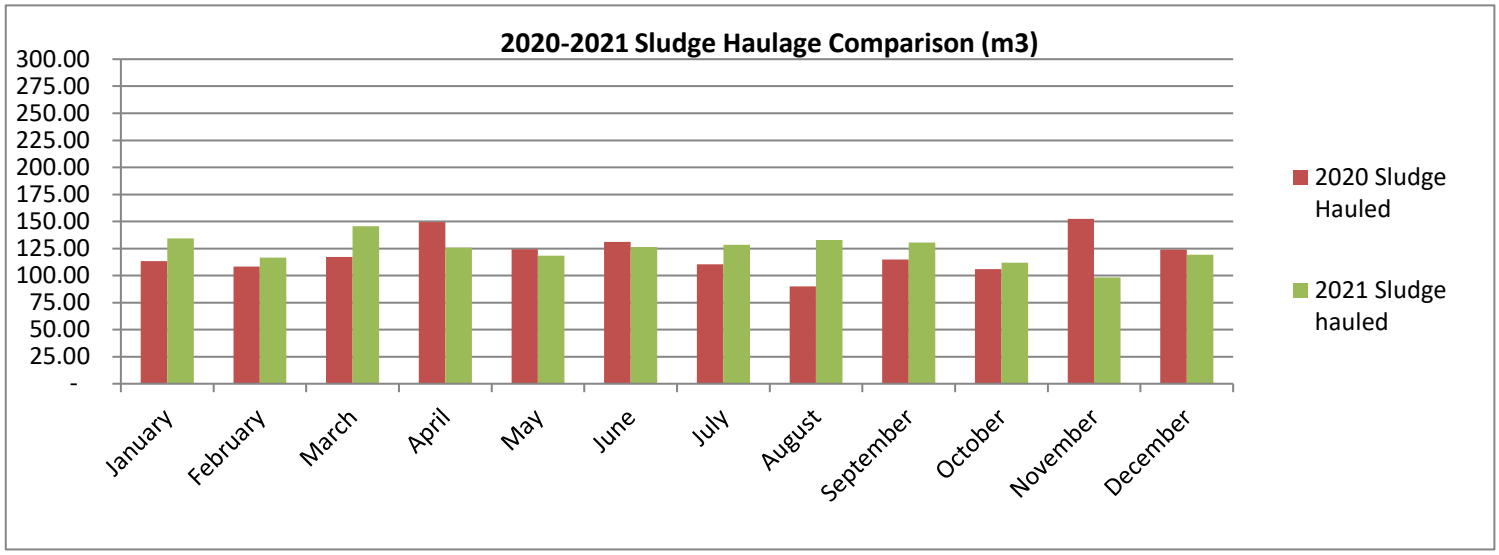
Month	Avg. Day Flow m3	Sewage Flows Year 2021: Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML	Usage % Plant Capacity	Calculated Volume Hauled M3	Sludge Bins Hauled
January	5015.0	5375	155465		155465	56%	134.4	13
February	5244.0	5551	146883		146883	58%	116.6	11
March	5141.9	5653	159400		159400	57%	145.6	14
April	7538.1	11729	226144		226144	84%	125.7	13
May	5788.8	6607	179453		179453	64%	118.3	11
June	4811.1	5142	144334		144334	53%	126.4	12
July	4603.1	5235	142697		142697	51%	128.3	12
August	4717.7	6678	146248		146248	52%	132.9	13
September	5434.6	10804	162428	610	163038	60%	130.4	13
October	5668.5	7447	175723		175723	63%	111.9	11
November	6031.0	7261	180930		180930	67%	98.2	10
December	5626.2	6335	174412		174412	63%	119.3	13
Sum				610	1994727		1488	146
Average	5468		166176		166227	61%	124.0	12.2
Max		11729	226144		226144			14
ECA	9000	18000						

Removal Efficiency	
CBOD5	0.975846576
Suspended Solids	0.98297947
Total Phosphorus	0.960935097

