

Volumes of Water Used

2015

CONTRACT: NPO1301 – 55468 Const. of Nanisivik Naval Facility

Location: Nanisivik, Nunavut

Client: Defence Construction Canada

Company: Almiq Contracting Ltd.

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1 FRESH WATER SUPPLY

The table below indicates the volume of water Almiq plans to use. Even though the license allows us to use East Twin Lake, we have planned to use Twin Lakes Creek, for compaction water and water from the Hamlet of Arctic Bay, for domestic and industrial (concrete production, dust control and tank rinsing) purposes during the construction phase of the project:

	Industrial Use (cubic metres)/year	Domestic Use (cubic metres)/year	Combined Volume (cubic metres)/year
2015	500	1017	1517
2016	500	1356	1856
2017	100	1243	1343
2018	200	848	1048

2 WASTEWATER MANAGEMENT

Clean-up water

License / Background / Description info	Water used for cleaning equipment, tools, etc.	
Schedule of activity	2015 to 2018	Real QTY 2015
Qty of water to be used (approx.)	10 m ³ (10 000 L)	2.5 m³
Source	Hamlet of Arctic Bay	
Wastewater management / Mitigative Measures	Cleaning of equipment will take place in the laydown area. Cleaning station will be 31 metres away from any water body. Water will be use to clear away mud and dust. This installation is not a car wash. No cleaning products will be used. No oily pieces of equipment will be washed.	

Dewatering of ground water

License / Background / Description info	Dewatering will occur with excavation works for sheet pile salvage and wharf repair. This is sea water.	
Schedule of activity	2015-2016	Real QTY 2015
Qty of water to be used (approx.)	150 m ³ (150 000 L)	75 m³
Source	Underground water (sea water)	
Wastewater management / Mitigative Measures	Water from dewatering operations will be pumped into a sediment pond. Water will be returned to sea in a manner that prevents erosion and sedimentation..	

Disinfection water and flushing of lines

License / Background / Description info	Disinfection water will come from seasonal camp opening activities.	
Schedule of activity	Each season (5 times)	Real QTY 2015
Qty of water to be used (approx.)	30 m ³ (30 000 L)	5 m³
Source	Hamlet of Arctic Bay	
Wastewater management / Mitigative Measures	Quantities used will be kept at the minimum extent possible. Waste water from this activity will be managed as domestic sewage water i.e. collected by the Hamlet of Arctic Bay's sewage truck.	

Domestic water / sewage water

License / Background / Description info	To support the Project, we established a 50 - 60 person camp infrastructure for duration of project, 2015 through 2018.			
Schedule of activity	From the end of April to the end of September – 2015 to 2018.			
Qty of water to be used (approx.)	2015	2016	2017	2018
	1017m ³	1356 m ³	1243 m ³	848 m ³
Qty of water to be used (REAL)	2015	2016	2017	2018
	600m³	-	-	-
Source	Hamlet of Arctic Bay delivered via truck. Hamlet has confirmed its ability to provide potable water to the project.			
Wastewater management / Mitigative Measures	Domestic wastewater generated during the construction phase will be backhauled to facilities within the Hamlet of Arctic Bay for treatment. Hamlet has confirmed by letter its intent to accept domestic waste water generated by the project.			

Water used for Compaction and Dust Suppression

License / Background / Description info	Aggregate material is to be placed and compacted for the project. Water will be pumped from Twin Lakes Creek with a hose equipped with a mesh. Water is contained in a 1000 L tank and then sprayed for compaction works as and where needed.	
Schedule of activity	2015-2016	Real QTY 2015
Qty of water to be used (approx.)	500 m ³ per year	500m³
Source	Twin Lakes Creek	
Wastewater management	Water is used to increase ground humidity up to 8% and will not exceed this percentage. Ground will not be saturated and no erosion will be created.	