



# **Clinton Creek Remediation Project**

10% Design Phase Cost Estimate  
Project # VE52705E.100.4

Prepared for:

**Government of Yukon Energy, Mines and Resources  
Assessment and Abandoned Mines**

2C – 4114 4th Avenue, Whitehorse, Yukon, Y1A 4N7

November 2019

# Clinton Creek Remediation Project

10% Design Phase Cost Estimate  
Project # VE52705E.100.4

## **Prepared for:**

Government of Yukon Energy, Mines and Resources Assessment and Abandoned Mines  
2C – 4114 4th Avenue, Whitehorse, Yukon, Y1A 4N7

## **Prepared by:**

Wood Environment & Infrastructure Solutions  
#600 – 4445 Lougheed Highway  
Burnaby, BC V5C 0E4  
Canada  
T: 604-294-3811

**November 2019**

## **Third-party disclaimer**

This report is for the use of the Government of Yukon, ("YG") and its authorized consultants, contractors, and representatives, First Nations, the federal government, and regulatory agencies.

The reports are made available for third party review for informational purposes only in relation to this Project or for the purposes upon which the report was requested. YG and Wood make no representation or warranty nor assume any liability with respect to any reliance by a third party on this report and the work referred to in this report. If site conditions or applicable standards change or if additional information becomes available, modifications to the findings and conclusions of this report may be necessary.

## Table of Contents

1.0	Introduction and Document Scope.....	1
1.1	Background .....	1
1.2	Document Scope.....	1
1.3	Comment Log.....	1
2.0	Design Basis .....	1
2.1	Candidate Options.....	1
2.2	Concept Scope Elements .....	1
3.0	Estimating Methodology .....	2
3.1	Estimate Classification.....	2
3.2	Estimate Derivation .....	2
3.3	Estimate Platform.....	3
4.0	Estimating Bases.....	3
4.1	Estimating Scope.....	3
4.2	Work Breakdown Structure .....	3
4.3	Execution Schedule .....	4
4.4	Key Assumptions.....	5
4.4.1	General .....	5
4.4.2	Temporary Facilities & Controls (TF&C).....	5
4.4.3	Earthworks.....	6
4.4.4	Aggregate Sources .....	7
4.4.5	Asbestos Abatement Protocols and Assumptions .....	8
4.4.6	Monitoring During Construction.....	8
4.5	Exclusions .....	9
5.0	Direct Costs .....	9
5.1	Direct Cost Bases.....	9
5.2	Direct Rates .....	9
5.3	Labour Rates .....	10
5.4	Operating and Maintenance Costs (OPEX).....	10
6.0	Indirect Costs.....	10
7.0	Contingency.....	11
7.1	Definition.....	11
7.2	CCRP Contingency.....	12
8.0	Life Cycle Cost Analyses (LCCA) .....	13
8.1	Discount Rate .....	13
8.2	Life Cycle Duration.....	13
9.0	Estimate Outputs .....	13
9.1	Estimate Summary.....	13
9.2	Comments and Observations.....	15
9.3	Estimating Sensitivities.....	15
10.0	Closure .....	16
11.0	References .....	17

## Table of Contents (cont'd)

### List of Tables

Table 1:	AACE Cost Estimate Classification Matrix.....	2
Table 2:	CCRP Cost Estimate Summary .....	14

### List of Figures

Figure 1:	Definition of Contingency (from Lawrence 2007) .....	11
Figure 2:	Definition of Management Reserve (from Lawrence 2007) .....	12

### Comment Log

### List of Appendices

Estimating Workbook:	Estimate Navigator
	Estimate Summaries
	Estimate Detail
	Estimate Inputs
Appendix A:	Equipment Evaluations

### List of Acronyms and Abbreviations

AACE	American Association of Cost Engineers
AAM	Assessment and Abandoned Mines (Yukon Government)
C&M	Care & Maintenance
C-INAC	Crown-Indigenous Relations and Northern Affairs Canada
CAPEX	Capital Costs
CCRP	Clinton Creek Remediation Project
EBM	Estimate Basis Memorandum
EPCM	Engineering, Procurement and Construction Management
H&S	Health & Safety
IPRP	Independent Project Review Panel
LCCA	Life Cycle Cost Analysis
OPEX	Operating Costs
PPSS	Porcupine Pit Storage Structure
T,F&C	Temporary Facilities and Controls
TA	Task Authorization
TH	Tr'ondëk Hwëch'in
WBS	Work Breakdown Structure
Wood	Wood Environment & Infrastructure Solutions, a Division of Wood Canada
YG	Yukon Government

## 1.0 Introduction and Document Scope

### 1.1 Background

The Clinton Creek Mine is a former asbestos mine which was in operation between 1968 and 1978. The site is located 80 km northwest of Dawson City, Yukon (YT), near the confluence of Fortymile River and the Yukon River. During operations, waste rock (60 million tons) was placed along the south valley wall of Clinton Creek while tailings (11 million tons) from the milling operation were placed along the west valley wall of Wolverine Creek. Subsequent movement of the waste rock and tailings have since blocked Clinton Creek and Wolverine Creek, respectively. The blockage of Clinton Creek from waste rock has resulted in the impoundment of approximately 10 million m<sup>3</sup> of runoff from the surrounding natural portion of the watershed, forming Hudgeon Lake.

In 2016, the Project Partners (Government of Yukon (the *Owner*), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), and Tr'ondëk Hwëch'in (TH)) sought the development of a 10% design and an American Association of Cost Engineers (AACE) Class 4 Life Cycle Costs Analysis (LCCA) for closure concepts on the Clinton Creek, Wolverine Creek, and common components of the property and engaged Wood Environment & Infrastructure Solutions (Wood) to complete this work.

### 1.2 Document Scope

Wood's scope for this 10% Design Phase Cost Estimate (the Estimate) was described in Task Authorization Request (TAR) #14 to the Government of Yukon dated 01 April 2019 (Wood 2019). This document presents cost estimates for the candidate closure options for the Clinton property identified by the Project Partners. The bases for this estimate were described in a draft Estimate Basis Memorandum (EBM) prepared by Wood (Wood 2019b).

This document serves two purposes:

- finalization of the EBM content; and
- presentation of the 10% design phase cost estimates.

### 1.3 Comment Log

The Comment Log that is included with this document describes the disposition of Project Partner comments on the draft submission of this report. The context provided by these responses supports the review and interpretation of this document's content.

## 2.0 Design Basis

### 2.1 Candidate Options

The detailed descriptions of the candidate options that constitute the scope of the cost estimates are provided in the 10% Design Phase Report (Wood 2019a).

### 2.2 Concept Scope Elements

Each candidate option incorporates key scope elements that have been identified and defined during 10% design development activity, and that form the basis of the estimate Work Breakdown Structures (WBS) described herein. Again, these concept scope elements are detailed in the 10% Design Phase Report (Wood 2019a).

## 3.0 Estimating Methodology

### 3.1 Estimate Classification

The 10% design phase estimates have been developed consistent with the requirements for an AACE Class 4 LCCA as specified in Yukon's Scope of Work (Yukon 2017). AACE defines cost estimates as shown in the following Table 1.

**Table 1: AACE Cost Estimate Classification Matrix**

Estimate Class	Primary Characteristic	Secondary Characteristic		
	Maturity Level of Project Definition Deliverables Expressed as % of complete definition	End Usage Typical purpose of estimate	Methodology Typical estimating method	Expected Accuracy Range Typical variation in low and high ranges at an 80% confidence interval
Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgement, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

A Class 4 estimate is typically a deterministic, stochastic estimate that relies primarily on factored or parametric cost models. The Clinton estimates combine these types of estimates with more robust unit cost driven derivations, when and where meaningful work breakdown structures for specific scope elements could be developed.

The bulk of the earth materials movements that make up large proportions of option scopes have typically been developed using this latter, unit price drive approach. The extraordinary measures required to make some of the candidate closure options viable occasionally relied on judgement driven, factored or parametric estimates.

### 3.2 Estimate Derivation

In 2013/14, WorleyParsons Canada (Worley) completed a lifecycle cost analysis for YG that applied to the closure options that were under consideration at the time (WorleyParsons 2014). The candidate closure options have evolved since that time, but many of the scope elements costed by Worley are still relevant. For this reason, the 10% design phase estimates applied elements of the 2014 Worley work, adjusted as follows:

- the estimating scopes were modified to reflect the specific nature and characteristics of the candidate options currently in play (Section 2);
- assumptions regarding fill sources and associated haul distances were modified to reflect the evaluations completed by Chilkoot Geological Engineers (CGE) (2015) subsequent to the WorleyParsons estimate;

- unit pricing was adjusted to reflect Q2 2019 conditions, either by using current market prices for key estimating inputs (e.g., fuel, labour and equipment), vendor information/quotes or by escalating WorleyParsons' 2014 prices using relevant Statistics Canada CPI data; and
- the Excel workbooks used to derive the Worley estimate were updated to apply current software releases and the estimating bases outlined in this EBM.

### 3.3 Estimate Platform

The platform for the estimate is Microsoft Excel 2013 Version 15.0.5127.1000. Key components of the workbook are as follows:

- a dashboard on the first worksheet facilitates navigation through the estimate and its associated key inputs;
- a summary worksheet of total estimates (CAPEX, OPEX, Indirects and Contingencies) by option;
- estimate detail worksheets for each option;
- material management equipment selection and productivity estimate worksheets; and
- various estimate data input and development worksheets that can be accessed via the dashboard.

All of the sheets that comprise the workbook are included in the Estimating Workbook appendix.

## 4.0 Estimating Bases

The following sections outline the scope and key assumptions for the 10% design phase estimate.

### 4.1 Estimating Scope

The estimate scope includes:

- mobilization and demobilization of equipment and personnel;
- development and maintenance of site access;
- the capital costs (CAPEX) of execution for the candidate options as described in Wood (2019a);
- the operating and maintenance costs (OPEX) of executing the candidate options as described in Wood (2019a);
- all indirect costs associated with construction (including construction camps, temporary facilities and controls, access maintenance and monitoring during construction);
- engineering, procurement and construction management (EPCM) costs;
- extraordinary, supplemental site investigation costs (i.e., costs incremental to those normally captured by indirect costs factors); and
- contingencies as described in Section 7.

### 4.2 Work Breakdown Structure

The WBS is detailed in the estimating workbooks summary worksheet, and in the associated estimate detail worksheets by option that follow. Broadly, this WBS is comprised of the following components:

- Mobilization and Demobilization:
  - equipment; and
  - major Temporary Facilities & Controls (TF&C);

- Temporary Facilities & Controls:
  - camp;
  - site access;
  - on-site haul roads;
  - fuel/power supplies;
  - health & safety controls (including asbestos abatements and controls);
  - environmental, hydrotechnical and geotechnical monitoring during construction; and
- Civil Works:
  - materials management;
  - flow conveyance (e.g., spillway construction) and erosion control;
  - ground improvements (e.g., densification); and
  - other works (e.g., sediment ponds).
- Mechanical Works:
  - lake drawdowns; and
  - ground thawing.
- Post Closure Care and Maintenance:
  - general care & Maintenance;
  - monitoring;
  - Partner communications & consultations;
  - Owner's project management and administration; and
  - sediment pond cleanouts.

### 4.3 Execution Schedule

The execution schedule is one of the key influencers on any program involving significant material movements. For the Clinton property, this schedule will ultimately be driven by a variety of issues that will require more consideration and definition post this 10% design stage. One of the issues that will set a key schedule boundary condition will be the rate at which drawdowns of Hudgeon Lake can be completed. The design report (Wood 2019a) noted that detailed post 10% design phase drawdown planning needs to consider:

- geotechnically driven drawdown rate constraints;
- the costs of a pumping system that could be used to lower dump water tables and thereby expedite lake drawdowns;
- in the absence of pumping, the costs of extending the broader construction execution plan to accommodate extended drawdown durations;
- the feasibility and costs of executing drawdowns in advance of mobilizing the broader construction execution effort; and
- the nature and timelines of a construction execution schedule that is not constrained by drawdown durations.



On the Wolverine Creek side, execution schedules are not constrained by lake drawdown rates. However, they will be influenced by schedules on the Clinton side because of the associated impacts on the availability and scale of project execution infrastructure (i.e., there would be logistical costs associated with any large disconnects between schedules in the two areas).

For the purposes of this 10% design phase estimate, it was assumed that:

- Clinton Creek schedule durations would be relatively extended, reflecting the general assumptions about lake drawdown constraints outlined in the design report (i.e., two years for CC1, four years for CC2 and six years for CC3); and
- Wolverine Creek schedules will be linked broadly to these Clinton Creek durations, on the premise that developing a comparatively short execution schedule for Wolverine based on a high capacity materials management capability, may not be cost effective given that the readily available project infrastructure will not be easily sized to support it.

## 4.4 Key Assumptions

### 4.4.1 General

The following estimating assumptions apply to all of the candidate closure options:

- all costs are presented in second quarter 2019 Canadian dollars;
- land rights-of-way have been established for construction; and
- all major works will be performed by a workforce mobilized from Whitehorse, YK.

### 4.4.2 Temporary Facilities & Controls (TF&C)

Assumptions relating to the Major TF&C were as follows:

- a camp will be established at the former Clinton Creek Town site to accommodate all on-site personnel. All camp facilities will be mobilized from Edmonton, Alberta;
- camp costs are based on information provided by ATCO & Canadian Utilities Ltd (ATCO 2019) in a response to an informal Request for Information (RFI); specific camp cost components include:
  - mobilization/demobilization;
  - fixed camp development costs; and
  - variable operating costs based on person-day occupancy.
- heavy equipment, camps, facilities and materials will be compatible with transport across:
  - the Yukon River via the existing ferry or ice bridge; and
  - the Fortymile River via the existing bridge.
- on-site haul roads will be as described in the Earthworks Section (Section 4.4.3);
- bridge upgrade/construction costs required for on-site haul roads were updated from Alberta Transportation Construction Bridge costs data;
- the Clinton Creek road will be upgraded by regrading the subgrade and adding gravel surfacing;
- two graders will be allocated full-time for snow removal and road maintenance during construction (incremental to the equipment referenced in the Earthworks Section (Section 4.4.3);

- general site power will be provided by diesel generators (note: this is incremental to particular power requirements that are associated with specific scope elements (e.g., ground thawing for CC1, these power costs are addressed separately under these option scope elements);
- H&S Controls; will be comprised of standard protocols for a large-scale civils operation supplemented with the asbestos abatement/controls detailed separately in Section 4.4.5;
- RVs and worker per diem will be assumed to accommodate small sized crews performing work outside the camp availability schedule window; and
- travel costs to and from site will consist of an allowance based on round-trip flights from Whitehorse to Dawson City and a chartered passenger bus from Dawson City to site.

#### 4.4.3 Earthworks

The following estimating assumptions were applied to the materials management plans/requirements for the closure options:

- materials management operations will be continuous, year-round operations (the scale of the required movements, and the inefficiencies associated with winter shutdowns, dictate against seasonal operations);
- the project will contribute costs for an ice bridge over the Yukon River at Dawson City and winter maintenance of the road to Clinton. It is unlikely that an ice bridge could be sustained for the entire winter operating season; provisioning during periods of bridge closure would be addressed via helicopter staging of supplies across the Yukon river (i.e., from bank to bank, via truck thereafter). The scope of these helicopter ferry requirements could be limited by anticipating periods of bridge closure and maximizing provisioning on either side of the closure period. The estimate does not explicitly include provision for helicopter time; it has been assumed they can be covered by the incidentals provision for Temporary Facilities and Controls;
- equipment requirements and productivities were calculated on an option-specific basis using the "Truck/Shovel" worksheets in the Estimating Workbook; these worksheet platforms are an in-house Wood development used to predict equipment productivities in mining applications (note: the development and application of the productivity worksheets were informed by the Wood Mining Group assessment of equipment requirements that is provided in Appendix A);
- equipment capabilities were derived from the latest edition of the Caterpillar Performance Handbook (Caterpillar 2018);
- dedicated two-way haul roads will be constructed for large materials movements using typical sections similar to those illustrated on Drawing VE52705E.WC3.2 of Wood (2019a);
- material transfers between the waste dump area (including the Porcupine Pit Storage Structure) and the tailings area will be via a dedicated two-way haul road constructed through the Wolverine Creek Valley (see dwg. VE52705E.WC3.2 in Wood (2019a));
- an additional cut volume of 5% the total waste and tails volumes directed to the PPSS was assumed to account for the local haul road and access improvements needed to facilitate material movements over the dump and the tailings;
- the cut and fill volumes associated with haul road developments are included in the overall materials management volumes for each candidate option;

- all of the assumed materials management fleets will require two CAT D8 dozers; one to support the excavator and one to support placement operations at the PPSS;
- for WC2 and WC3 an additional CAT D10 dozer will be required to push tails downslope toward the excavator loading area;
- incremental costs associated with PPSS development are limited in the estimate to provision of a dozer and compactor dedicated to placement operations at the PPSS (i.e., the PPSS shell will be constructed entirely of waste dump materials otherwise slated for disposal in the PPSS);
- a diesel fuel rate of \$1.36/L was built into all earthwork based on Dall Contracting Ltd (2019);
- a detailed estimate for the landform developments that are part of the scope for exposed valley surfaces under WC3 has not been attempted. A provision of \$150,000/ha for this scope element has been assumed in the estimate (this provides for equipment time and the use of imported select granular material for targeted ditching and swale development); and
- the cut volumes for the haul road along Wolverine Creek from the tailings area to the PPSS that is an element of WC2 and WC3 vary depending on the option selected for Clinton Creek. For the purposes of the estimate the haul road cut volumes associated with CC2 have been assumed. This produces a comparatively small underestimate of costs if CC1 is selected and a slight overestimate if CC3 is selected.

#### 4.4.4 Aggregate Sources

Most of the candidate closure options require select granular and rock fill and/or riprap materials. The haul distances applicable to the sources for these materials have a significant bearing on project cost estimates. In 2015, Chilkoote Geological Engineers (CGE) completed a borrow source assessment for potential sources generally proximate to the Clinton Creek property (CGE 2015). The key conclusions of the CGE study are replicated as follows:

*Of twenty-seven (27) sites that were assessed during the course of our evaluation, only seven (7) were identified as harboring potential resources which may be suitable for structural applications. The potential sites were comprised of four (4) fluvial deposits and three (3) rock quarries.*

- *Of the four (4) fluvial deposits, only one site (Clinton Creek Road - Site 11) located ~14 kilometers from the mine site entrance, would likely harbor granular reserves of suitable high quality and adequate quantity to allow for long-term development. Some land use considerations may however be required as portions of this site coincide with Placer Prospecting Claim(s).*
- *Of the three (3) rock quarries, only one site (Top-of-the-World Highway - km 63 LHS) located ~44 kilometers from the mine site entrance, will yield Class III sized rip-rap.*

Further, CGE concluded that these sources (specifically Site 11 and Top-of-the-World km 63) would have sufficient capacity to address the granular and rock fill requirements of any likely Clinton Creek closure concept. This conclusion was qualified by the observation that these borrow locations coincide with mining claims and/or land dispositions and that potential land use conflicts will require resolution before utilization of these sources could be confirmed.

Given these conclusions, the 10% design phase estimates were developed assuming that:

- engineered sands and gravels will be sourced from Site 11, located some 14 km from the mine site entrance on the Clinton Creek road;

- Class I to III rock will be sourced from the Top-of-the-World Highway source at km 63, located some 44 km from the mine site entrance; and
- the project will be required to carry the costs of mobilizing and operating aggregate processing equipment, but not any development costs associated with the borrow sites themselves (e.g. access upgrades, permitting/approvals, reclamation costs), on the assumption that they may be retained as a commercial aggregate source that survives the CCRP.

#### 4.4.5 Asbestos Abatement Protocols and Assumptions

Asbestos abatements protocols and their associated cost estimates and impacts are based the following:

- ongoing air quality monitoring comprised off passive area monitoring and individual monitoring of all workers in active work areas (estimated quantities are a Wood judgment based on experience from the 2018 field investigation);
- reductions in base materials management productivities as follows (these factors are Wood judgments based on experience during the 2018 field investigation);
  - a 10% reduction in available equipment hours for operations exclusively in the waste dump and PPSS areas; and
  - a 20% reduction in available equipment hours for all material management operations involving tailings;
- maintenance of a controlled work perimeter around all active work areas;
- continuous operation of one water truck for dust suppression during all materials management operations in the waste dump/PPSS areas;
- continuous operation of two water trucks for dust suppression during all materials management operations in the tailings area;
- supply and maintenance of a change and wash facility (including showers) at the access point to the controlled area;
- supply and maintenance of a washdown building large enough to accommodate two CAT haul trucks end to end;
- pressure washers, plus lab our and fuel, to clean asbestos fibers from equipment;
- Tyvek overalls, respirators, and standard PPE for all persons on-site; and
- HEPA filters for all vehicles and equipment on-site.

#### 4.4.6 Monitoring During Construction

In addition to the asbestos abatement monitoring described above, the estimate incorporates the following construction monitoring components:

- water quality;
- hydrotechnics; and
- geotechnics.

The estimates for these activities were factored from current care and maintenance (C&M) expenditures for the Clinton property. The current C&M expenditures were provided AAM (Ojierenem, personal communication, 2019). The factors applied to these expenditures varied by closure option and were developed on the basis of Wood's judgement.

## 4.5 Exclusions

The following items were not included in the estimating scope:

- costs for responding to and/or remediating major failures of features or structures in the post closure landscape (the probabilities, consequences and influences on option selection of these potential failures should be considered in project risk assessment/management vehicles developed and/or undertaken outside this cost estimate; see the comparative assessments and discussions around this issue in Section 8 of Wood (2019a));
- all permitting and associated costs;
- time lost to severe weather and/or force majeure (i.e., weather events clearly beyond “normal ranges” (with the definition of normal clarified in contract documents));
- costs related to environmental habitat compensation and social impacts;
- extended periods of industrial/labour unrest;
- construction insurance;
- escalation in costs after the Q2 2019 base date for the estimate;
- owner’s time and expenses related to project and/or construction management for securing regulatory and stakeholder approvals and/or public consultation/communication;
- taxes, duties and royalties; and
- with the exception of the investigation expenses described in Section 6, any sunk costs (any costs incurred in connection to the project prior to the commencement of the EPCM phase of the project, including site acquisition costs, and the cost of past and future studies (e.g., further options assessment, pre-feasibility and feasibility completed prior to EPCM)).

## 5.0 Direct Costs

### 5.1 Direct Cost Bases

Most costs were built-up utilizing hourly rates, capital costs and productivities. Construction methods, productivities and hourly rates were sourced from estimating publications and Wood engineering and estimating databases.

### 5.2 Direct Rates

All direct unit costs were built up as “all-in” unit costs. These rates will include all labour, equipment, materials, maintenance, fuel, supervision, contractor overhead and mark-up. Road improvements, access road construction, channel armouring, drop structures, rock drain, construction water management and asbestos control unit costs were built-up using the worksheets included in the Estimating Workbooks earthwork estimating models combining Yukon Government equipment rates (YG 2013), built-up labour rates, productivities, historical data and standard construction practices. Costs to crush aggregates and haul to site were included where select aggregate materials are required. Crushing costs were based on typical crushing practices, productivities and equipment. Rates were based on Yukon Government equipment rates (YG 2013) and past projects of similar scope and remoteness.

### 5.3 Labour Rates

Contractor on-site labour will be assumed to consist of predominantly equipment operators and labourers. Wages and burdened rates were based on AB CLRA Collective Agreements (2015-2019). On-site personnel were assumed to be on a "two weeks on, two weeks off" rotation schedule.

### 5.4 Operating and Maintenance Costs (OPEX)

The costs to operate, maintain and monitor alternatives following initial execution (i.e., OPEX) are included in the Life Cycle Cost Assessment (LCCA) that comprises the 10% design phase estimate. Broadly, these costs include all expenditures for maintaining the physical integrity of site features (excluding responses to any catastrophic failures; see Section 4.5), maintaining their operation consistent with design bases; managing public access to, and the use of, the property consistent with design bases; and monitoring.

The OPEX component of the estimate is comprised of:

- Care and general maintenance:
  - physical inspections; and
  - Site access control and maintenance.
- Monitoring:
  - water quality;
  - hydrotechnics; and
  - geotechnics.
- Sediment pond cleanouts;
- Partner communications and consultations; and
- Owner's project management and administration.

The 10% design OPEX estimates for these activities have been factored from current care and maintenance (C&M) expenditures for the Clinton property. The factors applied to these expenditures varied by closure option and were developed on the basis of Wood's judgement. The specific assumptions and rationales for each factor assigned are detailed in the "Post Closure" worksheet within the general Estimating Workbook. Note that this worksheet distinguishes between OPEX that will extend indefinitely following execution of a closure plan and those that will be required only for a defined and limited period following closure (e.g., over the period during which passive restoration of exposed valley slopes occurs).

## 6.0 Indirect Costs

For the purposes of this estimate, indirect costs refer to expenses for:

- minor temporary construction facilities and controls (miscellaneous requirements not captured by the Major T,F&C included in the WBS); and
- engineering, procurement and construction management (EPCM), including costs for the supplementary site investigations that have been described in the Data Gaps section of Wood (2019a).

The estimate applies the following percentages of direct CAPEX estimates to provide for these expenses:

- Minor Temporary facilities and controls: 3%
- EPCM: 10%

These percentages are based on Wood's experience with projects of a nature and scope similar to the CCRP.

These EPCM provisions will be supplemented by option specific estimates for the investigative requirements referenced above (i.e., these can be viewed as extraordinary design inputs requirements that are incremental to typical EPCM provisions).

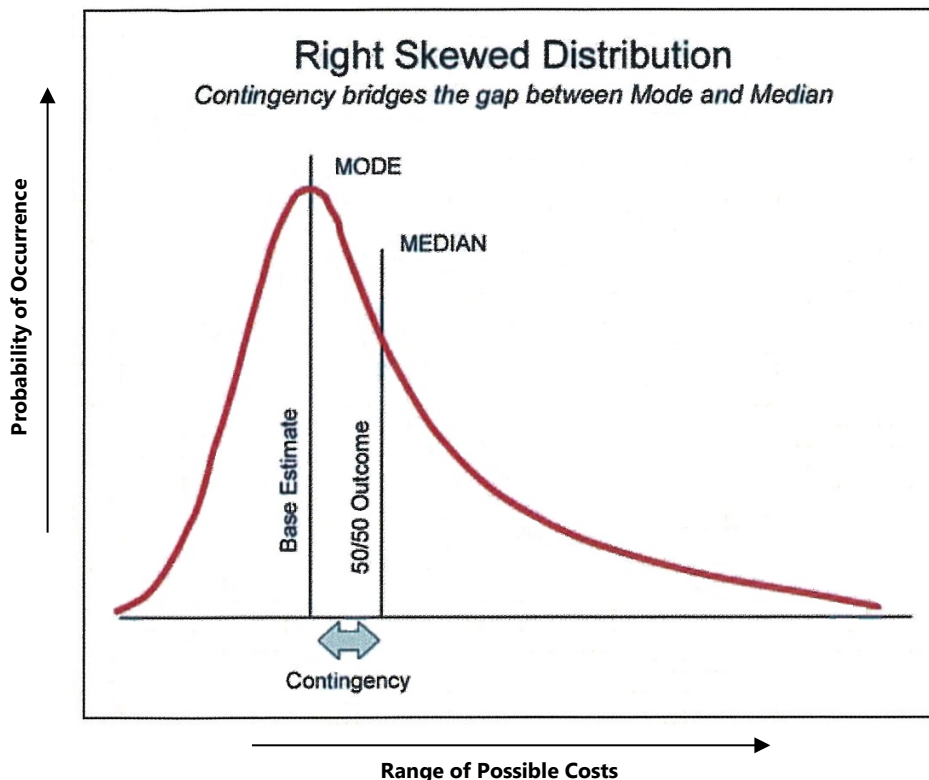
## 7.0 Contingency

Estimating contingency is often defined, applied and understood in various ways by different organizations. To provide some clarity, this section first defines contingency as it is applied in this estimate, and then describes the basis of the contingency percentage used.

### 7.1 Definition

The AACE defines contingency as "an amount added to an estimate to allow for items, conditions or events for which the state, occurrence and/or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs (AACE 2005; as cited in Lawrence 2007)". The need for contingency results from that fact that the set of possible cost outcomes is not normally distributed on a plot of probability versus cost. Contingency is typically applied to bridge the gap between the base and median estimates (i.e., the estimate that is equally likely to be over or underrun; per Figure 1).

**Figure 1: Definition of Contingency (from Lawrence 2007)**



In applying this definition of contingency, it is important to acknowledge that (Lawrence 2007):

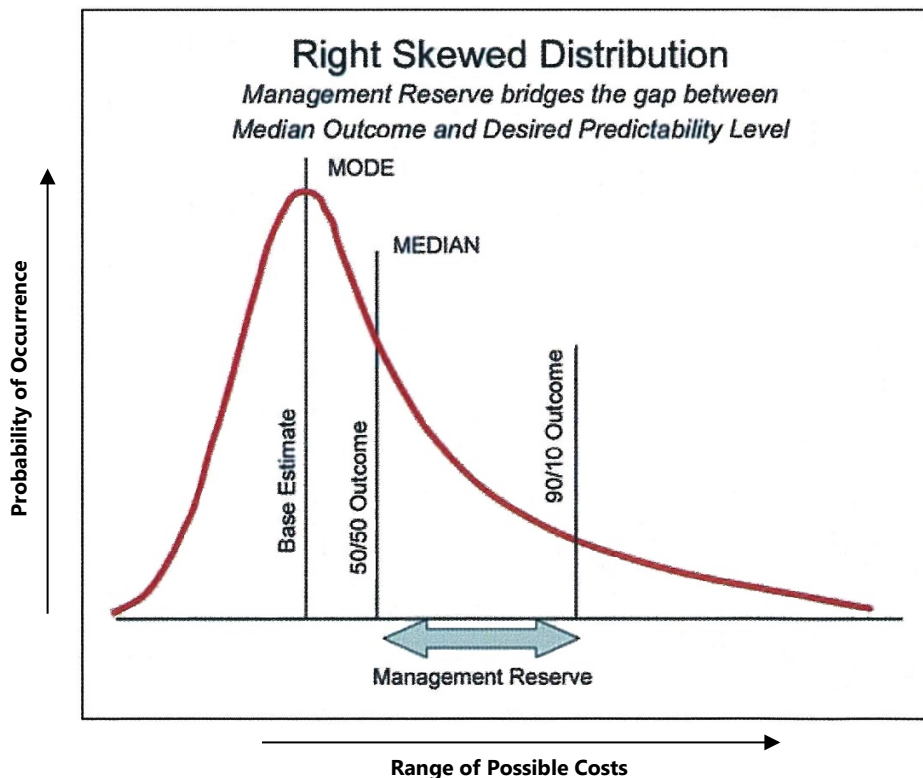
- design allowances are not part of contingency;
- contingency is required to ensure a 50/50 likelihood of over or underrun;



- contingency is not the same as estimate accuracy;
- contingency should be expected to be consumed since 50% of the time it will be totally consumed; and
- contingency is not a fund for scope changes since it is related purely to the project scope as estimated.

It is also useful to distinguish between contingency and other allocations that might be applied to reduce the probability of cost overruns. For example, some organizations maintain a Management Reserve separate from the funds controlled by the project to address the difference between the median cost and the cost that has a 10% chance of overrun (per Figure 2).

**Figure 2: Definition of Management Reserve (from Lawrence 2007)**



## 7.2 CCRP Contingency

Contingencies can be established:

- on the basis of a statistical analysis of cost risks;
- by applying a predetermined percentage prescribed by an organization's policy; or
- on the basis of the experience and judgement of the project estimator.

For the CCRP, the third of these approaches was used with a single percentage applied to the total base estimate. In setting the percentage at 25%, Wood considered the completeness and accuracy of the quantities, the degree of planning associated with major work items, and Wood's knowledge of and confidence in local contractor capabilities.



Given the levels of uncertainty currently associated with all of the candidate closure options, a contingency of 25% likely understates provisions needed to account for requirements that have not been identified, or are presently unknown. However, in Wood's view, applying larger contingencies at this stage may distort the differentiation between and amongst alternatives that are the principal focus of this phase of design development. More robust, risk-based derivations of contingencies may be considered later in project development to provide more reliable estimates of execution costs for the selected closure concept.

## 8.0 Life Cycle Cost Analyses (LCCA)

Life Cycle Cost Analyses are used to combine CAPEX estimates with discounted OPEX estimates for all alternatives in ways that facilitate comparative economic assessments of multiple options. The estimate for the CCRP 10% design phase used the same LCCA methodology applied in WorleyParsons (2014) with the adjusted discount rate described below.

### 8.1 Discount Rate

In 2018, the Treasury Board of Canada Secretariat (Government of Canada 2018) revised its policy for calculating the present value of liabilities associated with contaminated sites. This new discount rate methodology selects the rates on the actual zero-coupon yield curve for Government of Canada bonds, published by the Bank of Canada, which reflect the timing of expected future cash flows for financial statement items that are discounted to their present values based on the government's cost of borrowing.

The Bank of Canada regularly publishes yield curves that can be used to select a discount rate consistent with the Treasury Board's policy. These rates vary by terms to maturity, but for the longer terms typically relevant to post closure OPEX liabilities, rates currently tend to be at or near 2% (Bank of Canada 2019). A real discount rate of 2% was, therefore, used in the Clinton Creek LCCA estimates. The relative option LCCAs are not highly sensitive to the selected rate because they tend to be CAPEX heavy. However, the estimating workbook has been constructed with the discount rate as a variable input, which provides for quick assessments of sensitivities to rate selection.

### 8.2 Life Cycle Duration

The life cycle duration assumed in the LCCA must be consistent across all of the options under consideration. Some remediation options for the Clinton Creek site are intended to last in perpetuity without replacement. This would require LCCs to be calculated to infinite; however, since future costs become increasingly uncertain and less impactful on the overall NPC, the life cycle duration should be limited to a reasonable number that captures the majority of operational costs. The WorleyParsons (2014) LCCA was based on what was judged to be a reasonable LCC duration of 100 years. For this 10% design phase estimate, a 100 year duration was retained in the calculation of total life cycle costs.

## 9.0 Estimate Outputs

### 9.1 Estimate Summary

Table 2 summarizes the estimate outcomes that are detailed in the Estimating Workbook that forms part of this document. Note that this summary is a modified form of the summary that can be accessed via the workbook dashboard.

Table 2 - CCRP Cost Estimate Summary

Option	Mob and Demob		Temporary Facilities and Controls (TF&C)											Civil Works						Mechanical Works		Post Closure Care and Maintenance						Extraordinary Field Investigations	EPCM	Contingency	Total (Rounded)	
	Personnel	Equipment	Camp	Site Access		On-Site Haul Roads		Fuel/Power Supply		H&S Controls		Incidental Temporary Facilities and Controls	Monitoring	Materials Management			Flow Conveyance and Erosion Control			Ground Thawing	Lake Drawdowns	Care & General Maintenance	Monitoring	Partner Communications/Consultations	Owner's Project Management & Admin	Sediment Pond Cleanouts						
				Roads	Bridges	Roads	Bridges	Fuel Storage and Delivery	General Site Power	General Site H&S	Asbestos Abatement Controls			Earthmoving Load & Haul	Support Equipment - Dozers	Support Equipment - Graders	Spillway	Ersosion Control	Sediment Pond													
CC1	\$1,261,353	\$77,097	\$8,900,390	\$3,068,851	\$1,203,770	\$996,180	\$891,675	\$2,534,389	\$2,199,949	\$308,654	\$5,027,136	\$6,261,660	\$1,508,825	\$19,923,602	\$8,585,013	\$4,069,932	\$35,592,092		\$4,599,144	\$77,705,000	\$638,841	\$13,360,489	\$14,653,440	\$1,077,459	\$538,729		\$9,450,000	\$21,498,367.24	\$61,483,010	\$310,000,000		
CC2	\$2,047,067	\$77,097	\$13,353,611	\$4,980,480	\$1,403,770	\$1,616,714	\$891,675	\$2,953,100	\$3,298,342	\$500,919	\$7,636,081	\$4,003,804	\$2,448,692	\$32,334,280	\$13,932,732	\$6,605,147	\$12,399,214		\$4,599,144		\$682,515	\$4,732,423	\$15,014,097	\$1,302,023	\$651,012		\$6,150,000	\$13,746,394	\$39,340,083	\$197,000,000		
CC3	\$4,028,369	\$77,097	\$24,583,116	\$9,800,955	\$1,803,770	\$3,181,489	\$891,675	\$4,008,948	\$6,068,115	\$985,746	\$14,214,952	\$5,979,584	\$4,818,716	\$63,629,781	\$27,417,857	\$12,998,095			\$2,378,134		\$696,795	\$3,396,374	\$9,799,197	\$871,040	\$435,520	\$3,233,731	\$6,150,000	\$20,529,906	\$57,994,740	\$290,000,000		
WC1	\$239,714	\$23,364	\$1,204,500	\$1,077,986				\$87,370	\$459,199	\$92,040	\$584,100	\$1,051,797	\$530,000		\$766,500	\$420,480			\$4,599,144			\$8,188,687	\$11,205,571	\$1,077,459	\$538,729	\$3,965,048		\$3,611,169	\$9,930,714	\$50,000,000		
WC2	\$3,139,345	\$126,159	\$18,653,260	\$6,067,149	\$1,403,770	\$4,598,312	\$891,675	\$4,020,890	\$3,922,725	\$662,217	\$11,604,390	\$6,493,362	\$2,982,961	\$108,657,228	\$16,553,575	\$8,046,295	\$5,496,524		\$4,599,144			\$8,188,687	\$5,861,376	\$646,475	\$323,238		\$2,350,000	\$22,293,876	\$61,895,658	\$310,000,000		
WC3	\$3,139,345	\$126,159	\$18,653,260	\$6,067,149	\$1,403,770	\$4,598,312	\$891,675	\$4,020,890	\$3,922,725	\$662,217	\$11,604,390	\$5,529,823	\$2,982,961	\$67,163,988	\$33,107,150	\$8,046,295		\$7,500,000	\$4,599,144			\$2,081,649	\$2,449,799	\$871,040	\$435,520			\$18,985,726	\$52,210,746	\$260,000,000		

## 9.2 Comments and Observations

On the Clinton Creek side of the property, and as noted in Section 9.1 of the design report (Wood 2019a), there is no low cost/high risk alternative amongst the candidate options. All of the Clinton alternatives attract substantial costs. In the case of CC1, this comes from the measures required to develop and sustain a spillway over ground and subsurface conditions that are significantly compromised. In the case of CC2 and CC3, the required materials movements attract substantial costs.