	BOD5/CBOD5			Suspended Solids			Total Phosphorus			Nitrogen		E. Coli	pH	
	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Geo Mean	Monthly	Monthly
Month	BOD	CBOD	CBOD	S.S	S.S	S.S	T.P	T.P	T.P	TKN	Total N	Counts	Minimum	Maximum
	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	/100ml		
January	123.8	2.2	11.1	196.5	2.5	12.7	2.99	0.07	0.33	26.2	11.8	10.0	6.6	7.0
February	91.0	2.7	14.3	185.9	3.0	15.9	2.79	0.08	0.41	22.7	15.1	10.0	6.6	7.1
March	104.4	3.4	17.6	179.1	3.6	18.5	2.34	0.08	0.40	18.6	15.0	12.5	7.0	7.4
April	91.8	2.5	20.0	160.7	5.0	40.5	2.23	0.08	0.63	15.8	12.6	17.8	7.1	7.5
May	87.6	2.3	13.3	166.1	4.0	23.5	2.34	0.11	0.61	18.0	13.9	22.2	7.2	7.4
June	97.8	2.3	10.7	208.8	4.3	20.8	3.18	0.12	0.57	18.6	14.7	55.7	7.2	7.4
July	86.0	2.0	9.3	211.8	2.5	11.5	2.88	0.06	0.27	19.5	12.0	18.1	7.1	7.5
August	117.2	2.5	11.7	210.6	3.5	16.7	3.08	0.16	0.78	28.1	8.3	17.2	7.0	7.4
September	108.3	2.1	14.5	264.2	2.6	14.1	3.19	0.12	0.66	20.3	8.5	129.1	7.3	7.6
October	106.8	2.0	11.1	184.4	2.8	15.8	2.47	0.16	0.90	17.4	7.9	11.9	7.3	7.6
November	95.4	2.4	14.3	147.5	2.4	14.5	2.55	0.11	0.65	18.0	8.1	23.7	7.3	7.6
December	91.8	2.6	14.7	164.0	2.6	14.5	2.47	0.12	0.69	17.5	9.9	30.3	7.2	7.5
Average	100.2	2.4	13.6	190.0	3.2	18.3	2.71	0.11	0.58	20.1	11.5	29.9	7.1	7.4
Max	123.8	3.4	20.0	264.2	5	40.5	3.19	0.16	0.90	28.1	15.1	129.1	7.3	7.6
ECA		25	225		25	225		1.0	9.0			200	6.0	9.5

2020-2021 Comparison Chart						
Month	2020 Treated Sewage	2021 Treated Sewage	% Variance 2020 to 2021	2020 Hauled Sludge	2021 Hauled Sludge	% Variance 2020 to 2021
	m3	m3	m3	m3 (calculated)	m3 (calculated)	m3
January	177,747.00	155,465.00	-14%	113.20	134.40	19%
February	158,832.00	146,883.00	-8%	108.20	116.60	8%
March	181,415.00	159,400.00	-14%	117.10	145.60	24%
April	261,159.00	226,144.00	-15%	149.30	125.70	-16%
May	200,528.00	179,453.00	-12%	124.40	118.30	-5%
June	189,252.00	144,334.00	-31%	131.00	126.40	-4%
July	166,681.00	142,697.00	-17%	110.50	128.30	16%
August	174,870.00	146,248.00	-20%	89.90	132.90	48%
September	163,947.00	162,428.00	-1%	114.80	130.40	14%
October	178,352.00	175,723.00	-1%	105.80	111.90	6%
November	169,049.00	180,930.00	7%	152.50	98.20	-36%
December	160,702.00	174,412.00	8%	123.90	119.30	-4%
Totals	2,182,534.00	1,994,117.00	-9%	1,440.60	1,488.00	3%





Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Workorder Summary Report

Report Start Date: Dec 1, 2021 12:00 AM
Report End Date: Dec 31, 2021 11:59 PM
Location: 1103*
Work Order Type: ADMIN,CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2576626	0000227376	PANEL ALARM/ DIALER	1103, Fort Frances WPCP, Process, Process Control & Monitoring	PM	Inspection	1	MONTHS	Critical Alarm/Dialer Testing (1m) 1103	COMP	12/1/21 12:00 AM	12/22/21 11:00 AM	12/22/21 12:00 PM	Dialer Test -We test daily at 11.
2576630			1103, Fort Frances WPCP	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Gensets Inspection/ Functional Tests (1m) 1103	COMP	12/1/21 12:00 AM	12/23/21 08:00 AM	12/23/21 10:00 AM	Monthly Gensets -I ran all lift stations under load 1 hour.
2576646			1103, Fort Frances WPCP	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 1103	COMP	12/1/21 12:00 AM	12/23/21 06:00 AM	12/23/21 07:00 AM	H&S Inspection -Plow truck box is rusty and should not be used or entered.
2576979			1103, Fort Frances WPCP	PM	Inspection	1	MONTHS	Blowers/Motors Inspection/Service (1m/3m) 1103	COMP	12/1/21 12:00 AM	12/22/21 01:30 PM	12/22/21 02:30 PM	Blower Maint -I greased all blowers.
2576989	0000246402	CENTRIFUGE GS2-2-1 TEACUP/ GRIT SNAIL	1103, Fort Frances WPCP, Process, Primary Treatment, Primary Sludge Degritting	PM	Inspection	1	MONTHS	Teacup Centrifuge Inspection/ Service (1m/3m/1y) 1103	COMP	12/1/21 12:00 AM	12/22/21 10:30 AM	12/22/21 11:30 AM	Monthly Teacup -I removed the lid and found minimal debris then I returned it to service.
2579383	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine Pump Issues 1103	COMP		12/1/21 08:03 AM	12/1/21 08:08 AM	White Pine Pump Issues -I got called in to assist in a confined space entry .
2579832			Fort Frances Water Pollution Control Plant	CALL	Refurbish/ Replace/Repair	0		Longitudinal collector 2 failure call in 1103	COMP		12/3/21 01:35 AM	12/3/21 03:45 AM	Longitudinal collector 2 failure call in 1103 -I was called by the auto dialler at 0135 hours for a longitudinal collector 2 failure. I opened a working alone ticket and drove to the plant. When I arrived I acknowledged alarms on the SCADA computer. After replacing a broken shear pin and adjusting the tensioner arm, it started and ran nicely. Closed ticket 0345 hours

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Workorder Summary Report

Report Start Date:	Dec 1, 2021 12:00 AM
Report End Date:	Dec 31, 2021 11:59 PM
Location:	1103*
Work Order Type:	ADMIN,CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2580064	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine P1 Failure 1103	COMP		12/5/21 10:34 AM	12/5/21 10:42 AM	White Pine P1 Failure -I arrived at the lift station to find both pumps were airlocked. After unairlocking both pumps I waited for the level in the wetwell to get fairly high so that it would reset both floats then I returned both pumps to auto. I then returned to the plant where I monitored several pump cycles to be normal.
2580375	0000227360	MOTOR PUMP DIGESTER SLUDGE #1	1103, Fort Frances WPCP, Process, Sludge Treatment & Handling, Sludge Digestion	CALL	Refurbish/ Replace/Repair	0		Plant General alarm 1103	COMP		12/7/21 11:31 AM	12/7/21 11:37 AM	Digester Doghouse Temp Alarm -I arrived at work to find the digester building to be low in temp, So I plugged in an extension cord to the yard receptacles and plugged another heater in and placed it in the building. I then monitored the temp rise.
2581274	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine lift station pump 1 failure call in 1103	COMP		12/11/21 11:20 PM	12/12/21 12:35 AM	White Pine lift station pump 1 failure call in 1103 -I was called at 2320 hours Dec. 11/21 by the auto dialer for a White Pine lift station pump failure. I drove to the wastewater plant where I acknowledged the alarms on the SCADA computer, then proceeded to the lift station where I was able to reset the pump fault and observed proper pump cycling at 0030 hours Dec. 12/21

