ᓄᓇᕗᒻ ᐊᐅᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑎᐊᑦ ᑐᓴᕐᕕᒃ #125135

3AM-ARV1016 Water Reservoir Cell #3

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ᐱᓕᕆᔨᒃᑲᐅᔪᓐᓇᖅᑐᑦ ᖃᓄᐃᑦᑐᓕᖅ:	ᐃᒪᖅ
ᐅᑦᓗᖅ ᑐᓴᕐᕕᑐᑎᓕᐊᓂᐅᑦ:	5/15/2017 11:29:07 AM
Period of operation:	from 2017-05-15 to 2038-05-17
ᑲᔪᓯᖃᐃᐸᐅᓂᐊᕐᓇᓯᐅᔪᓐᓇᑦ:	from 2017-05-15 to 2038-05-17
ᐱᓕᕆᖅᑲᓪᓚᔪᖅ:	Megan Lusty GN-CGS P.O. Box 490 Rankin Inlet Nunavut X0C0G0 Canada ᐅᖅᑲᓕᐅᑎᑦ: 867-645-8176, ᓯᑲᔪᓯᑦ: 867-645-8141

ᑐᓴᐅᒪᔨᖏᑦ

ᖃᓄᐃᑦᑐᑎᓂᓄᑦ ᐱᓕᕆᔨᖅᑎᓂᐊᕆᔭᖅᑐᓂᓄᑦ

ᖃᖅᑎᓗᒃᑐᑦ: Department of Community and Government Services (CGS), Government of Nunavut (GN) retained exp Services Inc. (exp) to prepare the detailed design for the new water treatment facility and an expansion of the community raw water storage. The scope of the exp assignment includes preparation of the schematic design, design development, preparation of detailed construction drawings and preparation of construction documents such as specifications. Early in this design assignment, representatives of CGS and exp met with the Hamlet Council. Several issues were raised by members of Council. • Safe manoeuvring of trucks at the truck-fill facility was viewed to be an important safety concern, both for water truck drivers and community members. • Appropriate arrangements at the truck loading arm to minimize spilled water and the resulting ice accumulation was considered important. • Measures to minimize the impacts of snow-drifting were viewed to be important. The water treatment plant facility will include two pump houses, the reconditioned pump house which will supply water from the existing reservoirs #1 and #2, and a new pump house supplying water from the new reservoir. The facility will also include a treated water storage tank to provide chlorine contact time for disinfection and process wastewater storage tank to collect waste water from the treatment process (backwashing of the filters). The wastewater storage tank will require to be emptied by the Hamlet's sewer trucks. The water treatment plant will have a dual truck fill arm for simultaneous filling of water trucks. The fill rate for the water trucks will result in the trucks being filled in approximately 13 minutes The water treatment processes that have been incorporated into the design include the following. • Self Cleaning Strainers This step will remove large colloidal contaminants such as dust and larger debris (grass, sand and weed growth). This step makes the next stage (pressure media filters) last longer and be protected from large items that may be picked up by the pumps. • Pressure media filtration This is the main filtering stage that filters down to 5 microns

in size. This is not absolute but gets most of the particles down to 5 microns in size. • Cartridge filtration downstream of the media filters. The first set of filters is to remove particles down to 5 microns in size. If the pressure media filters are working appropriately this filter will see very small amounts of particles and will not need to be changed more than a couple of times a year. This is also the location where the use of carbon filters for taste can be installed if an event occurs. The second set of cartridge filters is for particles down to 1 micron in size. With the previous filters working properly these filters will see very little amount of dirt and should last for extended periods of time. The use of 1 micron filtration is for the removal of crypto and giardia oocysts that can be between 1-5 microns in size. The pumps have been sized to handle a variety of duty points and can change the pump speed automatically. With pumps speeds set to achieve a flow rate, as the filters will begin to plug, the pumps will work harder to force the same amount of water to go through them. This should eliminate the effects of partially plugged filters on the treatment process and maximize the filter usage. • Ultraviolet disinfection This type of disinfection "deactivates" pathogens. It is only present when the water is passing thru the filter. It does not kill them, but it makes them unable to reproduce, and therefore much less harmful. • Chlorination This type of disinfection "kills" pathogens. The chlorine will stay in the water for an extended period of time. This is measured as chlorine residual. With chlorine residual in the water, should a contamination event occur (ie dirt in the home storage tank) the chlorine will be present to kill any pathogens that enter in. In addition to this, chorine is an chemical oxidizer. It causes dissolved metals (iron and manganese typically) to come out of the dissolved state and get caught in filter media. This improves the look and taste of water. • Treated water storage. This provides the time for chlorine to react and kill pathogens. Additionally, it allows the truck filling operation to be separate from the treatment process, ensuring fill rates and allowing multiple trucks to be filled simultaneously. Water storage tank will provide the contact time for the chlorine, thereby eliminating the wait period after trucks are filled. • Flocculation – Space for this process will be provided to allow for its inclusion if required in the future, but the plant will be commissioned without flocculation. Flocculation is the addition of chemical to water that cause particles to "come together". This takes very small particles (smaller than 1 micron and larger ones too) and combines them into larger particles that can be filtered out. If water quality can be achieved without this step, then the water treatment plant is much easier to operate. If the use of chlorine on the pre-filter side does not work to achieve the desired output, then liquid flocculant can be used. The flocculation process is not being included at this time for operational reasons. This is a liquid chemical that is delivered in barrels or totes and has a finite shelf life. Additional backwashing and therefore wastewater trucking will result with additional loading on the pressure filters. It is thought this is addition complexity that may not be required. Allowance has been included for this at a later date if required. • Fluoridation It is expected fluoridation will be continued as a batch addition process at the time of reservoir filling as per existing operations. Fluoride addition is common in many water distribution systems and is considered to be a method to improve dental health of the water consumers. The project includes expansion of the raw water storage capabilities to meet the projected needs of the community until the year 2038. The new water reservoir will have a capacity of 103,000 m3 for a total storage capacity of 262,000 m3. Drawing C103 provides a site plan for the new reservoir. This drawing illustrates the location of this new reservoir with respect to the existing reservoir cells and the proposed building. It is proposed that the new reservoir cell be constructed in a fashion that is very similar to the adjacent existing storage cell. The Site Grading Plan, drawing number C201, illustrates the proposed locations of the water treatment plant, treated water storage and process wastewater storage. This drawing illustrates the proposed truck access route. It is proposed that a truck turn-around be provided west of the new building. This permits direct access for water trucks to the truck loading arm with a minimum of conflict with traffic travelling to the community. The details regarding the truck loading arm and measures to reduce spilled water are currently being designed. These details will be provided in the next drawing submission to CGS. In response to concerns relating to snow-drifting, Novus Environmental, a specialist consultant was engaged to examine this matter. Based upon the advice of this consultant, the proposed building will be situated above grade, resting upon a piled foundation. This will permit wind scour of snow and will also reduce the amount of snow deposition between the truck lane and the building. In summary, the project is advancing as anticipated. The concept of treatment, followed by treated water storage and a pair of truck loading arms has been carried forward into the design. The proposed water treatment process is similar to that proposed in the feasibility study. Project completion is currently anticipated by late 2018.