The considerable costs for CC1 include a large provision for the efforts required to thaw the ice rich permafrost below the proposed spillway alignment. These thawing estimates are based on preliminary judgements about the requisite scope elements, particularly the costs for satisfying the large electricity demand associated with the assumed concept. Should the Partners elect to pursue this option, a dedicated study focussed on the supply of heat inputs would be required, and this study could well identify optimizations that might lower estimates. However, the general conclusion coming from the current estimate, specifically that providing these heat inputs will be a costly undertaking, would likely be validated.

On the Wolverine Creek side, WC1 attracts comparatively low costs, but with all of the uncertainties, risks and liabilities outlined in the design report. WC2 demonstrates that building a structure within the creek valley to stabilize and isolate the tails in place will be a costly endeavour because of the nature and scale of the structure required. Finally, WC3 attracts substantial costs because of the associated scale of the requisite materials movements.

## 9.3 Estimating Sensitivities

Given the preliminary state of design development, and the associated nature of the current estimates, all of the figures in Table 2, while consistent with the definition of an AACE Class 4 estimate, carry a comparatively high uncertainty. Their primary utility is the measure of relative costs amongst the candidate options that they provide. More reliable predictions of final execution costs will come from the design development activity that will follow this 10% design stage.

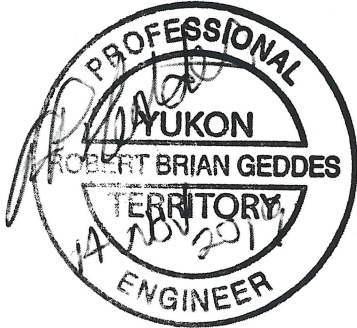
With respect to relative estimating uncertainties amongst the options, those involving the development of hard structures over compromised substrata (i.e., CC1 and WC2) carry relatively high uncertainties, given what remains to be understood about how these conditions will ultimately influence development requirements. WC1 carries a relatively low estimate uncertainty given the limited scope of the associated works, and because of the basic estimating assumption to exclude the considerable and relatively unpredictable costs that would be associated with post closure failures (see Section 4.5). Options that are comprised largely of complete valley restoration (i.e., CC3 and WC3) carry relatively low estimating uncertainties because the influence of compromised ground conditions is largely removed.

## 10.0 Closure

This report has been prepared for the exclusive use of Government of Yukon for specific application to the area within this report. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. Wood accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. It has been prepared in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

With appreciation,

**Wood Environment & Infrastructure Solutions**  
**a Division of Wood Canada Limited**



Reviewed by:

R. Brian Geddes, P.Eng.  
Principal Engineer  
Project Design Lead

Brian Ross, P.Eng. (AB,SK,MB)  
Principal Consultant  
(Note: Mr. Ross reviewed the draft report submission. Subsequent edits are detailed in the attached Comment Log and did not materially change the content of the document reviewed by Mr. Ross)

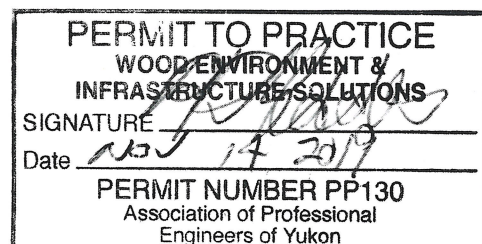
A handwritten signature in black ink, appearing to read "E. Wenzel".

E. Christopher Wenzel, P.L. (Eng.)  
Senior Associate / Lead Estimator

A handwritten signature in blue ink, appearing to read "Mike Panek".

Mike Panek, B.Sc.  
Project Estimator

RBG/ECW/jm



## 11.0 References

AACE. 2005. *AACE-I Recommended Practice No. 18R-97 Cost Estimate Classification Systems - As Applied in Engineering, Procurement and Construction for the Process Industries*.

AACE International (AACE). 2016. *Cost Estimate Classification Systems as Applied in Engineering, Procurement and Construction for the Process Industries*. TCM Framework 7.3. Cost Estimating and Budgeting. AACE International Recommended Practice No. 18R-9).

ATCO & Canadian Utilities Ltd (ATCO). 2019. *Budgetary Proposal, Turnkey Camp Options Near Dawson City, YK*. Submitted to Wood Environment & Infrastructure Solutions. July 17, 2019.

Bank of Canada. 2019. *Yield Curves for Zero-Coupon Bonds*. Downloaded on May 16, 2019 from <https://bankofcanada.ca/rates/interest-rates/bond-yield-curves/>.

Caterpillar. 2018. *Caterpillar Performance Handbook – 48*. Published by Caterpillar, Peoria, Illinois, USA. June 2018.

Chilkoot Geological Engineers, Ltd. (CGE). 2015. *Geotechnical Evaluation, Borrow Source Assessment - Clinton Creek Area, Dawson, Yukon*. Prepared for Yukon Government, Energy, Mines and Resources, Assessment and Abandoned Mines.

Dall Contracting Ltd. 2019. *Price Quotation, Clinton Creek Mine. Petro Canada, Dall Contracting Limited, Fort Nelson BC*. Submitted to Wood Environment & Infrastructure Solutions. July 29, 2019.

Government of Canada. 2018. *Review of Methodologies to Determine Discount Rates*. Treasury Board of Canada Secretariat. Downloaded on May 16, 2019 from <https://www.canada.ca/en/treasury-board-secretariat/corporate/reports/review-methodologies-determine-discount-rates.html#toc7>.

Government of Yukon (Yukon). 2017. *Scope of Work for the Continuation of Engineering Services Related to the Clinton Creek Remediation Project*. Assessment and Abandoned Mines. October 2017.

Lawrence, G.R. 2007. *Use and Misuse of Capital Cost Estimate Contingency - Why Deleting it Makes Projects More Expensive, Not Less*. Pharmaceutical Engineering, September/October 2007.

Ojierenem, J. 2019. Personal Communication. Email re: *Post Closure Care & Maintenance*. Government of Yukon, Assessment and Abandoned Mines. 9 August 2019.

Wood Environment & Infrastructure Solutions. 2019. *Task Authorization Request (TAR), Design for Clinton Creek Remediation Project (CCRP) Master Services Agreement (MSA) No. C0003A680. TAR No. Wood-014-Rev 2: 10% Design Development Services (April 1 to June 30, 2019)*. Submitted to Government of Yukon, Department of Energy, Mines and Resources, Assessment and Abandoned Mines Branch. April 2019.

Wood Environment & Infrastructure Solutions. 2019a. *Clinton Creek Remediation Project, 10% Design Phase Report (DRAFT)*, Project #VE52705E.100.2. Prepared for Government of Yukon, Energy, Mines and Resources, Assessment and Abandoned Mines Branch. August 2019.

Wood Environment & Infrastructure Solutions. 2019b. *Clinton Creek Remediation Project, Estimate Basis Memorandum*, Project #VE52705E.100.3 (DRAFT). Prepared for Government of Yukon, Energy, Mines and Resources, Assessment and Abandoned Mines Branch. May 2019.

WorleyParsons Resources & Energy (WorleyParsons). 2014. *Clinton Creek Site, Lifecycle Cost Analysis for Remediation Options*. Submitted to Energy, Mines and Resources, Assessment and Abandoned Mines, Government of Yukon. Report #307071-00895-00-WW-REP-0001, March 31, 2014.

Yukon Government (YK). 2019. *Third Party Equipment Rental Rates, 2019-03-13*. Downloaded from <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>.



wood.



## **Comment Log**



4445 Lougheed Highway  
Suite 600  
Burnaby, BC V5C 0E4  
T: +1 604-294-3811  
F: +1 604-294-4664  
www.woodplc.com

## COMMENT LOG

**Document Title:** Clinton Creek Remediation Project - 10% Design Phase Cost Estimate Report

**Document Date:** 30 September 2019

**File No.** VE52705E

**Comments By:** A. Machica (AAM), J. Esterhuizen (Jacobs)

**Responses By:** B. Geddes (Wood), G. Graham (Wood)

**Response Dates:** 14 November 2019

Note 1 – Page numbers per commented document.

	Comment ID <sup>1</sup>	Comment	Response
1.	a. machica General 10/07/2019	The cost estimate is largely driven by the Design Report so changes to the report due to Project Partner's comments should be reflected here as well.	Both reports (i.e., the Design Report and Cost Estimate Report) have been reviewed and revised as needed to ensure alignment between the two documents.
2.	a. machica General 10/07/2019	The cost estimate does not reflect work needed to be done on the common elements.	The Common Elements were not addressed explicitly in the Design Report or Cost Estimate largely because the associated closure scopes and costs are unlikely to be differentiating issues in the Partners' concept select deliberations. The Environmental Site Characterization Update (Wood 2019l) grouped these Common Elements into three categories, namely the Air Strip, Roads/Crossings and Piles/Debris/Redundant Infrastructure. The place of the first two categories in the Closure landscape is unclear (i.e., there may be a need/desire to retain some of them). Further, they will be subsumed by the materials movements that will be integral to the closure effort. In any



	<b>Comment ID<sup>1</sup></b>	<b>Comment</b>	<b>Response</b>
			case, the residual closure requirements are likely to be incidental, scope and cost wise. Similarly, the last debris/infrastructure category will likely be addressed in the normal course of other closure activity at incremental costs that will not be material to concept select deliberations.
<b>3.</b>	<b>j. esterhuizen General 10/07/2019</b>	An editor needs to review and clean up issues such as (1) extra spaces between words (for example, between "million" and "tons" in 3 <sup>rd</sup> sentence of Section 1.1), (2) spelling/language (for example, should be "compromise" instead of "comprise" in last sentence on page 15), etc.	Corrected; the report text has also been revised to capture typos, grammatical disconnects and errors.
<b>4.</b>	<b>a. machica Section 4.4.4, Page 7 10/07/2019</b>	Does this section allow for borrow pit development or did it assumed that the pits are already developed and ready for use?	The estimate includes the costs for mobilizing and operating processing capabilities at these borrow sources, but not any costs associated with borrow site development (e.g., any required access upgrades, permitting, reclamation costs). A note to this effect has been added to this report section.
<b>5.</b>	<b>j. esterhuizen Excel 10/07/2019</b>	The reviewer did not perform a detail review of the worksheets, but did some spot checks. These checks revealed some discrepancies, see cells below.	Corrected as noted.
<b>6.</b>	<b>j. esterhuizen Excel, CC1 detail worksheet 10/07/2019</b>	D50 Riprap quantities(Row 66) of just over 5,000 m <sup>3</sup> for spillway seems off by a large margin. Considering the riprap in the plunge pools, there are 12 plunge pools with about 1,000 m <sup>3</sup> (26 m x 15 m x 2.5 m) per plunge pool for total D50 riprap quantity of about 12,000 m <sup>3</sup> .	The comment is correct, there were errors in the workbook quantities. These have been corrected to show a D50 (500 mm) quantity of 19,000 m <sup>3</sup> and a D50 (300 mm) quantity of 33,000 m <sup>3</sup> .
<b>7.</b>	<b>j. esterhuizen Excel, in Rows 63 and 64 10/07/2019</b>	It appears that units should be "hours" not "months".	This refers to the PPE and our quality line items for CC3. Unit prices for these items were developed on the basis of man-months, so our understanding is that the workbook units for these lines are described correctly.



	<b>Comment ID<sup>1</sup></b>	<b>Comment</b>	<b>Response</b>
<b>8.</b>	<b>j. esterhuizen Excel, in Row 64, Compaction 10/07/2019</b>	Note that compaction equipment was not included in Appendix A as part of equipment inventory. Dozers has relatively low surface pressure on tracks, so not very efficient for compaction.	It is correct that Appendix A does not reference compaction equipment. However, the schedule of support/ancillary equipment requirements for each option (Table W-34 in the workbook) assumed compaction equipment is used at the placement areas) (i.e., it is provided for in the estimate).
<b>9.</b>	<b>j. esterhuizen Excel 10/07/2019</b>	Riprap quantities for sediment pond seems too low. Discrepancy between 10% design documents showing riprap on inboard slopes with cost estimating indicating riprap on inboard as well as outboard slopes. Not clear what is thickness of riprap of sediment pond embankment slopes. If assuming 0.5 m thickness, and all embankment slopes covered with riprap, need roughly 10,000 to 15,000 m <sup>3</sup> compared to 4,500 m <sup>3</sup> listed in CC1 and CC2 Detail sheets. (Note that CC3 detail sheet list 5,000 m <sup>3</sup> ).	The sediment pond riprap quantities have been reviewed and corrected. These changes have increased riprap quantities for both the CC3 and WC1 ponds.
<b>10.</b>	<b>j. esterhuizen Excel, CC1 detail sheet 10/07/2019</b>	Spillway concept utilizing geomembrane at bottom of spillway channel will be a seepage barrier preventing the spillway channel to serve as exit for seepage from waste rock piles. This may have a negative impact on slope stability of the spillway channel slopes. An elevated groundwater surface should therefore be considered in stability analyses of spillway channel and waste rock slopes. [Comment probably does not belong in this cost estimate review].	Acknowledged; this is an issue that will require consideration during future, post concept select design development activity.



**wood.**



## **Estimating Workbook**



wood.



## **Estimate Navigator**

Clinton Creek Remediation Project - 10% Design Development Cost Estimate

Date: September 30, 2019



Navigation Dashboard (note: use buttons at right to access estimate content)

Estimate Summaries				CCRP Cost Estimate Table W-2: Cost Summary by Option
				Table W-3: Cost Summary by Activity
Estimate Detail				CCRP Cost Estimate Table W-4: 2019 CC1 Estimate Detail
				CCRP Cost Estimate Table W-5: 2019 CC2 Estimate Detail
				CCRP Cost Estimate Table W-6: 2019 CC3 Estimate Detail
				CCRP Cost Estimate Table W-7: 2019 WC1 Estimate Detail
				CCRP Cost Estimate Table W-8: 2019 WC2 Estimate Detail
				CCRP Cost Estimate Table W-9: 2019 WC3 Estimate Detail
				CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail
Volume & Equipment Metrics				CCRP Cost Estimate Table W-11: 2019 Remediation Options - Earthmoving Metrics
				CCRP Cost Estimate Table W-12: Key Equipment and Field Personnel Metrics
Equipment Specifications & Unit Rates				CCRP Cost Estimate Table W-13: Loading Equipment Specifications and Rates
				CCRP Cost Estimate Table W-14: Hauling Equipment Specifications and Rates
				CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates
				CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates
Estimate Inputs	Mobilization and Demobilization			CCRP Cost Estimate Table W-17: Mobilization and Demobilization of Equipment and Field Personnel
	Temporary Facilities and Controls	Camp		CCRP Cost Estimate Table W-18: Worker Camp Cost Estimate
		Site Access / On-site Haul Roads	Roads	CCRP Cost Estimate Table W-19: Access Road Improvement and Maintenance Estimate
			Bridges	CCRP Cost Estimate Table W-20: Water Crossing Cost Estimate
		Fuel Power/Supply	Fuel Storage and Delivery	CCRP Cost Estimate Table W-21: Fuel Storage Cost Estimate
			General Site Power	CCRP Cost Estimate Table W-22: Site Electrical Power Estimate
		H&S Control	General Site H&S	CCRP Cost Estimate Table W-23: Conventional Health & Safety Estimate
			Asbestos Abatement Controls	CCRP Cost Estimate Table W-24: Asbestos Abatement Estimate
		Incidental Temporary Facilities and Controls		CCRP Cost Estimate Table W-44: 2019 Estimate Factors and Assumptions
		Monitoring		CCRP Cost Estimate Table W-42: Annual Post Closure Costs
	Civil Works	Materials Management	Earthmoving - Load & Haul	CCRP Cost Estimate Table W-25: Earth Moving Estimate - Option CC1
				CCRP Cost Estimate Table W-26: Earth Moving Estimate - Option CC2
				CCRP Cost Estimate Table W-27: Earth Moving Estimate - Option CC3
				CCRP Cost Estimate Table W-28: WC2 Material Volumes and Disposition
				CCRP Cost Estimate Table W-29: Earth Moving Estimate - Option WC3
				CCRP Cost Estimate Table W-30: Haul Road Construction Estimate - Option WC3
				CCRP Cost Estimate Table W-31: Aggregate Load and Haul from Site 11 Estimate
				CCRP Cost Estimate Table W-32: Riprap Load and Haul from Km 63 Quarry Estimate
				CCRP Cost Estimate Table W-33: Haul Road Construction - Options CC1, CC2, and CC3
			Support Equipment - Dozers	CCRP Cost Estimate Table W-34: Dozing Equipment Estimate
			Support Equipment - Graders	CCRP Cost Estimate Table W-35: Grading and Road Maintenance Equipment
		Flow Conveyance	Aggregate	CCRP Cost Estimate Table W-36: Engineered Sands, Gravels, and Riprap Estimate
			Spillway / Erosion Control	CCRP Cost Estimate Table W-37: Flow Conveyance and Erosion Control Cost Estimates
			Sediment Pond	CCRP Cost Estimate Table W-38: Sediment Pond Cost Estimate
				CCRP Cost Estimate Table W-39: Option CC3 Sediment Pond Cost Estimate
	Mechanical Works	Ground Thawing		CCRP Cost Estimate Table W-40: Ground Thawing Cost Estimate
		Lake Drawdown		CCRP Cost Estimate Table W-41: Hudgeon Lake Drawdown Cost Estimate
	Post Closure Care & Maintenance			CCRP Cost Estimate Table W-42: Annual Post Closure Costs
	Investigations			CCRP Cost Estimate Table W-43: CCRP - Major, Supplementary Investigative Costs by Option
Estimate Factors, Assumptions, and Indices				CCRP Cost Estimate Table W-44: 2019 Estimate Factors and Assumptions
				CCRP Cost Estimate Table W-45: Statistics Canada Price Indexes
				CCRP Cost Estimate Table W-46: Statistics Canada Average Hourly Earnings
				CCRP Cost Estimate Table W-47: Yukon Government Fair Wage Schedule



wood.



## **Estimate Summaries**



CCRP Cost Estimate Table W-2: Cost Summary by Option

	Mob and Demob		Temporary Facilities and Controls (TF&C)											Civil Works						Mechanical Works		Post Closure Care and Maintenance						Extraordinary Field Investigations	EPCM	Contingency	Total
Option	Personnel	Equipment	Camp	Site Access		On-Site Haul Roads		Fuel/Power Supply		H&S Controls		Incidental Temporary Facilities and Controls	Monitoring	Materials Management			Flow Conveyance and Erosion Control			Ground Thawing	Lake Drawdowns	Care & General Maintenance	Monitoring	Partner Communications/C onsultations	Owner's Project Management & Admin	Sediment Pond Cleanouts					
				Roads	Bridges	Roads	Bridges	Fuel Storage and Delivery	General Site Power	General Site H&S	Asbestos Abatement Controls			Earthmoving Load & Haul	Support Equipment - Dozers	Support Equipment - Graders	Spillway	Erosion Control	Sediment Pond												
CC1	\$1,261,353	\$77,097	\$8,900,390	\$3,068,851	\$1,203,770	\$996,180	\$891,675	\$2,534,389	\$2,199,949	\$308,654	\$5,027,136	\$6,261,660	\$1,508,825	\$19,923,602	\$8,585,013	\$4,069,932	\$35,592,092		\$4,599,144	\$77,705,000	\$638,841	\$13,360,489	\$14,653,440	\$1,077,459	\$538,729		\$9,450,000	\$21,498,367.24	\$61,483,010	\$307,415,050	
CC2	\$2,047,067	\$77,097	\$13,353,611	\$4,980,480	\$1,403,770	\$1,616,714	\$891,675	\$2,953,100	\$3,298,342	\$500,919	\$7,636,081	\$4,003,804	\$2,448,692	\$32,334,280	\$13,932,732	\$6,605,147	\$12,399,214		\$4,599,144		\$682,515	\$4,732,423	\$15,014,097	\$1,302,023	\$651,012		\$6,150,000	\$13,746,394	\$39,340,083	\$196,700,417	
CC3	\$4,028,369	\$77,097	\$24,583,116	\$9,800,955	\$1,803,770	\$3,181,489	\$891,675	\$4,008,948	\$6,068,115	\$985,746	\$14,214,952	\$5,979,584	\$4,818,716	\$63,629,781	\$27,417,857	\$12,998,095			\$2,378,134		\$696,795	\$3,396,374	\$9,799,197	\$871,040	\$435,520	\$3,233,731	\$6,150,000	\$20,529,906	\$57,994,740	\$289,973,701	
WC1	\$239,714	\$23,364	\$1,204,500	\$1,077,986				\$87,370	\$459,199	\$92,040	\$584,100	\$1,051,797	\$530,000		\$766,500	\$420,480			\$4,599,144			\$8,188,687	\$11,205,571	\$1,077,459	\$538,729	\$3,965,048		\$3,611,169	\$9,930,714	\$49,653,572	
WC2	\$3,139,345	\$126,159	\$18,653,260	\$6,067,149	\$1,403,770	\$4,598,312	\$891,675	\$4,020,890	\$3,922,725	\$662,217	\$11,604,390	\$6,493,362	\$2,982,961	\$108,657,228	\$16,553,575	\$8,046,295	\$5,496,524		\$4,599,144			\$8,188,687	\$5,861,376	\$646,475	\$323,238		\$2,350,000	\$22,293,876	\$61,895,658	\$309,478,289	
WC3	\$3,139,345	\$126,159	\$18,653,260	\$6,067,149	\$1,403,770	\$4,598,312	\$891,675	\$4,020,890	\$3,922,725	\$662,217	\$11,604,390	\$5,529,823	\$2,982,961	\$67,163,988	\$33,107,150	\$8,046,295		\$7,500,000	\$4,599,144			\$2,081,649	\$2,449,799	\$871,040	\$435,520			\$18,985,726	\$52,210,746	\$261,053,732	

Clinton Creek Remediation Project - 10% Design Development Cost Estimate



Table W-3: Cost Summary by Activity

			Cost					
Activity	Task	Item	CC1	CC2	CC3	WC1	WC2	WC3
Mobilization and Demobilization	Personnel	N/A	\$1,261,353	\$2,047,067	\$4,028,369	\$239,714	\$3,139,345	\$3,139,345
Mobilization and Demobilization	Equipment	N/A	\$77,096	\$77,096	\$77,096	\$23,363	\$126,158	\$126,158
Temporary Facilities and Controls (TF&C)	Camp	N/A	\$8,900,390	\$13,353,611	\$24,583,116	\$1,204,500	\$18,653,260	\$18,653,260
Temporary Facilities and Controls (TF&C)	Site Access	Roads	\$3,068,851	\$4,980,480	\$9,800,955	\$1,077,986	\$6,067,149	\$6,067,149
Temporary Facilities and Controls (TF&C)	Site Access	Bridges	\$1,203,770	\$1,403,770	\$1,803,770		\$1,403,770	\$1,403,770
Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	\$996,180	\$1,616,714	\$3,181,489		\$4,598,312	\$4,598,312
Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	\$891,675	\$891,675	\$891,675		\$891,675	\$891,675
Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	\$2,534,389	\$2,953,100	\$4,008,948	\$87,370	\$4,020,890	\$4,020,890
Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	\$2,199,949	\$3,298,342	\$6,068,115	\$459,199	\$3,922,725	\$3,922,725
Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	\$308,654	\$500,919	\$985,746	\$92,040	\$662,217	\$662,217
Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	\$5,027,136	\$7,636,081	\$14,214,952	\$584,100	\$11,604,390	\$11,604,390
Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	\$6,261,660	\$4,003,804	\$5,979,584	\$1,051,797	\$6,493,362	\$5,529,823
Temporary Facilities and Controls (TF&C)	Monitoring	N/A	\$1,508,825	\$2,448,692	\$4,818,716	\$530,000	\$2,982,961	\$2,982,961
Civil Works	Materials Management	Earthmoving - Load & Haul	\$19,923,602	\$32,334,280	\$63,629,781		\$108,657,228	\$67,163,988
Civil Works	Materials Management	Support Equipment - Dozers	\$8,585,013	\$13,932,732	\$27,417,857	\$766,500	\$16,553,575	\$33,107,150
Civil Works	Materials Management	Support Equipment - Graders	\$4,069,932	\$6,605,147	\$12,998,095	\$420,480	\$8,046,295	\$8,046,295
Civil Works	Flow Conveyance	Spillway	\$35,592,092	\$12,399,214			\$5,496,524	
Civil Works	Flow Conveyance	Erosion Control						\$7,500,000
Civil Works	Flow Conveyance	Sediment Pond	\$4,599,144	\$4,599,144	\$2,378,134	\$4,599,144	\$4,599,144	\$4,599,144
Mechanical Works	Ground Thawing	N/A	\$77,705,000					
Mechanical Works	Lake Drawdowns	N/A	\$638,841	\$682,515	\$696,795			
Post Closure Care and Maintenance	Care & General Maintenance	N/A	\$13,360,489	\$4,732,423	\$3,396,374	\$8,188,687	\$8,188,687	\$2,081,649
Post Closure Care and Maintenance	Monitoring	N/A	\$14,653,440	\$15,014,097	\$9,799,197	\$11,205,571	\$5,861,376	\$2,449,799
Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	\$1,077,459	\$1,302,023	\$871,040	\$1,077,459	\$646,475	\$871,040
Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	\$538,729	\$651,012	\$435,520	\$538,729	\$323,238	\$435,520
Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A			\$3,233,731	\$3,965,048		
Extraordinary Field Investigations	N/A	N/A	\$9,450,000	\$6,150,000	\$6,150,000		\$2,350,000	
Factors	EPCM	N/A	\$21,498,367	\$13,746,394	\$20,529,905	\$3,611,169	\$22,293,875	\$18,985,726
Factors	Contingency	N/A	\$61,483,010	\$39,340,083	\$57,994,740	\$9,930,714	\$61,895,658	\$52,210,746
(Sub)Total			\$307,415,048	\$196,700,415	\$289,973,699	\$49,653,571	\$309,478,288	\$261,053,731



wood.

**Estimate Detail**







CCRP Cost Estimate Table W-4: 2019 CC1 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=500mm	m3	1.0	19,000.00	\$ 228.93	\$ 4,349,683
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3	1.0	33,000.00	\$ 228.93	\$ 7,554,713
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Supply Coletanche Elastomeric Bitumen Liner ES3	m2	1.0	14,374.00	\$ 23.33	\$ 335,393
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Supply Non-Woven Geotextile	m2	1.0	64,416.00	\$ 2.00	\$ 128,832
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Install Coletanche Elastomeric Bitumen Liner ES3	m2	1.0	14,374.00	\$ 6.00	\$ 86,244
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Install Non-Woven Geotextile	m2	1.0	64,416.00	\$ 1.50	\$ 96,624
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Spillway Cut	m3	1.2	-	\$ 5.47	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Spillway Fill	m3	1.2	-	\$ 5.47	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Steel Sheet Pile Wall	m2	1.2	17,280.00	\$ 846.99	\$ 14,636,065
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Mob/Demob of Specialized Ground Densification Rig/Equipment	each	1.0	1.00	\$ 200,000.00	\$ 200,000
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Densification operations	m3	1.0	230,000.00	\$ 10.00	\$ 2,300,000
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Select Granular Supply for Densifications	m3	1.0	115,000.00	\$ 51.34	\$ 5,904,537
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Turf reinforced mat (assumed LP-P20 Polypropylene)	m2	1.0	-	\$ -	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400

Subtotal \$40,191,236

EPCM \$21,498,367

Contingency \$61,483,010

Option Total \$123,172,613



CCRP Cost Estimate Table W-5: 2019 CC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		year		2.31	\$ 800,000	\$ 1,848,069
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		year		2.31	\$ 160,000	\$ 369,614
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		year		2.31	\$ 100,000	\$ 231,009
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		27.72	\$ 12,500	\$ 346,513
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		27.72	\$ 100	\$ 2,772
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		27.72	\$ 4,270	\$ 118,369
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		27.72	\$ 1,200	\$ 33,265
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		1,690.98	\$ 2,000	\$ 3,381,967
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		1,690.98	\$ 600	\$ 1,014,590
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 13,353,611	\$ 2,670,722
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 568,803	\$ 568,803
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		27.72	\$ 1,000	\$ 27,721
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		442,380.63	\$ 1.39	\$ 614,909
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		55.44	\$ 1,000	\$ 55,442
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		#####	\$ 1.39	\$ 1,804,798
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		166.33	\$ 500	\$ 83,163
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		198,327.55	\$ 1.39	\$ 275,675
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		109.03	\$ 300	\$ 32,708
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		31.15	\$ 150	\$ 4,673
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Clinton	CC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		3,673.86	\$ 400	\$ 1,469,545
Clinton	CC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	27.72	\$ 20,833	\$ 577,522
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		27.72	\$ 52,555	\$ 1,456,869
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		51,434.07	\$ 123	\$ 6,300,751
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		843.18	\$ 4,560	\$ 3,844,621
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		27.72	\$ 179,664	\$ 4,980,480
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670

CCRP Cost Estimate Table W-5: 2019 CC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	year	1.00	2.00	\$ 200,000	\$ 400,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		354,850.00	\$ 4.56	\$ 1,616,714
Clinton	CC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Clinton Creek Options	m2	1.2	1.00	\$ 891,675	\$ 891,675
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 1,862,207	\$ 1,862,207
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		day		843.18	\$ 1,293.78	\$ 1,090,894
Clinton	CC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		#####	\$ 0.55	\$ 7,798,035
Clinton	CC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		#####	\$ 1.73	\$ 24,536,245
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		34,401.81	\$ 320	\$ 11,008,578
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		17,200.90	\$ 170	\$ 2,924,154
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	34,401.81	\$ 192	\$ 6,605,147
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=500mm	m3	1.0	37,020.00	\$ 228.93	\$ 8,475,015
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3	1.0	10,200.00	\$ 228.93	\$ 2,335,093
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=175mm	m3	1.0	4,670.00	\$ 228.93	\$ 1,069,106
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Turf reinforced mat (assumed LP-P20 Polypropylene). Excluding delivery and installation	m2	1.0	26,000.00	\$ 20.00	\$ 520,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	Monthly Rent for 42" Floating Pump	months	1.0	1.00	\$ 221,760.00	\$ 221,760
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	DELIVERY FREIGHT COST	each	1.0	1.00	\$ 20,091.72	\$ 20,092
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	RETURN FREIGHT COST	each	1.0	1.00	\$ 16,552.80	\$ 16,553
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	PIPING AND ACCESSORIES	each	1.0	1.00	\$ 269,091.90	\$ 269,092
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	50,000 L Envirotank Mob/demob	km	1.0	3,162.00	\$ 5.90	\$ 18,656
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Fuel Consumption	Fuel - Delivered to Site	litres	1.0	98,102.59	\$ 1.39	\$ 136,363
Clinton	CC2	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Clinton	CC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,205,835	\$ 3,205,835
Clinton	CC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,526,588	\$ 1,526,588





CCRP Cost Estimate Table W-5: 2019 CC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 12,212,704	\$ 12,212,704
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,723,934	\$ 1,723,934
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,077,459	\$ 1,077,459
Clinton	CC2	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 1,302,023	\$ 1,302,023
Clinton	CC2	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 651,012	\$ 651,012
Clinton	CC2	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 133,460,134	\$ 4,003,804
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		50.00	\$ 110,000	\$ 5,500,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		25.00	\$ 20,000	\$ 500,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Clinton	CC2	Factors	EPCM	N/A			%		10%		\$ 13,746,394
Clinton	CC2	Factors	Contingency	N/A			%		25%		\$ 39,340,083

Subtotal \$143,613,939

EPCM \$13,746,394

Contingency \$39,340,083

Option Total \$196,700,415



CCRP Cost Estimate Table W-6: 2019 CC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		year		4.55	\$ 800,000	\$ 3,636,767
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		year		4.55	\$ 160,000	\$ 727,353
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		year		4.55	\$ 100,000	\$ 454,596
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		54.55	\$ 12,500	\$ 681,894
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		54.55	\$ 100	\$ 5,455
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		54.55	\$ 4,270	\$ 232,935
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		54.55	\$ 1,200	\$ 65,462
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		3,327.64	\$ 2,000	\$ 6,655,283
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		3,327.64	\$ 600	\$ 1,996,585
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 24,583,116	\$ 4,916,623
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 646,461	\$ 646,461
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		54.55	\$ 1,000	\$ 54,552
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		870,549.23	\$ 1.39	\$ 1,210,063
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		109.10	\$ 1,000	\$ 109,103
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		#####	\$ 1.39	\$ 3,551,615
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		327.31	\$ 500	\$ 163,655
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		390,283.59	\$ 1.39	\$ 542,494
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		109.03	\$ 300	\$ 32,708
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		31.15	\$ 150	\$ 4,673
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Clinton	CC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		7,229.70	\$ 400	\$ 2,891,879
Clinton	CC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	54.55	\$ 20,833	\$ 1,136,490
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		54.55	\$ 52,555	\$ 2,866,935
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		101,215.76	\$ 123	\$ 12,399,083
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,659.27	\$ 4,560	\$ 7,565,729
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		54.55	\$ 179,664	\$ 9,800,955
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670



CCRP Cost Estimate Table W-6: 2019 CC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	year	1.00	4.00	\$ 200,000	\$ 800,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		698,300.00	\$ 4.56	\$ 3,181,489
Clinton	CC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Clinton Creek Options	m2	1.2	1.00	\$ 891,675	\$ 891,675
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 1,862,207	\$ 1,862,207
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		day		1,659.27	\$ 1,293.78	\$ 2,146,741
Clinton	CC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		#####	\$ 0.55	\$ 15,345,548
Clinton	CC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		#####	\$ 1.73	\$ 48,284,233
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		67,698.41	\$ 320	\$ 21,663,492
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		33,849.21	\$ 170	\$ 5,754,365
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	67,698.41	\$ 192	\$ 12,998,095
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Site Prep/Access Roads	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	35,000.00	\$ 0.89	\$ 31,019
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	17,500.00	\$ 4.56	\$ 79,731
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	27,000.00	\$ 10.00	\$ 270,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	560.00	\$ 24.00	\$ 13,440
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	2,640.00	\$ 24.00	\$ 63,360
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	5,700.00	\$ 51.34	\$ 292,660
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside	m3	1.0	6,150.00	\$ 228.93	\$ 1,407,924
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Placed	each	1.0	1.00	\$ 5,000.00	\$ 5,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	1.00	\$ 5,000.00	\$ 5,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	1.00	\$ 5,000.00	\$ 5,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	35,000.00	\$ 6.00	\$ 210,000
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	Monthly Rent for 42" Floating Pump	months	1.0	1.00	\$ 221,760.00	\$ 221,760
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	DELIVERY FREIGHT COST	each	1.0	1.00	\$ 20,091.72	\$ 20,092
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	RETURN FREIGHT COST	each	1.0	1.00	\$ 16,552.80	\$ 16,553
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	PIPING AND ACCESSORIES	each	1.0	1.00	\$ 269,091.90	\$ 269,092
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	50,000 L Envirotank Mob/demob	km	1.0	3,162.00	\$ 5.90	\$ 18,656
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Fuel Consumption	Fuel - Delivered to Site	litres	1.0	108,376.28	\$ 1.39	\$ 150,643
Clinton	CC3	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Clinton	CC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 2,300,770	\$ 2,300,770
Clinton	CC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,095,605	\$ 1,095,605
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 8,764,836	\$ 8,764,836
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,034,360	\$ 1,034,360
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC3	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 871,040	\$ 871,040
Clinton	CC3	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 435,520	\$ 435,520
Clinton	CC3	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 3,233,731	\$ 3,233,731
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 199,319,470	\$ 5,979,584
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		50.00	\$ 110,000	\$ 5,500,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		25.00	\$ 20,000	\$ 500,000



CCRP Cost Estimate Table W-6: 2019 CC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Clinton	CC3	Factors	EPCM	N/A			%		10%		\$ 20,529,905
Clinton	CC3	Factors	Contingency	N/A			%		25%		\$ 57,994,740
										<b>Subtotal</b>	<b>\$211,449,054</b>
										<b>EPCM</b>	<b>\$20,529,905</b>
										<b>Contingency</b>	<b>\$57,994,740</b>
										<b>Option Total</b>	<b>\$289,973,699</b>





CCRP Cost Estimate Table W-7: 2019 WC1 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		year		0.50	\$ 800,000	\$ 400,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		year		0.50	\$ 160,000	\$ 80,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		year		0.50	\$ 100,000	\$ 50,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		6.00	\$ 12,500	\$ 75,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		6.00	\$ 100	\$ 600
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		6.00	\$ 1,540	\$ 9,240
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		6.00	\$ 1,200	\$ 7,200
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		132.00	\$ 2,000	\$ 264,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		132.00	\$ 600	\$ 79,200
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 1,204,500	\$ 240,900
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00		\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		-	\$ 4,673	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		-	\$ 1,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		-	\$ 1.39	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		2.00	\$ 4,673	\$ 9,345
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		6.00	\$ 1,000	\$ 6,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		140,515.94	\$ 1.39	\$ 195,317
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		2.00	\$ 10,000	\$ 20,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		2.00	\$ 1,324	\$ 2,648
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		12.00	\$ 500	\$ 6,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		14,308.81	\$ 1.39	\$ 19,889
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		-	\$ 300	\$ -
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		15.58	\$ 150	\$ 2,336
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		15.58	\$ 150	\$ 2,336
Wolverine	WC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		286.79	\$ 400	\$ 114,714
Wolverine	WC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	6.00	\$ 20,833	\$ 125,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		-	\$ 713,628	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		-	\$ 363,191	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		-	\$ 52,555	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		4,015.00	\$ 300	\$ 1,204,500
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		-	\$ 4,560	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		6.00	\$ 179,664	\$ 1,077,986
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	-	\$ 4,756	\$ -