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Workorder Summary Report

Report Start Date:	Dec 1, 2021 12:00 AM
Report End Date:	Dec 31, 2021 11:59 PM
Location:	1103*
Work Order Type:	ADMIN,CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2582124	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine lift station pump 1 fault call in 1103	COMP		12/15/21 05:55 PM	12/15/21 09:45 PM	White Pine lift station pump 1 fault Dec 15/21 -I was called by the auto dialer at 1755 hours for a pump fault at White Pine lift station. I drove to the plant and acknowledged alarms on the SCADA computer and then proceeded to the lift station where I reset the pump fault. Unfortunately the pump faulted on the next pump cycle. I informed my manager that I would ask Dale Hughes for assistance to pull and clean the pump. The pump was pulled and then put back into service successfully 2100 hours.
2582130	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine P1 Fail 1103	COMP		12/16/21 08:05 AM	12/16/21 08:10 AM	White Pine P1 Fail -I was called in to assist in pulling and checking pump.
2582511	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine P1 Fail Alarm 1103	COMP		12/18/21 07:22 AM	12/18/21 07:27 AM	White Pine P1 Failure -I arrived at the lift station and reset the pump and it acted normal after the reset.I then returned to the plant to check trending and to monitor.
2582745	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine P1 Fail Alarm 1103	COMP		12/20/21 08:17 AM	12/20/21 08:22 AM	White Pine P1 Fail -I reset the pump at the lift station then returned to plant to monitor a few pump cycles. We are awaiting parts to repair issue.

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Workorder Summary Report

Report Start Date:	Dec 1, 2021 12:00 AM
Report End Date:	Dec 31, 2021 11:59 PM
Location:	1103*
Work Order Type:	ADMIN,CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2583513	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine lift station pump fault call in 1103	COMP		12/24/21 07:40 PM	12/24/21 09:15 PM	White Pine lift station pump fault call in Dec 24 - I was called by the auto dialer for a White Pine lift station pump fault at1940 hours Dec 24th. I drove to the plant where I acknowledged alarms on the SCADA computer and then proceeded to the lift station and was able to reset the fault. It is important to note that starter and overload for this motor are on order and will be installed at the earliest opportunity.
2583862	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		White Pine lift station pump fault call in Dec 28	COMP		12/28/21 09:00 PM	12/28/21 10:05 PM	White Pine lift station pump fault call in Dec 28 -I was called by the auto dialer for a White Pine lift station pump fault at 2100 hours December 28th . I drove to the station where I reset the fault and the pump then ran correctly. I went back to the wastewater plant where I reset SCADA computer alarms and verified that the pump was cycling.
2584159	0000227447	PUMP CENT #1 VERTICAL NON CLOG SEWAGE P1 WHITEPINE	1103, White Pine Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		December 31 White Pine liftstation pump fault call in 1103	COMP		12/31/21 03:19 AM	12/31/21 05:00 AM	December 31 White Pine liftstation pump fault call in 1103 -I was called by the auto dialer at 0319 hours for a White Pine lift station pump fault. I drove to the plant where I acknowledged alarms on the SCADA computer and proceeded to the lift station where I reset the pump fault. Back at the plant I monitored several pump cycles. There are starter and overload parts on order for this station.