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ᐃᓄᒃᑎᑐᑦ: ᓄᓇᓕᖕᓄᑦ ᐊᒻᒪᓗ ᒐᕙᒪᒃᑯᓐᓄᑦ ᐱᔨᑦᑎᕋᐃᔨᒃᑯᑦ (CGS), ᓄᓇᕗᒻ ᒐᕙᒪᒃᑯᑦ ᐱᓯᒪᔪᑦ exp Services Inc.ᑯᓐᓂᑦ (exp) ᐱᓕᕆᐊᖃᕐᓂᐊᕐᓗᑎᒃ ᖃᓄᐃᑦᑑᓂᖓᓂᒃ ᓄᑖᖅ ᐃᒪᓕᕆᓪᓚᒃ ᐊᒻᒪᓗ ᐊᖏᒡᓕᒋᐊᖅᓯᓂᕐᒥᒃ ᓄᓇᓕᖕᒥ ᖁᕝᕙᖕᒥᓐᖓᖅᑑᓯᐅᕐᒥᑦ. expᑯᑦ ᐱᓕᕆᐊᒃᓴᕆᔭᖕᒐᓐᓂᑦ ᐃᓚᐅᔪᑦ ᐱᓕᕆᐊᖃᕐᓂᕐᒥᒃ ᑎᑎᕋᐅᔭᖅᓯᒪᐸᓗᓂ ᐋᖅᑭᐅᒪᔪᒥᑦ, ᖃᓄᐃᑦᑑᓂᐊᕐᓂᖓᓂᒃ ᐱᕙᓪᓕᐊᓂᕐᒥᒃ, ᓇᓗᓇᐃᔭᖅᓯᒪᔪᒥᒃ ᓴᓇᔭᐅᓂᐊᕐᓂᕐᒧᑦ ᑎᑎᕋᐅᔭᖅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᒥᒃ ᓴᓇᔭᐅᓂᐊᕐᓂᕐᒧᑦ ᑎᑎᖅᑲᐃᑦ ᓱᕐᓗ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᖃᓄᑎᒋᐅᓂᖓᓄᑦ. ᖃᓄᐃᑦᑑᓂᐊᕐᓂᖓᓕᕆᓂᐊᕐᓵᖅᑎᓪᓗᒋᑦ, CGSᑯᓐᓂᙶᖅᑐᑦ ᐊᒻᒪᓗ expᑯᑦ ᑲᑎᖅᑲᑎᖅᑲᓚᐅᖅᑐᑦ Hᐋᓪᓚᒃᑯᑦ ᑲᑎᒪᔨᕐᒥᒃ. ᖃᕐᓯᐊᕐᔪᐊᕐᓂᑦ ᐱᔾᔪᑕᐅᔪᓂᒃ ᓵᖅᑭᑦᑎᓚᐅᖅᑐᑦ ᑲᑎᒪᔩᑦ. • ᐅᓗᕆᐊᓇᖅᑐᖃᙱᑦᑐᒃᑯᑦ ᐊᐅᓚᓐᓂᕐᒥᑦ ᓄᓇᒃᑰᕈᑏᑦ ᓄᓇᒃᑰᕈᑎᓄᑦ ᐃᓂᒋᔭᐅᔪᒥᑦ ᑕᐅᑦᑐᑕᐅᓚᐅᖅᑐᖅ ᐱᒻᒪᕆᐅᓂᖓᓄᑦ ᐅᓗᕆᐊᓇᖅᑑᔪᓐᓇᕐᓂᖓ, ᑕᒪᐃᓐᓄᑦ ᐃᒥᖅᑕᖅᑎᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᒥᐅᓄᑦ. • ᐋᖅᑭᒃᓯᐃᑦᑎᐊᕐᓗᑎᒃ ᓄᓇᒃᑰᕈᑎᓄᑦ ᐅᓯᓕᖅᑐᐃᓐᓇᕕᖕᒥᑦ ᑯᕕᑎᑦᑎᑕᐃᓕᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓯᑯᖃᓕᖅᑎᑦᑕᐃᓕᓂᕐᒧᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᖅᑐᖅ ᐱᒻᒪᕆᐅᓂᖓᓄᑦ. • ᐊᒃᑐᖅᓯᓂᖃᕐᓗᐊᖅᑕᐃᓕᑎᓪᓗᒋᑦ ᐊᐱᕙᓪᓕᐊᔪᒥᑦ ᐱᒻᒪᕆᐅᑉᐳᖅ. ᐃᒪᓕᕆᓃᑦ ᒪᕿᒃᓯᓂᒃ ᐃᒪᖅᑖᖅᑎᑦᑎᔪᓂᒃ ᐃᒡᓗᕐᔪᐊᖃᕐᓂᐊᖅᑐᖅ, ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔪᖅ ᐃᒪᖅᑲᖅᑎᑦᑎᓂᐊᖅᑐᖅ ᐃᒪᖃᕐᕕᐅᔪᑦ #1ᒥᒃ #2ᒥᓪᓗ, ᓄᑖᖅ ᐃᒪᖅᑖᕐᕕᒃ ᐃᒪᖃᖅᑎᑦᑎᓗᓂ ᓄᑖᕐᒥᑦ ᐃᒪᖃᕐᕕᐅᔪᒥᑦ. ᐃᒪᓕᕆᓂᕐᕕᖕᒥᑦ ᐃᓚᐅᓂᐊᖅᑐᖅ ᐃᒪᕐᒥᒃ ᐱᓕᕆᐊᖑᓯᒪᔪᒧᑦ ᐃᒪᖃᐅᓯᕐᕕᖕᒥᑦ ᓴᓗᒪᖅᓴᐃᓂᕐᒧ ᑯᓘᓂᖕᖃᖅᑐᒥᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓂᐊᙱᑦᑐᖅ ᐃᒪᕐᒧᑦ ᐃᒪᖃᐅᓯᕐᕕᖕᒥᑦ ᐊᑐᖅᑕᐅᓂᐊᙱᑦᑐᒥᒃ ᐃᒪᕐᒥᒃ ᑲᑎᖅᓯᐃᓗᓂ ᐃᒪᓕᕆᓂᕐᕕᖕᒥᑦ (ᐃᕐᒥᒃᑕᐅᓗᑎᒃ ᐃᐱᕐᒥᒃ ᑲᑎᖅᓯᐃᔾᔪᑏᑦ). ᐊᑐᖅᑕᐅᓂᐊᙱᑦᑐᒥᒃ ᐃᒪᖃᐅᓯᕐᕕᒃ ᐃᒪᐃᖅᑕᐅᓴᓇᐊᖅᓯᐅᓂᐊᖅᑐᖅ Hᐋᓪᓚᒃᑯᑦ ᐊᓇᖅᑕᐅᑎᕐᒥᓐᓄᑦ. ᐃᒪᓕᕆᓂᕐᕕᒃ ᒪᕿᒃᓯᓂᒃ ᐃᒥᖅᑕᐅᑏᕐᓂᑦ ᐃᒻᒥᖅᑐᐃᓂᕐᕕᖃᕐᓂᐊᖅᑐᖅ ᐊᑕᐅᑦᑎᒃᑯᑦ ᐃᒥᖅᑐᖅᑕᐅᔪᕐᓇᕐᓗᑎᒃ. ᐃᒻᒥᖅᑐᖅᑕᐅᔪᕐᓇᕐᓂᕐᒥᑦ ᐃᒥᖅᑕᐅᑏᑦ 13 ᒥᓂᑦᓗᐊᓅᖃᑦᑕᕐᓂᐊᖅᑐᖅ. ᐃᒪᓕᕆᓂᕐᕕᖕᒧᑦ ᐃᓚᓕᐅᑎᔭᐅᓯᒪᔪᑦ ᐋᖅᑭᐅᒪᓂᕆᔭᖕᒐᓄᑦ ᐃᓚᐅᔪᑦ. • ᐃᖕᒥᓂᒃ ᓴᓗᒪᖅᓴᖃᑦᑕᖅᑐᑦ ᑲᑎᖅᓯᐃᕕᒃ ᑖᓐᓇ ᐋᔭᐃᖃᑦᑕᖅᑐᖅ ᓱᕐᓗ ᐳᔪᖃᑖᓂᒃ ᐊᒻᒪᓗ ᐊᕐᕆᔪᓂᒃ ᓯᓇᑐᐃᓐᓇᓂᒃ (ᐃᐋᑦ, ᓯᐅᑫᖅ ᐊᒻᒪᓗ ᓄᓇᕋᐃᑦ ᐱᕈᖅᑐᐃᑦ). ᑕᐃᒪᓐᓇᐃᓕᐅᖅᓱᓂ (ᐃᐱᖅᑕᖅᑕᖅᑕᐃᓕᔾᔪᑏᑦ) ᐊᑯᓂᐅᓂᖅᓴᖅ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑎᑦᑎᔪᖅ ᐊᒻᒪᓗ ᒥᐊᓂᕆᔭᐅᓗᓂ ᐊᕐᕆᔪᓂᒃ ᓯᓇᑐᐃᓐᓇᓂᒃ ᐃᒻᒥᖅᑐᐃᔾᔪᑎᓄᑦ ᐱᔭᐅᔪᓐᓇᖅᑐᓂᒃ. • ᐃᐱᕐᓂᒃ ᐱᑕᖅᑕᐃᓕᔾᔪᑎ ᑖᓐᓇ ᐃᐱᕐᓂᒃ ᐱᑎᑦᑎᑕᐃᓕᔾᔪᑎᓗᐊᕐᔪᖅ ᒥᑭᑦᑎᐊᖅᑐᓂᒃ (5 microns ᐊᕐᒥᑎᒋᔪᓂᒃ). ᑕᐃᒪᓐᓇᓪᓚᕆᐅᙱᑦᑐᖅ ᑭᓯᐊᓂ ᑕᒻᒥᖅᑲᔭᐃᑦ ᑕᐃᒪᓐᓇ ᐊᒃᑎᕿᔫᔪᑦ (5 microns). • ᐃᐱᕐᓂᒃ ᐱᑎᑦᑕᐃᓕᔾᔪᑎᒧᑦ ᐊᑐᖅᑕᐅᔪᖅ ᑰᒃᑐᒥᑦ. ᓯᕗᓪᓕᖅᐸᐅᔪᑦ ᐃᐱᕐᓂᑦ ᐱᑎᑦᑎᑕᐃᓕᔾᔪᑏᑦ ᐹᖅᓯᓂᐊᖅᑐᑦ ᒥᑭᑦᑐᓂᒃ (5 microns). ᐃᐱᕐᓂᑦ ᐱᑎᑦᑎᑕᐃᓕᔾᔪᑏᑦ ᐊᔪᙱᑦᑐᑦ ᒥᑭᑦᑐᓂᒃ ᐱᑕᖃᓂᐊᖅᑐᖅ ᐊᓯᐊᕐᒍᖅᑕᐅᔫᙱᑦᑐᓂᓗ ᒪᕿᐃᖅᑕᖃᓗᒍ ᐅᖃᓚᐅᓐᓄᑦ ᐅᑭᐅᓗᒃᑖᒥᑦ. ᑖᓐᓇ ᐃᓂᐅᕐᒥᔪᖅ ᑎᐱᖃᓗᖅᐸᑦ ᐃᓕᓯᒻᕕᐅᔪᕐᓇᓂᖅᓱᑦ ᑎᐱᕐᓗᒃᑕᖅᐸᖅᓯᖅᑎᑦᑎᔪᕐᒥᑦ. ᑐᓕᐊ ᐃᐱᕐᓄᑦ ᐱᑕᖅᑕᐃᓕᔾᔪᑎ ᒥᑭᓗᐊᒃᑲᓐᓂᖅᑐᓂ ᐱᖃᑕᖅᑐᖅ 1 miconᒥᒃ ᐊᕐᒥᑎᒋᔪᓂᒃ. ᓯᕗᓪᓕᐅᔪᑦ ᐃᐱᖅᑕᐃᓕᔾᔪᑏᑦ ᐊᔪᙱᑦᑎᐊᖅᑎᓪᓗᒋᑦ ᑐᓕᐅᔪᑦ ᒥᑭᑦᑐᒪᓕᐊᓗᐊᕐᒥᑦ ᐃᐱᖅᑕᖅᑕᐃᓕᔾᔪᑏᑦ ᐊᒻᒪᓗ ᐊᑐᕈᓐᓇᕐᓂᐊᕐᓗᑎᒃ ᐊᑯᓂᐅᔪᒥᑦ. 1 micronᒧᑦ ᐃᐱᖅᑕᐃᓕᔾᔪᑎ ᐊᑐᖅᑕᐅᓂᖕᒪ ᐋᔭᐃᓂᕐᒧᑦ cryptoᒥᒃ ᐊᒻᒪᓗ giardia oocystᓂᒃ ᐊᑯᓐᓂᖓᓐᓃᑦᑐᖓᖅᑐᑦ 1ᓗ 5ᓗ microns ᐊᖏᑎᒋᔪᓂᑦ. ᐃᒻᒥᖅᑐᐃᔩᑦ ᐊᖏᓂᖅᓴᖏᓐᓄᑦ ᓴᓇᔭᐅᓚᐅᖅᑐᑦ ᐊᔾᔨᙳᖏᑦᑐᓂᒃ ᐊᑐᕈᓐᓇᕐᓂᐊᕐᒪᑕ ᐊᒻᒪᓗ ᐊᓯᐊᙳᕈᓐᓇᖅᑐᑦ ᓇᑭᖅᓯᒋᐊᕐᓂᖓᓂᒃ ᐃᖏᕐᓂᖓ ᐱᓗᑎᒃ. ᐃᒻᒥᖅᑐᐃᓂᕐᒧᑦ ᓇᑭᖅᓴᕐᓂᖓᓐᓄᑦ ᐋᖅᑭᒃᓯᒪᑉᓗᑎᒃ, ᐃᐱᖅᑕᖅᑕᐃᓕᔾᔪᑏᑦ ᓯᒥᒃᐸᓪᓕᐊᓕᖅᑲᖅᑐᑦ, ᐃᒻᒥᖅᑐᐃᔾᔪᑏᑦ ᐊᒃᓯᑭᕐᓂᖅᓴᐅᓕᖅᓗᑎᒃ ᑕᐃᒪᓐᓇᑎᒋ ᐃᒥᖅᑐᐃᓂᐊᕐᓗᓂ. ᐱᑦᖃᕆᖅᓃᖅᑎᑦᑎᓇᔭᖅᑐᖅ ᐃᓚᖕᒐᑦ ᓯᒥᒃᓯᒪᖁᓪᓚᒃᑐᓄᑦ ᐃᐱᕐᒥᒃ ᐱᑦᖃᖅᑕᐃᓕᔾᔪᑏᑦ ᐃᒪᓕᕆᓂᕐᕕᖕᒥᑦ ᐃᐱᖅᑕᖅᑕᐃᓕᔾᔪᑏᑦ ᐊᑐᓗᒃᑖᖅᑕᐅᔪᓐᓇᕐᓂᖓᓐᓄᑦ. • ᐃᑯᒪᔪᒥᑦ ᐱᐅᕐᒋᑦᑐᓂᒃ ᓴᓗᒪᖅᓴᐃᓂᖅ ᑕᐃᒪᓐᓇᐃᑦᑐᖅ ᐱᐅᕐᒋᑦᑐᓂᒃ ᓴᓗᒪᖅᓴᐃᔾᔪᑎ "ᓄᖅᑲᖅᑎᑦᑎᖅᑲᑦᑕᖅᑐᖅ" ᐋᓐᓂᐊᓕᕿᑕᐅᔪᓐᓇᖅᑐᓂᒃ. ᑕᐃᒪᐅᖅᑲᖅᑐᖅ ᑭᓯᐊᓂ ᐃᒪᖅ ᐃᐱᕐᒥᒃ ᐱᑦᖃᖅᑕᐃᓕᔾᔪᑎᒃᑯᓕᕋᖓᖅᐸᑦ. ᑐᖁᑦᑎᙱᖦᖢᒋᑦ, ᑭᓯᐊᓂ ᐊᒥᓱᓕᐅᒃᑲᓐᓂᕐᓂᖅ ᐊᔪᕐᓇᖅᑲᖅᑎᑦᑎᓗᓂ, ᑕᐃᒪᓐᓇᒎᖅᓗ ᐅᓗᕆᐊᓇᙱᓐᓂᖅᓴᐅᓕᖅᓗᑎᒃ. • ᑯᓗᕆᓐᓕᖅᑐᐃᓂᖅ ᑕᐃᒪᓐᓇᐃᑦᑐᖅ ᓴᓗᒪᖅᓴᐃᔾᔪᑎ "ᑐᖁᑦᑎᖅᑲᑦᑕᖅᑐᖅ" ᐋᓐᓂᐊᓕᕿᑕᐅᔪᓐᓇᖅᑐᓂᒃ. ᑯᓗᕆᓐ ᐃᒪᕐᒦᖅᑲᖅᑐᖅ ᐊᑯᓂᐅᔪᒥᑦ. ᐆᑦᑐᖅᑕᐅᖅᑲᖅᑐᖅ ᑯᓗᕆᓐᒥᑦ ᖃᒪᒃᑎᑦᑐᑦ. ᑯᓗᕆᓐ ᖃᒪᒃᑎᑦᑐᑦ ᐃᒪᒧᐊᖅᑐᑦ, ᐱᐅᙱᑦᑐᖅᑲᖅᑕᖁᔭᖅᐸᑦ (ᓲᕐᓗ ᐃᐱᖅ ᐊᕐᕿᓯᓇᔭᐅᔪᒥᑦ ᐃᒪᖃᐅᓯᕐᕕᖕᒥᑦ) ᑯᓗᕆᓐ ᑕᐃᒪᐅᓂᐊᖅᑐᖅ ᑐᖁᑎᓇᓱᐊᓂᐊᕐᓗᓂ ᐋᓐᓂᐊᓕᕿᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐃᒪᕐᒧᐊᖅᑐᓂᒃ. ᐃᓚᒋᔭᐅᑉᓗᓂ ᑖᒃᓱᒪ, ᑯᓗᕆᓐ ᐱᐅᙱᑦᑐᓂᒃ ᐱᓕᕆᐊᖅᑎᐅᔪᑦᑕᐅᔪᖅ. ᓴᕕᕋᔫᓯᓂᑦ ᓄᖑᑎᓐᓇᖅᑲᖅᑐᖅ ᐋᓯᓗ ᓄᖑᓯᒪᓂᕐᒥᑦ ᐱᔭᐅᓗᓂᓗ ᐃᐱᕐᓂᒃ ᐱᑦᖃᖅᑕᐃᓕᔾᔪᑎᓄᑦ. ᑕᐃᒪᓐᓇ ᑕᐅᑦᑐᖓᓂᒃ ᐊᒻᒪᓗ ᑎᐱᖓᓂᒃ ᐃᒪᐅᑉ ᐱᐅᓯᕐᒥᐊᖅᑎᑦᑎᖃᑦᑕᖅᑐᖅ. • ᐃᒪᖅ ᐱᓕᕆᐊᖅᓯᒪᔪᖅ ᑐᖅᑯᖅᓯᒪᓕᕝᕕᒃ. ᑯᓗᕆᓐᒥᒃ ᐱᕐᒥᐊᖅᑎᑦᑎᖃᑦᑕᖅᑐᖅ ᑐᖁᑎᓇᓱᐊᓂᐊᕐᓗᓂ ᐋᓐᓂᐊᓕᕿᑕᐅᔪᓐᓇᖅᑐᓂᒃ. ᐃᓚᒋᔭᐅᑉᓗᓂ, ᐃᒥᖅᑕᖅᑎᓂᒃ ᐃᒻᒥᖅᑐᐃᕝᕕᐅᔪᑦ ᐊᕙᓗᑎᑦᑎᔪᖅ ᐃᒪᓕᕆᓂᕐᕕᖕᒥᑦ, ᐃᒻᒥᖅᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᓇᑭᖅᓯᒋᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑕᐅᓯᐅᖏᑦᑐᒥᒃ ᐃᒥᖅᑕᐅᑎᓂᒃ ᐃᒻᒥᖅᑐᐃᑎᑦᑎᔾᔪᑎᖃᕐᓇᖅᓗᓂ ᐊᑕᐅᑦᑎᒃᑯᑦ.