CCRP Cost Estimate Table W-7: 2019 WC1 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	-	\$ 863	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	year	1.00	-	\$ 200,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		-	\$ 150	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 87,370	\$ 87,370
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		day		-	\$ 138.00	\$ -
Wolverine	WC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		-	\$ -	\$ -
Wolverine	WC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		-	\$ -	\$ -
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		2,190.00	\$ 350	\$ 766,500
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		-	\$ -	\$ -
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	1	2,190.00	\$ 192	\$ 420,480
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Wolverine	WC1	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,878,852	\$ 3,878,852
Wolverine	WC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 2,154,918	\$ 2,154,918
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 430,984	\$ 430,984
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 8,619,670	\$ 8,619,670
Wolverine	WC1	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 1,077,459	\$ 1,077,459
Wolverine	WC1	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 538,729	\$ 538,729
Wolverine	WC1	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 3,965,048	\$ 3,965,048
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 35,059,891	\$ 1,051,797
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		-	\$ 50,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		-	\$ 200	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		-	\$ 200	\$ -



CCRP Cost Estimate Table W-7: 2019 WC1 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Factors	EPCM	N/A			%		10%		\$ 3,611,169
Wolverine	WC1	Factors	Contingency	N/A			%		25%		\$ 9,930,714

Subtotal **\$36,111,688**

EPCM **\$3,611,169**

Contingency **\$9,930,714**

Option Total **\$49,653,571**



CCRP Cost Estimate Table W-8: 2019 WC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		year		2.81	\$ 800,000	\$ 2,251,291
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		year		2.81	\$ 160,000	\$ 450,258
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		year		2.81	\$ 100,000	\$ 281,411
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		33.77	\$ 12,500	\$ 422,117
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		33.77	\$ 100	\$ 3,377
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		33.77	\$ 5,810	\$ 196,200
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		33.77	\$ 1,200	\$ 40,523
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		2,802.86	\$ 2,000	\$ 5,605,715
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		2,802.86	\$ 600	\$ 1,681,714
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 18,653,260	\$ 3,730,652
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 586,309	\$ 586,309
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		33.77	\$ 1,000	\$ 33,769
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		538,901.69	\$ 1.39	\$ 749,073
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		67.54	\$ 1,000	\$ 67,539
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		#####	\$ 1.39	\$ 2,198,579
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		202.62	\$ 500	\$ 101,308
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		241,599.76	\$ 1.39	\$ 335,824
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		249.20	\$ 300	\$ 74,760
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		46.73	\$ 300	\$ 14,018
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		6,089.54	\$ 400	\$ 2,435,817
Wolverine	WC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	33.77	\$ 20,833	\$ 703,528
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		33.77	\$ 52,555	\$ 1,774,737
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		85,253.58	\$ 123	\$ 10,443,692
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,027.15	\$ 4,560	\$ 4,683,462
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		33.77	\$ 179,664	\$ 6,067,149
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670





CCRP Cost Estimate Table W-8: 2019 WC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	year	1.00	2.00	\$ 200,000	\$ 400,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Loading Cost	tonnes		#####	\$ 0.55	\$ 837,270
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Hauling Cost	tonnes		#####	\$ 2.47	\$ 3,761,042
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	1.00	\$ 891,675	\$ 891,675
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 2,346,428	\$ 2,346,428
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		day		1,027.15	\$ 1,630.20	\$ 1,674,462
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Overall Tailings Volume	-		#####	\$ 9.00	\$ 21,320,473
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Main Buttress Fill Volume (4.5H:1V)	-		#####	\$ 4.44	\$ 7,032,851
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Excavated tailing (7H:1V)	-		121,000.00	\$ 9.00	\$ 1,088,514
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Sub-Excavation Volume Perimeter Berm (2H:1V)	-		550,000.00	\$ 51.34	\$ 28,239,090
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Compacted Granular Fill (Berm)	-		358,000.00	\$ 4.44	\$ 1,589,495
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	1 m Capping over all tailings	-		169,000.00	\$ 9.00	\$ 1,520,321
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Excavated Tailings and Ice Rich Colluvium Volume	-		738,000.00	\$ 51.34	\$ 37,891,724
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Select Rockfill Shell and Backfill Volume	-		192,000.00	\$ 51.34	\$ 9,858,009
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Chimney and Basal Drain Volume	-	1.2	400.00	\$ 166.79	\$ 66,715
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	8 inch Perforated pipes	-	1.2	300.00	\$ 166.79	\$ 50,036
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		31,430.84	\$ 470	\$ 14,772,494
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		10,476.95	\$ 170	\$ 1,781,081
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	41,907.78	\$ 192	\$ 8,046,295
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=200mm	m3		2,085.00	\$ 228.93	\$ 477,321
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3		2,270.00	\$ 228.93	\$ 519,673
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=450mm	m3		2,470.00	\$ 228.93	\$ 565,459
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=800mm	m3		11,640.00	\$ 228.93	\$ 2,664,753
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=1000mm	m3		5,290.00	\$ 228.93	\$ 1,211,043
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Bedding Gravel	m3		1,135.00	\$ 51.34	\$ 58,275
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Geotextile Fabric	m2		27,600.00	\$ -	\$ -
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180



CCRP Cost Estimate Table W-8: 2019 WC2 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Wolverine	WC2	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,878,852	\$ 3,878,852
Wolverine	WC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 1,292,951	\$ 1,292,951
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 258,590	\$ 258,590
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC2	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 646,475	\$ 646,475
Wolverine	WC2	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 323,238	\$ 323,238
Wolverine	WC2	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 216,445,393	\$ 6,493,362
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		20.00	\$ 110,000	\$ 2,200,000
Wolverine	WC2	Factors	EPCM	N/A			%		10%		\$ 22,293,875
Wolverine	WC2	Factors	Contingency	N/A			%		25%		\$ 61,895,658

Subtotal \$225,288,755

EPCM \$22,293,875

Contingency \$61,895,658

Option Total \$309,478,288



CCRP Cost Estimate Table W-9: 2019 WC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		year		2.81	\$ 800,000	\$ 2,251,291
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		year		2.81	\$ 160,000	\$ 450,258
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		year		2.81	\$ 100,000	\$ 281,411
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		33.77	\$ 12,500	\$ 422,117
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		33.77	\$ 100	\$ 3,377
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		33.77	\$ 5,810	\$ 196,200
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		33.77	\$ 1,200	\$ 40,523
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		2,802.86	\$ 2,000	\$ 5,605,715
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		2,802.86	\$ 600	\$ 1,681,714
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 18,653,260	\$ 3,730,652
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 586,309	\$ 586,309
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		33.77	\$ 1,000	\$ 33,769
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		538,901.69	\$ 1.39	\$ 749,073
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		67.54	\$ 1,000	\$ 67,539
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		#####	\$ 1.39	\$ 2,198,579
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		202.62	\$ 500	\$ 101,308
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		241,599.76	\$ 1.39	\$ 335,824
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		249.20	\$ 300	\$ 74,760
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		46.73	\$ 300	\$ 14,018
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		6,089.54	\$ 400	\$ 2,435,817
Wolverine	WC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	33.77	\$ 20,833	\$ 703,528
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		33.77	\$ 52,555	\$ 1,774,737
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		85,253.58	\$ 123	\$ 10,443,692
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,027.15	\$ 4,560	\$ 4,683,462
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		33.77	\$ 179,664	\$ 6,067,149
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670





CCRP Cost Estimate Table W-9: 2019 WC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	year	1.00	2.00	\$ 200,000	\$ 400,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Loading Cost	tonnes		#####	\$ 0.55	\$ 837,270
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Hauling Cost	tonnes		#####	\$ 2.47	\$ 3,761,042
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	1.00	\$ 891,675	\$ 891,675
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 2,346,428	\$ 2,346,428
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		day		1,027.15	\$ 1,630.20	\$ 1,674,462
Wolverine	WC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading	8 inch Solid pipe length	tonnes		#####	\$ 0.55	\$ 8,203,484
Wolverine	WC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		#####	\$ 3.95	\$ 58,960,503
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		62,861.68	\$ 470	\$ 29,544,988
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		20,953.89	\$ 170	\$ 3,562,162
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	41,907.78	\$ 192	\$ 8,046,295
Wolverine	WC3	Civil Works	Flow Conveyance	Erosion Control	Spillway and Channel Construction	Equipment time and the use of imported select granular material for targeted ditching and swale development on exposed valley surface following tails removal.	ha		50.00	\$ 150,000.00	\$ 7,500,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Wolverine	WC3	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 986,044	\$ 986,044
Wolverine	WC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,095,605	\$ 1,095,605
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 2,191,209	\$ 2,191,209
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 258,590	\$ 258,590
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Wolverine	WC3	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 871,040	\$ 871,040
Wolverine	WC3	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 435,520	\$ 435,520



CCRP Cost Estimate Table W-9: 2019 WC3 Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC3	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 184,327,436	\$ 5,529,823
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		-	\$ 50,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		-	\$ 200	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		-	\$ 200	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Wolverine	WC3	Factors	EPCM	N/A			%		10%		\$ 18,985,726
Wolverine	WC3	Factors	Contingency	N/A			%		25%		\$ 52,210,746

Subtotal \$189,857,259

EPCM \$18,985,726

Contingency \$52,210,746

Option Total \$261,053,731





wood.

**Estimate Inputs**





CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		1.42	\$ 800,000	\$ 1,138,736
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		1.42	\$ 160,000	\$ 227,747
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		1.42	\$ 100,000	\$ 142,342
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		2.31	\$ 800,000	\$ 1,848,069
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		2.31	\$ 160,000	\$ 369,614
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		2.31	\$ 100,000	\$ 231,009
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		4.55	\$ 800,000	\$ 3,636,767
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		4.55	\$ 160,000	\$ 727,353
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		4.55	\$ 100,000	\$ 454,596
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		0.50	\$ 800,000	\$ 400,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		0.50	\$ 160,000	\$ 80,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		0.50	\$ 100,000	\$ 50,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		2.81	\$ 800,000	\$ 2,251,291
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		2.81	\$ 160,000	\$ 450,258
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		2.81	\$ 100,000	\$ 281,411
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Water Quality		years		2.81	\$ 800,000	\$ 2,251,291
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Hydrotechnics		years		2.81	\$ 160,000	\$ 450,258
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Monitoring	N/A	Geotechnics		years		2.81	\$ 100,000	\$ 281,411
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		17.08	\$ 12,500	\$ 213,513
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		17.08	\$ 100	\$ 1,708
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		months		17.08	\$ 4,270	\$ 72,936
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		17.08	\$ 1,200	\$ 20,497
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		27.72	\$ 12,500	\$ 346,513
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		27.72	\$ 100	\$ 2,772
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		27.72	\$ 4,270	\$ 118,369
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		27.72	\$ 1,200	\$ 33,265
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		54.55	\$ 12,500	\$ 681,894
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		54.55	\$ 100	\$ 5,455
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		54.55	\$ 4,270	\$ 232,935
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		54.55	\$ 1,200	\$ 65,462
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		6.00	\$ 12,500	\$ 75,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		6.00	\$ 100	\$ 600
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		6.00	\$ 1,540	\$ 9,240
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		6.00	\$ 1,200	\$ 7,200
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		33.77	\$ 12,500	\$ 422,117
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		33.77	\$ 100	\$ 3,377
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		33.77	\$ 5,810	\$ 196,200
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		33.77	\$ 1,200	\$ 40,523
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	On-Site Medic		months		33.77	\$ 12,500	\$ 422,117
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Field Supplies		months		33.77	\$ 100	\$ 3,377
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Meetings		person/months		33.77	\$ 5,810	\$ 196,200
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	General Site H&S	Monthly Safety Reporting		months		33.77	\$ 1,200	\$ 40,523
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		1,041.94	\$ 2,000	\$ 2,083,886
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		1,041.94	\$ 600	\$ 625,166
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 8,900,390	\$ 1,780,078
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Clinton	CC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 538,006	\$ 538,006
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		1,690.98	\$ 2,000	\$ 3,381,967
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		1,690.98	\$ 600	\$ 1,014,590
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 13,353,611	\$ 2,670,722
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 568,803	\$ 568,803
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		3,327.64	\$ 2,000	\$ 6,655,283
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		3,327.64	\$ 600	\$ 1,996,585
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 24,583,116	\$ 4,916,623
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 646,461	\$ 646,461
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		132.00	\$ 2,000	\$ 264,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		132.00	\$ 600	\$ 79,200
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 1,204,500	\$ 240,900
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00		\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		2,802.86	\$ 2,000	\$ 5,605,715
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		2,802.86	\$ 600	\$ 1,681,714
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 18,653,260	\$ 3,730,652
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 586,309	\$ 586,309
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Tyvek Overalls, Respirators, and Standard PPE		months		2,802.86	\$ 2,000	\$ 5,605,715
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Air Quality Monitoring		months		2,802.86	\$ 600	\$ 1,681,714
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Equipment Filters		months		-	\$ -	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Change and Wash Facility Supply and Maintenance		%		20%	\$ 18,653,260	\$ 3,730,652
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Controlled Work Perimeter		months		-	\$ -	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	H&S Controls	Asbestos Abatement Controls	Vehicle Washdown Building and Pressure Washers		lump sum		1.00	\$ 586,309	\$ 586,309
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		17.08	\$ 1,000	\$ 17,081
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		272,584.26	\$ 1.39	\$ 378,892
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000





CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		34.16	\$ 1,000	\$ 34,162
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		800,052.50	\$ 1.39	\$ 1,112,073
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		102.49	\$ 500	\$ 51,243
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		122,204.65	\$ 1.39	\$ 169,864
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		27.72	\$ 1,000	\$ 27,721
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		442,380.63	\$ 1.39	\$ 614,909
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		55.44	\$ 1,000	\$ 55,442
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		1,298,415.87	\$ 1.39	\$ 1,804,798
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		166.33	\$ 500	\$ 83,163
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		198,327.55	\$ 1.39	\$ 275,675
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		54.55	\$ 1,000	\$ 54,552
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		870,549.23	\$ 1.39	\$ 1,210,063
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		109.10	\$ 1,000	\$ 109,103
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		2,555,118.51	\$ 1.39	\$ 3,551,615
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		327.31	\$ 500	\$ 163,655
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		390,283.59	\$ 1.39	\$ 542,494
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		-	\$ 4,673	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		-	\$ 1,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		-	\$ 1.39	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		2.00	\$ 4,673	\$ 9,345
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		6.00	\$ 1,000	\$ 6,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		140,515.94	\$ 1.39	\$ 195,317



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		2.00	\$ 10,000	\$ 20,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		2.00	\$ 1,324	\$ 2,648
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		12.00	\$ 500	\$ 6,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		14,308.81	\$ 1.39	\$ 19,889
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		33.77	\$ 1,000	\$ 33,769
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		538,901.69	\$ 1.39	\$ 749,073
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		67.54	\$ 1,000	\$ 67,539
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		1,581,711.46	\$ 1.39	\$ 2,198,579
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		202.62	\$ 500	\$ 101,308
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		241,599.76	\$ 1.39	\$ 335,824
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 200KW	each		1.00	\$ 50,000	\$ 50,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 200KW	each		-	\$ 50,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 200KW	each		1.00	\$ 4,673	\$ 4,673
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 200KW	months		33.77	\$ 1,000	\$ 33,769
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 200KW	litres		538,901.69	\$ 1.39	\$ 749,073
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Aggreko - 300KW	each		2.00	\$ 100,000	\$ 200,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Aggreko - 300KW	each		1.00	\$ 100,000	\$ 100,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Aggreko - 300KW	each		3.00	\$ 4,673	\$ 14,018
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Aggreko - 300KW	months		67.54	\$ 1,000	\$ 67,539
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Aggreko - 300KW	litres		1,581,711.46	\$ 1.39	\$ 2,198,579
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase	Portable Light Tower	each		6.00	\$ 10,000	\$ 60,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Equipment Purchase - Standby	Portable Light Tower	each		-	\$ 10,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator - Mob/Demob	Portable Light Tower	each		6.00	\$ 1,324	\$ 7,943
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Generator Maintenance	Portable Light Tower	months		202.62	\$ 500	\$ 101,308
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	General Site Power	Fuel Consumption	Portable Light Tower	litres		241,599.76	\$ 1.39	\$ 335,824
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		109.03	\$ 300	\$ 32,708
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		31.15	\$ 300	\$ 9,345
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		31.15	\$ 150	\$ 4,673
Clinton	CC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		109.03	\$ 300	\$ 32,708
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		31.15	\$ 150	\$ 4,673





CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		109.03	\$ 300	\$ 32,708
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		31.15	\$ 150	\$ 4,673
Clinton	CC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		-	\$ 300	\$ -
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		15.58	\$ 150	\$ 2,336
Wolverine	WC1	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		15.58	\$ 150	\$ 2,336
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		249.20	\$ 300	\$ 74,760
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		46.73	\$ 300	\$ 14,018
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC2	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Excavators	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Haul Trucks	hours		249.20	\$ 300	\$ 74,760
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Dozers	hours		46.73	\$ 300	\$ 14,018
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Compactors	hours		15.58	\$ 300	\$ 4,673
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Graders	hours		31.15	\$ 300	\$ 9,345
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Water Trucks	hours		46.73	\$ 150	\$ 7,009
Wolverine	WC3	Mobilization and Demobilization	Equipment	N/A	Mob / Demob	Support Trucks	hours		46.73	\$ 150	\$ 7,009
Clinton	CC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		2,263.75	\$ 400	\$ 905,498
Clinton	CC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	17.08	\$ 20,833	\$ 355,855
Clinton	CC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		3,673.86	\$ 400	\$ 1,469,545
Clinton	CC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	27.72	\$ 20,833	\$ 577,522
Clinton	CC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		7,229.70	\$ 400	\$ 2,891,879
Clinton	CC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	54.55	\$ 20,833	\$ 1,136,490
Wolverine	WC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		286.79	\$ 400	\$ 114,714
Wolverine	WC1	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	6.00	\$ 20,833	\$ 125,000
Wolverine	WC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		6,089.54	\$ 400	\$ 2,435,817
Wolverine	WC2	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	33.77	\$ 20,833	\$ 703,528
Wolverine	WC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Airfare - Edmonton to Dawson City	person*shifts		6,089.54	\$ 400	\$ 2,435,817
Wolverine	WC3	Mobilization and Demobilization	Personnel	N/A	Mob / Demob	Bus Transportation - Dawson City to Site	months	1.25	33.77	\$ 20,833	\$ 703,528
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		17.08	\$ 52,555	\$ 897,688



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		31,692.43	\$ 123	\$ 3,882,371
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		519.55	\$ 4,560	\$ 2,368,963
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		27.72	\$ 52,555	\$ 1,456,869
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		51,434.07	\$ 123	\$ 6,300,751
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		843.18	\$ 4,560	\$ 3,844,621
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		54.55	\$ 52,555	\$ 2,866,935
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		101,215.76	\$ 123	\$ 12,399,083
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,659.27	\$ 4,560	\$ 7,565,729
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		-	\$ -	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		-	\$ 713,628	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		-	\$ 363,191	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		-	\$ 52,555	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		4,015.00	\$ 300	\$ 1,204,500
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		-	\$ 4,560	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		33.77	\$ 52,555	\$ 1,774,737
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		85,253.58	\$ 123	\$ 10,443,692
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,027.15	\$ 4,560	\$ 4,683,462
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Site Preparation	Clearing & Surface Prep	each		1.00	\$ 674,550	\$ 674,550
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Mobilization	Mob Costs	lump sum		1.00	\$ 713,628	\$ 713,628
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Demobilization	Demob Costs	lump sum		1.00	\$ 363,191	\$ 363,191
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Rental	Camp Rental Costs	months		33.77	\$ 52,555	\$ 1,774,737
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Occupancy	Camp Occupancy Costs	person*days		85,253.58	\$ 123	\$ 10,443,692
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Camp	N/A	Camp Utilities	Utilities - Total Costs	days		1,027.15	\$ 4,560	\$ 4,683,462
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		17.08	\$ 179,664	\$ 3,068,851
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		27.72	\$ 179,664	\$ 4,980,480
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		54.55	\$ 179,664	\$ 9,800,955
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		6.00	\$ 179,664	\$ 1,077,986
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		33.77	\$ 179,664	\$ 6,067,149
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Roads	Access Road Improvement and Maintenance		months		33.77	\$ 179,664	\$ 6,067,149
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	1.00	\$ 200,000	\$ 200,000
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	2.00	\$ 200,000	\$ 400,000
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	4.00	\$ 200,000	\$ 800,000
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	-	\$ 4,756	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	-	\$ 863	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	-	\$ 200,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	2.00	\$ 200,000	\$ 400,000
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Former Clinton Creek Townsite	m2	1.2	75.00	\$ 4,756	\$ 356,670
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Fortymile River	m2	1.2	750.00	\$ 863	\$ 647,100
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Dawson City	each	0.25	-	\$ 50,000	\$ -
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Site Access	Bridges	Water Crossing	Ice Bridge	years	1.00	2.00	\$ 200,000	\$ 400,000
Clinton	CC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		218,650.00	\$ 4.56	\$ 996,180
Clinton	CC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		354,850.00	\$ 4.56	\$ 1,616,714
Clinton	CC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		698,300.00	\$ 4.56	\$ 3,181,489
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction		m3		-	\$ 150	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Loading Cost	tonnes		1,524,000.00	\$ 0.55	\$ 837,270
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Hauling Cost	tonnes		1,524,000.00	\$ 2.47	\$ 3,761,042
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Loading Cost	tonnes		1,524,000.00	\$ 0.55	\$ 837,270
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Roads	Haul Road Construction	Hauling Cost	tonnes		1,524,000.00	\$ 2.47	\$ 3,761,042
Clinton	CC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Clinton Creek Options	m2	1.2	1.00	\$ 891,675	\$ 891,675
Clinton	CC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Clinton Creek Options	m2	1.2	1.00	\$ 891,675	\$ 891,675
Clinton	CC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Clinton Creek Options	m2	1.2	1.00	\$ 891,675	\$ 891,675
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	-	\$ -	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	1.00	\$ 891,675	\$ 891,675
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	On-Site Haul Roads	Bridges	Water Crossing	Wolverine to Porcupine Option	m2	1.2	1.00	\$ 891,675	\$ 891,675
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 1,862,207	\$ 1,862,207
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		519.55	\$ 1,293.78	\$ 672,182
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 1,862,207	\$ 1,862,207
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		843.18	\$ 1,293.78	\$ 1,090,894
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 1,862,207	\$ 1,862,207
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		1,659.27	\$ 1,293.78	\$ 2,146,741
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 87,370	\$ 87,370
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		-	\$ 138.00	\$ -
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 2,346,428	\$ 2,346,428
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		1,027.15	\$ 1,630.20	\$ 1,674,462
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Setup		each		1.00	\$ 2,346,428	\$ 2,346,428
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Fuel/Power Supply	Fuel Storage and Delivery	Fuel Storage - Rental		days		1,027.15	\$ 1,630.20	\$ 1,674,462
Clinton	CC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		8,746,000.00	\$ 0.55	\$ 4,804,961
Clinton	CC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		8,746,000.00	\$ 1.73	\$ 15,118,642
Clinton	CC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		14,194,000.00	\$ 0.55	\$ 7,798,035
Clinton	CC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		14,194,000.00	\$ 1.73	\$ 24,536,245
Clinton	CC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		27,932,000.00	\$ 0.55	\$ 15,345,548



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		27,932,000.00	\$ 1.73	\$ 48,284,233
Wolverine	WC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading		tonnes		-	\$ -	\$ -
Wolverine	WC1	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		-	\$ -	\$ -
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Overall Tailings Volume	-		2,370,000.00	\$ 9.00	\$ 21,320,473
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Main Buttress Fill Volume (4.5H:1V)	-		1,584,000.00	\$ 4.44	\$ 7,032,851
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Excavated tailing (7H:1V)	-		121,000.00	\$ 9.00	\$ 1,088,514
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Sub-Excavation Volume Perimeter Berm (2H:1V)	-		550,000.00	\$ 51.34	\$ 28,239,090
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Tailings Dump	Compacted Granular Fill (Berm)	-		358,000.00	\$ 4.44	\$ 1,589,495
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	1 m Capping over all tailings	-		169,000.00	\$ 9.00	\$ 1,520,321
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Excavated Tailings and Ice Rich Colluvium Volume	-		738,000.00	\$ 51.34	\$ 37,891,724
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Select Rockfill Shell and Backfill Volume	-		192,000.00	\$ 51.34	\$ 9,858,009
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	Chimney and Basal Drain Volume	-	1.2	400.00	\$ 166.79	\$ 66,715
Wolverine	WC2	Civil Works	Materials Management	Earthmoving - Load & Haul	Buttress Fill Dam	8 inch Perforated pipes	-	1.2	300.00	\$ 166.79	\$ 50,036
Wolverine	WC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Loading	8 inch Solid pipe length	tonnes		14,932,000.00	\$ 0.55	\$ 8,203,484
Wolverine	WC3	Civil Works	Materials Management	Earthmoving - Load & Haul	Earthmoving - Hauling		tonnes		14,932,000.00	\$ 3.95	\$ 58,960,503
Clinton	CC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		21,197.56	\$ 320	\$ 6,783,220
Clinton	CC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		10,598.78	\$ 170	\$ 1,801,793
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		34,401.81	\$ 320	\$ 11,008,578
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		17,200.90	\$ 170	\$ 2,924,154
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		67,698.41	\$ 320	\$ 21,663,492
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		33,849.21	\$ 170	\$ 5,754,365
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		2,190.00	\$ 350	\$ 766,500
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		-	\$ -	\$ -
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		31,430.84	\$ 470	\$ 14,772,494
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		10,476.95	\$ 170	\$ 1,781,081
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Dozing		months		62,861.68	\$ 470	\$ 29,544,988
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Dozers	Earthmoving - Compaction		months		20,953.89	\$ 170	\$ 3,562,162
Clinton	CC1	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	21,197.56	\$ 192	\$ 4,069,932
Clinton	CC2	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	34,401.81	\$ 192	\$ 6,605,147
Clinton	CC3	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	67,698.41	\$ 192	\$ 12,998,095
Wolverine	WC1	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	1	2,190.00	\$ 192	\$ 420,480
Wolverine	WC2	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	41,907.78	\$ 192	\$ 8,046,295
Wolverine	WC3	Civil Works	Materials Management	Support Equipment - Graders	Earthmoving - Grading		hours	2	41,907.78	\$ 192	\$ 8,046,295
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=500mm	m3	1.0	19,000.00	\$ 228.93	\$ 4,349,683
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3	1.0	33,000.00	\$ 228.93	\$ 7,554,713
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Supply Coletanche Elastomeric Bitumen Liner ES3	m2	1.0	14,374.00	\$ 23.33	\$ 335,393
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Supply Non-Woven Geotextile	m2	1.0	64,416.00	\$ 2.00	\$ 128,832
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Install Coletanche Elastomeric Bitumen Liner ES3	m2	1.0	14,374.00	\$ 6.00	\$ 86,244
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Install Non-Woven Geotextile	m2	1.0	64,416.00	\$ 1.50	\$ 96,624
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Spillway Cut	m3	1.2	-	\$ 5.47	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Spillway Fill	m3	1.2	-	\$ 5.47	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Steel Sheet Pile Wall	m2	1.2	17,280.00	\$ 846.99	\$ 14,636,065
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Mob/Demob of Specialized Ground Densification <del>Rio/Equipment</del>	each	1.0	1.00	\$ 200,000.00	\$ 200,000
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Densification operations	m3	1.0	230,000.00	\$ 10.00	\$ 2,300,000
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Select Granular Supply for Densifications	m3	1.0	115,000.00	\$ 51.34	\$ 5,904,537



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Turf reinforced mat (assumed LP-P20 Polypropylene).	m2	1.0	-	\$ -	\$ -
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=500mm	m3	1.0	37,020.00	\$ 228.93	\$ 8,475,015
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3	1.0	10,200.00	\$ 228.93	\$ 2,335,093
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=175mm	m3	1.0	4,670.00	\$ 228.93	\$ 1,069,106
Clinton	CC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Turf reinforced mat (assumed LP-P20 Polypropylene). Excluding delivery and installation.	m2	1.0	26,000.00	\$ 20.00	\$ 520,000
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=200mm	m3		2,085.00	\$ 228.93	\$ 477,321
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=300mm	m3		2,270.00	\$ 228.93	\$ 519,673
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=450mm	m3		2,470.00	\$ 228.93	\$ 565,459
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=800mm	m3		11,640.00	\$ 228.93	\$ 2,664,753
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Riprap d50=1000mm	m3		5,290.00	\$ 228.93	\$ 1,211,043
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Bedding Gravel	m3		1,135.00	\$ 51.34	\$ 58,275
Wolverine	WC2	Civil Works	Flow Conveyance	Spillway	Spillway and Channel Construction	Geotextile Fabric	m2		27,600.00	\$ -	\$ -
Wolverine	WC3	Civil Works	Flow Conveyance	Erosion Control	Spillway and Channel Construction	Equipment time and the use of imported select granular material for targeted ditching and swale development on exposed valley surface following tails removal.	ha		50.00	\$ 150,000.00	\$ 7,500,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Placed	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.2	50,000.00	\$ 6.00	\$ 300,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Clinton	CC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560

CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Clinton	CC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	General	Site Prep/Access Roads	ls	1.0	-	\$ -	\$ -
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	35,000.00	\$ 0.89	\$ 31,019
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	17,500.00	\$ 4.56	\$ 79,731
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	27,000.00	\$ 10.00	\$ 270,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	560.00	\$ 24.00	\$ 13,440
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	2,640.00	\$ 24.00	\$ 63,360
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	5,700.00	\$ 51.34	\$ 292,660
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	6,150.00	\$ 228.93	\$ 1,407,924
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	1.00	\$ 5,000.00	\$ 5,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	1.00	\$ 5,000.00	\$ 5,000
Clinton	CC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	35,000.00	\$ 6.00	\$ 210,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC1	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC2	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	General	Mobilization/Demobilization	ls	1.0	-	\$ -	\$ -
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	General	Care of Water and Erosion Sediment Control during Construction	ls	1.0	-	\$ -	\$ -
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	1.0	50,000.00	\$ 0.89	\$ 44,313
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Common Excavation	m3	1.0	25,000.00	\$ 4.56	\$ 113,901
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Dike construction, backfill	m3	1.0	37,000.00	\$ 10.00	\$ 370,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	200 mm PVC drainpipe (cleanouts)	m	1.2	440.00	\$ 24.00	\$ 10,560
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	150mm socked PVC perforated pipe	m	1.2	3,150.00	\$ 24.00	\$ 75,600
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Bedding gravel	m3	1.0	8,200.00	\$ 51.34	\$ 421,019
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Rip Rap Pond Dikes inside and outside Placed	m3	1.0	9,500.00	\$ 228.93	\$ 2,174,842
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast outlet headwall	each	1.0	2.00	\$ 5,000.00	\$ 10,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast inlet headwall	each	1.0	3.00	\$ 5,000.00	\$ 15,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install precast chamber	each	1.0	3.00	\$ 2,500.00	\$ 7,500
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Supply and install manholes	each	1.0	8.00	\$ 2,500.00	\$ 20,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Sediment Pond Earthworks	Non woven geotextile	m2	1.2	50,000.00	\$ 6.00	\$ 300,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Channel Excavation	m3	1.0	12,500.00	\$ 12.65	\$ 158,125
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Riprap for diversion channel armouring	m3	1.0	2,950.00	\$ 228.93	\$ 675,346
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Clinton Creek Diversion	Clinton Geotextile	m2	1.2	7,000.00	\$ 6.00	\$ 42,000
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	1.0	1,200.00	\$ 12.65	\$ 15,180
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Riprap for diversion channel armouring	m3	1.0	600.00	\$ 228.93	\$ 137,358
Wolverine	WC3	Civil Works	Flow Conveyance	Sediment Pond	Wolverine Creek Diversion	Wolverine Geotextile	m2	1.2	1,400.00	\$ 6.00	\$ 8,400
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	Monthly Rent for 42" Floating Pump	months	1.0	1.00	\$ 221,760.00	\$ 221,760

CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	DELIVERY FREIGHT COST	each	1.0	1.00	\$ 20,091.72	\$ 20,092
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	RETURN FREIGHT COST	each	1.0	1.00	\$ 16,552.80	\$ 16,553
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	PIPING AND ACCESSORIES	each	1.0	1.00	\$ 269,091.90	\$ 269,092
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	50,000 L Envirotank Mob/demob	km	1.0	3,162.00	\$ 5.90	\$ 18,656
Clinton	CC1	Mechanical Works	Lake Drawdowns	N/A	Fuel Consumption	Fuel - Delivered to Site	litres	1.0	66,682.85	\$ 1.39	\$ 92,689
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	Monthly Rent for 42" Floating Pump	months	1.0	1.00	\$ 221,760.00	\$ 221,760
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	DELIVERY FREIGHT COST	each	1.0	1.00	\$ 20,091.72	\$ 20,092
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	RETURN FREIGHT COST	each	1.0	1.00	\$ 16,552.80	\$ 16,553
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	PIPING AND ACCESSORIES	each	1.0	1.00	\$ 269,091.90	\$ 269,092
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	50,000 L Envirotank Mob/demob	km	1.0	3,162.00	\$ 5.90	\$ 18,656
Clinton	CC2	Mechanical Works	Lake Drawdowns	N/A	Fuel Consumption	Fuel - Delivered to Site	litres	1.0	98,102.59	\$ 1.39	\$ 136,363
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	Monthly Rent for 42" Floating Pump	months	1.0	1.00	\$ 221,760.00	\$ 221,760
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	DELIVERY FREIGHT COST	each	1.0	1.00	\$ 20,091.72	\$ 20,092
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	RETURN FREIGHT COST	each	1.0	1.00	\$ 16,552.80	\$ 16,553
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Equipment Purchase	PIPING AND ACCESSORIES	each	1.0	1.00	\$ 269,091.90	\$ 269,092
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Mob / Demob	50,000 L Envirotank Mob/demob	km	1.0	3,162.00	\$ 5.90	\$ 18,656
Clinton	CC3	Mechanical Works	Lake Drawdowns	N/A	Fuel Consumption	Fuel - Delivered to Site	litres	1.0	108,376.28	\$ 1.39	\$ 150,643
Clinton	CC1	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Clinton	CC2	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Clinton	CC3	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC1	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC2	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Wolverine	WC3	Mobilization and Demobilization	TF&C	N/A	N/A		-		-	\$ -	\$ -
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fin Tube Installations	Heating Elements	heaters		1,600.00	\$ 540	\$ 864,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fin Tube Installations	Casing Installations	test holes		1,600.00	\$ 20,000	\$ 32,000,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fin Tube Installations	Control Panel	lump sum		1.00	\$ 46,000	\$ 46,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Generator Purchase	generators		4.00	\$ 1,800,000	\$ 7,200,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Field Installation	lump sum		1.00	\$ 1,000,000	\$ 1,000,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Enclosures	lump sum		1.00	\$ 100,000	\$ 100,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Power Supply Testing & Commissioning	lump sum		1.00	\$ 1,100,000	\$ 1,100,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Power Supply Shipment	lump sum		1.00	\$ 575,000	\$ 575,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Spare Parts	lump sum		1.00	\$ 270,000	\$ 270,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Transformer	lump sum		1.00	\$ 2,800,000	\$ 2,800,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Power Supply	Electrical Distribution Hardware	lump sum		1.00	\$ 2,200,000	\$ 2,200,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Diesel Storage Tanks	Tanks		3.00	\$ 1,170,000	\$ 3,510,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Insulation	Lump Sum		1.00	\$ 1,000,000	\$ 1,000,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Fuel Supply Testing & Commissioning	Lump Sum		1.00	\$ 1,500,000	\$ 1,500,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Shipment	Lump Sum		1.00	\$ 400,000	\$ 400,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Fuel Distribution Piping and Controls	Lump Sum		1.00	\$ 900,000	\$ 900,000
Clinton	CC1	Mechanical Works	Ground Thawing	N/A	Fuel Supply	Diesel	litres		16,000,000.00	\$ 1.39	\$ 22,240,000
Clinton	CC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 9,050,654	\$ 9,050,654
Clinton	CC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Clinton	CC1	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 8,619,670	\$ 8,619,670
Clinton	CC1	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,723,934	\$ 1,723,934
Clinton	CC1	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Clinton	CC1	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 1,077,459	\$ 1,077,459
Clinton	CC1	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 538,729	\$ 538,729
Clinton	CC1	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,205,835	\$ 3,205,835
Clinton	CC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,526,588	\$ 1,526,588
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 12,212,704	\$ 12,212,704
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,723,934	\$ 1,723,934
Clinton	CC2	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,077,459	\$ 1,077,459
Clinton	CC2	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 1,302,023	\$ 1,302,023



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC2	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 651,012	\$ 651,012
Clinton	CC2	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 2,300,770	\$ 2,300,770
Clinton	CC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,095,605	\$ 1,095,605
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 8,764,836	\$ 8,764,836
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 1,034,360	\$ 1,034,360
Clinton	CC3	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC3	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 871,040	\$ 871,040
Clinton	CC3	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 435,520	\$ 435,520
Clinton	CC3	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 3,233,731	\$ 3,233,731
Wolverine	WC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,878,852	\$ 3,878,852
Wolverine	WC1	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 2,154,918	\$ 2,154,918
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 430,984	\$ 430,984
Wolverine	WC1	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 8,619,670	\$ 8,619,670
Wolverine	WC1	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 1,077,459	\$ 1,077,459
Wolverine	WC1	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 538,729	\$ 538,729
Wolverine	WC1	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 3,965,048	\$ 3,965,048
Wolverine	WC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 3,878,852	\$ 3,878,852
Wolverine	WC2	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 1,292,951	\$ 1,292,951
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 258,590	\$ 258,590
Wolverine	WC2	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 4,309,835	\$ 4,309,835
Wolverine	WC2	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 646,475	\$ 646,475
Wolverine	WC2	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 323,238	\$ 323,238
Wolverine	WC2	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Wolverine	WC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Inspections	Baseline and Time Limited Premiums	-		1.00	\$ 986,044	\$ 986,044
Wolverine	WC3	Post Closure Care and Maintenance	Care & General Maintenance	N/A	Access	Baseline and Time Limited Premiums	-		1.00	\$ 1,095,605	\$ 1,095,605
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Water Quality	Baseline and Time Limited Premiums	-		1.00	\$ 2,191,209	\$ 2,191,209
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Hydrotechnics	Baseline and Time Limited Premiums	-		1.00	\$ 258,590	\$ 258,590
Wolverine	WC3	Post Closure Care and Maintenance	Monitoring	N/A	Geotechnics	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Wolverine	WC3	Post Closure Care and Maintenance	Partner Communications/Consultations	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 871,040	\$ 871,040
Wolverine	WC3	Post Closure Care and Maintenance	Owner's Project Management & Admin	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ 435,520	\$ 435,520
Wolverine	WC3	Post Closure Care and Maintenance	Sediment Pond Cleanouts	N/A	N/A	Baseline and Time Limited Premiums	-		1.00	\$ -	\$ -
Clinton	CC1	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 208,722,011	\$ 6,261,660
Clinton	CC2	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 133,460,134	\$ 4,003,804
Clinton	CC3	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 199,319,470	\$ 5,979,584
Wolverine	WC1	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 35,059,891	\$ 1,051,797
Wolverine	WC2	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 216,445,393	\$ 6,493,362
Wolverine	WC3	Temporary Facilities and Controls (TF&C)	Incidental Temporary Facilities and Controls	N/A	N/A		%		3%	\$ 184,327,436	\$ 5,529,823
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		50.00	\$ 110,000	\$ 5,500,000





CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		30.00	\$ 110,000	\$ 3,300,000
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		25.00	\$ 20,000	\$ 500,000
Clinton	CC1	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		50.00	\$ 110,000	\$ 5,500,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		25.00	\$ 20,000	\$ 500,000
Clinton	CC2	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		50.00	\$ 110,000	\$ 5,500,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		25.00	\$ 20,000	\$ 500,000
Clinton	CC3	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		-	\$ 50,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		-	\$ 200	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		-	\$ 200	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC1	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		1.00	\$ 50,000	\$ 50,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		300.00	\$ 200	\$ 60,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		200.00	\$ 200	\$ 40,000
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC2	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		20.00	\$ 110,000	\$ 2,200,000
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Equipment Purchase		lump sum		-	\$ 50,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Field Time		hours		-	\$ 200	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Interpretation / Reporting Time		hours		-	\$ 200	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Dump Foundation Characterization		test holes		-	\$ 110,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Ice Rich PF Delineation		test holes		-	\$ -	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	CC1 Spillway Bedrock Data		test holes		-	\$ 110,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	Pump Tests		test holes		-	\$ 20,000	\$ -
Wolverine	WC3	Extraordinary Field Investigations	N/A	N/A	WC2 Buttress / Dam Investigation		test holes		-	\$ 110,000	\$ -
Clinton	CC1	Factors	EPCM	N/A			%		10%		\$ 21,498,367
Clinton	CC2	Factors	EPCM	N/A			%		10%		\$ 13,746,394
Clinton	CC3	Factors	EPCM	N/A			%		10%		\$ 20,529,905
Wolverine	WC1	Factors	EPCM	N/A			%		10%		\$ 3,611,169



CCRP Cost Estimate Table W-10: 2019 Consolidated Estimate Detail

Creek	Option	Activity	Task	Subtask	Item	Description	Unit	Factor (Geographic / Escalation)	Total Qty	Unit Price	Cost
Wolverine	WC2	Factors	EPCM	N/A			%		10%		\$ 22,293,875
Wolverine	WC3	Factors	EPCM	N/A			%		10%		\$ 18,985,726
Clinton	CC1	Factors	Contingency	N/A			%		25%		\$ 61,483,010
Clinton	CC2	Factors	Contingency	N/A			%		25%		\$ 39,340,083
Clinton	CC3	Factors	Contingency	N/A			%		25%		\$ 57,994,740
Wolverine	WC1	Factors	Contingency	N/A			%		25%		\$ 9,930,714
Wolverine	WC2	Factors	Contingency	N/A			%		25%		\$ 61,895,658
Wolverine	WC3	Factors	Contingency	N/A			%		25%		\$ 52,210,746



CCRP Cost Estimate Table W-11: 2019 Remediation Options - Earthmoving Metrics

Option	Creek	Estimated Waste Material or Tailings Removal Volume (m3) <sup>1</sup>	Waste Material Relocation / Tailings Area	Haul Distance (one way) (km)	Image 1	Image 2	Average Current Haul/Work Slope (%)	Maximum Current Haul/Work Slope (%)	Maximum Digging Depth (m)	Design Slope (%)
CC1	Clinton	4,373,000	PPSS	0.4 to 1.2	Image	Image	25	30	40	17
CC2	Clinton	7,097,000	PPSS	0.4 to 1.2	Image	Image	25	30	40	17 to 50
CC3	Clinton	13,966,000	PPSS	0.4 to 1.2	Image	Image	25	30	70	17
WC1	Wolverine				Image					
WC2	Wolverine	4,312,000			Image		30	40		
WC3	Wolverine	7,688,000	PPSS	2.7	Image		27	40	13	27

<sup>1</sup>Wood. 5 April 2019. Clinton Creek - Storage and Excavation Volumes.