TRANSPORTATION REPORT
December 2021

STAFFING

The following table is a breakdown of lost man shifts during the month:

	2020	2021
WSIB	0.00	0.00
WI/LTD	23.00	0.00
SICK DAYS	11.25	4.69
COMPASSIONATE LEAVE	4.00	0.00
FLOATERS	3.50	6.00
VACATION	86.25	102.78
BANKED TIME USED	13.88	17.28
OFF	4.50	0.06
STATUTORY HOLIDAYS	90.00	81.00
TOTAL	**236.38**	**211.81**

OVERTIME HOURS

Equivalent Straight Time Hours:

	2020 Dec	2021 Dec	2020 Year To Date	2021 Year To Date
ADMINISTRATION	0.00	0.00	0.00	0.00
TRAVEL	3.00	0.00	0.00	2.00
ENGINEERING	8.00	0.00	5.50	13.75
INTERDEPARTMENTAL	1.50	4.00	12.00	42.50
PRIVATE WORK	0.00	0.00	12.25	35.75
RECYCLE/GARBAGE	0.00	17.50	25.75	92.50
ROADS	179.25	153.50	66.88	516.38
SEWER COLLECTION	0.00	41.75	585.50	362.25
SIDEWALKS	57.75	29.00	124.25	99.50
STORES	0.00	20.00	123.75	57.00
VEHICLE & EQUIPMENT	0.00	5.50	50.50	5.50
WATER TREATMENT PLANT	28.00	24.00	33.00	323.25
WATER DISTRIBUTION	67.50	3.75	334.25	436.00
WATER TOWER	0.00	0.00	579.50	130.25
TOTAL	**345.00**	**299.00**	**1953.13**	**2116.63**

Night Shift – began night shift operations on the week of December 6. Six (6) crew member compliment assigned to nightshift throughout winter months

Snowfall Events – “measurable” snowfall events occurred on December 5, 16, 27 and 28. Due to holiday stat schedule, additional overtime was necessary to maintain Minimum Maintenance Standards for the Dec 27/28 snowfall events.

Recycle Compactor – service disruption Tuesday December 28 – public compactor recycle bin was changed with an empty bin on Dec 28. It appears that public use was so high/frequent that compactor did not have opportunity to complete full cycles to compact material within. This lead to the public leaving the compactor door open which would not allow material to compact, therefore public piled material outside and around compactor and ramp. Due to snowplow priority this issue wasn’t addressed until Dec 30, 2021.

Maintenance (pressing issues outside of daily maintenance):

- 2007 Peterbilt Tandem – full service, replaced both outer tie rod ends, replaced kingpins and bushings, replaced front seals, drums and shoes

Water and Sewer Support:

- 280 Biddeson Avenue – Sewer Service Repair – Dec 15. 2021
- 385 Daniel Avenue – Sewer Service Repair – Dec. 20, 2021
- Sixth Street East – Sanitary Sewer Main Repair – Dec. 22, 2021