ᐃᒪᕐᑲᐅᓯᕝᕕᒃ ᐱᔪᖕᓇᖅᑎᑦᑎᔪᖅ ᑯᓘᓈᓐᒥᒃ ᐊᑐᕈᖕᓇᕐᓂᕐᒧᑦ, ᑕᐃᒪᓐᓇᒧᑦ ᐅᑕᖅᑭᔭᕆᐊᖃᖅᑎᑦᑎᙱᓪᓗᓂ ᐃᒥᖅᑕᐅᑎᓂᒃ ᐃᒥᖅᑐᖅᑕᐅᓂᖕᒥᓐᓄᑦ. • ᑲᑎᑎᔾᔪᑎ – ᐃᓂᐅᔪᖅ ᑕᒪᑐᒧᙵ ᐃᓂᖃᖅᑎᑕᐅᓂᐊᖅᑐ ᐱᔭᕆᐊᖃᖅᐸᑦ ᓯᕗᓂᒃᓴᒥᑦ, ᑭᓯᐊᓂ ᐃᒪᓕᕆᕝᕕᒃ ᐱᒋᐊᖅᑎᑕᐅᓂᐊᖅᑐᖅ ᑲᑎᑎᔾᔪᑎᖃᙱᓪᓗᓂ. ᑲᑎᑎᔾᔪᑎ ᐃᓚᓯᔾᔪᑎᐅᔪᖅ ᐃᒪᕐᒧᑦ ᒥᑭᔫᑎᓂᒃ "ᑲᑎᑦᑎᖃᑦᑕᖅᑐᖅ". ᒥᑭᑦᑐᒻᒪᕆᐊᓗᖕᓂᑦ (ᒥᑭᓂᖅᓴᒥᒃ 1 micronᒥᒃ ᐊᖏᓂᖅᓴᐅᔪᓂᒡᓗ) ᑲᑎᕐᓗᒥᑦ ᐊᖏᓂᖅᓴᐅᓕᖅᑎᕐᓗᒥᑦ ᐃᐱᕐᒥᒃ ᐱᑕᖃᖅᑕᐃᓕᔾᔪᑎᒧᐊᕈᖕᓇᖅᓗᑎᒃ. ᐃᒪᑦᑎᐊᕙᐅᔪᖕᓇᖅᐸᑦ ᑖᓐᓇ ᐱᑕᖃᙱᓪᓗᓂ, ᐃᒪᓕᕆᕝᕕᒃ ᐊᐅᓚᓐᓂᖅ ᐊᔪᕐᓇᙱᓐᓂᖅᓴᐅᓇᔭᖅᑐᖅ. ᑯᓘᓈᓐ ᐊᑐᖅᑕᐅᓂᖓ ᐃᐱᕐᓂᒃ ᐱᑕᖃᖅᑕᐃᓕᔾᔪᑎᖄᓂᒃᑐᒥᑦ ᐊᔪᖅᐸᑦ ᐃᒪᑦᑎᐊᕙᐅᔪᒥᒃ, ᑲᑎᑦᑎᔾᔪᑎ ᐃᒪᐅᓗᒍ ᐊᑐᖅᑕᐅᔪᖕᓇᖅᑐᖅ. ᑲᑎᑦᑎᔾᔪᑎ ᐃᓚᐅᑎᑕᐅᙱᑦᑐᖅ ᓖᓐᓇᐅᔪᖅ ᐊᐅᓛᖅᑎᑦᑎᓂᖅ ᐱᔾᔪᑎᒋᑉᓗᒍ. ᑖᒻᓇ ᐃᒪᐅᔪᖅ ᖃᑦᑕᐅᔭᕐᔪᐊᒃᑯᑦ ᐱᔭᐅᖃᑦᑕᖅᓗᓂ ᑭᓪᓕᖃᖅᓗᓂ ᐊᑐᖅᑕᐅᔪᖅᓇᑭᑖ. ᐃᕐᒥᒃᑕᐅᒃᑲᓐᓂᖃᑦᑕᕐᓂᖅ ᐊᑐᖅᑕᐅᙱᓕᖅᑐᓂᒡᓗ ᐃᒪᕐᒥᒃ ᐊᒡᔭᖅᑐᐃᓂᖅ ᐃᓗᓪᓕᖅᑕᐅᒃᑲᓐᓂᖅᑎᑦᑎᓂᐊᖅᑐᖅ ᐃᐱᕐᓂᒃ ᐱᑕᖃᖅᑕᐃᓕᔾᔪᑎᓄᑦ. ᐃᓱᒪᒋᔭᐅᔪᖅ ᐃᓚᓯᒃᑲᓐᓂᕐᓂᐅᔪᖅ ᐊᖏᔫᔪᖅ ᐱᔭᐅᔭᕆᐊᖃᙱᑦᑐᒃᓴᐅᑉᓗᓂ. ᐱᔪᖕᓇᖅᑎᑕᐅᓂᖓ ᐃᓚᐅᑎᑕᐅᔪᖅ ᓯᕗᓂᒃᓴᒥᑦ ᐱᔭᕆᐊᖃᖅᐸᑦ. • ᑭᒍᑎᓄᑦ ᐃᑲᔫᑏ ᓂᕆᐅᒋᔭᐅᔪᖅ ᑭᒍᑎᓄᑦ ᐃᑲᔫᑎᖃᖅᑎᑦᑎᓂᖅ ᑲᔪᓯᑎᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᐃᓚᒋᔭᐅᓗᓂ ᐃᒪᕐᑲᐅᓯᕝᕕᒃ ᐃᒻᒥᖅᑐᖅᑕᐅᑎᓪᓗᒍ ᒪᓕᒃᓗᒋᑦ ᓖᓐᓇᐅᔪᖅ ᐊᐅᓚᑦᑎᓃᑦ. ᑭᒍᑎᓄᑦ ᐃᑲᔫᑎ ᐊᑐᖅᑕᐅᓚᒃᑑᔪᖅ ᐃᒪᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᓄᑦ ᐃᓱᒪᒋᔭᐅᔪᖅ ᐱᐅᓯᕙᓪᓕᖅᑎᑦᑎᓂᖅᓴᓄᑦ ᑭᒍᑎᖃᑦᑎᐊᕐᓂᕐᒧᑦ ᐃᒪᖅᑐᖃᑦᑕᖅᑐᓄᑦ. ᐱᓕᕆᐊᕐᒥᑦ ᐃᓚᒋᔭᐅᔪᖅ ᐊᖏᓪᓕᒋᐊᖅᑎᓐᓂᐊᕐᓂᕐᒧᑦ ᐃᒪᕐᑲᐅᓯᕝᕕᐅᑉ ᐊᔪᙱᓐᓂᕆᔭᖓ ᑎᑭᐅᑎᓗᓂ ᐱᔭᐅᔭᕆᐊᖃᕐᓂᕋᖅᑕᐅᔪᓄᑦ ᓄᓇᓕᖕᒧᑦ ᑎᑭᓪᓗᒍ ᐅᑭᐅᖅ 2038ᒧᑦ. ᓄᑖᖅ ᐃᒪᕐᑲᐅᓯᕝᕕᒃ ᐃᒻᒥᕈᖕᓇᕐᓂᐊᖅᑐᖅ 103,000 m3ᓂᒃ ᑲᑎᑐᒃᑖᕐᑐᒥᑦ ᑐᖅᑲᖅᓯᓯᒪᔪᖕᓇᕐᓗᓂ 262,000 m3ᓂᒃ. ᑎᑎᕋᐅᓴᖅᓯᒪᔪᖅ C103 