CCRP Cost Estimate Table W-12: Key Equipment and Field Personnel Metrics

Creek	Option	Tailings Volume (m3)	Material Volume (m3)	Number of Excavators	Number of Haul Trucks	Number of Dozers	Number of Compactors	Number of Graders	Number of Water Trucks	Number of Support Trucks	Total Equipment Operators	Total Support Personnel	Owners Team	Shifts per Day	Total Crew Count	Project Duration (Years)
Clinton	CC1		4,373,000	2	7	2	1	2	2	3	19	10	3	2	61	1.42
	CC2		7,097,000	2	7	2	1	2	2	3	19	10	3	2	61	2.31
	CC3		13,966,000	2	7	2	1	2	2	3	19	10	3	2	61	4.55
Wolverine	WC1			1	1	1		1	1	1	6	4	2	2	22	0.50
	WC2	2,370,000	1,942,000	2	16	3	1	2	3	3	30	10	3	2	83	2.81
	WC3	7,688,000	-	2	16	3	1	2	3	3	30	10	3	2	83	2.81

#### Equipment Mobilization

Distance from Edmonton to Dawson City:	2,521	km
Distance from Dawson City to Fortymile R. Bridge:	91	km
Distance from Fortymile R. Bridge to Site:	9	km
Total Mobilization + Demobilization Distance:	<b>5,224</b>	km

The George Black Ferry:	This ferry service crosses the Yukon River and provides access to the Top of the World Highway from the North Klondike Highway for motorists passing through Dawson City.
Yukon River Ice Bridge:	Yukon gov't gives up on attempt to build ice bridge in Dawson City. <a href="https://www.cbc.ca/news/canada/north/gov-halts-dawson-city-ice-bridge-1.5001387">https://www.cbc.ca/news/canada/north/gov-halts-dawson-city-ice-bridge-1.5001387</a> . <a href="https://yukon.ca/sites/yukon.ca/files/hpw/final_nrc_report_dawson_ice_bridge_2018_final.pdf">https://yukon.ca/sites/yukon.ca/files/hpw/final_nrc_report_dawson_ice_bridge_2018_final.pdf</a>
Fortymile River Bridge:	Weight restrictions not available. Built in 1966.



CCRP Cost Estimate Table W-13: Loading Equipment Specifications and Rates

Loaders	Manufacturer	Model	Bucket Capacity (m <sup>3</sup> )	Rated Payload (tonnes)	Configuration	Machine Working Weight (t)	Tires	Gross Power (kW)	Fuel Consumption	Digging Force (KN)	Maximum Dumping Height (m)	Maximum Height of Cut (m)	Optimal Working Bench Height (m)	Comments	Rate/hr	Rate Source
Caterpillar 330F	Caterpillar	330F	1.5	2.8	Excavator		track								\$ 228	ARHCA x 1.2
Caterpillar 385C	Caterpillar	385C	4.6	8.3	Excavator	84	track	390.0	68		8.1	12.5	9		\$ 358	ARHCA x 1.2
Caterpillar 390F GP	Caterpillar	390F GP	4.6	9.7	Excavator	84	track	390.0			8.1	12.5	9		\$ 560	ARHCA x 1.2
Caterpillar 6015 FS	Caterpillar	6015 FS	7.0	12.6	Hydr.Shovel	105	track	522.0	91	490	8.8	11.0	8	Also available as Excavator		
Caterpillar 6018 FS	Caterpillar	6018 FS	10.0	18.0	Hydr.Shovel	172	track	858.0	150	730	10.1	13.2	9	Also available as Excavator		
Caterpillar 6030 FS	Caterpillar	6030 FS	16.5	29.7	Hydr.Shovel	287	track	1,140.0	200	920	10.7	13.9	10	Also available as Excavator		
Caterpillar 6040 FS	Caterpillar	6040 FS	22.0	39.6	Hydr.Shovel	397	track	1,516.0	265	1,270	10.9	14.4	10	Also available as Excavator		
Caterpillar 6050 FS	Caterpillar	6050 FS	26.0	46.8	Hydr.Shovel	525	track	1,880.0	329	1,500	11.8	15.3	11	Also available as Excavator		
Caterpillar 6060 FS	Caterpillar	6060 FS	34.0	61.2	Hydr.Shovel	562	track	2,240.0	392	1,640	11.6	15.5	11	Also available as Excavator		
Caterpillar 6090 FS	Caterpillar	6090 FS	52.0	93.6	Hydr.Shovel	980	track	3,360.0	588	2,400	14.5	20.2	15	NOT available as Excavator		
Caterpillar 7395	Caterpillar	7395	35.0	63.5	Cable Shovel	1,179	track	3,106.0			10.0	16.7	15			
Caterpillar 7495 HD	Caterpillar	7495 HD	50.0	81.8	Cable Shovel	1,306	track	3,330.0			10.6	17.3	17			
Caterpillar 7495	Caterpillar	7495	56.0	100.0	Cable Shovel	1,382	track	3,706.0			10.1	17.8	17			
Caterpillar 7495 HF	Caterpillar	7495 HF	56.0	100.0	Cable Shovel	1,442	track	3,778.0			10.9	17.8	17	Oil sands model		
Caterpillar 988H	Caterpillar	988H	6.4	11.3	Loader	50	35/65R33	414.0		451	3.5	7.7	6	High Lift adds 0.4 m height	\$ 389	ARHCA x 1.2
Caterpillar 990H	Caterpillar	990H	8.4	15.0	Loader	78	45/65-39	512.0		583	4.0	8.1	6	High Lift adds 0.6 m height	\$ 485	ARHCA x 1.2
Caterpillar 992K	Caterpillar	992K	10.7	18.7	Loader	100	45/65-45	676.0		568	4.6	9.3	7	High Lift adds 0.6 m height	\$ 485	ARHCA x 1.2
Caterpillar 993K	Caterpillar	993K	12.5	27.2	Loader	134	50/65-51	782.0		709	4.7	9.8	7	High Lift adds 0.6 m height		
Caterpillar 994K High lift	Caterpillar	994K High lift	19.0	35.0	Loader	194	53.5/85-57	1,176.0		989	5.6	10.9	8			
Caterpillar 994 STD	Caterpillar	994 STD	21.2	38.1	Loader											
Caterpillar 994High lift	Caterpillar	994High lift	18.0	32.0	Loader	197	53.5/85-57	1,176.0		1,020	6.0	11.0	8			
Caterpillar 994EXT lift	Caterpillar	994EXT lift	17.0	32.0	Loader	200	58/85-57	1,176.0		1,020	7.0	11.0	8			
Caterpillar 994Super lift	Caterpillar	994Super lift	36.0	32.0	Loader	212	53.5/85-57	1,176.0		693	7.3	16.4	12	Coal Only		
Hitachi EX1200-6	Hitachi	EX1200-6	5.9	10.6	Hydr.Shovel	114	track	567.0	99	577	8.8	12.4	9	Also available as Excavator		
Hitachi EX1900-6	Hitachi	EX1900-6	11.0	20.7	Hydr.Shovel	191	track	810.0	142	660	10.4	14.6	10	Also available as Excavator		
Hitachi EX2600-6	Hitachi	EX2600-6	15.0	27.0	Hydr.Shovel	252	track	1,119.0	196	907	10.4	15.0	11	Also available as Excavator		
Hitachi EX3600-6	Hitachi	EX3600-6	21.0	37.8	Hydr.Shovel	361	track	1,450.0	254	1,130	10.9	16.3	12	Also available as Excavator		
Hitachi EX5600-6	Hitachi	EX5600-6	29.0	52.2	Hydr.Shovel	533	track	2,238.0	392	1,570	13.1	18.9	14	Also available as Excavator		
Hitachi EX8000-6	Hitachi	EX8000-6	42.0	75.6	Hydr.Shovel	811	track	2,900.0	508	2,230	13.8	20.5	15	NOT available as Excavator		
Komatsu WA1200-6 std	Komatsu	WA1200-6 std	20.0	36.0	Loader	216	60/80 R57	1,411.0	178	1,275	6.3	12.2	9			
Komatsu WA1200-6 Hlift	Komatsu	WA1200-6 Hlift	18.0	32.4	Loader	218	60/80 R57	1,411.0	178	1,236	7.1	12.8	9			
Komatsu PC800	Komatsu	PC800	4.5	8.1	Excavator											
Komatsu PC1250LC-8	Komatsu	PC1250LC-8	5.0	9.0	Excavator	107	track	502.0	88			10.4	7			
Komatsu PC2000	Komatsu	PC2000	11.0	19.8	Hydr.Shovel	195	track	728.0	127	721	9.7	14.4	10	Also available as Excavator		
Komatsu PC3000	Komatsu	PC3000	15.0	27.0	Hydr.Shovel	252	track	940.0	165	1,000	10.2	15.1	11	Also available as Excavator		
Komatsu PC4000	Komatsu	PC4000	22.0	39.6	Hydr.Shovel	385	track	1,400.0	245	1,250	12.0	17.2	12	Also available as Excavator		
Komatsu PC5500	Komatsu	PC5500	29.0	52.2	Hydr.Shovel	533	track	1,880.0	329	1,865	13.3	19.5	14	Also available as Excavator		
Komatsu PC8000	Komatsu	PC8000	42.0	75.6	Hydr.Shovel	700	track	3,000.0	525	2,320	13.9	19.6	14	NOT available as Excavator		
LeTourneau L950	LeTourneau	L950	13.8	24.5	Loader	107	45/65-45	783.0		712	4.6	9.2	7			
LeTourneau L950 Hi Lift	LeTourneau	L950 Hi Lift	12.0	21.8	Loader	110	45/65-45	783.0		734	5.3	9.7	7			
LeTourneau L1150	LeTourneau	L1150	19.1	34.5	Loader	141	50/65-51	899.0		975	5.6	10.5	8			
LeTourneau L1150 Hi Lift	LeTourneau	L1150 Hi Lift	17.6	31.8	Loader	142	50/65-51	899.0		889	6.3	11.0	8			
LeTourneau L1350	LeTourneau	L1350	22.9	40.8	Loader	184	60/80 R57	1,193.0		961	6.4	11.4	8			
LeTourneau L1350 Hi Lift	LeTourneau	L1350 Hi Lift	21.4	38.1	Loader	186	60/80 R57	1,193.0		987	7.1	11.7	8			
LeTourneau L1850	LeTourneau	L1850	30.6	54.4	Loader	243	58/85-57	1,491.0	157	1,228	6.8	12.6	9			
LeTourneau L1850 Hi Lift	LeTourneau	L1850 Hi Lift	28.3	49.9	Loader	246	58/85-57	1,492.0	157	1,248	7.4	12.9	9			Wood



CCRP Cost Estimate Table W-13: Loading Equipment Specifications and Rates

Loaders	Manufacturer	Model	Bucket Capacity (m <sup>3</sup> )	Rated Payload (tonnes)	Configuration	Machine Working Weight (t)	Tires	Gross Power (kW)	Fuel Consumption	Digging Force (kN)	Maximum Dumping Height (m)	Maximum Height of Cut (m)	Optimal Working Bench Height (m)	Comments	Rate/hr	Rate Source
LeTourneau L2350	LeTourneau	L2350	40.5	72.6	Loader	262	70/70-57	1,715.0		1,273	7.0	13.4	10			
LeTourneau L2350 Hi Lift	LeTourneau	L2350 Hi Lift	38.2	68.0	Loader	272	70/70-57	1,715.0		1,290	8.0	13.9	10			
Liebherr R9100	Liebherr	R9100	7.0	12.6	Hydr.Shovel	114	track	565.0		544	8.1	10.3	7	Also available as Excavator		
Liebherr R984C	Liebherr	R984C	7.0	12.6	Hydr.Shovel	125	track	523.0		550	8.9	11.4	8	Also available as Excavator		
Liebherr R9250	Liebherr	R9250	15.0	27.0	Hydr.Shovel	254	track	960.0		935	11.0	15.2	11	Also available as Excavator		
Liebherr R9350	Liebherr	R9350	18.0	32.4	Hydr.Shovel	310	track	1,120.0		1,060	11.2	15.7	11	Also available as Excavator		
Liebherr R9400	Liebherr	R9400	22.0	39.6	Hydr.Shovel	353	track	1,250.0		1,290	11.2	16.0	11	Also available as Excavator		
Liebherr R995	Liebherr	R995	26.5	47.7	Hydr.Shovel	450	track	1,600.0		1,400	12.8	17.7	13	Also available as Excavator		
Liebherr R996B	Liebherr	R996B	34.0	61.2	Hydr.Shovel	676	track	2,240.0		1,905	12.9	18.0	13	Also available as Excavator		
Liebherr R9800	Liebherr	R9800	42.0	75.6	Hydr.Shovel	810	track	2,984.0		2,400	13.0	19.2	14	Also available as Excavator		
P&H 2300XPC	P&H	2300XPC	28.1	45.4	Cable Shovel	775	track	2,387.0			8.5	13.5	12			
P&H 2800XPC	P&H	2800XPC	36.6	59.0	Cable Shovel	1,078	track	3,089.0			9.1	16.6	17			
P&H 4100C	P&H	4100C	50.8	81.7	Cable Shovel	1,243	track	3,886.0			9.1	15.8	17			
P&H 4100XPC AC	P&H	4100XPC AC	67.6	108.9	Cable Shovel	1,532	track	5,113.0			9.5	16.8	17			
P&H 4100C BOSS	P&H	4100C BOSS	52.3	90.7	Cable Shovel	1,354	track	3,886.0			9.5	16.9	17	Oil sands model		

CCRP Cost Estimate Table W-14: Hauling Equipment Specifications and Rates

Trucks	Manufacturer	Model	Target Payload (tonnes)	Capacity Heaped (2:1) (m <sup>3</sup> )	Overall Width (m)	Loading Height (m)	Gross Vehicle Weight (t)	Tires	Gross Power (kW)	Haul Road	Body	Rate/hr	Rate Source
Belaz 75137NA	Belaz	75137NA	136.0	80.0	7.00	4.80	244	33.00R51	1,194	24.5	rigid		
Belaz 75302NA	Belaz	75302NA	220.0	138.0	8.40	5.92	376	40.00R57	2,347	29.4	rigid		
Caterpillar 735B	Caterpillar	735B	32.7	19.7	4.20	2.98	65	26.5R25	337	14.7	articulated	\$ 282	ARHCA x 1.2
Caterpillar 740B EJ	Caterpillar	740B EJ	38.0	24.0	4.20	3.20	74	29.5R25	365	14.7	articulated	\$ 312	ARHCA x 1.2
Caterpillar 745C	Caterpillar	745C	41.0	73.8	4.20	3.20	74	29.5R25	365	14.7	articulated	\$ 323	ARHCA x 1.2
Caterpillar 770G	Caterpillar	770G	35.0	25.1	4.78	3.23	71	18.00R33	381	16.7	rigid	\$ 389	ARHCA x 1.2
Caterpillar 772G	Caterpillar	772G	43.8	31.3	4.78	3.64	82	21.00R33	446	16.7	rigid	\$ 389	ARHCA x 1.2
Caterpillar 773G	Caterpillar	773G	52.8	35.2	5.67	3.77	103	24.00R35	578	19.8	rigid	\$ 461	ARHCA x 1.2
Caterpillar 775G	Caterpillar	775G	61.7	41.7	5.67	3.97	112	24.00R35	615	19.8	rigid	\$ 481	ARHCA x 1.2
Caterpillar 777G	Caterpillar	777G	91.0	60.2	6.10	4.39	165	27.00R49	765	21.4	rigid	\$ 656	ARHCA x 1.2
Caterpillar 785D	Caterpillar	785D	132.9	78.0	7.06	4.97	249	33.00-R51	1,082	24.7	rigid		
Caterpillar 789C	Caterpillar	789C	180.7	105.0	7.67	5.21	317	37.00R57	1,417	26.8	rigid		
Caterpillar 793F	Caterpillar	793F	226.0	134.0	8.30	6.50	386	40.00-R57	1,976	29.1	rigid		
Caterpillar 795F AC	Caterpillar	795F AC	313.0	213.0	8.97	7.04	570	56/80 R63	2,535	31.4	rigid		
Caterpillar 797F	Caterpillar	797F	350.0	240.0	9.75	7.00	624	59/80 R63	2,983	34.1	rigid		
Hitachi EH1100-3	Hitachi	EH1100-3	59.0	38.7	4.44	3.76	111	24.00R35	567	15.5	rigid		
Hitachi EH1700-3	Hitachi	EH1700-3	95.2	60.4	6.25	4.26	163	27.00R49	783	21.9	rigid		
Hitachi EH3500ACII	Hitachi	EH3500ACII	185.0	111.0	8.01	5.63	325	37.00R57	1,491	28.0	rigid		
Hitachi EH4000ACII	Hitachi	EH4000ACII	222.0	134.0	9.54	5.71	384	46/90 R57	1,864	33.4	rigid		
Hitachi EH5000ACII	Hitachi	EH5000ACII	290.0	206.0	9.28	7.12	500	53/80 R63	2,014	32.5	rigid		
Komatsu HM400	Komatsu	HM400	36.5	22.3	3.45	2.97	74	29.50R25	338	12.1	articulated	\$ 250	ARHCA x 1.2
Komatsu HD785-7	Komatsu	HD785-7	91.0	60.0	6.89	4.29	166	27.00R49	895	24.1	rigid	\$ 656	ARHCA x 1.2
Komatsu HD1500-7	Komatsu	HD1500-7	144.1	78.0	6.09	4.97	249	33.00-R51	1,109	21.3	rigid		
Komatsu 730E	Komatsu	730E	183.7	111.0	7.54	5.61	324	37.00R57	1,492	26.4	rigid		
Komatsu 830E AC	Komatsu	830E AC	221.2	147.0	7.32	6.71	386	40.00-R57	1,865	25.6	rigid		
Komatsu 860E-1K	Komatsu	860E-1K	254.0	169.0	8.33	6.39	454	50/80 R57	2,014	29.2	rigid		
Komatsu 930E-4	Komatsu	930E-4	291.8	211.0	8.69	7.06	502	53/80 R63	2,014	30.4	rigid		
Komatsu 960E-2K	Komatsu	960E-2K	326.6	214.0	9.19	7.39	576	56/80 R63	2,610	32.2	rigid		
Liebherr T282C	Liebherr	T282C	363.0	220.0	9.68	7.43	600	56/80 R63	2,800	33.9	rigid		
Unit Rig MT3300	Unit Rig	MT3300	136.0				252	33.00-R51	1,193	-	rigid		
Unit Rig MT3700AC	Unit Rig	MT3700AC	186.0	123.0	7.30	6.20	336	40.00-R57	1,492	25.6	rigid		
Unit Rig MT4400AC	Unit Rig	MT4400AC	221.0	144.0	8.00	6.10	392	50/80 R57	2,014	28.0	rigid		
Unit Rig MT5500AC	Unit Rig	MT5500AC	326.0	218.0	9.45	6.86	543	56/80 R63	2,014	33.1	rigid		
Unit Rig MT6300AC	Unit Rig	MT6300AC	363.0	215.0	9.70	7.39	603	59/80 R63	2,796	34.0	rigid		
Caterpillar 730C2	Caterpillar	730C2	30.0									\$ 285	YG
Komatsu HM350	Komatsu	HM350	35.0									\$ 285	YG
Caterpillar 730E	Caterpillar	730E	30.0								articulated	\$ 325	YG
Terex TA30	Terex	TA30	30.0								articulated	\$ 295	YG
Volvo A30D	Volvo	A30D	30.0									\$ 300	YG

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Dump Truck	Whitehorse	11	Lane's Yukon Yardworks INC	9	--	International - 4700/4900 - 8 yds - 4700-SA 12'box/ 4900 SA - Single Axle 12' box, Single Axle	No	\$100.00	\$100.00	\$100.00	\$65.00
			Quality North Services Ltd.	2	--	Kenworth - W900 - tandem - - 15' Box	No	\$115.00	\$105.00	\$0.00	\$74.75
Dump Truck	Whitehorse	11	Solution Excavating Ltd.	3	--	Kenworth - T800B TA & T600 TA - 12 Yard - - Pup	Yes	\$115	\$0	\$0	\$75
Dump Truck	Whitehorse	11	Lane's Yukon Yardworks INC	21	--	GMC - Topkick - 16 yds - - 15' Dump Tandem axle	No	\$120	\$120	\$100	\$65
Dump Truck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	15	--	Freightliner - - 16 yd - - Air Tarp for Box	Yes	\$125	\$125	\$120	\$78
Dump Truck	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	7	--	Kenworth & Western Star - Tandem - 12 yds - 2 Available - Tarp, Hylift	Yes	\$125	\$125	\$0	\$81
Dump Truck	Whitehorse	11	Arctic Backhoe Services Ltd.	28	--	Kenworth - Tandem Axle - 12 Yd - 3 available	Yes	\$125	\$180	\$0	\$81
Dump Truck	Whitehorse	11	Coates Services Yukon Ltd.	11	--	Kenworth - T800 - 12 yds - 4 available - Tarp, Chipped Hook	No	\$125	\$125	\$0	\$81
Dump Truck	Whitehorse	11	VanGorda Enterprises	4	--	Ford - F350 - 3 cubic yards - - Dump Trailer 14'	Yes	\$125	\$125	\$115	\$75
Dump Truck	Whitehorse	11	White Lightening Truck Services	1	--	Kenworth - C-500 - 15' box - Tandem - Air Tarp	No	\$125	\$250	\$100	\$65
Dump Truck	Whitehorse	11	Yukon Equipment Services Ltd.	9	--	Kenworth - T800 - 12 yd - 16 ft box - High Lift Gate	No	\$125	\$125	\$125	\$81
Dump Truck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	8	--	Ford - 9000 - 16 yd - - High Lift Gate	Yes	\$130	\$130	\$120	\$78
Dump Truck	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	20	--	Kenworth - T800 - - 4 Available - 16' Dump Box	Yes	\$130	\$200	\$0	\$85
Dump Truck	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	7	--	Kenworth - T800 - 16' Box - 4 Available	Yes	\$130	\$200	\$0	\$85
Dump Truck	Whitehorse	11	Getaway Construction Inc.	6	--	Western Star - 4800 - 10 Yd - Gravel truck	No	\$130	\$130	\$0	\$85
Dump Truck	Whitehorse	11	Rabbit Creek Transport Inc.	9	--	Kenworth - Tandem - 10 yard - 3 available with Trucks	Yes	\$130	\$100	\$120	\$78
Dump Truck	Whitehorse	11	McClintock Contracting	4	--	Western Star - - 12 yd box - Tandem Axle. 2 Available	Yes	\$133	\$133	\$0	\$86
Dump Truck	Whitehorse	11	16142 YT Inc. Northern Enviro Services	11	--	Kenworth - W900 - Tandem - 12 Yd - 5 Available - Gravel trucks	Yes	\$135	\$135	\$0	\$88
Dump Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	77	2017	Kenworth - T800 - 12yd <sup>3</sup> legal - Tandem. 7 Available - Tarp, Vibrator, Teflon Non Stick Liner	No	\$135.00	\$135.00	\$135.00	\$87.75
			Ralph Hotte Contracting Ltd.	10	--	Freightliner, Louisville - FLD 120, L9000 - 14 yd - 2 available - Dump Box 14 yd	Yes	\$135.00	\$135.00	\$120.00	\$78.00
Dump Truck	Whitehorse	11	Goal Done Contracting Ltd.	5	--	Kenworth/Fraitliner - T800 - 16 yd - tandem- 2 avail -1 high lift tail gate 1 not high lift g - High Lift Gate	No	\$138.00	\$138.00	\$0.00	\$89.70
			Arctic Backhoe Services Ltd.	30	--	WesternStar - Tandem Axle - 20 Yd - c/w Pup trailer - Tandem Axle Pup Trailer	Yes	\$145.00	\$180.00	\$0.00	\$94.25
Dump Truck	Whitehorse	11	Carey On Construction	4	--	GMC/ Ford - - 10 ton - GMC 12 yd box/ Ford 18 yard cross gate trailer - Box 12 yd, 18 yd Cross Gate Trailer	Yes	\$150.00	\$150.00	\$160.00	\$104.00
			Gear Worx Contracting	3	--	Kenworth - W900 Tandem - 10 yd - - Pup Trailer	Yes	\$150.00	\$150.00	\$0.00	\$97.50
Dump Truck	Whitehorse	11	Carey On Construction	4	--	Kenworth - T800 Tandem - 10 yd - - Pup Trailer	Yes	\$150	\$150	\$0	\$98
			Gear Worx Contracting								
Dump Truck	Whitehorse	11	Graceland Construction	1	--	Kenworth - T800 - - - Dump Box 14 yd	Yes	\$150	\$150	\$140	\$91
Dump Truck	Whitehorse	11	Boreal Engineering Ltd	3	--	Mack - Tri Drive - - - 21' Box, High Lift Gate	No	\$160	\$160	\$120	\$78
Dump Truck	Whitehorse	11	Boreal Engineering Ltd	13	--	Kenworth - Tandem - - - 16' Dump Box, High Lift Gate	No	\$160	\$160	\$120	\$78
Dump Truck	Whitehorse	11	Cobalt Construction Inc.	11	--	Ford Louisville - TA - 12 yd <sup>3</sup> -	No	\$160	\$150	\$0	\$104
Dump Truck	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	15	--	Kenworth - T800 - 15 ton - 6 available	No	\$160	\$0	\$0	\$104
Dump Truck	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	10	--	Western Star - - - with pup trailer - Tandem Pup	Yes	\$165	\$165	\$0	\$107
Dump Truck	Whitehorse	11	Arctic Backhoe Services Ltd.	29	--	Western Star - Tridem - 16 Yd -	Yes	\$165	\$180	\$0	\$107
Dump Truck	Whitehorse	11	Goal Done Contracting Ltd.	8	--	- W900 Tri drive - 20 yds - - 20 yd box with Pintle Hitch	No	\$168	\$168	\$0	\$109
Dump Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	72	2010	Kenworth - T800 - 24 yd <sup>3</sup> Legal with Pup - Tandem - Teflon Non Stick Liner, Tarp, Tridem Pup	No	\$185.00	\$185.00	\$185.00	\$120.25
			16142 YT Inc. Northern Enviro Services	57	--	- - - Garbage Bin Roll Off Truck - 20 YD Bin, 30YD Bin x2	Yes	\$200.00	\$200.00	\$0.00	\$130.00
Dump Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	3	--	Kenworth - Tandem - 16 yds boxes - 2 Available	Yes	\$220	\$220	\$0	\$143
			16142 YT Inc. Northern Enviro Services								
Dump Truck	Whitehorse	11	Cobalt Construction Inc.	45	--	Volvo - A40 F - 40 ton - Rock truck (ADT). 3 Available	No	\$270	\$300	\$0	\$176
Dump Truck	Whitehorse	11	Cobalt Construction Inc.	46	2014	John Deere - 410 E - 40 ton - Rock truck (ADT). 4 available	No	\$270	\$300	\$0	\$176
Hiab	Whitehorse	11	Graceland Construction	2	--	Ford - L800 - 10 ton - - 16 Ft Flat Deck-Dump Deck	Yes	\$160	\$160	\$150	\$98
Hiab	Whitehorse	11	16142 YT Inc. Northern Enviro Services	25	--	Sterling/Ford - - 3 Ton - Has 5th Wheel can pull a highboy trailer - 12000 Lb. Hiab, 5th Wheel, Deck 16'	Yes	\$180.00	\$180.00	\$0.00	\$117.00
			Cobalt Construction Inc.	31	--	GMC Top Kick & International - - 5 Ton - GMC Top Kick & International. Hiab w/	No	\$180.00	\$200.00	\$0.00	\$117.00
Hiab	Whitehorse	11	16142 YT Inc. Northern Enviro Services	9	--	Flatdeck - Flat Deck	Yes	\$220	\$220	\$0	\$143
						Peterbuilt - Tilt Deck - 18,000 lbs - 20ft Tandem Tilt Deck. Truck 18000 lb Hiab					
Hiab	Whitehorse	11	16142 YT Inc. Northern Enviro Services	13	--	Picker - Deck 20'	Yes	\$220	\$220	\$0	\$143
						GMC - Tandem - 14000 lb - Service Truck - Hiab on Truck - 2 available -					
Rock Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	32	2006	Komatsu - HM350 - 35 ton - 2 available	No	\$250	\$1100	\$250	\$163
Rock Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	80	2018	CAT - 730C2 - 30 ton - 2 Available	No	\$250.00	\$1,100.00	\$250.00	\$162.50
			Cobalt Construction Inc.	12	2006	John Deere - 350D - 35 Ton - 2 Available	No	\$250.00	\$300.00	\$0.00	\$162.50



CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Rock Truck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Cobalt Construction Inc.	13	--	John Deere - 400 D - 40 Ton - 4 Available - Rock Truck (ADT)	No	\$270	\$300	\$0	\$176
Rock Truck	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	21	--	Volvo - A30D - 30 ton - - Heated Box	Yes	\$280	\$400	\$0	\$182
Rock Truck	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	9	--	Volvo - A 30 D - 30 Ton - - Heated Box	Yes	\$280	\$400	\$0	\$182
Rock Truck	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	4	--	Terex - TA30 - 30 Ton - Articulating 11 Available	No	\$295	\$0	\$0	\$192
Rock Truck	Whitehorse	11	16142 YT Inc. Northern Enviro Services	45	--	Cat 730 - Articulating 6 Wheel Drive - 730 E - 3 Available	Yes	\$325	\$500	\$0	\$211
Tractor	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	29	--	Kenworth - T800-W900L-T800B - - Tandem Axle 3 Available T800 W900L T800B	Yes	\$125.00	\$125.00	\$0.00	\$81.25
Tractor	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	39	--	Kenworth - Tandem Axle - - 3 Available -T800; W900L; T800B	Yes	\$125.00	\$125.00	\$0.00	\$81.25
Tractor	Whitehorse	11	Graceland Construction	9	--	Mack - - 500HP - - Tractor Trailer 40' Deck 40Ton	Yes	\$150	\$150	\$140	\$91
Tractor	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	23	--	Kenworth - T800 - - Tandem Axle - Belly Dumps, Scissor Neck 53', End Dump 30', 28' Deck, Lo-Boy 40', Step Deck 53'	Yes	\$155.00	\$155.00	\$150.00	\$97.50
Tractor	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	24	--	Kenworth - T800 - - Tandem Axle - Belly Dumps, Scissor Neck 53', End Dump	Yes	\$155.00	\$155.00	\$150.00	\$97.50
Tractor	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	25	--	30', 28' Deck, Lo-Boy 40', Step Deck 53' Western star - - - Tandem Axle - Belly Dumps, Scissor Neck 53', End Dump	Yes	\$155	\$155	\$150	\$98
Tractor	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	26	--	30', 28' Deck, Lo-Boy 40', Step Deck 53' Volvo - - - Tandem Axle - Belly Dumps, Scissor Neck 53', 28' Deck, End Dump	Yes	\$155	\$155	\$150	\$98
Tractor	Whitehorse	11	Ralph Hotte Contracting Ltd.	12	--	30', Lo-Boy 40', Step Deck 53' Kenworth & Peterbilt - W900 & 377 - - 2 available - Lo-Boy 9' Wide	Yes	\$155	\$250	\$0	\$101
Tractor	Whitehorse	11	Son Rise General Contracting P S Sidhu Trucking Ltd (Whse)	2 23	-- --	Freightliners - Tandem - - 2 available - lowboy 40 ton x 2, Belly dump x2, 30 ft - 5000 Gal Tanker, oil field float, 48 ft hiboy, 48 ft Dry Van Kenworth - T800 - 63500.kn - 20 available	Yes No	\$180.00 \$185.00	\$170.00 \$0.00	\$0.00 \$0.00	\$117.00 \$120.25
Tractor/Winch Truck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services) 16142 YT Inc. Northern Enviro Services	7 48	-- --	Kenworth - - 40 ton - - 53' tri axle scissor neck, Belly Dump, 30' end dump high lift gate, 48' tri axle hi boy, 48' tri axle step deck Mack - Steam Truck - 2000 gal tank - 3000 PSI - 2 available - Landa Steamer	Yes Yes	\$180.00 \$195.00	\$165.00 \$195.00	\$160.00 \$0.00	\$104.00 \$126.75
Tractor/Winch Truck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services) 16142 YT Inc. Northern Enviro Services	50	--	Kenworth - T800 - - 500 litre fuel tank oil/lube - 2 Available	Yes	\$195	\$195	\$0	\$127
Tractor/Winch Truck	Whitehorse	11	Boreal Engineering Ltd Carev On Construction	12 6	-- --	Kenworth - - - 40 ton winch - 3 available - Scissor Neck, Belly Dump, HI-Boy, Lo- Boy Ford/ GMC - 9000W/9000/Cenreal - 10 ton - 3 available -40 ton low bed/hi boy	Yes Yes	\$200.00 \$200.00	\$200.00 \$200.00	\$150.00 \$210.00	\$97.50 \$136.50
Tractor/Winch Truck	Whitehorse	11	Yukon Equipment Services Ltd.	8	--	Kenworth - T800 - 40 Ton Winch - - Scissor Neck	No	\$200	\$200	\$0	\$130
Tractor/Winch Truck	Whitehorse	11	16142 YT Inc. Northern Enviro Services	64	--	- - - Winch Tractor. 3 Available tri axle trailers - Scissor Neck, High Boy	Yes	\$225	\$225	\$0	\$146
Tractor/Winch Truck	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	65 21	-- --	- Tandam - 14,000 lb - - Winch Deck Truck, Fold Up Picker, Tri Axle, Towing Capabilities, Tri Drive Kenworth - T800 - 30 ton - 4 available - Tri Axle, Scissor Neck	Yes No	\$225.00 \$240.00	\$225.00 \$0.00	\$0.00 \$0.00	\$146.25 \$156.00
Tractor/Winch Truck	Whitehorse	11	Coates Services Yukon Ltd.	26	--	- Tridem - - Live roll tridem	No	\$250	\$250	\$0	\$163
Tractor/Winch Truck	Whitehorse	11	Cobalt Construction Inc.	39	2012	Kenworth - - - 2 Available. 35T Winch. - Scissor Neck	No	\$250	\$250	\$0	\$163
Tractor/Winch Truck	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	12	--	Kenworth - T800 - 30 ton -	Yes	\$250	\$250	\$0	\$163
Water Truck w/pump	Whitehorse	11	Lane's Yukon Yardworks INC	13	--	- Ram 5500 - - - Pump 2", Pump 3", 1000 gal Water Tank	No	\$120	\$120	\$0	\$78
Water Truck w/pump	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	22	--	Kenworth - W900 - 2500 Gallon Tank - - Spray Bar	Yes	\$130	\$200	\$0	\$85
Water Truck w/pump	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	5	--	Kenworth - W900 - 2500 Gal - - Spray Bar	Yes	\$130	\$200	\$0	\$85
Water Truck w/pump	Whitehorse	11	Yukon Equipment Services Ltd. 16142 YT Inc. Northern Enviro Services	5 10	-- --	Kenworth - T800 - 16 cu m tank - Tractor - Discharge pump and hose reel fire nozzel, Spray Bar, Pump Kenworth - W 900 - 2500 Gal - 2 Available - Pump 4"	No Yes	\$130.00 \$135.00	\$140.00 \$135.00	\$140.00 \$0.00	\$91.00 \$87.75
Water Truck w/pump	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	19	--	Ford - 9000 - 4000 gal - - 3" Pump	Yes	\$135	\$135	\$120	\$78
Water Truck w/pump	Whitehorse	11	Arctic Backhoe Services Ltd.	9	--	Kenworth - T/A - 3000 Gal - Water Tanker - Spray Bar	Yes	\$145	\$180	\$0	\$94
Water Truck w/pump	Whitehorse	11	Berdoo Enterprises	9	--	Kenworth - T800 Dump Truck - 3000 Gal - - Slip In Tank	No	\$145	\$145	\$145	\$94
Water Truck w/pump	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	2 3	1977 1995	Pacific - Tandem - 4000 G - - Suction & Discharge Pump/Hose Mack - CH613 - 4000 G - Tandem - Suction & Discharge Pump/Hose	No No	\$150.00 \$150.00	\$150.00 \$150.00	\$150.00 \$150.00	\$97.50 \$97.50
Water Truck w/pump	Whitehorse	11	Ralph Hotte Contracting Ltd.	13	--	Louisville - - 3000 Gallon - - Water Tank 3000 Gal	Yes	\$150	\$150	\$140	\$91
Water Truck w/pump	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) P S Sidhu Trucking Ltd (Whse)	1 17	-- --	Willock - Tandem - 5000 G - Trailer - Kenworth Tractor, Suction & Discharge Pump/Hose, Mack Tractor, Peterbilt Tractor Kenworth - T800 - 2500 gal - 4 available - Pump	No No	\$160.00 \$165.00	\$160.00 \$0.00	\$160.00 \$0.00	\$104.00 \$107.25
Water Truck w/pump	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	86	1997	International - - 4000G - 6 wheel drive off road - 6x6 Drive, Suction & Discharge Pump/Hose	No	\$175	\$175	\$175	\$114
Backhoe (rubber tire)	Whitehorse	11	16142 YT Inc. Northern Enviro Services	21	--	Case - 580D - - Loader Backhoe	Yes	\$110	\$250	\$0	\$72
Backhoe (rubber tire)	Whitehorse	11	Ralph Hotte Contracting Ltd. Arctic Backhoe Services Ltd.	4 15	-- --	John Deere - 410 C - - - Bucket 1-1/2 yd, Hoe Bucket 1/3 yd, Extended reach 20' Cat - 420 D - 1/4 Yd - 4x4 Extera A Hoe - Clean Up Bucket, Digging Bucket	Yes Yes	\$110.00 \$130.00	\$250.00 \$180.00	\$100.00 \$0.00	\$65.00 \$84.50
Backhoe (rubber tire)	Whitehorse	11	Ralph Hotte Contracting Ltd. Arctic Backhoe Services Ltd.	16	--	Cat - 420 - 1/4 Yd - 4x4 Extera Hoe - Frost Bucket, Rock Bucket	Yes	\$145	\$180	\$0	\$94
Backhoe (rubber tire)	Whitehorse	11	Rabbit Creek Transport Inc. P S Sidhu Trucking Ltd (Whse)	5 35	2006 --	Case - 509 & 580 Super M - - Hoe - Snow Blade, Forks, Quick Change, Blade, Grapples, Clean Up Bucket, Thumb, Digging Bucket, Frost Bucket, 4 Way Front Bucket, Extenda hoe CAT - 425 E - 3 vard - 3 available - Clean Up Bucket, Digging Bucket	No No	\$150.00 \$195.00	\$100.00 \$0.00	\$120.00 \$0.00	\$78.00 \$126.75
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	2	--	Kubota - L3301 Tractor - 35 HP - - Rotary Mower 6', Flail Mower 6' w/side shift	No	\$110	\$110	\$0	\$72



CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	5	--	Case - SV300 - 90 HP - Wheeled, steel track over kit option - 72" Blue Diamond extreme duty can mow/mulch 8" mat	No	\$110.00	\$110.00	\$110.00	\$71.50
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	8	--	Fermec - TLK 760 - 11 ton - - 24" Digging bucket, extend a hoe, Clean up	No	\$110.00	\$125.00	\$80.00	\$52.00
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	10	--	bucket 42", clamshell bucket	No	\$110	\$110	\$110	\$72
Brush Cutting Equipment	Whitehorse	11	B L Building	2	--	Case - TR 320 - 90HP - tracked - 72" Blue Diamond extreme duty can mow/mulch 8" mat	No	\$125	\$100	\$0	\$81
Brush Cutting Equipment	Whitehorse	11	Solution Excavating Ltd.	1	--	Kubota - SVL75 - 75 HP - Skid Steer - 72" Blue Diamond Extreme brush cutter	Yes	\$140	\$0	\$0	\$91
Brush Cutting Equipment	Whitehorse	11	Cross Fall Contracting	5	--	Bobcat - 080 - - - rotary head	Yes	\$145.00	\$125.00	\$135.00	\$87.75
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	15	--	Case - 970 - 110 HP - Farm tractor boom mower - Tiger Boom mower	No	\$150.00	\$150.00	\$80.00	\$52.00
Brush Cutting Equipment	Whitehorse	11	Cross Fall Contracting	16	--	Case - 970 - 110HP - Farm tractor boom mower - 15' woods batwing mower, handy hitch side shift	No	\$150.00	\$300.00	\$80.00	\$52.00
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	17	--	Case - CX57c - 50" - excavator - 50" Blue diamond mower/mulcher 8" capacity	No	\$150.00	\$150.00	\$80.00	\$52.00
Brush Cutting Equipment	Whitehorse	11	VanGorda Enterprises	3	--	Bobcat - e42 - 9,700 lbs - Excavator - Flail Mower 30"	No	\$150	\$125	\$140	\$91
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	16	--	Kubota - SVL 90 - - - 72" Mower	Yes	\$155	\$200	\$0	\$101
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	14	--	Kubota - SVL 90 - - - 72" Mower	Yes	\$155	\$200	\$0	\$101
Brush Cutting Equipment	Whitehorse	11	Goal Done Contracting Ltd.	2	--	Bobcat - 205S - - - 72" Mower, Metal over the tier tracks, Rubber Tires	No	\$155	\$130	\$0	\$101
Brush Cutting Equipment	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	84	--	CAT - 289 - 72" - Track Skid Steer. 2 Available - Blue Diamond Brush Mower	No	\$175.00	\$500.00	\$175.00	\$113.75
Brush Cutting Equipment	Whitehorse	11	Cobalt Construction Inc.	85	--	- KX80 - 30" - Promac LDM30	No	\$175.00	\$500.00	\$175.00	\$113.75
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	42	--	Kubota - 080 - 8 ton - Excavator - Mulcher Head	No	\$175	\$0	\$0	\$114
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	43	--	Caterpillar / Case - 279C & TV380 - - Cat 279C & Case TV380. Skid Steer - Mulcher Head	No	\$175.00	\$0.00	\$0.00	\$113.75
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	17	--	CASE - 7120 - - - 60" Side Boom	Yes	\$175.00	\$300.00	\$0.00	\$113.75
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	18	--	Kubota - 080 - 8 ton - - 36" Fae Mower	Yes	\$175	\$300	\$0	\$114
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	11	--	Kubota - 080 - 8 Ton - - 36" Fae Mower	Yes	\$175	\$300	\$0	\$114
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	13	--	Case - 7120 Sideboom - - - 60" Side Boom	Yes	\$175	\$300	\$0	\$114
Brush Cutting Equipment	Whitehorse	11	Gear Worx Contracting	5	--	Bobcat - T200 - 8000 lb - 72" Rotary Brusher - Mower, Reclaimer, Brusher	Yes	\$175	\$200	\$0	\$114
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	6	--	Case - SV300 - 90 HP - wheeled, steel track over kit option - 66" Fecon mulching head	No	\$175.00	\$110.00	\$110.00	\$71.50
Brush Cutting Equipment	Whitehorse	11	Yukon Equipment Services Ltd.	14	--	Case - TR320 - 90 HP - wheeled, tracked - 66" Fecon mulching head	No	\$175.00	\$110.00	\$110.00	\$71.50
Brush Cutting Equipment	Whitehorse	11	Goal Done Contracting Ltd.	7	--	Kubota - 080 - 8.5 ton - Excavator with Fecon Mulcher head	No	\$175	\$300	\$175	\$114
Brush Cutting Equipment	Whitehorse	11	Goal Done Contracting Ltd.	3	--	Kabota - KX 080 Hoe - 9000 kg - - 36" Torrent Mulcher Head	No	\$185	\$180	\$0	\$120
Brush Cutting Equipment	Whitehorse	11	ORC Tree Service	2	--	Bobcat - T590 - - - Brush Mower	No	\$190	\$190	\$0	\$124
Brush Cutting Equipment	Whitehorse	11	ORC Tree Service	3	--	Kubota - SVL - 11000 lbs - - Brush Mower, Stump Binder	No	\$190	\$190	\$0	\$124
Brush Cutting Equipment	Whitehorse	11	Meldon Construction Inc.	6	--	Komatsu - - PC120 - - 36" Pro Mag Brush Cutter	Yes	\$200	\$190	\$0	\$130
Brush Cutting Equipment	Whitehorse	11	Whitestone Ventures	2	--	Kubota - 126MX Tractor - 125 HP - - 15' Schulte Batwing Mower with Flex Arm	No	\$200	\$275	\$0	\$130
Brush Cutting Equipment	Whitehorse	11	Goal Done Contracting Ltd.	9	--	Kobelco - ED195 - 20,000 kg - Blade runner - 6 Way Blade, 48" Mulcher head Fecon	No	\$210.00	\$250.00	\$0.00	\$136.50
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	19	--	Volvo - EC210 BLC - - available - 52" Promac	Yes	\$225.00	\$400.00	\$0.00	\$146.25
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	12	--	Volvo - EC 210 BLC - - 2 Available - 52" Promac	Yes	\$225	\$400	\$0	\$146
Brush Cutting Equipment	Whitehorse	11	ORC Tree Service	1	--	Brush Bandit - 12 " Chipper - - to behind Crew Cab 3500 4x4	No	\$225	\$225	\$0	\$146
Brush Cutting Equipment	Whitehorse	11	16142 YT Inc. Northern Enviro Services	1	--	Kobota - SV95 - - Tracked Hyd Mulcher - Mulcher	Yes	\$250	\$300	\$0	\$163
Brush Cutting Equipment	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	16	--	Linkbelt - 240 - - 2 available - Promac 52CMPH Brush Cutter, Cage for Cab	No	\$250.00	\$700.00	\$250.00	\$162.50
Brush Cutting Equipment	Whitehorse	11	Big Foot Construction	71	--	Tub Grinder - - 10' Tub - Will need to rent an excavator with Tub Grinder	No	\$250.00	\$500.00	\$250.00	\$162.50
Brush Cutting Equipment	Whitehorse	11	Cobalt Construction Inc.	1	--	Ford - 6640 Side Boom Mower - 6640 - - 60" Cutter Head Hydo-Axe	No	\$265	\$265	\$0	\$172
Brush Cutting Equipment	Whitehorse	11	Cobalt Construction Inc.	34	--	Cat - D5H - - Track Skidder - 6 Way Blade, Grapples	No	\$265	\$250	\$0	\$172
Brush Cutting Equipment	Whitehorse	11	Cobalt Construction Inc.	19	--	John Deere - Excavator 270 LC - - - Hydro Axe	No	\$280	\$250	\$0	\$182
Brush Cutting Equipment	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	3	--	- 225 Doosan Hoe - 52" - - Pro Mac, Mulcher, Hydro Axe	Yes	\$285	\$165	\$260	\$169
Brush Cutting Equipment	Whitehorse	11	Cobalt Construction Inc.	44	--	Caterpillar - 336 EL - - - Hydro Axe	No	\$295	\$250	\$0	\$192
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	4	--	Gyro - track GT-13 Mulcher - 125 HP - - Mulching Head 7'	No	\$300	\$200	\$0	\$195
Brush Cutting Equipment	Whitehorse	11	Ace Vegetation Control Service Ltd	2	--	HydorAx - 621E / 721E - - 32" Rubber Tire - 8' Rotary Cutter Head cuts up to 6" trees	No	\$315.00	\$215.00	\$0.00	\$204.75
Brush Cutting Equipment	Whitehorse	11	Goal Done Contracting Ltd.	12	--	Fecon - FTX 140 - - Forestry Mulcher - Fecon Bull Hog 1.88m cutting head,	No	\$325.00	\$180.00	\$0.00	\$211.25
Brush Cutting Equipment	Whitehorse	11	Meldon Construction Inc.	2	--	12,500 lb hydraulic worn winch	Yes	\$330	\$190	\$0	\$215
Brush Cutting Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	22	--	Hydro Ax - - 521A, 511Ex, 721E - 3 available - 8ft mower deck	No	\$350	\$350	\$0	\$228
Brush Cutting Equipment	Whitehorse	11	Yukon Equipment Services Ltd.	1	--	Bandit - - 9" - 9" wood chipper - Truck	No	\$350	\$360	\$350	\$228
Brush Cutting Equipment	Whitehorse	11	Big Foot Construction	2	--	CMI Hurricane - C250 - 300 HP / 107" cut width - Mulcher - Rear Winch	No	\$365	\$265	\$0	\$237
Brush Cutting Equipment	Whitehorse	11	ORC Tree Service	4	--	SamSung Hoe Track - 210 - - - 60" Cutter Head Hydo-Axe	Yes	\$375	\$375	\$0	\$244
Brush Cutting Equipment	Whitehorse	11	Ace Vegetation Control Service Ltd	1	--	Brush Bandit - 12" Drum chipper - -	No	\$385.00	\$215.00	\$0.00	\$250.25
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	15	--	Hurricane - CMI 250 - 275 HP - Mulcher - Steel Tracks - 8' FAE Mulcher Head cuts up to 20" trees	Yes	\$400.00	\$400.00	\$0.00	\$260.00
Brush Cutting Equipment	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	10	--	LAMTRAC - 8290 - 300 HP - - Mulcher Head	Yes	\$400	\$400	\$0	\$260

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Crawler D6 & Up	Whitehorse	11	Son Rise General Contracting	3	--	Cat - D6C - - 2 available - U Blade, Winch	Yes	\$160	\$185	\$0	\$104
Crawler D6 & Up	Whitehorse	11	Arctic Backhoe Services Ltd.	33	--	Crawler - D6N LGP - - - Ripper, Pilot, Blade	Yes	\$175	\$250	\$0	\$114
Crawler D6 & Up	Whitehorse	11	Gear Worx Contracting	1	--	- D7G - - - Angle Blade, Winch, Brush Rake	Yes	\$175	\$200	\$0	\$114
Crawler D6 & Up	Whitehorse	11	Graceland Construction	8	--	Caterpillar - D7G - - - Tilt Blade, Angle Blade, Ripper	Yes	\$175	\$150	\$165	\$107
Crawler D6 & Up	Whitehorse	11	Coates Services Yukon Ltd.	2	--	Cat - D6H LGP - - Pilot car required / included in mob/demob price - Tilt Blade, U Blade, Angle Blade	No	\$180.00	\$275.00	\$0.00	\$117.00
				3	--	Cat - D7H - - Pilot car required / included in Mob/demob price - Tilt Blade, U	No	\$180.00	\$275.00	\$0.00	\$117.00
Crawler D6 & Up	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	4	--	Blade, Angle Blade CAT - D6T - 54000 lb - - 6 Way Blade, Winch	Yes	\$180	\$400	\$0	\$117
Crawler D6 & Up	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	27	--	Cat - D6T - 54000 lbs - - 6 Way Blade, Winch	Yes	\$180	\$400	\$0	\$117
Crawler D6 & Up	Whitehorse	11	McCabe Creek Farm	1	--	Cat - D7E - - - Ripper, Brush Blade	Yes	\$180	\$400	\$150	\$98
Crawler D6 & Up	Whitehorse	11	Boreal Engineering Ltd	9	--	Caterpillar - D6D - - - Winch, Angle Blade	No	\$185	\$300	\$139	\$90
Crawler D6 & Up	Whitehorse	11	Yukon Equipment Services Ltd.	17	--	Cat - D6N - 45,000 lbs - - Winch, 6 Way Blade	No	\$185	\$350	\$185	\$120
Crawler D6 & Up	Whitehorse	11	Graceland Construction	7	--	Caterpillar - D8K - - - Angle Blade, Tilt Blade, Ripper	Yes	\$190	\$150	\$180	\$117
Crawler D6 & Up	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	18	2014	CAT - D6T XL - D6 - - Angle Blade, Tripple Ripper	No	\$200.00	\$700.00	\$200.00	\$130.00
				79	2017	- D6K2 LGP - D6 - - 6 Way Blade, Tripple Ripper	No	\$200.00	\$700.00	\$200.00	\$130.00
Crawler D6 & Up	Whitehorse	11	Whitestone Ventures	1	--	Caterpillar - D6H - - C Frame Angle Dozer & Winch - Angle Dozer Blade 12'6", Brush Rake 10'6"	Yes	\$200.00	\$275.00	\$180.00	\$117.00
			Cobalt Construction Inc.	14	--	Cat - D6M & D6R - - Cat LGP & Cat. Ripper - 3 Available - Winch, Ripper, 6	No	\$220.00	\$250.00	\$0.00	\$143.00
Crawler D6 & Up	Whitehorse	11	Boreal Engineering Ltd	15	--	Way Dozer Caterpillar - D6R - - - 6 Way Blade, Ripper	No	\$225	\$300	\$169	\$110
Crawler D6 & Up	Whitehorse	11	Gear Worx Contracting	2	--	Caterpillar - D8K - D8 - - Angle Blade, Ripper, Brush Rake	Yes	\$225	\$200	\$0	\$146
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	71	--	CAT - D6T - - Dozer - 2 Available - Hydraulic Tilt, Winch	Yes	\$230	\$280	\$0	\$150
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	30	--	Cat - D6M LGP - - 2 Available - 6 Way Blade, Winch, Wide Pad	Yes	\$235	\$400	\$220	\$143
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	54	--	Cat - D6MTXL - D6M - 2 Available - Angle Dozer, Winch	Yes	\$235	\$400	\$220	\$143
Crawler D6 & Up	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	49	2006	CAT - D7R XR - D7 - - Straight Blade, Brush Rake, Ripper, U Blade, S Blade	No	\$250.00	\$700.00	\$250.00	\$162.50
			P S Sidhu Trucking Ltd (Whse)	12	--	CAT - D6NXL - 180 HP - 3 available - Tilt Angle Blade, Winch, Wide Pad	No	\$265.00	\$0.00	\$0.00	\$172.25
Crawler D6 & Up	Whitehorse	11	McCabe Creek Farm	2	--	CAT - D8K - - - Ripper	Yes	\$285	\$400	\$250	\$163
Crawler D6 & Up	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	13	--	CAT - D7R - 180 HP - 3 available - Ripper, S Blade	No	\$285	\$0	\$0	\$185
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	44	--	Cat - D7R Series 2 - D7R - 2 Available - Ripper, Angle Blade	Yes	\$300	\$450	\$295	\$192
Crawler D6 & Up	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	1	--	CAT - D8N - 84000 lbs - - Angle Blade, Ripper	Yes	\$300	\$500	\$0	\$195
Crawler D6 & Up	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	25	--	Cat - D8N - 84000 lbs - - Angle Blade, Ripper	Yes	\$300	\$500	\$0	\$195
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	28	--	- D8K Hyd - - Crawler Dozer - Ripper, Brush Rake, Tilt Angle Blade	Yes	\$325	\$500	\$310	\$202
Crawler D6 & Up	Whitehorse	11	Boreal Engineering Ltd	1	--	CAT - D8R - - - Angle Blade, Ripper	No	\$325	\$300	\$244	\$158
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	55	--	Cat - D8T - D8T - - tilt angle, Ripper, Dozer Hyd Ripper	Yes	\$340	\$450	\$0	\$221
Crawler D6 & Up	Whitehorse	11	Cobalt Construction Inc.	15	--	Cat - D8N - - 3 Available - Ripper	No	\$350	\$300	\$0	\$228
Crawler D6 & Up	Whitehorse	11	Cobalt Construction Inc.	16	--	Caterpillar - D8R & D8T - - - Ripper	No	\$370	\$300	\$0	\$241
Crawler D6 & Up	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	14	--	CAT - 8N - 380 HP - 1 available - S Blade, Ripper	No	\$385	\$0	\$0	\$250
Crawler D6 & Up	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	29	--	Cat - 8R - 380HP - - S Blade, Ripper, U Blade	No	\$385	\$0	\$0	\$250
Crawler D6 & Up	Whitehorse	11	Carey On Construction	5	--	- D-9 G - 50 ton - - U Blade, two barrel, Ripper	Yes	\$400	\$700	\$440	\$286
Crawler D6 & Up	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	30	--	Cat - 9N - 400HP - - S Blade, U Blade, Ripper	No	\$410	\$0	\$0	\$267
Crawler D6 & Up	Whitehorse	11	Cobalt Construction Inc.	32	--	Caterpillar - D9R - - - Ripper	No	\$415	\$350	\$0	\$270
Crawler D6 & Up	Whitehorse	11	16142 YT Inc. Northern Enviro Services	29	--	Cat - D9R - - Dozer - Ripper, U Dozer Tilt	Yes	\$455	\$700	\$420	\$273
Crawler D6 & Up	Whitehorse	11	Cobalt Construction Inc.	33	--	Caterpillar - D9L & D10T - - - Ripper	No	\$455	\$400	\$0	\$296
Crawler D6 & Up	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	27	--	CAT - 10N - 480 HP - 2 available - S Blade, Ripper, U Blade	No	\$485	\$0	\$0	\$315
Crawler: D5 & Down	Whitehorse	11	Coates Services Yukon Ltd.	1	--	Cat - D4C - - - S Blade, 6 Way Blade, Tilt Blade, Angle Blade	No	\$120	\$125	\$0	\$78
Crawler: D5 & Down	Whitehorse	11	Ralph Hotte Contracting Ltd.	8	--	John Deere - 550 - - - Blade 9'	Yes	\$120	\$250	\$115	\$75
Crawler: D5 & Down	Whitehorse	11	Getaway Construction Inc.	3	--	Cat - D4 - D4 - - 6 Way Blade	No	\$125	\$250	\$0	\$81
Crawler: D5 & Down	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	14	--	CAT - D3 - - - 6 Way Blade, Brush Rake, Winch	Yes	\$130	\$165	\$130	\$85
Crawler: D5 & Down	Whitehorse	11	McClintock Contracting	5	--	John Deere - 650G LGP - 15,000 lb - - 6 Way Blade	Yes	\$133	\$133	\$120	\$78
Crawler: D5 & Down	Whitehorse	11	Ralph Hotte Contracting Ltd.	15	--	CAT - D5 - - - 6 Way Blade, Wide Pad 14'	Yes	\$155	\$350	\$145	\$94
Crawler: D5 & Down	Whitehorse	11	Yukon Equipment Services Ltd.	10	--	Caterpillar - D5H LPG - 35000 lbs - - 6 Way Blade, Winch	No	\$165	\$350	\$165	\$107

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Crawler: D5 & Down	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Deadman Creek Enterprises Inc (Whitehorse)	17	--	CAT - D5K-2 - D5 - Dozer - Straight Blade, Scarifier, 6 Way Blade	No	\$175.00	\$500.00	\$175.00	\$113.75
				3	--	CAT - D5G - - - 6 Way Blade, Winch	Yes	\$175.00	\$300.00	\$0.00	\$113.75
Crawler: D5 & Down	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	26	--	Cat - D5G - - - 6 Way Blade, Winch	Yes	\$175	\$300	\$0	\$114
Crawler: D5 & Down	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Boreal Engineering Ltd	83	--	CAT - D5K - D5 - 2 available. Dozer 2012 with GPS - Straight Blade, Trimble GPS Auto Grade, Scarifier, 6 Way Blade	No	\$200.00	\$500.00	\$200.00	\$130.00
				2	--	CAT - D5H LGP - - - 6 Way Blade, Wide Tracks, Winch	No	\$210.00	\$300.00	\$158.00	\$102.70
Crawler: D5 & Down	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	11	--	CAT - 5MG - 160 HP - - Tilt Angle Blade, Winch, Wide Pad	No	\$225	\$0	\$0	\$146
Excavator (tracked) 200 &	Whitehorse	11	Ralph Hotte Contracting Ltd.	6	--	Cat - 315CL - - - Digging Bucket 36", Clean Up Bucket 60", Hydraulic Thumb	Yes	\$150	\$250	\$140	\$91
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc.	20	--	Hitachi - Ex200-5 - - - Digging Bucket, Clean Up Bucket	No	\$160	\$250	\$0	\$104
Excavator (tracked) 200 &	Whitehorse	11	Arctic Backhoe Services Ltd.	23	--	Cat - 315 DL - 1 Yd - - Frost Bucket	Yes	\$165	\$180	\$0	\$107
Excavator (tracked) 200 &	Whitehorse	11	Coates Services Yukon Ltd.	5	--	Hitachi - EX200 - - - Clean Up Bucket, Hydraulic Thumb, Digging Bucket	No	\$165	\$180	\$0	\$107
Excavator (tracked) 200 &	Whitehorse	11	Van Bibber Trucking	7	--	Linkbelt - 210 - - - Clean Up Bucket, Digging Bucket, Hydraulic Thumb	No	\$165	\$170	\$150	\$98
Excavator (tracked) 200 &	Whitehorse	11	Arctic Backhoe Services Ltd.	22	--	Cat - 320D - 2.5yd - - Clean Up Bucket, Hydraulic Thumb, Digging Bucket	Yes	\$175	\$180	\$0	\$114
Excavator (tracked) 200 &	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse) Deadman Creek Enterprises Inc. (Teslin)	6	--	Volvo - EC220 ECC & EC 200 BLC - 50,000 lbs - 2 available - 60" Bucket, Rake, Thumb, 36" Bucket	Yes	\$175.00	\$400.00	\$0.00	\$113.75
				23	--	Volvo - EC 210 & EC 200 BLC - 50000 lbs - 2 available - 36" Bucket, Rake,	Yes	\$175.00	\$400.00	\$0.00	\$113.75
Excavator (tracked) 200 &	Whitehorse	11	Gear Worx Contracting	6	--	Thumb, 60" Bucket	Yes	\$175	\$200	\$0	\$114
Excavator (tracked) 200 &	Whitehorse	11	Graceland Construction	6	--	Hitachi - EX200LC - - - Digging Bucket, Brush Rake, Thumb, Clean Up Bucket	Yes	\$175	\$150	\$165	\$107
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	22	--	Caterpillar - 320CL - - - Clean Up Bucket, Digging Bucket	Yes	\$175	\$150	\$165	\$107
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	23	--	Cat - 320E - 1 Yd - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$180	\$300	\$0	\$117
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	23	--	Case - 9030 B - 1 Yd - - Thumb, Digging Bucket, Clean Up Bucket	Yes	\$180	\$300	\$0	\$117
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	62	--	- 320 E - 1 yd - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$180	\$300	\$0	\$117
Excavator (tracked) 200 &	Whitehorse	11	Balsam Backhoe Services	3	--	Link - Belt Hoe 210 - - - 36" Digging bucket, Thumb, Clean Up Bucket 60"	Yes	\$180	\$180	\$150	\$98
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc.	21	--	John Deere & Volvo - 270G & EC 290B - - John Deere 270G & Volvo EC 290B	No	\$180.00	\$250.00	\$0.00	\$117.00
				36	--	- Digging Bucket, Thumb, Brush Rake, Hoe Daul, Clean Up Bucket Caterpillar & Hitachi - 329 EL & 270 LC - - Cat (x2) & Hitachi. Hoe	No	\$180.00	\$250.00	\$0.00	\$117.00
Excavator (tracked) 200 &	Whitehorse	11	Arctic Backhoe Services Ltd.	24	--	Dual - Digging Bucket, Thumb, Clean Up Bucket, Brush Rake Cat - 320D - 2.5 Yd - - Frost Bucket, Ripper	Yes	\$185	\$180	\$0	\$120
Excavator (tracked) 200 &	Whitehorse	11	Coates Services Yukon Ltd.	6	--	Cat - L320 - - - Clean Up Bucket, Digging Bucket	Yes	\$185	\$180	\$0	\$120
Excavator (tracked) 200 &	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construcion	6	--	Doosan - 225 - 23 Ton - - Digging Bucket, Clean Up Bucket	No	\$185	\$180	\$0	\$120
Excavator (tracked) 200 &	Whitehorse	11	Graceland Construction	5	--	Caterpillar - 235C - - - Clean Up Bucket, Digging Bucket	Yes	\$190	\$180	\$0	\$124
Excavator (tracked) 200 &	Whitehorse	11	Van Bibber Trucking	4	--	Caterpillar - 235C - - - Clean Up Bucket, Digging Bucket	Yes	\$190	\$150	\$180	\$117
Excavator (tracked) 200 &	Whitehorse	11	Van Bibber Trucking	4	--	John Deere - 270 - - - Clean Up Bucket, Pilot Vehicle, Thumb, Digging Bucket	No	\$195	\$275	\$185	\$120
Excavator (tracked) 200 &	Whitehorse	11	Yukon Equipment Services Ltd. Arctic Backhoe Services Ltd.	13	2012	John Deere - 250G - 25 ton - - Thumb, Brush Rake, Frost Bucket, Ripper, Clean Up Bucket	No	\$195.00	\$400.00	\$195.00	\$126.75
				13	--	Cat 329F - - 2yd & 3yd - - 2 cubic yd bucket, Pilot Vehicle, 3 cubic yd clean up	Yes	\$200.00	\$250.00	\$0.00	\$130.00
Excavator (tracked) 200 &	Whitehorse	11	Castle Rock Enterprises Limited Partnership	25	2011	bucket	No	\$200	\$700	\$200	\$130
Excavator (tracked) 200 &	Whitehorse	11	(14899)	73	2017	Linkbelt - LX240 - 34' Reach - - Hydraulic Thumb, Cage for Cab, Digging	No	\$200	\$700	\$200	\$130
						Bucket 40", Clean Up Bucket 72"					
Excavator (tracked) 200 &	Whitehorse	11	Getaway Construction Inc.	4	--	CAT - 323F - 34' Reach - 2 Available - Hydraulic Thumb, Cage for Cab, Digging	No	\$204	\$300	\$0	\$133
Excavator (tracked) 200 &	Whitehorse	11	Getaway Construction Inc.	2	--	Bucket 40", Clean Up Bucket 72"					
Excavator (tracked) 200 &	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	66	2012	Cat - 322 BL - - - Clean Up Bucket, Thumb, Digging Bucket	No	\$205	\$300	\$0	\$133
						Cat - 325BL - 325 - - Clean Up Bucket, Thumb, Digging Bucket					
Excavator (tracked) 200 &	Whitehorse	11		78	2015	Linkbelt - LX300 - 35' Reach - 3 Available - Hydraulic Thumb, Cage for Cab, Ripper, Digging Bucket 42", Clean Up Bucket 72"	No	\$210.00	\$700.00	\$210.00	\$136.50
						CAT - 329F - 35' Reach - - Digging Bucket 42", Clean Up Bucket 72", Hydraulic	No	\$210.00	\$700.00	\$210.00	\$136.50
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	39	--	Thumb	Yes	\$220	\$400	\$0	\$143
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	53	--	Case - 9030 B - - - Digging Bucket, Clean Up Bucket, Bucket 1 yd, Thumb,	Yes	\$220	\$300	\$0	\$143
						Kenworth T800, Lo-Boy					
Excavator (tracked) 200 &	Whitehorse	11	McCabe Creek Farm	6	--	- 9040 - 30 Ton - Tracked - Hydraulic Thumb, Digging Bucket, Clean Up Bucket	Yes	\$220	\$400	\$200	\$130
Excavator (tracked) 200 &	Whitehorse	11	McCabe Creek Farm	6	--	Hitachi - 270 - - - 48" - 60" bucket	Yes	\$220	\$400	\$200	\$130
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	61	--	Hitachi - 270 - - - 48" - 60" bucket	Yes	\$220	\$400	\$200	\$130
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	63	--	Cat - 324 E - 1.5 yd - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$225	\$300	\$0	\$146
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	63	--	Cat - 329E - 1.5 yd - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$225	\$300	\$0	\$146
Excavator (tracked) 200 &	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services) Boreal Engineering Ltd	17	--	Doosan - 225 - - - Clean Up Bucket 72", Hydraulic Thumb, Quick Change, Digging Bucket	Yes	\$225.00	\$225.00	\$220.00	\$143.00
				6	--	CAT - 324D LC - - - Clean Out Bucket, Brush Guards, Digging Bucket, Thumb	No	\$225.00	\$300.00	\$169.00	\$109.85
Excavator (tracked) 200 &	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	7	--	Link Belt - 210 LC - 2 yard - 6 available - Hydraulic Thumb, Digging Bucket, Clean Up Bucket	No	\$225	\$0	\$0	\$146
Excavator (tracked) 200 &	Whitehorse	11	Boreal Engineering Ltd	16	2007	Caterpillar - 330F LC - - Winch Truck 6 Axle - Digging Bucket, Brush Guards, Thumb, Clean Up Bucket	No	\$230.00	\$300.00	\$173.00	\$112.45
				18	2008	Caterpillar - 330D LC - - - Clean Out Bucket, Brush Guards, Ripper Tooth,	No	\$240.00	\$300.00	\$180.00	\$117.00
Excavator (tracked) 200 &	Whitehorse	11	Castle Rock Enterprises Limited Partnership	52	2014	Thumb, Digging Bucket	No	\$250	\$1100	\$250	\$163
						CAT - 336EL - 36 ton & 35' Reach - - Quick Change, Hydraulic Thumb, Ripper,					
Excavator (tracked) 200 &	Whitehorse	11	(14899)	75	2017	Digging Bucket, Clean Up Bucket	No	\$250	\$1100	\$250	\$163
						CAT - 336F - 36 ton & 39' Reach - - Quick Change, Digging Bucket, Clean Up					



CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>



Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc.	22	--	Bucket Hitachi - EX 330 - - - Digging Bucket, Screening Bucket, Ripper, Clean Up	No	\$250	\$250	\$0	\$163
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc.	23	--	Bucket John Deere / Hitachi - 350 G JD & 350 Hitachi (x2) -- 3 Available, 2 x JD &	No	\$250	\$250	\$0	\$163
Excavator (tracked) 200 &	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	37	--	Caterpillar - 336 EL - - - Digging Bucket, Screening Bucket, Ripper, Clean Up Bucket	No	\$250.00	\$250.00	\$0.00	\$162.50
Excavator (tracked) 200 &	Whitehorse	11	Carey On Construction	8	--	Volvo - EC360 - 85,000 lbs - - Digging Bucket 48", Thumb, Clean Up Bucket	Yes	\$250.00	\$400.00	\$0.00	\$162.50
Excavator (tracked) 200 &	Whitehorse	11	Carey On Construction	2	--	72" Volvo - 290 B - 28 ton - - Clean up bucket 1 cu m, Digging Bucket	Yes	\$260	\$200	\$250	\$163
Excavator (tracked) 200 &	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) 16142 YT Inc. Northern Enviro Services	70	2014	CAT - 336EL - 36 ton - - Trimble GPS Auto Grade, Hydraulic Thumb, Ripper, Digging Bucket, Clean Up Bucket, Quick Change	No	\$275.00	\$1,100.00	\$275.00	\$178.75
Excavator (tracked) 200 &	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) 16142 YT Inc. Northern Enviro Services	14	--	- EX 400 - - 2 Available - Hydraulic Excavator - Hydraulic Thumb, Bucket, Frost	Yes	\$295.00	\$500.00	\$0.00	\$191.75
Excavator (tracked) 200 &	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	8	--	Bucket, Digging Bucket, Clean Up Bucket Link Belt - 330 LC - 3 yard - 14 available - Clean Up Bucket, Hydraulic Thumb,	No	\$295	\$0	\$0	\$192
Excavator (tracked) 200 &	Whitehorse	11	16142 YT Inc. Northern Enviro Services	52	--	Digging Bucket Volvo - 460CL - 2.5 yd/ 4yd - - Clean Up Bucket 4 yd, Thumb, Digging Bucket	Yes	\$300	\$500	\$0	\$195
Excavator (tracked) 200 &	Whitehorse	11	Arctic Backhoe Services Ltd.	21	--	2-1/2 yd Case - 9040 - 2 Yd - - Clean Up Bucket, Pilot Vehicle, Hydraulic Hammer	Yes	\$300	\$285	\$0	\$195
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc. 16142 YT Inc. Northern Enviro Services	41	--	Hitachi / John Deere - 450 H & 470 G - - 2008 Hitachi 450 H (x2) & 2012 JD 470 G - Digging Bucket, Ripper, Clean Up Bucket	No	\$300.00	\$300.00	\$0.00	\$195.00
Excavator (tracked) 200 &	Whitehorse	11	Cobalt Construction Inc. 16142 YT Inc. Northern Enviro Services	1	--	JD - 450C & 450D - - 2 Available - Trench Bucket, Clean Up Bucket	Yes	\$325.00	\$500.00	\$0.00	\$211.25
Excavator (tracked) 200 &	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	9	--	Hitachi - 350 LC - 3 yard - 2 available - Clean Up Bucket, Digging Bucket, Hydraulic Thumb	No	\$325.00	\$0.00	\$0.00	\$211.25
Excavator (tracked) 200 &	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	32	--	Linkbelt - 250 LC - 54" - 2 Available - Brush Cutter	No	\$350.00	\$0.00	\$0.00	\$227.50
Excavator (tracked) 200 &	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	10	--	Link Belt - 470 LC - 3 yard - 2 available - Clean Up Bucket, Hydraulic Thumb, Digging Bucket	No	\$410	\$0	\$0	\$267
Excavator (tracked) Lower	Whitehorse	11	60 Below Snow Management Stewart Basin Exploration	3	--	Kubota - 161-3 - K161 - Concrete hammer / breaker - Clean Up Bucket, Trench Bucket, Digging Bucket	No	\$110.00	\$125.00	\$0.00	\$71.50
Excavator (tracked) Lower	Whitehorse	11	60 Below Snow Management Stewart Basin Exploration	2	--	Kubota - KH41 - 3500 lb - Transportable by helicopter & fixed wing - Reach 6.5	No	\$110.00	\$110.00	\$0.00	\$71.50
Excavator (tracked) Lower	Whitehorse	11	60 Below Snow Management Stewart Basin Exploration	4	--	Kubota - KX41-3 - 3650 lb - Transportable by fixed wing - Rock Bucket 14", Reach 7.5 ft, Rubber Tracks, Manual Thumb, U Blade, Clean Up Bucket 22"	No	\$110	\$110	\$0	\$72
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd. 535902 Yukon Inc (Allan's Backyard Services)	20	--	Cat - 305D Trackhoe(mini) - 1/3 Yd - Rubber Track - Clean Up Bucket, Hydraulic Thumb, Tilt Angle Blade, Digging Bucket	Yes	\$115.00	\$100.00	\$0.00	\$74.75
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd. 535902 Yukon Inc (Allan's Backyard Services)	2	--	Komatsu - PC 28 mini - PC 28 - - Clean Up Bucket, Frost Bucket	Yes	\$120.00	\$120.00	\$115.00	\$74.75
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd. Carey On Construction	18	--	Kubota - 121 Trackhoe (mini) - 1/3 yd - - Clean Up Bucket, Hydraulic Thumb, Tilt Angle Blade, Digging Bucket	Yes	\$120.00	\$100.00	\$0.00	\$78.00
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd. Carey On Construction	1	--	Kubota - 161-3 - 5 ton - - Blade, Hydraulic Thumb, Digging Bucket 1/4 yd,	Yes	\$120.00	\$200.00	\$130.00	\$84.50
Excavator (tracked) Lower	Whitehorse	11	16142 YT Inc. Northern Enviro Services	2	--	Clean Up Bucket 1/3 yd Kubota - KX1213SS - - - Digging Bucket, Front Dozer Blade, Clean Up Bucket	Yes	\$125	\$250	\$0	\$81
Excavator (tracked) Lower	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	9	--	Bobcat - E60 - 6 ton - - Clean Up Bucket, Auger, Ripper, Digging Bucket	Yes	\$125	\$125	\$0	\$81
Excavator (tracked) Lower	Whitehorse	11	60 Below Snow Management	8	--	Kubota - 080 Kx - - - Digging Bucket, Clean Up Bucket	Yes	\$125	\$125	\$0	\$81
Excavator (tracked) Lower	Whitehorse	11	Balsam Backhoe Services Cross Fall Contracting	1	--	kabota hoe - 121 - - - Thumb, Digging Bucket 22", Clean Up Bucket 40", Clean up Bucket 28"	Yes	\$125.00	\$125.00	\$100.00	\$65.00
Excavator (tracked) Lower	Whitehorse	11	Balsam Backhoe Services Cross Fall Contracting	2	--	Kubota - KX-057 Excavator - 12,650 lbs - - Clean Up Bucket 36", Trenching	Yes	\$125.00	\$125.00	\$115.00	\$74.75
Excavator (tracked) Lower	Whitehorse	11	Lane's Yukon Yardworks INC	18	--	Case - CX57c - 6.5 ton - excavator - Digging Bucket 24", Clean up bucket 42"	No	\$125	\$125	\$80	\$52
Excavator (tracked) Lower	Whitehorse	11	VanGorda Enterprises	1	--	bobcat - E42 - 9,700 lbs - - Digging Bucket, Single Shank Ice Ripper 24", Clean Up Bucket 36"	No	\$125.00	\$125.00	\$115.00	\$74.75
Excavator (tracked) Lower	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	18	--	Hitachi - Ex120 - 120 - 2 frost buckets - 29" and 46" - Clean Up Bucket, Frost	Yes	\$130.00	\$165.00	\$130.00	\$84.50
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd.	19	--	Bucket Kubota - 121 Trackhoe (mini) - 1/3 Yd - - Frost Bucket	Yes	\$130	\$100	\$0	\$85
Excavator (tracked) Lower	Whitehorse	11	B L Building Castle Rock Enterprises Limited Partnership	3	--	Kubota - 040 - 9400lb - - Rubber Tracks, 20" tooth bucket, Clean up bucket 30 inch, Cab, 6 Way Blade, Hydraulic Thumb	No	\$130.00	\$100.00	\$0.00	\$84.50
Excavator (tracked) Lower	Whitehorse	11	B L Building Castle Rock Enterprises Limited Partnership	19	2008	CAT - 305C - 5 ton - Rubber Track - Clean Up Bucket, Blade, Digging Bucket	No	\$130.00	\$500.00	\$130.00	\$84.50
Excavator (tracked) Lower	Whitehorse	11	(14899)	20	2012	Kubota - KX057-4 - 5.7 ton - Steel Track - Clean Up Bucket, Wrist a Twist,	No	\$130	\$500	\$130	\$85
Excavator (tracked) Lower	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	7	--	Blade, Digging Bucket Kubota - 057 - 5 Ton - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$130	\$200	\$0	\$85
Excavator (tracked) Lower	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	29	--	Kubota - 057 - 5 ton - - Digging Bucket, Thumb, Clean Up Bucket	Yes	\$130	\$200	\$0	\$85
Excavator (tracked) Lower	Whitehorse	11	McClintock Contracting Deadman Creek Enterprises Inc (Whitehorse)	3	--	Komatsu - PC75-UU2 - 15,000 lb - - Thumb, Brush Rake 36", Rubber Tracks, Push Blade, Clean Up Bucket 40", 24" Digging bucket	Yes	\$132.50	\$132.50	\$110.00	\$71.50
Excavator (tracked) Lower	Whitehorse	11	McClintock Contracting Deadman Creek Enterprises Inc (Whitehorse)	10	--	Kubota - 080 - 8 ton - - Thumb, Clean Up Bucket, Digging Bucket, Rake	Yes	\$135.00	\$250.00	\$0.00	\$87.75
Excavator (tracked) Lower	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	30	--	Kubota - 080 - ton - - Rake, Clean Up Bucket, Digging Bucket, Thumb	Yes	\$135	\$250	\$0	\$88
Excavator (tracked) Lower	Whitehorse	11	Snag Contracting	12	--	Hitachi - Ex 60 URG - 6.5 ton - Log loader - Off Set Boom, Digging	No	\$140	\$140	\$140	\$91
Excavator (tracked) Lower	Whitehorse	11	Solution Excavating Ltd.	2	--	Bobcat - 080 - - - Thumb, Clean Up Bucket, Digging Bucket, rotary head, Rake	Yes	\$140	\$0	\$0	\$91
Excavator (tracked) Lower	Whitehorse	11	Son Rise General Contracting Yukon Equipment Services Ltd.	7	--	Hitachi/Kabota - 200/191 - 200/ 6 ton - 2 available - Bucket, Processor Head, Digging Bucket, Clean Up Bucket, Rake, Thumb	Yes	\$140.00	\$160.00	\$0.00	\$91.00
Excavator (tracked) Lower	Whitehorse	11	Son Rise General Contracting Yukon Equipment Services Ltd.	14	--	Kubota - 080 - 8.5 Ton - - Digging Bucket, Thumb, Front Blade, Clean Up	No	\$140.00	\$350.00	\$140.00	\$91.00
Excavator (tracked) Lower	Whitehorse	11	Goal Done Contracting Ltd.	4	--	Bucket, Ripper Kabota - Hoe KX-080 - 9000 kg - - Clean Up Bucket 32", Roller packer, Twist a	No	\$145	\$180	\$0	\$94
Excavator (tracked) Lower	Whitehorse	11	Castle Rock Enterprises Limited Partnership	21	2012	rist bucket, Plate Packer, Ripper, Rock Hammer, Tooth Bucket 28", Tooth Bucket 18", 8' push blade Kubota - KX080 - 8 ton - Rubber Track - Clean Up Bucket, Blade, Digging	No	\$150	\$500	\$150	\$98

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>



Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Excavator (tracked) Lower	Whitehorse	11	(14899)	22	2009	Bucket Kubota - KX080 - 8 ton - Rubber Track - Clean Up Bucket, Blade, Digging	No	\$150	\$500	\$150	\$98
Excavator (tracked) Lower	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construcion	8	--	Bucket John Deere - 13.5 d - 14 ton - - Push Blade, Thumb, Clean Up Bucket, Digging	Yes	\$160	\$170	\$0	\$104
Excavator (tracked) Lower	Whitehorse	11	Arctic Backhoe Services Ltd.	32	--	Bucket Komatsu / Cat - 315 DL & 150 - 2 yd - 2 available, Cat 315 DL, Komatsu 150 -	Yes	\$160	\$180	\$0	\$104
Excavator (tracked) Lower	Whitehorse	11	Boreal Engineering Ltd	17	2017	Clean Up Bucket, Hydraulic Thumb, Digging Bucket Caterpillar - 304E LCR - - - Clean Out Bucket, Thumb, Digging Bucket	Yes	\$160	\$300	\$120	\$78
Excavator (tracked) Lower	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	23	2009	Linkbelt - LX210 - 32' Reach - 2 Available - Hydraulic Thumb, Cage for Cab, Ripper, Digging Bucket 36", Clean Up Bucket 60"	No	\$195.00	\$500.00	\$195.00	\$126.75
				24	2005	CASE - CX210 - 32' Reach - - Hydraulic Thumb, Cage for Cab, Ripper, Digging	No	\$195.00	\$500.00	\$195.00	\$126.75
Excavator (tracked) Lower	Whitehorse	11	Goal Done Contracting Ltd.	16	--	Bucket 36", Clean Up Bucket 60" Kobelco - ED195 - 20,000 kg - Runner - Clean Up Bucket, 6 way push blade,	No	\$195	\$250	\$0	\$127
Excavator (tracked) Lower	Whitehorse	11	Meldon Construction Inc.	3	--	Swivel Bucket, Thumb, Trench Bucket Komatsu - - PC120 - - Clean Up Bucket 1 yd, Thumb, Digging Bucket 3/4 yd	Yes	\$200	\$190	\$0	\$130
Grader	Whitehorse	11	Cross Fall Contracting	4	--	Kubota - SVL 75 - 9000 lb - Bobcat 8' grader blade attachment w/ manual lasers	Yes	\$125	\$125	\$125	\$81
Grader	Whitehorse	11	Boreal Engineering Ltd	5	--	Caterpillar - 14G - - - Blade 16', Ripper	Yes	\$140	\$300	\$180	\$117
Grader	Whitehorse	11	Coates Services Yukon Ltd.	8	--	Champion - 730 - -	No	\$150	\$185	\$0	\$98
Grader	Whitehorse	11	Ralph Hotte Contracting Ltd.	9	--	John Deere - 772 CH - - - 14' Moldboard, 6 Wheel Drive	Yes	\$150	\$350	\$145	\$94
Grader	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	5	--	Champion - 730 - 730A - - Snow Wing, 16't Moldboard, Scarifier	Yes	\$160	\$165	\$125	\$81
Grader	Whitehorse	11	Arctic Backhoe Services Ltd.	27	--	Champion - 740 - -	Yes	\$160	\$180	\$0	\$104
Grader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Coates Services Yukon Ltd.	50	2013	Noram - 65E - 12' Blade - - Scarifier, Tire Chains, Snow Blade	No	\$165.00	\$165.00	\$165.00	\$107.25
				7	--	Cat - 14G - - - Ripper	No	\$170.00	\$190.00	\$0.00	\$110.50
Grader	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	28	--	Cat - 140G - 14' Blade - 2 Available - Ripper, Blade 14'	Yes	\$175	\$400	\$0	\$114
Grader	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	21	--	Cat - 140 G - 14 foot Blade - 2 Available - Ripper, Blade 14'	Yes	\$175	\$400	\$0	\$114
Grader	Whitehorse	11	Yukon Equipment Services Ltd.	12	--	John Deere - 770 BH - 14 ft moldboard - 14 ft blade	No	\$175	\$300	\$175	\$114
Grader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) 16142 YT Inc. Northern Enviro Services	68	2006	CAT - 140H - 14' Blade - - Trimble GPS Auto Grade, Snow Blade, Tire Chains, Scarifier, Winter Tires	No	\$210.00	\$210.00	\$210.00	\$136.50
				18	--	- 14G - - - Ripper, Snow Wing	Yes	\$225.00	\$400.00	\$0.00	\$146.25
Grader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) 16142 YT Inc. Northern Enviro Services	51	--	Champion - 740A Series S - - Motor Grader - Snow Wing, Ripper	Yes	\$225	\$300	\$0	\$146
Grader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Cobalt Construction Inc.	51	2006	CAT - 140H - 14' Blade - Trimble GPS auto grade - Winter Tires, Snow Blade, Tire Chains, Scarifier	No	\$235.00	\$235.00	\$235.00	\$152.75
				17	--	Cat - 14H & 14G - - 14H (2 Avail). 14G - - Ripper	No	\$240.00	\$250.00	\$0.00	\$156.00
Grader	Whitehorse	11	16142 YT Inc. Northern Enviro Services	58	--	Volvo - 990 - 227 HP -	Yes	\$250	\$300	\$0	\$163
Grader	Whitehorse	11	Cobalt Construction Inc.	35	--	Cat - 14 M - - - Ripper	No	\$290	\$250	\$0	\$189
Grader	Whitehorse	11	Cobalt Construction Inc.	18	--	Cat - 166 - - - Ripper	No	\$300	\$300	\$0	\$195
Grader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	5	--	CAT - 14H - 16 ft - 5 available - Ripper, Blade	No	\$300	\$0	\$0	\$195
Grader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	6	--	CAT - 16G - 16 ft - 2 available - Ripper, Blade	No	\$350	\$0	\$0	\$228
Loader	Whitehorse	11	Anderson Loader Enterprises McClintock Contracting	2	--	John Deere - 544k - 544k - - Forks, Clean Up Bucket, Bucket with Teeth 3.5 Yd, Angle Blade 12'	No	\$120.00	\$120.00	\$0.00	\$78.00
				2	--	Cat - IT38 - - Implement Transfer - Rubber Tires, Forks, Bucket 3 yd	Yes	\$132.50	\$132.50	\$120.00	\$78.00
Loader	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	4	--	CAT - 950 - - - Forks, Smooth Bucket	Yes	\$135	\$165	\$110	\$72
Loader	Whitehorse	11	Goal Done Contracting Ltd.	11	--	John Deere - 444 - - - Forks, Clean up bucket 3 yds, Snow blade 16' 6 way	No	\$138	\$180	\$0	\$90
Loader	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construcion	2	--	Cat - 928 G - 28000 lb - - Bucket	Yes	\$140	\$175	\$0	\$91
Loader	Whitehorse	11	Ralph Hotte Contracting Ltd. 16142 YT Inc. Northern Enviro Services	14	--	John Deere & Cat - 624G & 938F - - 2 avaialble - Bucket 3.5 Yd, Snow Bucket 5 yd, Snow Blade	Yes	\$140.00	\$250.00	\$135.00	\$87.75
				24	--	Cat - IT 28G - 2 Yd - - Bucket, Jib, Forks	Yes	\$145.00	\$300.00	\$0.00	\$94.25
Loader	Whitehorse	11	Coates Services Yukon Ltd.	25	--	CAT - 950B - - - Digging Bucket, Forks, Clean Up Bucket	No	\$145	\$185	\$0	\$94
Loader	Whitehorse	11	Boreal Engineering Ltd	7	--	CAT - 936 - - - Bucket, Forks	No	\$150	\$300	\$113	\$73
Loader	Whitehorse	11	Getaway Construction Inc.	5	--	Cat - 936 - 3.5 yd - Rubber Track - Tooth Bucket	No	\$150	\$250	\$0	\$98
Loader	Whitehorse	11	16142 YT Inc. Northern Enviro Services Arctic Backhoe Services Ltd.	12	--	John Deere - 644D - 3.5 Yd - - Quick Attach, Snow Plow, Grapples, Forks, Digging Bucket, Clean Up Bucket	Yes	\$160.00	\$300.00	\$0.00	\$104.00
				12	--	CAT - 938G wheel loader - 3 Yd - 2 available	Yes	\$160.00	\$180.00	\$0.00	\$104.00
Loader	Whitehorse	11	Carey On Construction	3	--	Terex - 71-51-B - 17 ton - - Clean Up Bucket 4 yd	Yes	\$160	\$180	\$170	\$111
Loader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	27	2006	CAT - 938G - 4 yd³ Bucket - - Clean Up Bucket, Forks, Digging Bucket	No	\$160.00	\$160.00	\$160.00	\$104.00
				28	2012	CAT - 938H - 4 yd³ Bucket - 2 Available - Clean Up Bucket, Forks, Digging	No	\$160.00	\$160.00	\$160.00	\$104.00
Loader	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	74	2017	Bucket CAT - 938K - 4 yd³ Bucket - - Clean Up Bucket, Forks, Digging Bucket	No	\$160	\$160	\$160	\$104
				1	--	Case/CAT - 922/950 - - 2 available - Bucket, side load bucket, Forks	Yes	\$160	\$185	\$0	\$104



CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Loader	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	16	--	CAT - 966 - - - Smooth Bucket, Forks	Yes	\$165	\$165	\$130	\$85
Loader	Whitehorse	11	Cobalt Construction Inc.	24	--	Cat - 966 D - - - Digging Bucket, Forks	No	\$165	\$200	\$0	\$107
Loader	Whitehorse	11	Graceland Construction	4	--	Caterpillar - 966 C - - - Digging Bucket	Yes	\$165	\$150	\$155	\$101
Loader	Whitehorse	11	16142 YT Inc. Northern Enviro Services	33	--	Komatsu - 380 - 4 Yd - Front End Loader - Clean Up Bucket, Snow Plow, Grapples, Digging Bucket	Yes	\$170.00	\$400.00	\$0.00	\$110.50
Loader	Whitehorse	11	Arctic Backhoe Services Ltd.	14	--	Cat - 950 G - 4 Yd. - Wheel Loader	Yes	\$170.00	\$180.00	\$0.00	\$110.50
			Castle Rock Enterprises Limited Partnership (14899)	29	2008	CAT - 950H - 4 yd³ & 5.5 yd³ Buckets - - Clean Up Bucket, Jib, Forks, Spade Digging Bucket	No	\$175.00	\$175.00	\$175.00	\$113.75
				30	1984	CAT - 966D - 4 yd³ Bucket - - Clean Up Bucket, Digging Bucket	No	\$175.00	\$175.00	\$175.00	\$113.75
Loader	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	9	--	Volvo - 150E - 5 yd³ - - Bucket	Yes	\$175	\$400	\$0	\$114
Loader	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	27	--	Volvo - L90B - 4 yd³ - - Bucket, Snow Blade, Forks	Yes	\$175	\$400	\$0	\$114
Loader	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	19	--	Volvo - L 90 E - 4 cu yd - - Bucket, Snow Blade, Forks	Yes	\$175	\$400	\$0	\$114
Loader	Whitehorse	11	Coates Services Yukon Ltd.	9	--	Cat - 966D - - - Digging Bucket	No	\$180	\$185	\$0	\$117
Loader	Whitehorse	11	Coates Services Yukon Ltd.	10	--	Cat - 966E - - - Digging Bucket	No	\$180	\$185	\$0	\$117
Loader	Whitehorse	11	Cobalt Construction Inc.	26	--	Cat - 966 G & 966 H - - - Forks, Clean Up Bucket	No	\$185	\$200	\$0	\$120
Loader	Whitehorse	11	Yukon Equipment Services Ltd.	2	--	Cat - 966G - 5 yd - - Bucket 5 yd	No	\$185	\$400	\$185	\$120
Loader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	25	--	CAT - 966C - 4 yard -	No	\$200	\$0	\$0	\$130
Loader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	1	--	Volvo - L110 - 4 yard - 4 available - Clean Up Bucket	No	\$210	\$0	\$0	\$137
Loader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	26	--	Komasu - WA-380-5 - 4 yard -	No	\$210	\$0	\$0	\$137
Loader	Whitehorse	11	16142 YT Inc. Northern Enviro Services	43	--	Cat - 966D - 5 Yd - - Bucket 5 yd	Yes	\$225	\$450	\$0	\$146
Loader	Whitehorse	11	16142 YT Inc. Northern Enviro Services	59	--	Cat - 966F - 5 yd - - Bucket	Yes	\$225	\$450	\$0	\$146
Loader	Whitehorse	11	16142 YT Inc. Northern Enviro Services	60	--	Cat - 966F - 5 yd - 2 available - Bucket	Yes	\$225	\$450	\$0	\$146
Loader	Whitehorse	11	Boreal Engineering Ltd	10	--	Caterpillar - 980F - - Service Truck - Bucket	No	\$230	\$300	\$173	\$112
Loader	Whitehorse	11	Cobalt Construction Inc.	27	--	Volvo - L220E & L250G - - - Digging Bucket	No	\$230	\$300	\$0	\$150
Loader	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	2	--	Volvo - L220E - 7 yard - 1 available. 7 yard bucket - Bucket	No	\$325	\$0	\$0	\$211
Logging Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	7	--	International - 4900 - - - 20' dump deck with log bunks	No	\$120	\$120	\$0	\$78
Logging Equipment	Whitehorse	11	Snag Contracting	11	--	Hitachi - Ex 60 URG - 6.5 ton - Excavator / Log loader - Off Set Boom Blade, Hydraulic Thumb, Clean Out Bucket 48", Steel Tracks, Blade, Brush Rake	No	\$140	\$140	\$140	\$91
Logging Equipment	Whitehorse	11	Lane's Yukon Yardworks INC	16	--	Pacific - Self Loading - 20' - Log Truck - Deck 20', Log Bunks, Barko 160A Log Loader Tandem	No	\$140.00	\$140.00	\$140.00	\$91.00
				1	--	Case - CX 57C - - excavator - Naarva s23c stroke Processor	No	\$150.00	\$150.00	\$0.00	\$97.50
Logging Equipment	Whitehorse	11	Snag Contracting Rabbit Creek Transport Inc.	9	--	Bobcat - T650 - - On tracks - Brush & Root Rake, Pallet Forks, Snow & Digging Buckes (3) 84"-96" Wide, Deck Push, Auger, Log	No	\$150.00	\$130.00	\$130.00	\$84.50
				4	--	Grapple Peerless - Tandem 7 Axle - - 3 Available - Tandem Pole logging	Yes	\$175.00	\$100.00	\$140.00	\$91.00
Logging Equipment	Whitehorse	11	Snag Contracting	13	--	Clark - 667C - 10 ton - Line Skidder - Blade	No	\$200	\$200	\$0	\$130
Logging Equipment	Whitehorse	11	Snag Contracting	17	--	- - 1270 - Timber Jack Harvester - 6 Wheel - Eco Tracks, FMG 762 B Head	No	\$200	\$200	\$200	\$130
Logging Equipment	Whitehorse	11	16142 YT Inc. Northern Enviro Services	37	--	Log Truck - - 28 Ton - 5 Available, Trailer - Peerless Log Trailers	Yes	\$205	\$205	\$0	\$133
Logging Equipment	Whitehorse	11	16142 YT Inc. Northern Enviro Services	40	--	Clark - 668D Grapple Skidder - 668D - - Tire Chains, Winch, Log Grapple	Yes	\$240	\$450	\$200	\$130
Logging Equipment	Whitehorse	11	Cobalt Construction Inc. 16142 YT Inc. Northern Enviro Services	40	--	Caterpillar - 227, 215, D5H - - Cat Processor 227, Cat Feller Buncher 215, Cat D5H - 6 Way Blade, Processor Head, Ripper, Grapples	No	\$250.00	\$250.00	\$0.00	\$162.50
				15	--	Cat - 320 C Log Processor - - - Brush Head, Hydraulic Thumb, Brush Cutter	Yes	\$300.00	\$400.00	\$0.00	\$195.00
Logging Equipment	Whitehorse	11	Cobalt Construction Inc. 16142 YT Inc. Northern Enviro Services	34	--	Timberjack - 850 Feller Buncher - 28" Head - - 28" Head, Hydraulic Thumb, Grapples, Brush Head, Brush Cutter	Yes	\$300	\$500	\$275	\$179
Packer	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construcion	1	--	Ingersoll Rand - Drum Packer - 10000 lb - 55" -	Yes	\$95	\$100	\$0	\$62
Packer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	47	2010	Amman - ASC 50HD - 55" - - Open Cab, Single Drum	No	\$95.00	\$500.00	\$95.00	\$61.75
				48	1992	Super Pac - 540 - 54" - - Open Cab, Single Drum	No	\$95.00	\$500.00	\$95.00	\$61.75
Packer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	82	2017	CAT - CS34 - 54" - - Open Cab, Single Drum	No	\$95	\$500	\$95	\$62
Packer	Whitehorse	11	Rabbit Creek Transport Inc.	13	--	Saki Vibratory - - - 54 inch drum	No	\$110	\$75	\$0	\$72
Packer	Whitehorse	11	Ralph Hotte Contracting Ltd.	1	--	Dynapac - A40 - -	Yes	\$115	\$150	\$0	\$75
Packer	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	21	--	Dyna Pac - - 54" - Packer Drum - Sheeps foot Drum	Yes	\$120	\$165	\$110	\$72
Packer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	46	2010	Amman - ASC 70HD - 66" - - Closed Cab, Single Drum	No	\$125.00	\$500.00	\$125.00	\$81.25
				44	2010	Amman - ASC 110HD - 86" - - Closed Cab, Single Drum	No	\$140.00	\$500.00	\$140.00	\$91.00
Packer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	45	1998	Dynapac - CA302D - 84" - - Open Cab, Single Drum	No	\$140	\$500	\$140	\$91
Packer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	81	--	CAT - CS54B - 84" - - Closed Cab, Single Drum	No	\$140	\$500	\$140	\$91
Packer	Whitehorse	11	16142 YT Inc. Northern Enviro Services 535902 Yukon Inc (Allan's Backyard Services)	19	--	John Deer - 328 Skid Steer - - 2 Available - Vibrating Rolling Packer, Auger, Forks, Buckets	Yes	\$160.00	\$300.00	\$0.00	\$104.00
				22	--	CASE - - 70" - - Smooth Drum	Yes	\$160.00	\$165.00	\$140.00	\$91.00
Packer	Whitehorse	11	Cobalt Construction Inc.	28	--	Intensus - CV120 & SD100 - - - Smooth Drum 84", Pad Foot Kit	No	\$170	\$200	\$0	\$111

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>



Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Packer	Whitehorse	11	Boreal Engineering Ltd	4	1995	Ingersoll Rand - SD100D - 84 inch - - Vibratory Drum 84"	Yes	\$175	\$225	\$131	\$85
Packer	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	14	--	Ingersol Rand - SD 110 - 84" - - Smooth Drum 84"	Yes	\$175	\$400	\$0	\$114
Packer	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	15	--	Ingersol Rand - SD110 - 84 Inch - - Smooth Drum 84"	Yes	\$175	\$400	\$0	\$114
Packer	Whitehorse	11	16142 YT Inc. Northern Enviro Services	17	--	- CS 563 E - 84" - 2 Available - Smooth Drum 84"	Yes	\$185	\$300	\$0	\$120
Packer	Whitehorse	11	Cobalt Construction Inc.	29	2009	Volvo - SD160 - - 3 Available - Smooth Drum 84"	No	\$190	\$200	\$0	\$124
Packer	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	3	--	CAT - 563E - 28,000 lbs - 14 available	No	\$200	\$0	\$0	\$130
Scraper	Whitehorse	11	Cobalt Construction Inc.	25	--	Caterpillar - 631 G - - 3 available	No	\$350	\$400		\$228
Scraper	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	31	--	CAT - 621F - 30 Ton - 3 Available	No	\$350	\$0		\$228
Scraper	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	28	--	CAT - 631E - 40 ton - 3 available	No	\$475	\$0		\$309
Skid Steer	Whitehorse	11	60 Below Snow Management	7	--	Bobcat - S70 - - plow - Angle Broom, Clean Up Bucket	No	\$70	\$110	\$0	\$46
Skid Steer	Whitehorse	11	Lane's Yukon Yardworks INC	1	--	Case - 440 - 2200 lbs Lift - - Colletion Broom, Clean Up Bucket, Digging Bucket, Grapples, Auger, Forks, Post Hole Auger	No	\$80.00	\$125.00	\$0.00	\$52.00
				3	--	Bobcat - mt52 - walk behind - - 36" Bucket, 48" snow blade, 36" snowblower,	No	\$80.00	\$80.00	\$80.00	\$52.00
Skid Steer	Whitehorse	11	Dirty Deeds Eq. Cont.	2	--	36" Trencher, 48" swepted Bobcat - S570 - - - Snow Bucket, Scraping Bucket, Cutting Bucket, Hay Spear,	Yes	\$85	\$90	\$0	\$55
Skid Steer	Whitehorse	11	Ralph Hotte Contracting Ltd.	2	--	Forks, Auger Drill John Deere - 240, 318E - - 2 available Rubber Tire - Bucket 66", Auger 12",	Yes	\$90	\$170	\$85	\$55
Skid Steer	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	3	--	Auger 6", Snow Bucket 8' Bobcat - T595 - - - Tracks, Snow Bucket, Forks, Pick Up Broom, Auger	Yes	\$95	\$95	\$0	\$62
Skid Steer	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	4	--	Cat - 246 C - - - Snow Bucket	Yes	\$95	\$95	\$0	\$62
Skid Steer	Whitehorse	11	536402 Yukon Inc DBA/ Northern Construciton	5	--	Terex - PT 3a - - - Tracks	Yes	\$95	\$95	\$0	\$62
Skid Steer	Whitehorse	11	Alsek Valley Cont & Cons (41618 Yukon Inc)	2	--	Caterpillar - 246 B - - - Tooth Bucket, Broom, 9" Auger, Forks, Smooth Bucket	Yes	\$100	\$100	\$0	\$65
Skid Steer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	33	2012	Bobcat - S100 - - - Clean Up Bucket 46"	No	\$100.00	\$500.00	\$100.00	\$65.00
				34	2012	CAT - 236B - - - Digging Bucket 66", Forks, Fence Post Auger, Clean Up	No	\$100.00	\$500.00	\$100.00	\$65.00
Skid Steer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	35	2012	Bucket 66" Bobcat - S205 - - - Digging Bucket 66", Forks, Fence Post Auger, Clean Up	No	\$100	\$500	\$100	\$65
Skid Steer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	36	2007	Bucket 66" CAT - 246C - - - Clean Up Bucket 72", Forks, Digging Bucket 72"	No	\$100	\$500	\$100	\$65
Skid Steer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	37	2012	Bobcat - S750 - - - Clean Up Bucket 72", Forks, Digging Bucket 72"	No	\$100	\$500	\$100	\$65
Skid Steer	Whitehorse	11	Goal Done Contracting Ltd.	6	--	Bobcat - S205 - 4ft cap - 2000pds - - Clean Up Bucket, Metal Tracks, Rubber Tires, Roller packer, 84" Snow Bucket, Snow Blade 8', Tooth Bucket	No	\$100	\$130	\$0	\$65
Skid Steer	Whitehorse	11	Lane's Yukon Yardworks INC	19	--	Case - SV300 - 90 HP - wheeled, steel track over option - Forks, Root rakes, Trencher, Auger w/ 6", 9", 12", 18" bits, Collection broom 6', Speed wing blade 15', Angle Broom 7', Material bucket 7', Tooth bucket 7', Material bucket 8', Dozer blade 8', Grapple Bucket, Grapples	No	\$100	\$110	\$110	\$72
Skid Steer	Whitehorse	11	Lane's Yukon Yardworks INC	20	--	Case - TR320 Tracked - 90 HP - - Dozer blade 8', Grapple Bucket, Grapples, Root rakes, Forks, Trencher Bar, Auger w/ 6", 9", 12", 18" bits, Collection broom 6', Speed wing blade 15', Angle Broom 7', Material	No	\$100	\$110	\$110	\$72
Skid Steer	Whitehorse	11	McClintock Contracting Truckways Transport (1977) Ltd.	1	--	Bobcat - S250 - - - 72" Smooth Bucket, 72" Grapples, 68" Dozer Blade, 72" Roller Packer, 96" sno blade, 72" Tooth Bucket, 72" Brush	Yes	\$105.00	\$105.00	\$90.00	\$58.50
				5	--	Rake Bobcat - S175/S590 - - 2 available - Snow Bucket, Seed Spreader, Sander,	Yes	\$105.00	\$105.00	\$0.00	\$68.25
Skid Steer	Whitehorse	11	B L Building	1	--	Forks, Finish Bucket, Tooth Bucket, Auger, Digging Bucket Kubota - SVL 75 - 4000lb - - Forks, 72" snow blower, Angle Snow Blade, Jib,	No	\$110	\$100	\$0	\$72
Skid Steer	Whitehorse	11	Yukon Equipment Services Ltd.	11	--	Smooth Edge Bucket Bobcat - T590 - - Tracked - Rubber Tracks, Forks, Bucket	No	\$110	\$200	\$120	\$78
Skid Steer	Whitehorse	11	Cobalt Construction Inc.	30	--	Case - 450 - - - Clean Up Bucket 72", Forks 48", Digging Bucket 60"	No	\$115	\$150	\$0	\$75
Skid Steer	Whitehorse	11	Arctic Backhoe Services Ltd. Son Rise General Contracting	17	--	Bobcat - S185 - - - Clean Up Bucket, Trencher Bar, Packer, Asphalt Cutter, Post Hole Auger, Forks, Snow Bucket	Yes	\$120.00	\$100.00	\$0.00	\$78.00
				6	--	Bobcat - 5590/843/185 - - 3 available - Bucket, Digging Bucket, Post Hole	Yes	\$120.00	\$110.00	\$0.00	\$78.00
Skid Steer	Whitehorse	11	Balsam Backhoe Services	2	--	Auger, Blade, Brush Mower, Forks Bob Cat - 770 track - - - Forks, Clean up bucket 82"	Yes	\$125	\$125	\$100	\$65
Skid Steer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Cross Fall Contracting	38	2013	CAT - 289C - - Track Skid Steer - Clean Up Bucket, Digging Bucket	No	\$125.00	\$500.00	\$125.00	\$81.25
				1	--	Kubota - SVL-75 - 9000 lbs. - Bobcut 8' grader blade attachment - Tilt plate, Log	Yes	\$125.00	\$125.00	\$125.00	\$81.25
Skid Steer	Whitehorse	11	VanGorda Enterprises	9	2016	Grapple, Rock Grapples, Hydraulic Boom, Buckets x 3, Hydraulic Drill with Various Augers, Forks, Tracked Compact Loader Thomas - Protough 2200 - 7,300 lbs - tracked - 1.5m³ Digging Bucket, Pallet	No	\$125	\$125	\$115	\$75
Skid Steer	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	13	--	Forks Kubota - SVL 90 - - - Bucket, Bucket 82", Blade, Auger Drill, Forks	Yes	\$130	\$200	\$0	\$85
Skid Steer	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	16	--	Kubota - SVL 90 - - - Bucket, Auger Drill, Blade, Forks	Yes	\$130	\$200	\$0	\$85
Skid Steer	Whitehorse	11	Getaway Construction Inc.	1	--	Cat - 277 - - Rubber Track - Snow Bucket, GP Bucket	No	\$130	\$90	\$0	\$85
Skid Steer	Whitehorse	11	16142 YT Inc. Northern Enviro Services	20	--	JD - 328 - - 2 Available - Digging Bucket, Post Hole Auger, Forks, Snow Bucket	Yes	\$135	\$300	\$0	\$88