Cody Vangel
Superintendent of Transportation

Aircraft Landings 2021

As of December 31, 2021

Month	Bearskin Flights			Bearskin Passengers			Air Bravo Passengers			Government			Private			Med-I-vacs			International			Commercial			Totals			Variance
	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021-2020
January	4	56	54	9	140	160	0	8	8	0	2	0	2	15	4	36	50	60	0	0	0	0	45	42	42	168	160	-126
February	0	64	56	0	149	197	0	12	15	4	3	13	8	6	1	58	36	43	0	1	0	0	38	38	70	148	151	-78
March	0	41	61	0	99	160	0	0	11	20	1	13	8	10	10	57	39	52	0	6	2	0	0	42	85	97	180	-12
1/4 Total	**4**	**161**	**171**	**9**	**388**	**517**	**0**	**20**	**34**	**24**	**6**	**26**	**18**	**31**	**15**	**151**	**125**	**155**	**0**	**7**	**2**	**0**	**83**	**122**	**197**	**413**	**491**	**-216**
April	0	1	59	0	0	197	0	0	7	5	2	5	18	10	9	63	30	57	0	1	3	0	0	40	86	44	173	42
May	0	0	67	0	0	196	0	0	5	2	3	14	43	20	19	74	40	63	0	0	25	0	0	43	119	63	231	56
June	0	0	61	0	0	208	0	0	9	5	0	13	159	21	48	68	53	57	0	0	81	0	0	39	232	74	299	158
1/2 Total	**4**	**162**	**358**	**9**	**388**	**1118**	**0**	**20**	**55**	**36**	**11**	**58**	**238**	**82**	**91**	**356**	**248**	**332**	**0**	**8**	**111**	**0**	**83**	**244**	**634**	**594**	**1194**	**40**
July	9	0	61	29	0	173	0	0	10	30	2	4	185	44	28	80	35	54	0	0	69	0	0	42	304	81	258	223
August	10	0	69	19	0	236	0	0	5	11	0	10	96	31	33	67	38	57	12	0	64	0	0	40	196	69	273	127
September	14	11	62	23	17	180	0	0	12	0	1	8	44	27	14	65	61	52	7	2	46	0	0	34	130	102	216	28
3/4 Total	**37**	**173**	**550**	**80**	**405**	**1707**	**0**	**20**	**82**	**77**	**14**	**80**	**563**	**184**	**166**	**568**	**382**	**495**	**19**	**10**	**290**	**0**	**83**	**360**	**1264**	**846**	**1941**	**418**
October	16	16	66	35	30	219	0	0	13	0	5	5	18	9	22	62	59	57	2	0	8	0	0	44	98	89	202	9
November	14	15	61	43	46	180	0	0	17	7	3	0	16	14	6	50	45	56	0	0	1	0	0	37	87	77	161	10
December	14	12	47	20	15	111	0	0	13	3	6	0	9	4	13	56	54	43	0	0	3	0	0	38	82	76	144	6
Total	**81**	**216**	**724**	**178**	**496**	**2217**	**0**	**20**	**125**	**87**	**28**	**85**	**606**	**211**	**207**	**736**	**540**	**651**	**21**	**10**	**302**	**0**	**83**	**479**	**1531**	**1088**	**2448**	**443**

Fort Frances Airport - Page 2/2 - Fuel Sales - December 31, 2021

Fuel Sales Recap - 2021									2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	10 year	Variance 2021-2020
	100LL		Jet Trk		Jet Cab		Month	Year	per	per	per	per	per	per	per	per	per	per	Average	per month
Month	Liters	Total	Liters	Total	Liters	Total	Total	Total	month	month	month	month	month	month	month	month	month	month	2021 to 2012	month
January	725	725	4,058	4,058		0	4,783	4,783	4,783	7,962	8,050	16,597	25,675	7,528	8,692	11,543	7,216	10,252	11,502	-3,179
February	1,023	1,748	6,424	10,482		0	7,447	12,230	7,447	5,077	7,991	16,286	12,503	11,904	11,231	12,304	6,197	6,918	10,046	2,370
March	1,107	2,855	15,715	26,197		0	16,822	29,052	16,822	6,473	13,716	9,798	21,928	13,255	17,795	10,508	12,077	9,329	12,764	10,349
April	676	3,531	11,388	37,585		0	12,064	41,116	12,064	1,459	13,010	10,398	13,102	8,592	13,219	8,377	4,453	8,251	8,985	10,605
May	1,940	5,471	14,609	52,194		0	16,549	57,665	16,549	11,685	18,667	24,839	21,362	24,681	16,161	29,753	18,350	21,891	20,821	4,864
June	1,698	7,169	77,661	129,855		0	79,359	137,024	79,359	8,082	31,063	27,380	27,380	26,015	45,698	30,789	22,786	23,537	26,970	71,277
July	2,552	9,721	83,747	213,602		0	86,299	223,323	86,299	11,116	17,146	23,461	24,642	29,002	28,150	14,441	19,232	32,650	22,204	75,183
August	3,131	12,852	22,668	236,270		0	25,799	249,122	25,799	7,530	17,024	30,430	23,029	21,119	36,638	20,450	20,075	30,783	23,009	18,269
September	4,082	16,934	16,594	252,864		0	20,676	269,798	20,676	14,689	16,543	25,191	13,489	21,325	24,238	21,837	18,005	19,431	19,416	5,987
October	1,858	18,792	6,850	259,714		0	8,708	278,506	8,708	4,307	9,076	10,769	16,604	30,655	8,216	15,472	13,109	11,325	13,281	4,401
November	877	19,669	7,722	267,436		0	8,599	287,105	8,599	13,333	2,202	10,748	9,924	22,349	11,616	7,238	6,398	8,170	10,220	-4,734
December	134	19,803	8,222	275,658		0	8,356	295,461	8,356	5,333	5,852	13,243	6,560	13,797	7,592	6,849	2,028	8,179	7,715	3,023
Total	19,803		275,658		0		295,461		295,461	97,046	160,340	219,140	216,198	230,222	229,246	189,561	149,926	190,716	186,933	198,415