ᑕᑯᒃᓴᐅᑎᑦᑎᔪᖅ ᐃᓂᐅᔪᒧᑦ ᐸᕐᓇᐅᑎᒥᒃ ᓄᑖᒧᑦ ᐃᒪᕐᑲᐅᓯᕝᕕᒃᓴᒧᑦ. ᑎᑎᕋᐅᓴᖅᓯᒪᔪᕐᒥᑦ ᑕᑯᒃᓴᐅᔪᖅ ᐃᓂᒋᓂᐊᖅᑕᖓ ᓄᑖᖅ ᐃᒪᕐᑲᐅᓯᕝᕕᐅᑉ ᐱᔾᔪᑎᖃᖅᓗᓂ ᑕᐃᒪᐅᔪᒥᒃ ᐃᒪᕐᑲᐅᓯᕝᕕᖕᒥᑦ ᐊᒻᒪᓗ ᐃᒡᓗᕐᔪᐊᓕᐅᖅᑕᐅᔪᒪᔪᕐᒥᑦ. ᓄᑖᖅ ᐃᒪᕐᑲᐅᓯᕝᕕᒃᓴᖅ ᓴᓇᔭᐅᔪᒪᔪᖅ ᐊᔾᔨᒋᕐᓚᑦᑎᐊᕐᓗᒍ ᖃᓂᑕᖓᓃᑦᑐᖅ ᑕᐃᒪᐅᔪᖅ ᐃᒪᕐᑲᐅᓯᕝᕕᖕᒧᑦ. ᐃᓂᐅᔪᒥᑦ ᒪᓂᖅᑲᒃᓴᐃᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ, ᑎᑎᕋᐅᓴᖅᓯᒪᔪᖅ C201, ᑕᑯᒃᓴᐅᑎᑦᑎᔪᖅ ᐃᓂᓂᓕᐊᖑᔪᒪᔪᓂᑦ ᐃᒪᓕᕆᕝᕕᖕᒧᑦ, ᐃᒪᖅ ᐱᓕᕆᐊᖑᔪᒧᑦ ᑐᖅᑯᖅᓯᓯᒪᕝᕕᖕᒧᑦ ᐊᒻᒪᓗ ᐃᒪᖅ ᐊᑐᕈᖕᓃᖅᑐᓄᑦ ᑐᖅᑯᖅᓯᓯᒪᕝᕕᖕᒧᑦ. ᑎᑎᕋᐅᓴᖅᓯᒪᔪᖅ ᑕᑯᒃᓴᐅᑎᑦᑎᔪᖅ ᓄᓇᒃᑰᕈᑎᓄᑦ ᐊᐸᖁᑎᒃᓴᒥᒃ. ᓄᓇᒃᑰᕈᑎᓄᑦ ᓴᖑᕝᕕᒃᑕᖃᖁᔭᐅᔪᖅ ᐱᖓᖕᓇᖓᓂᑦ ᓄᑖᖅ ᐃᒡᓗᕐᔪᐊᒃ. ᐃᒥᖅᑕᐅᑎᓂᒃ ᐃᒻᒥᖅᑕᐅᕝᕕᖕᒧᐊᖅᑎᑦᑎᔪᖅ ᐃᓗᐃᓐᓂᖅᑕᖃᓗᐊᙱᑦᑎᐊᕐᓗᓂ ᐃᖏᕋᔭᒃᑐᓂᒃ ᓄᓇᓕᖕᒥᐅᓄᑦ. ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐃᒻᒥᖅᑐᐃᕝᕕᖕᒥᑦ ᐊᒻᒪᓗ ᑯᕕᑎᑦᑎᓂᖃᓗᐊᖅᑕᐃᓕᓃᑦ ᓖᓐᓇᐅᔪᖅ ᐋᖅᑭᒃᓱᖅᑕᐅᔪᑦ. ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᑐᓂᐅᑕᐅᓂᐊᖅᑐᑦ ᑭᖑᓪᓕᕐᒥᑦ ᑎᑎᕋᐅᓴᖅᓯᒪᔪᓂᒃ ᑐᓂᓯᒃᐸᑕ CGSᑯᓐᓄᑦ. ᑭᐅᔾᔪᑎᒋᑉᓗᒋᑦ ᐃᓱᒫᓘᑕᐅᔪᑦ ᐊᐱᕙᓪᓚᐊᓂᕐᒧᑦ, Novus Environmentalᑯᑦ, ᖃᐅᔨᒋᐊᕐᕕᐅᓚᐅᖅᑐᑦ ᑕᒪᑐᒥᙵᑦ ᖃᐅᔨᓴᖅᑯᔭᐅᑉᓗᓂ. ᒪᓕᒃᓗᒋᑦ ᖃᐅᔨᒋᐊᕐᕕᐅᔫᑉ ᐅᖃᖅᑕᖏᑦ, ᐃᒡᓗᕐᔪᐊᓕᐅᖅᑕᐅᔪᒪᔪᖅ ᖁᑎᖕᓂᖅᓴᒦᓐᓂᐊᖅᑐᖅ, ᖃᓕᓈᓕᖅᑐᖅᑕᐅᓯᒪᔪᑦ ᑐᙵᕕᖕᒦᓪᓗᓂ. ᐊᐳᑎᖃᖅᑎᑦᑎᓂᐊᖏᑦᑐᖅ ᐊᐳᒻᒥᓪᓗ ᑲᑎᓐᓂᖅᑕᖃᖅᑎᑦᑎᙱᓪᓗᓂ ᐊᑯᓐᓂᖏᓐᓂᑦ ᐃᒥᖅᑕᐅᑎᓄᑦ ᐃᓂᒋᔭᐅᔪᑦ ᐊᒻᒪᓗ ᐃᒡᓗᕐᔪᐊᕐᒧᑦ. ᓇᐃᓈᖅᓗᒍ, ᐱᓕᕆᐊᖅ ᓯᕗᒻᒧᒃᐸᓪᓕᐊᔪᖅ ᓂᕆᐅᒋᔭᐅᓯᒪᓂᖓᑐᑦ. ᑕᐅᑐᒐᐅᓂᖓ ᐃᒪᓕᕆᕝᕕᐅᑉ, ᑭᖑᓂᖓᓂᑦ ᐃᒪᕝᕕᒃ ᐊᒻᒪᓗ ᒪᖀᒃ ᐃᒥᖅᑕᐅᑎᓂᒃ ᐃᒻᒥᖅᑐᐃᕖᑦ ᓯᕗᒻᒨᑎᓴᐅᓯᒪᔪᑦ ᐋᖅᑭᐅᒪᓂᐅᔪᒧᑦ. ᐃᒪᓕᕆᕝᕕᐅᓂᐊᖅᑐᖅ ᐊᔾᔨᕐᓕᒋᓴᖓ ᖃᓄᐃᓐᓇᓴᕐᓂᖓᓄᑦ ᖃᐅᔨᓴᐃᓂᐅᓚᐅᖅᑐᒧᑦ. ᐱᓕᕆᐊᖅ ᐱᐊᓂᖕᓂᐊᕐᓂᖓᓄᑦ ᓂᕆᐅᒋᔭᐅᔪᖅ 2018 ᓄᖑᑉᐸᓪᓕᐊᓕᖅᑎᓪᓗᒍ.