Lowest month in last 9 years
Highest month in last 9 years
Highest month
lowest month

Sewer & Water Data for 2021

up-dated January 13, 2022

Month	Days per month	2021 Total Sewage STP cu. meters monthly	2021 daily Sewage STP cu. meters daily	2021 Couch. Sewage Meters cu. meters monthly	2021 Couch. Sewage Meters cu. meters daily	2021 Couch. Sewage %	2021 Total Treated WTP cu. meters monthly	2021 daily Treated WTP cu. meters daily	2021 Couch. 2 Water Meters cu. meters monthly	2021 Couch. 2 Water Meters cu. meters daily	2021 Couch. Water %	2021-2020 Diff Treated WTP	2021-2020 Diff Wastewater STP	2021 Difference STP-WTP	2021 Infiltration daily average	Monthly Infiltration US Gallons
January	31	155465	5015.00	10364	334.32	6.67%	105360	3398.7	8149	262.9	7.73%	-3360.0	-22282.0	50105.0	1616.3	13,236,338
February	28	146883	5245.82	8881	317.18	6.05%	103890	3710.4	8149	291.0	7.84%	1990.0	-11949.0	42993.0	1535.5	11,357,547
March	31	159400	5141.94	10550	340.32	6.62%	109120	3520.0	7702	248.4	7.06%	3820.0	-22015.0	50280.0	1621.9	13,282,568
April	30	226144	7538.13	16902	563.40	7.47%	99400	3313.3	7702	256.7	7.75%	3050.0	-35015.0	126744.0	4224.8	33,482,216
May	31	179453	5788.81	11863	382.68	6.61%	113290	3654.5	8768	282.8	7.74%	1600.0	-21075.0	66163.0	2134.3	17,478,412
June	30	144334	4811.13	11136	371.20	7.72%	135470	4515.7	8768	292.3	6.47%	19810.0	-44918.0	8864.0	295.5	2,341,621
July	31	142697	4603.13	11624	374.97	8.15%	178930	5771.9	12835	414.0	7.17%	39900.0	-23984.0	-36233.0	-1168.8	(9,571,744)
August	31	146248	4717.68	11439	418.84	8.88%	139070	4486.1	12835	414.0	9.23%	11320.0	-28622.0	7178.0	231.5	1,896,227
September	30	162428	5414.27	12984	454.77	8.40%	99820	3327.3	8668	288.9	8.68%	-7870.0	-1519.0	62608.0	2086.9	16,539,281
October	31	175723	5668.48	13643	440.10	5.17%	96920	3126.5	8668	279.6	8.94%	-5670.0	-2629.0	78803.0	2542.0	20,817,546
November	30	180930	6031.00	9080	302.67	5.02%	93590	3119.7	8950	298.3	9.56%	-5090.0	11881.0	87340.0	2911.3	23,072,782
December	31	174412	5626.19	11302	364.58	6.48%	102560	3308.4	8950	288.7	8.73%	-1790	13710.0	71852.0	2317.8	18,981,287
Total	365	1994117		139768			1377420.0		110142.0			57710.0	-188417.0	616697.0	1689.6	162,914,080
Monthly Average		153916.0	5134.3	9931.7	330.6		106123.3	3543.0	7999.7	267.4	0.1	816.7	-18748.7	47792.7	1591.2	12625484.3