Personnel

Personnel on site: 0

Days on site: 0

Total Person days: 0

Period of operation: from 2017-05-15 to 2017-05-15

Proposed term of operation: from 2017-05-15 to 2038-05-17

ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ

ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ

ᓇᒥ	ᖃᓄᐃᑦᑑᒥᑦ ᐱᓕᕆᐊᖃᕐᓂᐊᖅᐸ	ᑭᒃᑯᑦ ᓄᓇᖁᑖᓂ	ᑐᓴᐅᒪᔭᒃᓴᑦ ᓄᓇᐅᑉ ᖃᓄᖅ ᐊᑐᖓᐅᓚᐅᖅᓯᒪᔭᕆᐊᖕᒐᓐᓂᒃ	ᐃᑦᓴᕐᓂᑕᖃᕐᕕᐅᕙᓚᐅᖅᐸ ᐃᓄᖕᓄᑦ ᓇᔪᖅᑕᐅᖃᑦᑕᕐᓂᑰᕙᓗ ᑕᐃᑦᓯᒪᓂᑐᖃᐅᓕᖅᑐᖅ	ᖃᓂᓐᓂᖅᐹᖅ ᓄᓇᓕᒥᔭᐅᔪᖅ ᐊᒻᒪᓗ ᓴᐳᒻᒥᒃᓲᕕᐅᕙᓗ ᓱᓇᓄᑦ
Water Reservoir Cell #3	Municipal and Industrial Development	Municipal	Adjacent to water reservoir cells #1 (constructed 1998) and #2 (constructed 1988), community water treatment plant/truckfill station.	No known archaeological/paleontological sites.	Within Hamlet of Arviat municipal boundaries.
New Water Treatment Plant	Municipal and Industrial Development	Municipal	Adjacent to water reservoir cell #1 (constructed 1998) and existing pumphouse and standby generator buildings.	No known archaeological/paleontological sites.	Within Hamlet of Arviat municpal boundaries.

ᓄᓇᓕᐅᑉ ᐃᓚᐅᖃᑕᐅᓂᖓ ᓄᓇᓖᑦᑐ ᐊᐃᑉᑐᖅᓯᒪᐅᕐᓂᖓᓄᑦ ᐃᑲᔪᑕᐅᔪᙳᖅᑐᑦ

ᓄᓇᓕᒥᔭᖅ	ᐊᑏᑦ	ᑲᑐᔾᔨᐊᖃᑎᒌᒥᔭᖅ	ᖃᖓᓗ ᑐᓴᖅᑎᑕᐅᓚᐅᕆᐊᖕᒥᖕᓂᒃ
ᐊᕐᕕᐊᑦ	Hamlet Council	Preliminary meeting with Hamlet Council and design consultant (exp) regarding new water treatment plant and raw water storage expansion (Cell #3)	2016-11-01
ᐊᕐᕕᐊᑦ	Hamlet Council	Motion Number for approval of the poject is 77/17	2017-05-04

ᓚᐃᓴᓐᓰᑦ ᐱᒍᓐᓇᐅᑏ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ

ᓇᒦᕆᐊᖏᓐᓂᒃ ᐱᓕᕆᐊᕆᕝᕕᐅᓂᐊᖅᑐᑦ ᑎᑎᖁᓗᒥᑦ

Kivalliq

ᓚᐃᓴᓐᓰᑦ ᐱᒍᓐᓇᐅᑏ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ

ᒐᕙᒪᒥᔭᐅᔫᑉ ᐊᕕᒃᑐᖅᓯᒪᐅᕐᓂᖓᓐᓂ ᒪᓕᒐᕐᓅᖓᔪᓂᒃ ᐱᕐᑯᔭᕐᓅᖓᔪᓂᒡᓗ ᑲᒪᔩᑦ ᐱᔪᓐᓇᐅᑎᑖᕈᑎᓂᒃ ᓚᐃᓴᓐᓯᓄᑦᑐ ᑲᔪᓯᒃᑲᐃᔩᑦ	ᖃᓄᐃᑦᑐᓪᓚᕆᐅᑉ ᓚᐃᓴᓐᓯᑖᕈᑕᐅᔪᖅ ᐱᔪᓐᓇᐅᑎᑖᕈᑕᐅᔪᖅ ᐊᖏᖅᑕᐅᔪᕐᓗᓐᓂᑦ	ᒫᓐᓇ ᖃᓄᐃᓕᖓᕙ	ᐅᓪᓗᒥ ᑐᓂᔭᖅ/ ᑐᒃᓯᖅᑑᑕᐅᓚᐅᖅᓯᒪᔪᖅ	ᑭᓪᓕᖅᑲᕐᕕᖓ
ᓄᓇᕗᑦ ᒐᕙᒪᖓ, ᐱᕙᓪᓕᐊᔪᓕᕆᔩᒃᑯᑦ & ᐃᖏᕐᕋᔪᓕᕆᔩᒃᑯᓪᓗ	Letter from Todd McKay, Director, Nunavut Airports to Paul Clow, CGS, as approval from EDT, Nunavut Airports Division for the proposed water reservoir. Determined that the proposed water reservoir will not impair the safety of aircraft operating in the airspace surrounding the Arviat airport.	Applied, Decision Pending	2017-04-12	
ᑲᓇᑕᒥ ᐃᖏᕐᕋᔪᓕᕆᔩᒃᑯᑦ	TC #2017-195 Aeronotical Assessment Form for Obstacle Evaluation	Active	2017-03-31	2018-09-30
ᓄᓇᕘᒥ ᐃᒪᓕᕆᔩᑦ ᑲᑎᒪᔨᖏᑦ	3AM-ARV1016 Ammendment/Renewal Application filed	Applied, Decision Pending		

ᐊᑐᓚᐅᓂᐊᖅᑐᖅ

ᐱᖃᑦ ᐊᖅᑭᔪᖅ ᐊᑐᖅᑕᐅᓂᐅᓴᔪᖅ ᐃᓕᖅᓱᐅᑎᓗᓂᑦ ᐃᑯᑕᐃᑦ, ᒥᓪᓗᐊᑭᑎᑦ, ᖃᖅᓴᒪᑕᓯᖅ, ᓄᓇᓯᐅᑦ ᐊᓯᖅᑦᓪᓗ

ᐊᖅᑭᔪᖅ ᐱᖃᑦ ᐊᑐᓚᐅᓂᐊᖅᑐᖅ ᖃᓄᐃᑦᑐᓂᖅᓴᖅ	ᖃᖅᑎᓯᐅᕐᓴᑦ	ᐊᖅᑭᓂᖅᑭᑦ - ᐳᖅᑐᓂᖅᑭᑦ	ᓯᓚᒥᑦ ᐊᑐᓚᐅᓂᐊᖅᑕᐅᓴ
Loader, excavator, dump trucks, etc.	-	-	Construction of Cell #3 and Water Treatment Plant

ᑎᑎᕎᐅᓯᓇᓗᒍ ᐅᖅᓯᓱᓴᐃᑦ ᐊᑦᑕᓇᖅᑐᖅᑕᓂᓪᓗ ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖅᑭᑦ

ᓯᓚᒧᑦ ᐅᖅᓯᓴᓱᑎᐊᖅ ᐊᑐᓚᐅᓂᐊᖅᑕᐅᓴ	ᖃᖅᓄᐃᑦᑐᓂᓚᓇᐅᓐ ᐅᖅᓯᓱᓴᓱᑎᐊᖅ	ᖃᖅᑎᓯᐅᕐᓴᑦ ᐅᖅᓯᓱᓴᖃᖅᑎᕐᓂ	ᐃᓱᓴᐃᑦ ᐃᒪᖅᑐᑎᔪᓇᕐᓂᖅᓴᖅ	ᑲᑎᑦᓗᒍ	ᐃᓱᓴᐃᑦ ᐊᒥᓯᓂᖅᑭᑦ	ᓯᓚᒧᑦ ᐊᑐᓚᐅᓂᐊᖅᑕᐅᓴ
Diesel	fuel	0	0	0	Liters	For heavy equipment

ᐃᒪᖅ ᐊᑐᖅᑕᐅᔨᒪᖅᑐᖅ

ᐅᓪᓗ ᑕᒪᖅ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ	ᖃᖅᓄᐃᑦ ᐃᒥᖅᑕᖃᖅᑕᕐᓂᐊᖅᑕᑦ	ᓇᑭᑦ ᐃᒥᖅᑕᖃᖅᑕᕐᓂᐊᖅᑕᑦ
2000	Overland pipeline to water reservoirs - approx. daily amount over 3 months (175,000m3 annually)	Wolf Creek - no additional water requirements/consumption during project construction

ᐊᒃᑕᔪᑦ

ᐊᒃᑕᔪᓪᓚᓂᐊᕐᓂᖅ

ᐱᓪᓚᐊᓚᕆᐅᔨᒪᔨᒧᑦ ᐱᓪᓚᐊᓚᕆᐅᓂᐊᖅᑐᖅ	ᖃᖅᓄᐃᑦᑐᖅ ᐊᒃᑕᔪᖅ	ᖃᖅᓄᑎᒥ ᐊᒃᑕᔪᑦ ᓴᖅᑭᐊᓂᐊᖅᑐᓗᕆᐅᕐᓴᑦ	ᖃᖅᓄᖅ ᐊᒃᑕᖅᑕᐅᓂᐊᖅᑕᑦ	ᓴᓗᒪᖅᓴᐅᑎᒃᓴᒃᖢᓂᐅᓂᐊᖅᑐᖅᑕᑦ
Municipal and Industrial Development	ᐅᔾᔨᐃᓴᐃᓂᖅ ᓄᓇᒥᑦ ᓅᑎᓚᓂᖅ ᐊᑐᐸᐅᔨᓪᓚᔾᔪᑎᖅᑕᕐᓂᖅ, ᓚᒪᕐᓗᓄᓂᒃ	60,000m3	Excavated material at Cell #3 site - to be reused in berm construction	Surplus material to be disposed of offsite as per direction from site Engineer and Hamlet

ᐊᐢᑎᒥᐅᑕᓄᑦᑐᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᔨᑦ

The contractor must adhear to environmental protection procedures during construction of the new reservoir cell, with measures outlined for the disposal of waste, and protecting drainage systems and waterways. Refer to Environmental Procedures Specifications uploaded to Project Documents. Excavated material is to be reused for the construction of the cell berms.