2021 - Tonnage at Landfill Site - Updated January 14, 2022

MONTH	Residential Waste (tonne)	Res (%)	ICI Waste (tonne)	ICI (%)	Non Community Waste (tonne)	Non Community Waste (%)	Covering Material (tonne)	2020 Total Tonne	Average last 10 years Total Tonne 2011 to 2020	2021 Total Tonne	2020 Total Fees	Average last 10 years Fees 2011 to 2020	2021 Total Fees	2021-2020 Tonnes	2021-2020 Fees
JAN	229.16	49.9%	221.64	48.3%	8.42	1.8%	0.00	430.73	421.97	459.22	$ 27,424.15	$ 22,810.82	$ 25,366.15	28.49	-$ 2,058.00
FEB	139.10	35.7%	242.80	62.3%	7.59	1.9%	163.96	395.65	344.29	389.49	$ 23,407.65	$ 17,034.00	$ 24,123.20	-6.16	$ 715.55
MAR	242.51	24.8%	660.86	67.5%	76.40	7.8%	0.00	443.95	424.03	979.768	$ 29,051.15	$ 23,642.71	$ 37,106.95	535.82	$ 8,055.80
APRIL	237.07	33.7%	455.76	64.8%	10.01	1.4%	1805.60	611.34	573.51	702.84	$ 42,244.30	$ 32,712.97	$ 45,566.13	91.50	$ 3,321.83
MAY	315.73	44.8%	381.34	54.1%	8.12	1.2%	2672.47	777.33	740.72	705.19	$ 50,040.01	$ 39,340.52	$ 45,287.00	-72.14	-$ 4,753.01
JUNE	225.07	36.4%	384.15	62.1%	9.55	1.5%	2018.56	600.08	818.98	618.77	$ 50,850.20	$ 39,940.83	$ 40,220.10	18.69	-$ 10,630.10
JULY	210.87	26.4%	578.99	72.4%	9.51	1.2%	2805.73	670.42	607.43	799.37	$ 49,691.30	$ 36,877.55	$ 39,932.70	128.95	-$ 9,758.60
AUG	306.07	40.4%	449.11	59.3%	1.92	0.3%	1139.31	770.21	700.85	757.095	$ 55,399.40	$ 37,960.82	$ 52,713.60	-13.12	-$ 2,685.80
SEPT	308.42	42.3%	410.65	56.3%	10.53	1.4%	15.68	862.70	684.18	729.598	$ 53,936.60	$ 38,481.31	$ 50,808.55	-133.10	-$ 3,128.05
OCT	250.86	40.4%	356.27	57.4%	13.16	2.1%	313.9	725.18	842.38	620.28	$ 49,042.25	$ 43,709.40	$ 40,565.40	-104.90	-$ 8,476.85
NOV	244.08	43.2%	310.63	54.9%	10.63	1.9%	0.00	591.91	574.84	565.34	$ 36,599.30	$ 30,714.80	$ 34,202.60	-26.57	-$ 2,396.70
DEC	177.83	38.8%	269.77	58.9%	10.14	2.2%	0.00	553.52	438.58	457.74	$ 29,234.45	$ 22,463.35	$ 28,793.15	-95.78	-$ 441.30
Average per monthly	240.56	43%	393.50	55%	14.67	2%	911.27	619.42	597.65	648.73	$ 41,410.06	$ 32,140.76	$ 38,723.79	649.65	-$ 5,347.93
Total	2886.77		4721.96		175.98		10935.21	7433.01	7171.74	7784.70	$ 496,920.76	$ 385,689.08	$ 464,685.53	351.69	-$ 32,235.23

	$ 460,321.46	Actual	$ 464,685.53
	$ 414,194.00	Budget	$ 440,000.00
	$ 496,920.76	Forecasted	$ 464,685.53

Town of Fort Frances Tonnage	7608.72	
Total Tonnage	7784.70	
Residential Tonnage	2886.77	37.08%
ICI Tonnage	4721.96	60.66%
Coverage material	10935.21	