ↄϛᐅᒪᓗᑦϛᑦ Δᓪᖏᖅ 2

ᐱᓕᓀᐊᓂᐅᔨᒪᔨᒧᑦ ᑭᓯↄΔᖅᓪᓂᔾᔪᖏᖅᓱᔨᑦ ↄϛᓗᑦϛᑦ

- The Hamlet of Arviat has outgrown the current reservoir infrastructure and additional capacity is required to meet the water demands of the growing community. Limiting water availability will increase the risk of water wash diseases. - There is no alternative to constructing additional reservoir capacity. Not locating the third reservoir cell beside the existing infrastructure does not make financial or operational sense, as additional treatment and truckfill stations would be needed. - Approval will be required from the NWB upon completion of the NIRB screening process.

ᑲᓇᑕᒥ Δᒪᖏᓯᐅᑕᓂᓇᐅᑦᔪᑦ ᐊᐅᓪᓯᔨᐱᖏᓐᓄᑦ ᐅᓂᑲᑦ ᒪᓕᑦᕋ

N/A

Δᖏᑭᖏᔨᓕᓂᓂᖅ

- Site will be accessed by Hamlet road adjacent to the current reservoirs and pumphouse. Road is frequently used, by community residents and large water trucks for the delivery of water. - Dust management will be achieved by following speed limits. - Supplies will be brought into Aviat via sealift. - Modular construction of the new water treatment plant is anticipated, taking place in the south prior to shipping. - No additional flights.

ↄΛᖏᕕᑦ

N/A

ᐊᖏᔨᖅ Λᖏᔪᑦ ᐊↄᒪᐅᓂᐊᖅↄᖅ

- Heavy equipment will be used for construction purposes only. No equipment will remain on site for operation.

Δᒪᖅ

- Construction of a new water reservoir cell (Cell #3) and new water treatment facility is required. It has been requested from the NWB that the amount of water authorized be increased to 175,000 cubic metres annually to meet the water demands of the community. - The community water source is Wolf Creek. No additional water requirements/consumption are required during project construction. - An overland pipeline supplies water to the two water reservoir cells currently in place, seasonally from July-September.

ΔᒪΔᑦ ᐊↄᖅᑕᐅᔭᓴᖅᓂᒪᔨᑦ, ᖏᖅᑕΔᑦ, ᐊᓂᖏᒃ

- No wastewater is produced by the new reservoir cell. - Wastewater is produced from the new water treatment plant that will be trucked stored in the wastewater tank and trucked to the community sewage lagoon. Wastewater will be produced from the filter backwashing process, operational drains and online analyzers, and the water treatment plant washroom.

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- Fuel will be stored onsite of the new water treatment plant for heating and for the back-up generator. The current water treatment plant has fuel stored for the same purposes. - Diesel is used to operate heavy equipment during construction.

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- Calcium hypochlorite (granular chlorine) and fluoride will be used in the water treatment process. The chlorination room is separate from the rest of the water treatment plant with its own exterior door. - Chlorine and fluoride are currently used at the water treatment plant and reservoir.

ᓴᓇᔭᑦ /Δᖅᑲᓇᐃᔨᖅↄᓕᓂᖅ Δᓄᓕᓂᖅ -ᐱᓵᓕᐊᔨᓕᓂᓂᖅᖏᒧᓪᓗ ᐊᑦↄᖅᑕᐅᓂᒪᖏᑲᓂᐅᑦᔨᐅᔨᑦ

- Construction tender will include standard GN NNI Policy.

ΔᓄΔᑦ Δᓪᐅᑎᑕᐅᓂᖅᓂᑦ/ΔᓄΔᑦ ᖏᐅᔭᒪᔨᖅᓂᑦ

- Arviat Hamlet Council was consulted in the early planning phase of the water treatment plant and storage expansion (Cell #3) project. Hamlet Council passed a motion (77/17) approving this project.

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- The Hamlet of Arviat requires additional water storage and water treatment to meet the needs of the growing municipality. The municipality is responsible for supplying treated water to residents, with the assistance of CGS. Construction is being managed through CGS. - The existing water reservoir includes two cells adjacent to the road out of town to the north of the community. A third cell with an estimated active volume of 103,427 metres cubed is required to meet the water needs of the community to 2038. Locating the new cell (Cell #3) to the west of Cell #1 will share the western berm of Cell #1, reducing the volume of granular needed to be imported, and avoid exposure to high tides, small ponds, or the existing subdrainage system for the cells. Cell #3 will be constructed similar to Cell #1, with a high density polyethylene (HDPE) liner. Equipment is planned to be mobilized to the site during sealift 2017, and construction will take place summer 2018. First fill of the new cell is anticipated for late summer/early fall 2018. The third cell will operate under the Hamlet Water Licence, currently under renewal, 3AM-ARV1016. The contractor must adhere to environmental protection procedures during construction of the new reservoir cell, with measures outlined for the disposal of waste, and protecting drainage systems and waterways. Excavated material is to be reused for the construction of the cell berms.

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- Additional information on the condition of the permafrost and soil in the water reservoir and water treatment plant area can be found in the

Geotechnical Report.

Ⅼᓐᓇ ᐊᕐᑎᐅᕆ ᖃᓄᐃᑦᑐᑕᓇᐅᓂᖅ: ᐅᒪᔨᖅᑕᖃᖅᓂᖅ

- The area where the third reservoir cell will be constructed is adjacent to the other two cells. This area has previously been distrupted and there is little vegetation. - Little wildlife in the area of the new reservoir cell and water treatment plant is assumed due to the proximity to the community, adjacent to a busy road out of town, and next to the activity of 6-7 water trucks delivering water daily from approximatly 7am-10pm.

Ⅼᓐᓇ ᐊᕐᑎᐅᕆ ᖃᓄᐃᑦᑐᑕᓇᐅᓂᖅ: ᐃᓄᓕᓇᓂᑦᔨᖅᓴᔨᑦ-ᐱᓕᑦᓕᐊᔨᓕᓇᓂᑦᔨᖅᓴᔨᑦ

- There is significant human health risk in not completing this project. By restricting the water available to the community, people will not be able to acheive minimum daily water volumes needed to prevent water wash diseases.

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- Permafrost impacts will be mitigated during construction by excavating and installing the liner quickly as to not allow the ground to thaw. - Construction noise cannot be avoided, however it is for a limited time period. Heavy vehicle activity around the water treatment plant is already a daily occurance. - The construction phase has the potential to create employment and economic opportunities for the community; either directly at the construction site or indirectly through the use of hotels, local stores, restaurants, etc.

- Further developing the area of the current water reservoir cells and water treatment plant will create a larger impacted area. However, the health needs of the community have to be met and the alternative would be to develope a new area.

Impacts

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	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
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Municipal and Industrial Development		-	-	M	-	-	-	-	-	-	-	-	M		-	-	-	-	-		P	-	-	-	-
ᐅᔨϛᑲᑦᓂᖅ																									
Municipal and Industrial Development		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		P	-	-	-	-
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Municipal and Industrial Development		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = ᐊᑲᐅᓯᑭᑎᓴᓐᓇᖅᑐᑦ, N = ᐊᑲᐅᖅᑭᔨᓯᑕᐅᓴᓐᓇᖅᑐᑦ ᐸᓪᐅᒥᔨᓯᖅᑐᖅᑕᐅᓴᓐᓇᖅᑭᑦᑐᓪᓗ, M = ᐊᑲᐅᖅᑭᔨᓯᑕᐅᓴᓐᓇᖅᑐᑦ ᐸᓪᐅᒥᔨᓯᖅᑐᖅᑕᐅᓴᓐᓇᖅᑭᑦᑐᓪᓗ, U = ᖃᑲᐅᔨᒪᓐᓇᖅᑭᑦᑐᖅ)

Project Map