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>



Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Skid Steer	Whitehorse	11	Boreal Engineering Ltd	11	--	CAT - 226B - - - Bucket, Snow Blade, Grapples, Forks	No	\$140	\$175	\$124	\$81
Skid Steer	Whitehorse	11	Snag Contracting	10	--	Bobcat - T650 - - - Brush & Root Rake, Pallet Forks, Snow & Digging Buckes	No	\$150.00	\$130.00	\$130.00	\$84.50
			Castle Rock Enterprises Limited Partnership	39	--	(3) 84"-96" Wide, Deck Push, Auger, Log Grapple CAT - 246C - - - Pickup Broom 83"	No	\$175.00	\$500.00	\$175.00	\$113.75
Skid Steer	Whitehorse	11	(14899)	40	--	Bobcat - S750 - - - Pickup Broom 83"	No	\$175	\$500	\$175	\$114
Skid Steer	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	33	--	CAT - 299 D - 2 yd - Bucket: 3 Available - Brush Cutter, Bucket, Packer, Forks	No	\$195	\$0	\$0	\$127
Belly Dump	Whitehorse	11	Arctic Backhoe Services Ltd.	1	--	Brute - - 20 Yd. - - Peterbilt Winch Tractor, International Truck Tractor	Yes	\$160	\$180	\$0	\$104
Belly Dump	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	12	--	Midland - - 22 yd - Belly dump clam - 2 available - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165.00	\$165.00	\$145.00	\$94.25
			16142 YT Inc. Northern Enviro Services	27	--	- Tandem Trailer - 20 Yd - 3 Available - Kenworth Tractor	Yes	\$175.00	\$175.00	\$0.00	\$113.75
Belly Dump	Whitehorse	11	Cobalt Construction Inc.	1	--	- Tridem - 24 yd <sup>3</sup> - Trailer, 6 Available - Kenworth T800	No	\$175	\$195	\$0	\$114
Belly Dump	Whitehorse	11	Cobalt Construction Inc.	2	--	- Tandem - 24 yd <sup>3</sup> - Trailer, 7 Available - Kenworth T800	No	\$175	\$195	\$0	\$114
Belly Dump	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	23	--	Midland - Tri-Axle - - 3 Available - Clam Dump	Yes	\$195	\$195	\$0	\$127
Belly Dump	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	35	--	Midland - Tri Axle - - 3 Available - Tandem Kenworth Truck	Yes	\$195	\$195	\$0	\$127
Belly Dump	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	18	--	Kenworth / Loadline - T800 - 30 ton - Tri axle. 20 available - Kenworth Tractor	No	\$210	\$0	\$0	\$137
Belly Dump	Whitehorse	11	Cobalt Construction Inc.	4	--	Midland - B-Trains - 42 yd <sup>3</sup> - 11 Available, - Kenworth Tractor	No	\$260	\$195	\$0	\$169
Belly Dump- Clam	Whitehorse	11	Rabbit Creek Transport Inc.	6	--	Decap - Tandem Axle - 25 Tonne - 6 available - Clam Dump, Push	Yes	\$165	\$100	\$145	\$94
Belly Dump- Clam	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	12	2012	Decap - - 24 yd <sup>3</sup> Legal - Tridem, 3 available - Kenworth / Peterbuilt Tandem Tractor	No	\$170.00	\$170.00	\$170.00	\$110.50
			Rabbit Creek Transport Inc.	7	--	- Tridem Axle - 30 Tonne - 6 Available	Yes	\$170.00	\$0.00	\$145.00	\$94.25
Belly Dump- Clam	Whitehorse	11	Berdoe Enterprises	11	--	Midland & Peerless - Tandem - 20 Yds - 5 Available - 4 Midland-1 Peerless, - Kenworth T800 x 5	No	\$175.00	\$175.00	\$175.00	\$113.75
			Coates Services Yukon Ltd.	13	--	Derrick, McCov, Arnes - Tandem - 22 cu. yd - Trailer. Available - 2 of each -	No	\$175.00	\$175.00	\$0.00	\$113.75
Belly Dump- Clam	Whitehorse	11	Berdoe Enterprises	17	--	Freightliner x 3, Peterbilt x 2, Kenworth Tractor					
			Coates Services Yukon Ltd.			Midland & R-way - Tridem - - Trailer. 3 Available - Kenworth x 1, Peterbilt x 2,	No	\$185	\$185	\$0	\$120
Belly Dump- Clam	Whitehorse	11	Yukon Equipment Services Ltd.	4	--	Freightliner x 3					
						Midland - Tridem - 34 ft - 3 Available	No	\$185	\$185	\$0	\$120
Belly Dump- Clam	Whitehorse	11	Rabbit Creek Transport Inc.	1	--	- Super B - 43 Tonne - 4 Available with Trucks	Yes	\$200	\$105	\$155	\$101
Belly Dump- Clam	Whitehorse	11	16142 YT Inc. Northern Enviro Services	42	--	Midland - Tridem - 22 Yd - 2 Available, Trailer - Kenworth Tractor	Yes	\$220	\$220	\$0	\$143
Belly Dump- Clam	Whitehorse	11	16142 YT Inc. Northern Enviro Services	5	--	Midland - Super Train - 40 Yd - 2 Available - Kenworth Tractor	Yes	\$270	\$270	\$0	\$176
Belly Dump- Cross	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	13	1996	Arnes - - 24 yd <sup>3</sup> Legal - - Kenworth / Peterbuilt Tandem Tractor	No	\$170	\$170	\$170	\$111
End Dump	Whitehorse	11	Arctic Backhoe Services Ltd.	4	--	Midland - Tri-Axle - 26 Yd. - 2 Available - Peterbilt Winch Tractor, International Truck Tractor	Yes	\$160.00	\$180.00	\$0.00	\$104.00
			535902 Yukon Inc (Allan's Backyard Services)	6	--	Loadline - - 30' - - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165.00	\$165.00	\$145.00	\$94.25
End Dump	Whitehorse	11	Arctic Backhoe Services Ltd.	6	--	Midland - Tri-Axle - 26 Yd. - 2 Availble - Kenworth Tri-Axle, Truck Tractor	Yes	\$170	\$180	\$0	\$111
End Dump	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	9	2008	Canuck - - 24 yd <sup>3</sup> Legal - Tridem - Kenworth / Peterbuilt Tandem Tractor	No	\$170.00	\$170.00	\$170.00	\$110.50
				10	2008	Doepker - - 24 yd <sup>3</sup> Legal - Tridem - Kenworth / Peterbuilt Tandem Tractor	No	\$170.00	\$170.00	\$170.00	\$110.50
End Dump	Whitehorse	11	Coates Services Yukon Ltd.	11	2015	Canuck - - 24 yd <sup>3</sup> Legal - Tridem - Kenworth / Peterbuilt Tandem Tractor, Locking Gate for Contaminated Waste	No	\$170.00	\$170.00	\$170.00	\$110.50
				24	--	Arnes - Tandem - 25 yds - Trailer - Freightliner x 1, Peterbilt x 1, Kenworth x 2	No	\$170.00	\$170.00	\$0.00	\$110.50
End Dump	Whitehorse	11	Cobalt Construction Inc.	3	--	- Tridem - 24 yd <sup>3</sup> - Trailer, 3 Available, - Kenworth T800	No	\$175	\$195	\$0	\$114
End Dump	Whitehorse	11	Goal Done Contracting Ltd.	7	--	Kenworth - T800 - 30 yds - - Dump Truck, 16 yd box on Dump Truck, Haul 2 different products at same time, Wagon, 20 yd on wagon	No	\$180.00	\$180.00	\$0.00	\$117.00
			Rabbit Creek Transport Inc.	3	--	Arnies Tridem - - 30 Tonne - 2 Available - High Lift Gate, Side Dump with End	Yes	\$180.00	\$100.00	\$145.00	\$94.25
End Dump	Whitehorse	11	Coates Services Yukon Ltd.	14	--	Dump Pup	No	\$185	\$185	\$0	\$120
						Arnes & Loadline - Tridem - 25 yds - Trailer. 2 each of Arnes Tandem &					
End Dump	Whitehorse	11	Yukon Equipment Services Ltd.	3	--	Loadline Tandem - Freightliner Tractor, Peterbilt Tractor, Kenworth x 2 Doepler - Tridem - 34 ft - Tractor. Trailer	No	\$185	\$185	\$185	\$120
End Dump	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	33	--	Arnes - - 28' - Tandem Axle 28 ft. - End Dump	Yes	\$195	\$195	\$0	\$127
End Dump	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	3	--	Arnes - - 28' - Tandem Axle 28 ft. - Tandem Axle	Yes	\$195	\$195	\$0	\$127
End Dump	Whitehorse	11	16142 YT Inc. Northern Enviro Services	35	--	Midland - Tandem - - 2 Available - Kenworth Tractor	Yes	\$230	\$230		\$150
End Dump	Whitehorse	11	Goal Done Contracting Ltd.	10	--	Kenworth - 900 Tri Drive - 58,500kgs - - Capable of hauling 2 different products	No	\$245.00	\$245.00		\$159.25
			16142 YT Inc. Northern Enviro Services	36	--	& spreadin. Tri drive Dump Truck & wagon, 40 yd box Midland - Tridem - 16 m <sup>3</sup> - 3 Available - Kenworth Tractor	Yes	\$250.00	\$250.00		\$162.50
Hi-Boy	Whitehorse	11	Cobalt Construction Inc.	5	--	Trailmobile - TA - - - Kenworth T800	No	\$160	\$180	\$0	\$104
Hi-Boy	Whitehorse	11	Rabbit Creek Transport Inc.	12	--	Loadline - Tridem - 50Ft - 3 available	Yes	\$160	\$100	\$125	\$81
Hi-Boy	Whitehorse	11	Coates Services Yukon Ltd.	18	1998	Lode King - Tridem - - - Freightliner x 3, Peterbilt x 2, Kenworth x 2	No	\$180	\$180	\$0	\$117
Hi-Boy	Whitehorse	11	Goal Done Contracting Ltd.	1	--	Trail Teck - 32' Flat Deck - 35,000 kg - Hi-boy - 32 ft Flat Deck Trailer w/ Flip Down Ramps, Pulled by Dump Truck	No	\$180.00	\$180.00	\$0.00	\$117.00
			16142 YT Inc. Northern Enviro Services	31	--	- Tri-Axle - 30 Ton - 2 Available - Kenworth W900 Tandem	Yes	\$195.00	\$195.00	\$0.00	\$126.75
Hi-Boy	Whitehorse	11	Goal Done Contracting Ltd.	68	--	- - - Tri Axle Scissor High Boy trailer. 3 Available - Kenworth Tractor	Yes	\$225	\$225	\$0	\$146
			16142 YT Inc. Northern Enviro Services								
Lo-Boy	Whitehorse	11	Arctic Backhoe Services Ltd.	2	--	Deloupe - Tri- Axle - - - Low Bed - Peterbilt Winch Tractor, International Truck Tractor	Yes	\$160.00	\$180.00	\$0.00	\$104.00
			535902 Yukon Inc (Allan's Backyard Services)	1	--	- - 40' - - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165.00	\$165.00	\$145.00	\$94.25
Lo-Boy	Whitehorse	11	Arctic Backhoe Services Ltd.	7	--	Deloupe - Tri-Axle Low-bed - - - Kenworth Tri-Axle, Truck Tractor	Yes	\$170	\$180	\$0	\$111



CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>



Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Lo-Boy	Whitehorse	11	Coates Services Yukon Ltd.	15	--	Arnes - Tandem - - Trailer. Lowbed 9' wide beaver tail - Freightliner x 3, Peterbilt x 2, Kenworth x 2	No	\$180.00	\$180.00	\$0.00	\$117.00
				16	--	Frehuef - Tandem - - Trailer. Lowbed 9' - Freightliner x 3, Peterbilt x 2,	No	\$180.00	\$180.00	\$0.00	\$117.00
Lo-Boy	Whitehorse	11	Coates Services Yukon Ltd.	19	1998	Kenworth x 2	No	\$180	\$180	\$0	\$117
						K-Line - Tridem - - Trailer - Freightliner x 3, Peterbilt x 2, Kenworth x 2					
Lo-Boy	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	4	1996	Aspen - - 10' Wide - Tridem - Kenworth / Peterbuilt Tandem Tractor	No	\$185.00	\$185.00	\$185.00	\$120.25
				5	1974	Fruehauf - - 9' Wide - Tandem - Kenworth / Peterbuilt Tandem Tractor	No	\$185.00	\$185.00	\$185.00	\$120.25
Lo-Boy	Whitehorse	11	16142 YT Inc. Northern Enviro Services	32	--	- Tri-Axel - 40 Ton - - Kenworth T800 Tandem	Yes	\$195	\$195	\$0	\$127
Lo-Boy	Whitehorse	11	Cobalt Construction Inc.	8	--	Aspen - 7 Axle - 45 Ton - Trailer. Tri Axle - Kenworth T800 Tandem, Booster, Jeep	No	\$210.00	\$210.00	\$0.00	\$136.50
			P S Sidhu Trucking Ltd (Whse)	24	--	Kenworth / Jerry - T800 - 23 ton - 5 axle - Kenworth T800	No	\$210.00	\$0.00	\$0.00	\$136.50
Lo-Boy	Whitehorse	11	16142 YT Inc. Northern Enviro Services	7	--	Arrow - T800 - 60 Ton - 6 Axle Unit, Tri-Axle - Kenworth T800	Yes	\$220	\$220	\$0	\$143
Lo-Boy	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	26	2014	Knight - Tri-Axle Hyd Neck - 55 Ton -	Yes	\$250	\$250	\$0	\$163
Lo-Boy	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	31	--	- Tri Axle - 50 ton - 2 Avail. Scissor Neck and Lo-Boy Hyd sliding Axle	Yes	\$250	\$250	\$0	\$163
Lo-Boy	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	1	--	Knight - Tri Axle - 55 Ton - Triaxle Hyd.Neck	Yes	\$250	\$250	\$0	\$163
Lo-Boy	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	2	--	ETS - Tri-Axle - 50 ton - 2 available - 1 lo-boy Hyd slinging Axle, 1 Scissor Neck	Yes	\$250	\$250	\$0	\$163
Lo-Boy	Whitehorse	11	16142 YT Inc. Northern Enviro Services	38	--	Arrow Low Bed - Tandem Jeep - 60 - 8 Axle lowbed unit - Kenworth T800	Yes	\$275	\$275	\$0	\$179
Lo-Boy	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	22	--	Kenworth / Jerry - T800 - 40 ton - 8 axle & Jeep & Booster - Kenworth Tractor	No	\$300	\$0	\$0	\$195
Lo-Boy	Whitehorse	11	Cobalt Construction Inc.	9	--	Aspen - 9 Axle - 55 Ton - Tri Axle. 2014 Kenworth - Kenworth T800 Tandem, Booster	No	\$310	\$300	\$0	\$202
Scissor Neck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	9	--	- - 53' - Scissor Neck Tri - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165	\$165	\$145	\$94
Scissor Neck	Whitehorse	11	16142 YT Inc. Northern Enviro Services	69	--	- Tri-Axle - - Tri Axle scissor neck trailer. 3 Available - Kenworth Tractor	Yes	\$225	\$225	\$0	\$146
Side Dump	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	15	2006	Arnes - - 24 yd³ Legal - - Kenworth / Peterbuilt Tandem Tractor	No	\$170.00	\$170.00	\$170.00	\$110.50
			Deadman Creek Enterprises Inc (Whitehorse)	25	--	- - 36' - Tri-Axle Side Dump 36'	Yes	\$195.00	\$195.00	\$0.00	\$126.75
Side Dump	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	4	--	Sidump r - Tri Axle - 36' -	Yes	\$195	\$195	\$0	\$127
Side Dump	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	19	--	- T800 - 30 ton - 10 available, Tri axle - Kenworth Tractor	No	\$210	\$0	\$0	\$137
Side Dump	Whitehorse	11	16142 YT Inc. Northern Enviro Services	16	--	Neufeld - Tri-Axle - - 4 Available, Trailer - Kenworth Tractor	Yes	\$225	\$225	\$0	\$146
Side Dump	Whitehorse	11	16142 YT Inc. Northern Enviro Services	70	--	Midland - - 30 ton - Side Dump Trailer. 4 Available - Kenworth Tractor	Yes	\$225	\$225	\$0	\$146
Side Dump	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	20	--	- T800 - 40 ton - Super B, 14 available, 8 axle - Kenworth Tractor	No	\$275	\$0	\$0	\$179
Step Deck	Whitehorse	11	Arctic Backhoe Services Ltd.	5	--	Transcraft - - - - Peterbilt Winch Tractor, International Truck Tractor	Yes	\$160	\$180	\$0	\$104
Step Deck	Whitehorse	11	Cobalt Construction Inc.	6	--	Manac - Tri-Axle - - - Kenworth T800	No	\$160	\$180	\$0	\$104
Step Deck	Whitehorse	11	Rabbit Creek Transport Inc.	10	--	- Tridem - 53 Ft. - 3 Available	Yes	\$160	\$100	\$125	\$81
Step Deck	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	13	--	- - 48' - Step deck tri - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165	\$165	\$145	\$94
Step Deck	Whitehorse	11	Arctic Backhoe Services Ltd.	8	--	Transcraft - - - - Kenworth Tri-Axle, Truck Tractor	Yes	\$170	\$180	\$0	\$111
Step Deck	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	6	--	Manic - - 8'6" Wide - Tridem - Kenworth / Peterbuilt Tandem Tractor	No	\$185.00	\$185.00	\$185.00	\$120.25
				7	1999	Lode King - - 8'6" Wide - Tridem - Kenworth / Peterbuilt Tandem Tractor	No	\$185.00	\$185.00	\$185.00	\$120.25
Step Deck	Whitehorse	11	Coates Services Yukon Ltd.	21	--	Trailmobile - Tridem - 48 Ft. - Trailer - Freightliner x 3, Peterbilt x 2, Kenworth x 2	No	\$185.00	\$185.00	\$0.00	\$120.25
				22	--	Transcraft - Tridem - 52 Ft. - Trailer - Freightliner x 3, Peterbilt x 2, Kenworth x 2	No	\$185.00	\$185.00	\$0.00	\$120.25
Trailer	Whitehorse	11	VanGorda Enterprises	7	--	southland - sl280 dump - - with 1 ton pick up	No	\$125	\$125	\$115	\$75
Trailer	Whitehorse	11	Quality North Services Ltd.	3	--	Pintle - Hi Tech Tandem - 15 Ton Pay Load - - Tandem Dump Truck, 28' Deck, Ramps	No	\$135.00	\$135.00	\$0.00	\$87.75
			Arctic Backhoe Services Ltd.	3	--	Tilt Trailer - - 25 Ton - - Peterbilt Winch Tractor, International Truck Tractor	Yes	\$160.00	\$180.00	\$0.00	\$104.00
Trailer	Whitehorse	11	Cobalt Construction Inc.	7	--	Trail King / Manac - TA Trombone - - 2 available - Kenworth T800	No	\$160	\$180	\$0	\$104
Trailer	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	27	--	- - 28' - Eq Trailer Pinto Hitch - Kenworth T800, Volvo, Western Star Tractor	Yes	\$165	\$165	\$145	\$94
Trailer	Whitehorse	11	16142 YT Inc. Northern Enviro Services	67	--	- Tandem - - Dump Trailer - 4 Available - Tandem Dump Truck	Yes	\$185	\$185	\$0	\$120
Trailer	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899)	8	2011	Double A - - - Tandem Pinto Hitch - Kenworth / Peterbuilt Tandem Tractor, Kenworth / Peterbuilt Tridem Dump Truck, Kenworth /	No	\$185.00	\$185.00	\$185.00	\$120.25
			Rabbit Creek Transport Inc.	8	--	Peterbuilt Tandem Dump Truck	Yes	\$190.00	\$100.00	\$140.00	\$91.00
						- Super B - Hav Rack - 6 Bunks per lead/6 per pub					
Trailer	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	24	--	FruHauf - Water Tank - 5000 gal - Water Tank - tandem axle	Yes	\$195	\$195	\$0	\$127
Trailer	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	32	--	Fruhauf - - - 2 available- 53 ft tri-axle and 48ft Tandem Axle	Yes	\$195	\$195	\$0	\$127
Trailer	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	6	--	Fruhauf - - - 2 Avail - hi-boy 53' Tri Axle; Step Deck 48' Tandem Axle	Yes	\$195	\$195	\$0	\$127
Trailer	Whitehorse	11	Rabbit Creek Transport Inc.	2	--	Wes tanks - Super B Tanker - 12000 gal - 5 Available - for Water, fuel or Fire Suppressant	Yes	\$195.00	\$100.00	\$150.00	\$97.50
			16142 YT Inc. Northern Enviro Services	66	--	- Tridem - - Tridem Dump Trailer - 4 available - Tandem Dump Truck, Tridem	Yes	\$200.00	\$200.00	\$0.00	\$130.00
Trailer	Whitehorse	11	Arctic Backhoe Services Ltd.	31	--	Pup	Yes	\$240	\$285	\$0	\$156
						Deloupe - Tri-Axle - - - Tractor Truck, Pilot Vehicle (Wide Load)					
Water Tanker	Whitehorse	11	Rabbit Creek Transport Inc.	11	--	Westank - Tandem - 5000 gal - 2 Available Tandem Truck, Tandem Tank Trailers - Spray Bar	Yes	\$135.00	\$70.00	\$100.00	\$65.00
			Cobalt Construction Inc.	10	--	- - 6000 Gal - 3 Available. - Kenworth T800	No	\$160.00	\$160.00	\$0.00	\$104.00
Water Tanker	Whitehorse	11	Berdoe Enterprises	8	--	Kenworth - T800 - 7200 Gal -	No	\$175	\$175	\$175	\$114
Water Tanker	Whitehorse	11	16142 YT Inc. Northern Enviro Services	8	--	- - 6000 Gal - 2 Available - Kenworth Tractor, Water Pump	Yes	\$185	\$185	\$0	\$120

CCRP Cost Estimate Table W-15: Yukon Government Third Party Equipment Rental Rates

Data Source: <http://www.geology.gov.yk.ca/pdf/third-party-rental-book-2019.pdf>

Type	Area	Priority (Distance from Dawson)	Company	No.	Year	Description	Fluctuation	Wet	Mob/Demob	Dry	Standby
Water Tanker	Whitehorse	11	Coates Services Yukon Ltd.	23	--	Freuhauf - - 7000 Gal - Trailer - Freightliner x 3, Peterbilt x 2, Kenworth x 2	No	\$185	\$185	\$0	\$120
Water Tanker	Whitehorse	11	P S Sidhu Trucking Ltd (Whse)	16	--	Kenworth - T800 - 4000 gal - 4 Available. Tanker - Kenworth Tractor	No	\$200	\$0	\$0	\$130
Concrete Mobile Batcher	Whitehorse	11	16142 YT Inc. Northern Enviro Services	4	--	Reimer - R12 L - 9 Meters - Onsite Readymix concrete - Materials at Market price - Western Star Tractor	Yes	\$290	\$290		\$189
Emergency Transport	Whitehorse	11	Truckways Transport (1977) Ltd. Boreal Engineering Ltd	4 14	1979 --	Chev - - 1 Ton - - Radio, Slints, Bandages, Stretcher, Basket stretcher, Back Board, Emergency Jump Kits x2, Water, Oxygen, road signs Dodge - - - - ETV Fully equipped - Certified EMR Level 3 Attendant. Flagger	Yes Yes	\$100.00 \$125.00	\$100.00 \$150.00	\$0.00 \$94.00	\$65.00 \$61.10
Emergency Transport	Whitehorse	11	16142 YT Inc. Northern Enviro Services	46	--	Signs, road signs, Radio - MTV - - - Level 3 operator Safety Units MTV - Flaggina equipment	Yes	\$135	\$135	\$0	\$88
Emergency Transport	Whitehorse	11	16142 YT Inc. Northern Enviro Services	47	--	Safety Unit - MTV - - Safety Unit MTV - 2 available - Level 3 Operator	Yes	\$195	\$195	\$0	\$127
Pilot Vehicle	Whitehorse	11	Goal Done Contracting Ltd.	14	--	- - - un man traffic control lights - Traffic Control Signs, Pylons	No	\$60	\$150	\$0	\$39
Pilot Vehicle	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	10	--	GMC - - 1/2 ton - - Tidy Tank	Yes	\$80	\$80	\$75	\$49
Pilot Vehicle	Whitehorse	11	535902 Yukon Inc (Allan's Backyard Services)	11	--	Dodge - - 3/4 ton - - Tidy Tank	Yes	\$80	\$80	\$75	\$49
Pilot Vehicle	Whitehorse	11	Quality North Services Ltd.	1	--	Dodge - - 1/2 ton - Quad cab - Safety Equipment, Pilot Sign	No	\$80	\$80	\$0	\$52
Pilot Vehicle	Whitehorse	11	Truckways Transport (1977) Ltd. Arctic Backhoe Services Ltd.	2 34	-- --	Chev - 1/2 Ton - - 2 Available - Radios x 2, Pylons x 2, Pilot signs x 2, Road Signs x 2 Ford & Dodge - C/C Pickup - 1/2 Ton - 2 available - Operator. Pilot Sign. Radio's	Yes Yes	\$80.00 \$85.00	\$80.00 \$90.00	\$0.00 \$0.00	\$52.00 \$55.25
Pilot Vehicle	Whitehorse	11	Boreal Engineering Ltd	8	--	Dodge - Ram Diesel 4x4 - - - Tidy Tank	Yes	\$90	\$100	\$68	\$44
Pilot Vehicle	Whitehorse	11	Castle Rock Enterprises Limited Partnership (14899) Carey On Construction	43 8	-- --	Ford/Chevy/Dodge - - - 3 available - Pilot Car Sign Ford - F350 - 1 ton - - Radio's, Light, Ball Hitch, Fuel Tank	No Yes	\$95.00 \$100.00	\$95.00 \$100.00	\$95.00 \$100.00	\$61.75 \$65.00
Pilot Vehicle	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	35	--	Dodge - 3500 - - Crew Cab - Pilot Car Sign	Yes	\$100	\$100	\$0	\$65
Pilot Vehicle	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	36	--	Dodge - 3500 Crew Cab - - - Pilot Car Sign	Yes	\$100	\$100	\$0	\$65
Pilot Vehicle	Whitehorse	11	Son Rise General Contracting 16142 YT Inc. Northern Enviro Services	5 6	-- --	Ford/Dodge - - 1 ton - 5 available - 30 ft gooseneck x 2, Pump, Tidy Tank, 24 ft car/equipment hauler, equip x 3, 20 ft. car hauler - F250 - - 3 Available - Pilot Trucks Pick Ups	Yes Yes	\$110.00 \$120.00	\$0.00 \$120.00	\$0.00 \$0.00	\$71.50 \$78.00
Pilot Vehicle	Whitehorse	11	Cobalt Construction Inc.	38	--	GMC - 2500 4x4 - - - Pilot Car Sign	No	\$185	\$185	\$0	\$120
Pickup Truck	Whitehorse	11	Deadman Creek Enterprises Inc (Whitehorse)	30	--	Dodge - 3500 4x4 Crew Cab - - 4 Available	Yes	\$85	\$85	\$0	\$55
Pickup Truck	Whitehorse	11	Deadman Creek Enterprises Inc. (Teslin)	40	--	Dodge - 3500 Crew Cab 4X4 - - 4 available	Yes	\$85	\$85	\$0	\$55
Pickup Truck	Whitehorse	11	Truckways Transport (1977) Ltd. Dirty Deeds Eq. Cont.	1 1	-- --	Chev - - 1\2 ton - 2 available - Radios x 2, Pilot signs x 2, Pylons x 2, Road Signs x 2 Ford - F450/550 - - 2 available - 33" Goose neck 30000 lbs, 18' Ramp load	Yes No	\$85.00 \$90.00	\$80.00 \$90.00	\$0.00 \$0.00	\$55.25 \$58.50
Pickup Truck	Whitehorse	11	Alsek Valley Cont & Cons (41618 Yukon Inc)	1	--	trailer, Horse Trailer, 4 yd Dump Trailer Dodge/GMC - 3500 & 2500 - 1 Ton/3/4 ton - with beacons - Safety Gear, 16'	Yes	\$100	\$100	\$0	\$65
Pickup Truck	Whitehorse	11	Lane's Yukon Yardworks INC	12	--	Trailer (14000 lbs), Radio's Ford, Chevy - F250/F350/Chevy 2500 - - 3 available - Crew cab Flat deck, Ext	No	\$100	\$100	\$0	\$65
Pickup Truck	Whitehorse	11	60 Below Snow Management	5	--	cab long box x 2 Dodge - 5500 - 2 ton - Flatdeck - Triple Axle Trailer 20,000lbs, Tandem Dump	No	\$110	\$110	\$0	\$72
Pickup Truck	Whitehorse	11	Son Rise General Contracting	4	--	Trailer 10,000lbs Ford/Dodge - - 1 ton - 5 available - 30 ft gooseneck x 2, Pump, Tidy Tank, 24 ft	Yes	\$110	\$0	\$0	\$72
Pickup Truck	Whitehorse	11	Lane's Yukon Yardworks INC	11	--	car/equipment hauler, equip x 3, 20 ft. car hauler Ram - 5500 - - - Crew Cab, 5th Wheel Hitch, Flat Deck	No	\$120	\$120	\$0	\$78
Pickup Truck	Whitehorse	11	Cross Fall Contracting	3	--	Ford - F-550 - - - Dump Box, 14,000 Lb. Tilt Deck Equipment Trailer	Yes	\$125	\$0	\$90	\$59
Pickup Truck	Whitehorse	11	VanGorda Enterprises	5	--	Dodge, Chevy - 3500, F350 - 1 Ton - 2 available - Dump Box	No	\$125	\$125	\$115	\$75
Pickup Truck	Whitehorse	11	Goal Done Contracting Ltd.	13	--	Chev - Duramax - 3500, 1 ton - - Tidy Tank, Wide Load Sign, 5th Wheel Hitch	No	\$130	\$130	\$0	\$85





CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates

Company	Type	Type	Equipment	Rate	Rate Includes Operator?	Rate (including Operator
Company A	VAC Truck	<b>VAC TRUCKS (Complete w/ Operator)</b>	Tandem Axle	\$175	Yes	\$175
Company A	VAC Truck	<b>VAC TRUCKS (Complete w/ Operator)</b>	Hydro Vac (Swamper Included)	\$365	Yes	\$365
Company A	VAC Truck	<b>VAC TRUCKS (Complete w/ Operator)</b>	Delta III	\$335	Yes	\$335
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Tandem 100BBL Water Truck	\$160	Yes	\$160
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Tandem 100BBL Potable Water	\$160	Yes	\$160
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Tandem 92BBL Sour Seal Certified	\$195	Yes	\$195
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Foremost Delta III 80BBL Water	\$335	Yes	\$335
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Tandem 100BBL Combo Steamer	\$275	Yes	\$275
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Steam Truck	\$275	Yes	\$275
Company A	Water Truck	<b>WATER TRUCKS (Complete w/ Operator)</b>	Tandem	\$190	Yes	\$190
Company A	Trailer	<b>TRAILERS</b>	Scissor Neck	\$70	Not Applicable	Not Applicable
Company A	Trailer	<b>TRAILERS</b>	End Dump Tandem Trailer	\$55	Not Applicable	Not Applicable
Company A	Trailer	<b>TRAILERS</b>	End Dump Tri Trailer	\$65	Not Applicable	Not Applicable
Company A	Trailer	<b>TRAILERS</b>	Tri-Hi Trailer	\$65	Not Applicable	Not Applicable
Company A	Trailer	<b>TRAILERS</b>	25' Flat Deck Utility Trailer	\$24	Not Applicable	Not Applicable
Company A	Truck	<b>GRAVEL TRUCKS (Complete w/ Operator)</b>	Tandem	\$160	Yes	\$160
Company A	Truck	<b>GRAVEL TRUCKS (Complete w/ Operator)</b>	Tractor with end dump trailer	\$255	Yes	\$255
Company A	Truck	<b>BED TRUCKS (Complete w/ Operator &amp; Swamper)</b>	Bed Truck 365"	\$410	Yes	\$410
Company A	Truck	<b>BED TRUCKS (Complete w/ Operator &amp; Swamper)</b>	Bed Truck 400"	\$430	Yes	\$430
Company A	Service Truck	<b>SERVICE TRUCK</b>	Service Truck (w/ Mechanic)	\$310	Yes	\$310
Company A	Service Truck	<b>SERVICE TRUCK</b>	Shop Rate	\$150	Not Applicable	Not Applicable
Company A	Excavator	<b>HEAVY EQUIPMENT w/ Operator</b>	Excavator - Small (7T Class)	\$145	Yes	\$145
Company A	Other	<b>HEAVY EQUIPMENT w/ Operator</b>	*Ripper/Frost Bucket Teeth	\$29	Yes	Not Applicable
Company A	Excavator	<b>HEAVY EQUIPMENT w/ Operator</b>	Excavator - Medium (25-29T Class)	\$235	Yes	\$235
Company A	Other	<b>HEAVY EQUIPMENT w/ Operator</b>	*Ripper/Frost Bucket Teeth	\$47	Yes	Not Applicable
Company A	Excavator	<b>HEAVY EQUIPMENT w/ Operator</b>	Excavator - Large (36T Class)	\$265	Yes	\$265
Company A	Other	<b>HEAVY EQUIPMENT w/ Operator</b>	*Ripper/Frost Bucket Teeth	\$53	Yes	Not Applicable
Company A	Excavator	<b>HEAVY EQUIPMENT w/ Operator</b>	Mulcher Attachment Small Excavator	\$50	Yes	\$50
Company A	Excavator	<b>HEAVY EQUIPMENT w/ Operator</b>	Mulcher Attachment Medium Excavator	\$70	Yes	\$70
Company A	Loader	<b>HEAVY EQUIPMENT w/ Operator</b>	Loader - Small (IT28)	\$160	Yes	\$160
Company A	Loader	<b>HEAVY EQUIPMENT w/ Operator</b>	Loader - Medium (IT38)	\$180	Yes	\$180
Company A	Loader	<b>HEAVY EQUIPMENT w/ Operator</b>	Loader - Large (950K)	\$195	Yes	\$195
Company A	Dozer	<b>HEAVY EQUIPMENT w/ Operator</b>	Dozer - Small (D4K LGP)	\$175	Yes	\$175
Company A	Dozer	<b>HEAVY EQUIPMENT w/ Operator</b>	Dozer - Medium (D6N LGP)	\$220	Yes	\$220
Company A	Dozer	<b>HEAVY EQUIPMENT w/ Operator</b>	Dozer - Large (D8T)	\$300	Yes	\$300
Company A	Dozer	<b>HEAVY EQUIPMENT w/ Operator</b>	**Dozer Rear Mounted Ripper	\$75	Yes	\$75
Company A	Dozer	<b>HEAVY EQUIPMENT w/ Operator</b>	Dozer Side Boom - D5H LGP	\$235	Yes	\$235
Company A	Snocat	<b>HEAVY EQUIPMENT w/ Operator</b>	Snow Cat	\$245	Yes	\$245
Company A	Grader	<b>HEAVY EQUIPMENT w/ Operator</b>	Grader 6x6 - 143H w/wing	\$185	Yes	\$185
Company A	Loader	<b>HEAVY EQUIPMENT w/ Operator</b>	Compact Track Loader - 299D2XHP	\$150	Yes	\$150
Company A	Loader	<b>HEAVY EQUIPMENT w/ Operator</b>	***Compact Track Loader w/mulcher - 299D2XHP	\$300	Yes	\$300
Company A	Service Truck	<b>MISC</b>	F350 4x4 Pickup Truck (Day Rate)	\$250	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Swamper	\$75	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Operator	\$85	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Supervision (w/ Pickup - Day Rate)	\$1,800	Yes	\$1,800
Company A	Other	<b>MISC</b>	Stat Holidays (Additional on Top of Rate)	\$75	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Pilot Car (Hourly Rate)	\$120	Yes	\$120
Company A	Other	<b>MISC</b>	Subsistence	\$300	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Rig Mats 20' (Day Rate)	\$25	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Rig Mats 40' (Day Rate)	\$45	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Light Tower (Fuel In) (Day Rate)	\$300	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Typhoon Pump (Day Rate)	\$100	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Auger For Compact Track Loader	\$25	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Gas Welder (Day Rate)	\$100	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Trash Pump (Day Rate)	\$100	Not Applicable	Not Applicable
Company A	Other	<b>MISC</b>	Tamper (Day Rate)	\$100	Not Applicable	Not Applicable



CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates

Company	Type	Type	Equipment	Rate	Rate Includes Operator?	Rate (including Operator
Company A	Other	MISC	Chainsaw (Day Rate)	\$75	Not Applicable	Not Applicable
Company A	Other	MISC	Slip Tank (Day Rate)	\$50	Not Applicable	Not Applicable
Company B	Articulated Truck	ARTICULATED TRUCKS	Rock truck - 730 Articulated	\$190	Not Applicable	Not Applicable
Company B	Articulated Truck	ARTICULATED TRUCKS	Rock truck - 730 Articulated	\$190	No	\$260
Company B	Excavator	EXCAVATORS	Excavator - 325B w/ 2 Buckets, Thumb, Promac Hydro Axe Mower	\$135	No	\$205
Company B	Other	EXCAVATORS	Hydro Axe	\$50	Not Applicable	Not Applicable
Company B	Other	EXCAVATORS	Mudbuster	\$65	Not Applicable	Not Applicable
Company B	Other	EXCAVATORS	Tamper	\$30	Not Applicable	Not Applicable
Company B	Other	EXCAVATORS	Breaker	\$45	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator- 329E w/ 2 Buckets	\$185	No	\$255
Company B	Excavator	EXCAVATORS	Excavator - 426 w/ 2 Buckets	\$80	No	\$150
Company B	Other	EXCAVATORS	Tamper	\$25	Not Applicable	Not Applicable
Company B	Other	EXCAVATORS	Hammer	\$25	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator - 330C w/ HD Rock Bucket, Narrow Bucket, Ripper	\$185	No	\$255
Company B	Excavator	EXCAVATORS	Excavator - 225 w/ 2 Buckets, Thumb	\$110	No	\$180
Company B	Excavator	EXCAVATORS	Excavator - 330C LC w/ 2 Buckets, Thumb, Ripper	\$185	No	\$255
Company B	Other	EXCAVATORS	Twister B6 HD Mudbuster Bucket Attachment	\$65	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator - 330DL w/ 2 Buckets, Thumb	\$185	No	\$255
Company B	Excavator	EXCAVATORS	Excavator - 270D LC w/ 2 Buckets, Thumb, Twister B6 HD Mudbuster Bucket Attachment	\$140	No	\$210
Company B	Other	EXCAVATORS	Twister B6 HD Mudbuster Bucket Attachment	\$65	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator - PC300LC-6 w/ 66" Clean Out Bucket, 36" Dig Bucket	\$175	No	\$245
Company B	Other	EXCAVATORS	Ripper	\$30	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator - PC300LC-6 w/ 63" Clean Out Bucket, 36" Dig Bucket	\$175	No	\$245
Company B	Other	EXCAVATORS	Ripper	\$30	Not Applicable	Not Applicable
Company B	Excavator	EXCAVATORS	Excavator - 345DL w/ 2 Buckets	\$225	No	\$295
Company B	Other	EXCAVATORS	Hammer Attachment	\$50	Not Applicable	Not Applicable
Company B	Loader	LOADERS	Loader - 980H	\$175	No	\$245
Company B	Loader	LOADERS	Loader - 950B	\$85	No	\$155
Company B	Loader	LOADERS	Loader - 950F	\$85	No	\$155
Company B	Loader	LOADERS	Loader - 980C	\$150	No	\$220
Company B	Loader	LOADERS	Loader - 544J	\$90	No	\$160
Company B	Loader	LOADERS	Loader - 544K	\$90	No	\$160
Company B	Loader	LOADERS	Loader - 644K W/ 144" Angle Blade, Extra Long Forks	\$115	No	\$185
Company B	Loader	LOADERS	Loader - WA 250	\$90	No	\$160
Company B	Loader	LOADERS	Loader - WA320-3 w/ Bucket, Forks, Blade 121 Kw, QA Pipe Grappler, 3.5 CY Rock Bucket	\$100	No	\$170
Company B	Loader	LOADERS	Loader - WA320-3 w/ Bucket, Forks, Blade, NET 121 kw, QA Pipe Grappler	\$100	No	\$170
Company B	Loader	LOADERS	Loader - WA320-5 w/ Bucket, Forks, Pipe Grappler, NET 121 Kw	\$98	No	\$168
Company B	Loader	LOADERS	Blade 8 - way	\$100	No	\$170
Company B	Loader	LOADERS	Loader - WA 250PZ-6 w/ Bucket and Forks	\$90	No	\$160
Company B	Loader	LOADERS	Loader - IT28	\$85	No	\$155
Company B	Loader	LOADERS	Skid Steer - 262B	\$45	No	\$115
Company B	Loader	LOADERS	Skid Steer - 262B w/ Flood Pump	\$130	No	\$200
Company B	Loader	LOADERS	Skid Steer - 1845C	\$45	No	\$115
Company B	Loader	LOADERS	Skid Steer - 1845C w/ Flood Pump	\$130	No	\$200
Company B	Loader	LOADERS	Skid Steer - 1845C	\$45	No	\$115
Company B	Loader	LOADERS	Skid Steer - 1845C w/ Flood Pump	\$130	No	\$200
Company B	Loader	LOADERS	Skid Steer - 75 XT w/ Forks and 72" Bucket	\$45	No	\$115
Company B	Loader	LOADERS	Skid Steer - 75 XT w/ Forks and 72" Bucket w/ Flood Pump	\$130	No	\$200
Company B	Loader	LOADERS	Skidsteer - 262B c/w Snow Bucket, Stinger Att	\$45	No	\$115
Company B	Loader	LOADERS	Skidsteer - 262B c/w Snow Bucket, Stinger Att w/ Flood Pump	\$130	No	\$200
Company B	Dozer	DOZERS	Dozer - D155 w/ Ripper 302 Kw	\$190	No	\$260
Company B	Other	DOZERS	Ripper (When Ripping)	\$30	Not Applicable	Not Applicable
Company B	Dozer	DOZERS	Dozer - D8R	\$190	No	\$260
Company B	Dozer	DOZERS	Dozer - D8K	\$170	No	\$240
Company B	Dozer	DOZERS	Dozer - D7H w/ Ripper	\$130	No	\$200
Company B	Other	DOZERS	Ripper (When Ripping)	\$30	Not Applicable	Not Applicable
Company B	Dozer	DOZERS	Dozer - D7G	\$130	No	\$200
Company B	Dozer	DOZERS	Dozer - D7G w/ Winch 149 Kw	\$130	No	\$200
Company B	Dozer	DOZERS	Dozer - D7G w/ Winch 149 Kw	\$130	No	\$200
Company B	Dozer	DOZERS	Dozer - D7G w/ Winch 149 Kw	\$130	No	\$200



CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates

Company	Type	Type	Equipment	Rate	Rate Includes Operator?	Rate (including Operator
Company B	Dozer	DOZERS	Dozer - D7G w/ Winch 149 Kw	\$130	No	\$200
Company B	Dozer	DOZERS	Dozer - D6D	\$125	No	\$195
Company B	Dozer	DOZERS	Dozer - D6R	\$125	No	\$195
Company B	Dozer	DOZERS	Dozer - D6N LGP w/ Tow Winch	\$125	No	\$195
Company B	Dozer	DOZERS	Dozer - D6M	\$125	No	\$195
Company B	Dozer	DOZERS	Dozer - D8N w/ Ripper	\$190	No	\$260
Company B	Other	DOZERS	Ripper ( When Ripping)	\$30	Not Applicable	Not Applicable
Company B	Dozer	DOZERS	Dozer - D8R w/ Ripper	\$190	No	\$260
Company B	Other	DOZERS	Ripper ( When Ripping)	\$30	Not Applicable	Not Applicable
Company B	Dozer	DOZERS	Dozer - 550G	\$75	No	\$145
Company B	Dozer	DOZERS	Dozer - D4H	\$75	No	\$145
Company B	Dozer	DOZERS	Dozer - D5C	\$75	No	\$145
Company B	Dozer	DOZERS	Dozer - D5C w/ Winch 74 Kw	\$75	No	\$145
Company B	Dozer	DOZERS	Dozer - D5K LGP	\$85	No	\$155
Company B	Grader	GRADERS	Grader - 140H	\$125	No	\$195
Company B	Grader	GRADERS	Grader - 160H w/ Ripper and Wing	\$140	No	\$210
Company B	Grader	GRADERS	Grader - 140G w/ Snow Wing 112 kW	\$100	No	\$170
Company B	Grader	GRADERS	Grader - 140G w/ Snow Wing 112 kW	\$100	No	\$170
Company B	Grader	GRADERS	Grader - 740	\$100	No	\$170
Company B	Grader	GRADERS	Grader - 740A	\$100	No	\$170
Company B	Grader	GRADERS	Grader - 140G w/ Snow Wing 112 Kw	\$100	No	\$170
Company B	Grader	GRADERS	Grader - 14M	\$165	No	\$235
Company B	Grader	PACKERS	Packer - CS563C	\$100	No	\$170
Company B	Grader	PACKERS	Packer - CS563C	\$100	No	\$170
Company B	Grader	PACKERS	Packer - Smoot Drum SD122DX TF w/ Cab	\$100	No	\$170
Company B	Picker truck	PICKER TRUCKS	38 Ton Picker	\$200	No	\$270
Company B	Other	PICKER TRUCKS	Pile Driving leads	\$125	Not Applicable	Not Applicable
Company B	Picker truck	PICKER TRUCKS	30 Ton Picker	\$175	No	\$245
Company B	Picker truck	PICKER TRUCKS	50 Ton Picker	\$225	No	\$295
Company B	Service Truck	SERVICE UNITS	Mechanic Truck - F450	\$55	No	\$125
Company B	Service Truck	SERVICE UNITS	Mechanic Truck - F450	\$55	No	\$125
Company B	Service Truck	SERVICE UNITS	Mechanic Truck - F350	\$55	No	\$125
Company B	Service Truck	SERVICE UNITS	Mechanic Truck - F550	\$55	No	\$125
Company B	Support Truck	SUPPORT TRUCKS	9000 Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Tractor	SUPPORT TRUCKS	Winch Tractor	\$95	No	\$165
Company B	Truck	SUPPORT TRUCKS	360 Bed	\$200	No	\$270
Company B	Truck	SUPPORT TRUCKS	360 Bed	\$200	No	\$270
Company B	Truck	SUPPORT TRUCKS	360 Bed	\$200	No	\$270
Company B	Truck	SUPPORT TRUCKS	400 Bed	\$225	No	\$295
Company B	Truck	SUPPORT TRUCKS	400 Bed	\$225	No	\$295
Company B	Truck	SUPPORT TRUCKS	400 Bed	\$225	No	\$295
Company B	Support Truck	SUPPORT TRUCKS	Winch Truck	\$95	No	\$165
Company B	Truck	SUPPORT TRUCKS	Dump Truck - Triaxle	\$115	No	\$185
Company B	Truck	SUPPORT TRUCKS	Dump Truck - Triaxle	\$115	No	\$185
Company B	Truck	SUPPORT TRUCKS	Dump Truck - Triaxle	\$115	No	\$185
Company B	Support Truck	SUPPORT TRUCKS	T800 Fuel Truck	\$116	No	\$186
Company B	Support Truck	SUPPORT TRUCKS	Flat Deck - F550	\$47	No	\$117
Company B	VAC Truck	SUPPORT TRUCKS	Vacuum Truck	\$125	No	\$195
Company B	VAC Truck	SUPPORT TRUCKS	Hydrovac Truck	\$200	No	\$270
Company B	VAC Truck	SUPPORT TRUCKS	Steam Truck 800	\$100	No	\$170
Company B	Water Truck	SUPPORT TRUCKS	Water Truck	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck - 100 Barrel (Bear River)	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck - LT9500 - 100 Barrel (Bear River)	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck - LT9500 - 100 Barrel (Tulita Water)	\$90	No	\$160
Company B	Tractor	SUPPORT TRUCKS	Tractor w/ fifth wheel	\$95	No	\$165





CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates

Company	Type	Type	Equipment	Rate	Rate Includes Operator?	Rate (including Operator
Company B	Water Truck	SUPPORT TRUCKS	Water Truck	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck - 100 Barrel (Bear River)	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck - LT9500 - 100 Barrel (Tulita Water)	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck	\$90	No	\$160
Company B	Water Truck	SUPPORT TRUCKS	Water Truck	\$90	No	\$160
Company B	Support Truck	SUPPORT TRUCKS	Winch Truck - LW924	\$95	No	\$165
Company B	Support Truck	SUPPORT TRUCKS	Winch truck - Tandem	\$95	No	\$165
Company B	Support Truck	SUPPORT TRUCKS	Winch Truck	\$95	No	\$165
Company B	Support Truck	SUPPORT TRUCKS	Winch Truck	\$95	No	\$165
Company B	Trailer	TRAILERS	Trailer - Lowboy 16 Wheel - scissor neck	\$75	No	\$145
Company B	Trailer	TRAILERS	End Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	End Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	End Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	Tri End Dump	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri End Dump	\$55	No	\$125
Company B	Trailer	TRAILERS	Scissor Neck	\$55	No	\$125
Company B	Trailer	TRAILERS	Scissor Neck	\$55	No	\$125
Company B	Trailer	TRAILERS	Scissor Neck	\$55	No	\$125
Company B	Trailer	TRAILERS	Scissor Neck	\$55	No	\$125
Company B	Trailer	TRAILERS	Scissor Neck	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri-High	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri-High	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri-High	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri-Low	\$55	No	\$125
Company B	Trailer	TRAILERS	Tri-Low	\$55	No	\$125
Company B	Trailer	TRAILERS	Tandem-high	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - Tri-axle Cross Clam Belly Trailer	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - Tri-axle Belly Dump Trailer	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - Tri-axle Belly Dump Trailer	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - Tri-axle Belly Dump Trailer	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - Tri-axle Belly Dump Trailer	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - End Dump	\$45	No	\$115
Company B	Trailer	TRAILERS	Trailer - End Dump	\$45	No	\$115
Company B	Trailer	TRAILERS	Trailer - Scissor Tridem	\$55	No	\$125
Company B	Trailer	TRAILERS	Trailer - Center Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - 48' Van	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - 29' T/A End Dump	\$45	No	\$115
Company B	Trailer	TRAILERS	Trailer - Highboy Tandem	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - Lowboy 16 Wheel	\$75	No	\$145
Company B	Trailer	TRAILERS	Trailer - 28' TA End Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - T/A Edn Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - T/A Edn Dump	\$50	No	\$120
Company B	Trailer	TRAILERS	Trailer - Scissor Deck Tridem	\$55	No	\$125
Company B	Support Truck	WINTER ROAD UNITS	Plow Truck - T-800	\$100	No	\$170
Company B	Support Truck	WINTER ROAD UNITS	Plow Truck - T-800 w/ Sander	\$125	No	\$195
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-2000	\$190	No	\$260
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-2000	\$190	No	\$260
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-2000	\$190	No	\$260
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-275	\$180	No	\$250
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-350	\$200	No	\$270
Company B	Snocat	WINTER ROAD UNITS	Snocat - BR-350	\$200	No	\$270
Company B	Water Truck	WINTER ROAD UNITS	Water Truck - Maurader	\$225	No	\$295
Company B	Water Truck	WINTER ROAD UNITS	Water Truck - Maurader	\$225	No	\$295
Company B	Water Truck	WINTER ROAD UNITS	Water Truck - Delta 3	\$225	No	\$295
Company B	Water Truck	WINTER ROAD UNITS	Water Truck - Delta 3	\$225	No	\$295
Company B	Support Truck	WINTER ROAD UNITS	Fuel Truck - Delta 3	\$225	No	\$295
Company B	Support Truck	WINTER ROAD UNITS	Fuel Truck - Delta 3	\$225	No	\$295
Company B	Support Truck	WINTER ROAD UNITS	Personnel Carrier - 110C	\$200	No	\$270
Company B	Snocat	WINTER ROAD UNITS	Snowmaker - Super Yukon	\$500	No	\$570
Company B	Drill	SPECIALIZED UNITS	Drill	\$140	No	\$210
Company B	Drill	SPECIALIZED UNITS	Drill	\$140	No	\$210
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Cone Plant - XC 1400		Not Applicable	Not Applicable

CCRP Cost Estimate Table W-16: 2019 NWT Equipment Rates

Company	Type	Type	Equipment	Rate	Rate Includes Operator?	Rate (including Operator
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Screen Plant		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Conveyor - 80'		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Conveyor - 120' (Fold up)		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Control Room w/ tower one unit		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Bin Wall		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Hopper		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Conveyor/Feeder		Not Applicable	Not Applicable
Company B	Other	PROCESSING PLANT(1): CRUSHER (Fuel Excluded)	Conveyor Attachment		Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Description	Monthly	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Light Towers - 6Kw	\$3,500	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Light Towers - 8Kw	\$4,000	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	400 BBL tank c/w skid, fall arrest, lined and sloped	\$1,000	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Rig Mats (8x40)	\$1,000	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Swamp Mats - Oak (8x14)	\$700	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	30,000 Liter Enviro-tank	\$4,500	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	7,500 Liter Enviro-tank	\$2,800	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Open Top Tanks - 20'	\$700	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Open Top Tanks - 40'	\$1,000	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Shale Bins - 40'	\$1,100	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Enviro-Garbage Bin	\$2,800	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	Industrial Fire Extinguishers	\$1,500	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	1000 BBL Tanks - Water	\$2,500	Not Applicable	Not Applicable
Company B	Other	Misc. Suport Equipment - Rate List (excludes fuel on applicable units)	4,500 Liter Envrio-Tank	\$3,000	Not Applicable	Not Applicable
Company C	Excavator	EXCAVATORS	EX330	\$140	No	\$210
Company C	Excavator	EXCAVATORS	EX670	\$230	No	\$300
Company C	Excavator	EXCAVATORS	EX870	\$290	No	\$360
Company C	Excavator	EXCAVATORS	EX1200	\$475	No	\$545
Company C	Excavator	EXCAVATORS	EX2500	\$800	No	\$870
Company C	Excavator	EXCAVATORS	PC5500	\$1,500	No	\$1,570
Company C	Articulated Truck	Trucks	Articulated 30T	\$165	No	\$235
Company C	Articulated Truck	Trucks	Articulated 35T	\$180	No	\$250
Company C	Articulated Truck	Trucks	Articulated 40T	\$200	No	\$270
Company C	Truck	Truck	CAT 770	\$190	No	\$260
Company C	Truck	Truck	CAT 773	\$230	No	\$300
Company C	Truck	Truck	CAT 777	\$330	No	\$400
Company C	Truck	Truck	CAT 785	\$450	No	\$520
Company C	Truck	Truck	CAT 793	\$650	No	\$720
Company C	Truck	Truck	EH 5000	\$750	No	\$820
Company C	Dozer	Dozers	D5 (Up to Size)	\$140	No	\$210
Company C	Dozer	Dozers	D6	\$175	No	\$245
Company C	Dozer	Dozers	D7	\$200	No	\$270
Company C	Dozer	Dozers	D8	\$250	No	\$320
Company C	Dozer	Dozers	D9	\$280	No	\$350
Company C	Dozer	Dozers	D10	\$400	No	\$470
Company C	Dozer	Dozers	D11	\$550	No	\$620
Company C	Dozer	Dozers	Wheel Dozer	\$270	No	\$340





CCRP Cost Estimate Table W-17: Mobilization and Demobilization of Equipment and Field Personnel

Quantity																
Creek	Option	Number of Excavators	Number of Haul Trucks	Number of Dozers	Number of Compactors	Number of Graders	Number of Water Trucks	Number of Support Trucks	Camp Personnel	Total Equipment Operators	Total Support Personnel	Owners Team	Shifts per Day	Total Crew Count	Project Duration (Years)	Project Duration (Person.Days)
Clinton	CC1	2	7	2	1	2	2	3	Included in the camp estimate	19	10	3	2	61	1.4	31,692
	CC2	2	7	2	1	2	2	3		19	10	3	2	61	2.3	51,434
	CC3	2	7	2	1	2	2	3		19	10	3	2	61	4.5	101,216
Wolverine	WC1	1	1	1	0	1	1	1		6	4	2	2	22	0.5	4,015
	WC2	2	16	3	1	2	3	3		30	10	3	2	83	2.8	85,254
	WC3	2	16	3	1	2	3	3		30	10	3	2	83	2.8	85,254

Equipment Mobilization (km)	
Distance from Whitehorse to Dawson City:	532
Distance from Dawson City to Fortymile R. Bridge:	91
Distance from Fortymile R. Bridge to Site:	9
Total Mob + Demob Distance:	1,246

The George Black Ferry:	This ferry service crosses the Yukon River and provides access to the Top of the World Highway from the North Klondike Highway for motorists passing through Dawson City.
Yukon River Ice Bridge:	Yukon gov't gives up on attempt to build ice bridge in Dawson City. <a href="https://www.cbc.ca/news/canada/north/gov-halts-dawson-city-ice-bridge-1.5001387">https://www.cbc.ca/news/canada/north/gov-halts-dawson-city-ice-bridge-1.5001387</a> . <a href="https://yukon.ca/sites/yukon.ca/files/hpw/final_nrc_report_dawson_ice_bridge_2018_final.pdf">https://yukon.ca/sites/yukon.ca/files/hpw/final_nrc_report_dawson_ice_bridge_2018_final.pdf</a>
Fortymile River Bridge:	Weight restrictions not available. Built in 1966.

Unit Price

Equipment Mob/Demob	S/t.km	
Equipment Mob/Demob km/hr	80	
Equipment Mob/Demob - hours	16	
Equipment Mob + Demob Distance (km)	2492	

Equipment Mobilize and Demobilize Costs

Creek	Option	Excavators Mob/Demob	Haul Trucks Mob/Demob	Dozers Mob/Demob	Compactors Mob/Demob	Graders Mob/Demob	Water Trucks Mob/Demob	Support Trucks Mob/Demob	Factor	Total Mob + Demob
Mob/Demob Rate/hr:		\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 150	\$ 150		
Clinton	CC1	\$ 9,345	\$ 32,708	\$ 9,345	\$ 4,673	\$ 9,345	\$ 4,673	\$ 7,009	1	\$ 77,097
	CC2	\$ 9,345	\$ 32,708	\$ 9,345	\$ 4,673	\$ 9,345	\$ 4,673	\$ 7,009	1	\$ 77,097
	CC3	\$ 9,345	\$ 32,708	\$ 9,345	\$ 4,673	\$ 9,345	\$ 4,673	\$ 7,009	1	\$ 77,097
Wolverine	WC1	\$ 4,673	\$ 4,673	\$ 4,673	\$ -	\$ 4,673	\$ 2,336	\$ 2,336	1	\$ 23,364
	WC2	\$ 9,345	\$ 74,760	\$ 14,018	\$ 4,673	\$ 9,345	\$ 7,009	\$ 7,009	1	\$ 126,159
	WC3	\$ 9,345	\$ 74,760	\$ 14,018	\$ 4,673	\$ 9,345	\$ 7,009	\$ 7,009	1	\$ 126,159

Mobilize and Demobilize Workers by Air to Dawson City and by Bus to Site

Airfare Whitehorse to Dawson City	Each Return	Air North	\$ 400
-----------------------------------	-------------	-----------	--------

Creek	Option	Project Duration (Years)	Bus Operating Cost/Year	Worker Airfare	Total
Clinton	CC1	1.4	\$ 250,000	\$ 905,498	\$ 1,261,353
	CC2	2.3	\$ 250,000	\$ 1,469,545	\$ 2,047,067
	CC3	4.5	\$ 250,000	\$ 2,891,879	\$ 4,028,369
Wolverine	WC1	0.5	\$ 250,000	\$ 114,714	\$ 239,714
	WC2	2.8	\$ 250,000	\$ 2,435,817	\$ 3,139,345
	WC3	2.8	\$ 250,000	\$ 2,435,817	\$ 3,139,345

Note: Bus operating cost includes driver and assumes 60 km/day on average with purchase of V6 diesel 30 passenger. Based on bus cost model prepared by the U.S. Department of Transportation. Assumes that ice bridge over the Yukon River is available.



CCRP Cost Estimate Table W-18: Worker Camp Cost Estimate

Fixed Duration Estimate

Description	Camp Duration (Years)	Number of People	Quantity	Unit	Unit Price	Unit Price Geographic Correction Factor	Total Base Cost	Reference
Camp Site Preparation - Clearing			2	Ha	\$ 8,863	1.2	\$ 21,270	Alberta Transportati on 2019 Unit Price
Camp Site Preparation - Surface Preparation			20000	m2	\$ 27	1.2	\$ 653,280	Alberta Transportati on 2019 Unit Price

Item	Camp Size	Quality	Unit	Half Full	Full
Mob Costs	60 Person	Better	LS	\$ 713,628	\$ 713,628
Demob Costs	60 Person	Better	LS	\$ 363,191	\$ 363,191
Camp Rental Costs	60 Person	Better	\$/Month	\$ 52,555	\$ 52,555
Camp Occupancy Costs	60 Person	Better	\$/Day	\$ 5,020	\$ 7,350
Utilities - Diesel	60 Person	Better	\$/Day	\$ 888.95	\$ 1,777.89
Utilities - Propane	60 Person	Better	\$/Day	\$ 199.80	\$ 399.60
Utilities - Water	60 Person	Better	\$/Day	\$ 378.00	\$ 756.00
Utilities - Sewer	60 Person	Better	\$/Day	\$ 354.09	\$ 708.17
Utilities - Garbage	60 Person	Better	\$/Day	\$ 111.00	\$ 222.00
Utilities - Telecom	60 Person	Better	\$/Day	\$ 696.00	\$ 696.00
Utilities - Total Costs	60 Person	Better	\$/Day	\$ 2,628	\$ 4,560

60 Person Better Camp Costs Applied to the estimate.

Variable duration estimate based on budgetary pricing tables and project durations.

Option	Workers	Project Duration (years)	Occupancy Range (No. of Guests)	Site Prep	Mob	Demob	Camp Rental	Camp Occupancy	Utilities	Total
CC1	61	1.4	Full 60	\$ 674,550	\$ 713,628	\$ 363,191	\$ 897,688	\$ 3,882,371	\$ 2,368,963	\$ 8,900,390
CC2	61	2.3	Full 60	\$ 674,550	\$ 713,628	\$ 363,191	\$ 1,456,869	\$ 6,300,751	\$ 3,844,621	\$13,353,611
CC3	61	4.5	Full 60	\$ 674,550	\$ 713,628	\$ 363,191	\$ 2,866,935	\$ 12,399,083	\$ 7,565,729	\$24,583,116
WC1	22	0.5						\$ 1,204,500		\$ 1,204,500
WC2	83	2.8	Full 60	\$ 674,550	\$ 713,628	\$ 363,191	\$ 1,774,737	\$ 10,443,692	\$ 4,683,462	\$18,653,260
WC3	83	2.8	Full 60	\$ 674,550	\$ 713,628	\$ 363,191	\$ 1,774,737	\$ 10,443,692	\$ 4,683,462	\$18,653,260

Based on ATCO Frontec, 20 September, 2019

Budgetary prices above are based on the following proposed services:

SCOPE	SERVICE
CAMP EQUIPMENT	<div><input type="checkbox"/> Transport &amp; Installation</div> <div><input type="checkbox"/> Camp equipment rentals</div> <div><input type="checkbox"/> Site Service rentals</div> <div><input type="checkbox"/> Dismantle and demobilization</div>
GENERAL OVERVIEW	<div><input type="checkbox"/> Catering</div> <div><input type="checkbox"/> Housekeeping service</div> <div><input type="checkbox"/> Janitorial service</div> <div><input type="checkbox"/> Camp maintenance – Call Out Basis Only</div> <div><input type="checkbox"/> Laundry of linens/bedding/towels</div> <div><input type="checkbox"/> Drug and alcohol-free camp. Non-smoking rooms.</div>
SPECIFIC - LODGE MANAGEMENT	<div><input type="checkbox"/> Combined Chef-Manager to run the camp</div>
SPECIFIC - PERSONNEL AND TRAINING	<div><input type="checkbox"/> Lodge management personnel (non-union)</div> <div><input type="checkbox"/> Front desk personnel (non-union)</div> <div><input type="checkbox"/> Food service personnel (non-union)</div> <div><input type="checkbox"/> Housekeeping &amp; janitorial personnel (non-union)</div> <div><input type="checkbox"/> Maintenance &amp; grounds keeping personnel (non-union)</div> <div><input type="checkbox"/> All required training for personnel</div> <div><input type="checkbox"/> Catering &amp; housekeeping services for ATCO staff</div> <div><input type="checkbox"/> Personnel transportation to/from site</div>
SPECIFIC - SUPPLY & REPLACEMENT	<div><input type="checkbox"/> Housekeeping &amp; janitorial equipment, tools, and consumables</div> <div><input type="checkbox"/> Small kitchen equipment &amp; tools</div> <div><input type="checkbox"/> Food, paper &amp; consumables for catering services</div> <div><input type="checkbox"/> All office furniture for Lodge Management</div>
SPECIFIC - FOOD SERVICES	<div><input type="checkbox"/> Two hot meals per day as follows: 1 hour for breakfast and bagged lunch 1.5 hours for supper</div> <div><input type="checkbox"/> Hours can be set by client</div> <div><input type="checkbox"/> Catering Permit</div>
SPECIFIC - HOUSEKEEPING & JANITORIAL	<div><input type="checkbox"/> Cleaning of call camp rooms &amp; washrooms</div> <div><input type="checkbox"/> Weekly linen change</div> <div><input type="checkbox"/> Daily cleaning of all camp common facilities</div> <div><input type="checkbox"/> Residents not allowed to wear boots in the lodge</div>
SPECIFIC - LAUNDRY	<div><input type="checkbox"/> Weekly Laundry of linens/bedding/towels</div> <div><input type="checkbox"/> Laundry of personnel clothing</div> <div><input type="checkbox"/> Towel change service every second day</div>
SPECIFIC – UTILITIES	<div><input type="checkbox"/> Natural gas</div> <div><input type="checkbox"/> Propane</div> <div><input type="checkbox"/> Water supply</div> <div><input type="checkbox"/> Waste water &amp; sewage hauling</div>
SPECIFIC - MAINTENANCE	<div><input type="checkbox"/> Snow clearing from stairs and walkways</div> <div><input type="checkbox"/> Monthly call-outs for preventative &amp; corrective maintenance</div> <div><input type="checkbox"/> Replacement of spare parts</div>
SPECIFIC - ROOM MANAGEMENT	<div><input type="checkbox"/> Bedroom allocation and occupancy reporting</div> <div><input type="checkbox"/> Check ins, check outs, and key management</div> <div><input type="checkbox"/> Board count reports</div> <div><input type="checkbox"/> Occupancy reports for emergency evacuation purposes</div> <div><input type="checkbox"/> Room management software</div>
SPECIFIC – HSE & QA/QC	<div><input type="checkbox"/> Project specific HSE plan</div> <div><input type="checkbox"/> Project specific ERP plan</div> <div><input type="checkbox"/> Project specific Crisis Management plan</div> <div><input type="checkbox"/> Food safety management &amp; QA/QC Program per Food Services Management Guide</div> <div><input type="checkbox"/> On-site HSE coverage provided by lodge management</div>



CCRP Cost Estimate Table W-19: Access Road Improvement and Maintenance Estimate

**Road Improvement and Maintenance Cost Allocations**

Road Segment	Length (km)	Total Annual Cost	Comment
Clinton Creek Camp to Mine Site	9	\$ 107,432	Graders
Site 11 Pit to Clinton Creek Road	0	\$ -	
Mike 63 Quarry to Clinton Creek Road	4	\$ 47,747	Graders
On-Site	10	\$ 810,568.42	Graders + Dozer
Dawson City to Fortymile Bridge	91	\$ 1,086,253	The road is closed from mid-September until mid-May. Yukon Government. 2018. Top of the World Highway Draft Interpretive Plan. Snow clearing is required during these months for crew mobilization and demobilization.
		<b>\$ 2,052,000</b>	

Road Segment	Task	Road Area (m2)	Gravel Volume	Gravel Cost	Annual Total
Clinton Creek Camp to Mine Site - (3 inches of annual gravel placement)	Gravel	27000	2025	\$ 51.34	\$ 103,971

**Total Annual Cost \$ 2,155,971**

**Road Improvement and Maintenance Total Cost**

Option	Project Duration (Years)	Total
CC1	1.4	<b>\$ 3,068,851</b>
CC2	2.3	<b>\$ 4,980,480</b>
CC3	4.5	<b>\$ 9,800,955</b>
WC1	0.5	<b>\$ 1,077,986</b>
WC2	2.8	<b>\$ 6,067,149</b>
WC3	2.8	<b>\$ 6,067,149</b>

**Road Improvement and Maintenance Annual Cost**

Grader Allocation	Task	Unit Price/hr	Annual Months	Annual Hours	Annual Total
Cat 12H	Maintenance	\$ 210	12	4320	\$ 907,200
Cat 12H	Maintenance	\$ 210	6	2160	\$ 453,600

**\$ 1,360,800**

Dozer Allocation	Task	Unit Price/hr	Annual Months	Annual Hours	Annual Total
Caterpillar - D8K Angle Blade, Tilt Blade, Ripper	Maintenance	\$ 320	6	2160	\$ 691,200



CCRP Cost Estimate Table W-20: Water Crossing Cost Estimate

Crossing	Location	Purpose	Existing Bridge?	Crossing Length (m)	Crossing Width (m)	Crossing Area (m2)	Proposed Use	Unit Price	Unit	Task	Unit Price Geographic Correction Factor	Reference	Total Cost	Is haul road bridge required?						Is site access bridge required?					
														CC1	CC2	CC3	WC1	WC2	WC3	CC1	CC2	CC3	WC1	WC2	WC3
Clinton Creek	Former Clinton Creek Townsite	Site Access	No	15	5	75	Worker camp access/egress.	\$ 3,963	m2	Construct	1.2	Alberta Transportation Bridge Cost Data - Site 78210.	\$ 356,670							Yes	Yes	Yes	No	Yes	Yes
Clinton Creek	Wolverine Haul Road	On-Site	No	15	12.5	187.5	Haul road from Wolverine to Porcupine.	\$ 3,963	m2	Construct	1.2	Alberta Transportation Bridge Cost Data - Site 78210.	\$ 891,675	No	No	No	No	Yes	Yes						
Clinton Creek	West End of Site	On-Site	No	15	12.5	187.5	Crossing for Clinton Creek Options	\$ 3,963	m2	Construct	1.2	Alberta Transportation Bridge Cost Data - Site 78210.	\$ 891,675	Yes	Yes	Yes	No	No	No						
Fortymile River	Fortymile River	Site Access	Yes	150	5	750	Equipment Mobilization and demobilization.	\$ 719	m2	Repair	1.2	Alberta Transportation Bridge Cost Data - rehab data - Bridge 74222.	\$ 647,100							Yes	Yes	Yes	No	Yes	Yes
Yukon River	Dawson City	Site Access	Yes	400			Equipment mobilization. Seasonal ferry or winter road (when feasible).	\$ 200,000	Each	Construct	1	Yukon Government communications , Highways and Public Works. 10/12/2018	\$ 200,000							See "Years of Participation in Ice Bridge Cost" below.					

Assumes project pays entire cost of ice bridge.

Years of Participation in Ice Bridge Cost

Option	Years
CC1	1.00
CC2	2.00
CC3	4.00
WC1	0.00
WC2	2.00
WC3	2.00

Cost Estimate for Haul Road Bridges

Option	Haul Road Bridges	Access Road Bridges	Ice Bridge Construction Participation	Total
CC1	\$ 891,675	\$ 1,003,770	\$ 200,000	\$ 2,095,445
CC2	\$ 891,675	\$ 1,003,770	\$ 400,000	\$ 2,295,445
CC3	\$ 891,675	\$ 1,003,770	\$ 800,000	\$ 2,695,445
WC1	\$ -	\$ -	\$ -	\$ -
WC2	\$ 891,675	\$ 1,003,770	\$ 400,000	\$ 2,295,445
WC3	\$ 891,675	\$ 1,003,770	\$ 400,000	\$ 2,295,445



# CCRP Cost Estimate Table W-21: Fuel Storage Cost Estimate

## Quantity

Creek	Option	Number of Excavators	Number of Haul Trucks	Number of Dozers	Number of Graders	Number of Water Trucks	Number of Support Trucks	Shifts per Day	Project Duration (Years)
Clinton	CC1	2	7	2	2	2	3	2	1.4
	CC2	2	7	2	2	2	3	2	2.3
	CC3	2	7	2	2	2	3	2	4.5
Wolverine	WC1	1	1	1	1	1	1	2	0.5
	WC2	2	16	3	2	3	3	2	2.8
	WC3	2	16	3	2	3	3	2	2.8

## Fuel Consumption (L/hr)

	Litres/Hour	Hours/Day	Litres/Day
Excavator	67	20	1340
Truck	27	20	540
Dozer	39	20	780
Grader	16	20	320
Water Truck (12,500 L)	13	20	260
Support Truck	5	20	100
Generators	20	20	400

07 - CAT Handbook edition 48.pdf

07 - CAT Handbook edition 48.pdf

07 - CAT Handbook edition 48.pdf

07 - CAT Handbook edition 48.pdf

<http://www.ezyquip.com.au/DownloadAttachment.ashx?AttachmentId=181385>

assumed

Emergency Stock (days)	180	George Black Ferry at Dawson City is open mid-May to mid-October, when it shuts down for the season. Ice bridge across the Yukon River has failed over the past few years. Assumed fuel storage required when the ferry is not operating.
Lead-Time for Supply (days)	6	
Total Storage Capacity (days)	<b>186</b>	

## Fuel Consumption (L/Day)

Option	Excavators	Trucks	Dozers	Graders	Water Trucks	Support Trucks	Generators	Pumps
CC1	2680	3780	1560	640	520	300	1808	2353
CC2	2680	3780	1560	640	520	300	1808	2353
CC3	2680	3780	1560	640	520	300	1808	2353
WC1	1340	540	780	320	260	100	1108	
WC2	2680	8640	2340	640	780	300	1808	
WC3	2680	8640	2340	640	780	300	1808	

## Fuel Storage Estimate

<http://totaloilfield.ca/wp-content/uploads/2016/06/400BBL-Tanks-Storage-TOR-Water-Management.pdf>

Total Oilfield services tank quote Aug 2, 2019.pdf

Costs for fuel storage capacity of 1660 bbl (254,380 L) and 4000 bbl (635,950 L) provided by Total Oilfield Rentals

## 254,380 L Tank Farm Estimate

Rental Item	Qty	Rate/Day	Total/Day
400 bbl Sloped Bottom, Lined and Sour Service Tank	4	\$ 20	\$ 80
8' x 40' Rig Mat	3	\$ 10	\$ 30
Berm Block	28	\$ 1	\$ 28
Berm Crossing Stair	1	Included	Included
Tank Grounding Package	4	Included	Included

# CCRP Cost Estimate Table W-21: Fuel Storage Cost Estimate

**Total** **\$ 138**

## **Mob/Demob and Set-up**

Mobilization and set-up	\$ 93,425
Demobilization	\$ 93,425
Permit	Cost + 10%
Yukon Power Lift (if required)	Cost + 10%
Cleaning, servicing, repairs & fluid/solid disposal charges are extra	Extra
<b>Total</b>	<b>\$ 186,850</b>

## **Purchase Items**

Secondary Containment Liner	<b>\$ 2,000</b>
-----------------------------	-----------------

## **50,000 L Enviro Tank**

50,000 L Enviro Tank Rental (Provided by Dall Contracting Ltd.)	<b>\$ -</b>
50,000 L Enviro Tank Mobilization - Estimated by Wood	<b>\$ 23,356</b>
50,000 L Enviro Tank Demobilization - Estimated by Wood	<b>\$ 23,356</b>

No Charge (Dall Contracting Quote)

Assumed same as Total

Assumed same as Total

## **635,950 L Tank Farm Estimate**

Rental Item	Qty	Rate/Day	Total/Day
400 bbl Sloped Bottom, Lined and Sour Service Tank	10	\$ 20	\$ 200
8' x 40' Rig Mat	8	\$ 10	\$ 80
Berm Block	36	\$ 1	\$ 36
Berm Crossing Stair	2	Included	Included
Tank Grounding Package	4	Included	Included
<b>Total</b>			<b>\$ 316</b>

## **Mob/Demob and Set-up**

Mobilization and set-up	\$ 183,345
Demobilization	\$ 183,345
Permit	Cost + 10%
Yukon Power Lift (if required)	Cost + 10%
Cleaning, servicing, repairs & fluid/solid disposal charges are extra	Extra
<b>Total</b>	<b>\$ 366,690</b>

## **Purchase Items**

Secondary Containment Liner	<b>\$ 4,500</b>
-----------------------------	-----------------

## **Fuel Storage Capacity Estimate**

Option	Fuel (L) Storage Estimated Requirement	Storage Cost (Setup)	Storage Cost Daily Rental	Storage Cost Total Rental over Project Duration	Storage Cost Total
CC1	<b>2,537,211</b>	<b>\$ 1,862,207</b>	<b>\$ 1,294</b>	<b>\$ 672,182</b>	<b>\$ 2,534,389</b>
CC2	<b>2,537,211</b>	<b>\$ 1,862,207</b>	<b>\$ 1,294</b>	<b>\$ 1,090,894</b>	<b>\$ 2,953,100</b>
CC3	<b>2,537,211</b>	<b>\$ 1,862,207</b>	<b>\$ 1,294</b>	<b>\$ 2,146,741</b>	<b>\$ 4,008,948</b>
WC1	<b>827,396</b>	<b>\$ 87,370</b>	<b>\$ 138</b>		<b>\$ 87,370</b>
WC2	<b>3,196,951</b>	<b>\$ 2,346,428</b>	<b>\$ 1,630</b>	<b>\$ 1,674,462</b>	<b>\$ 4,020,890</b>
WC3	<b>3,196,951</b>	<b>\$ 2,346,428</b>	<b>\$ 1,630</b>	<b>\$ 1,674,462</b>	<b>\$ 4,020,890</b>

## **63,595 L Tank Farm Estimate - Wood Extrapolation of Total and Dal Estimates**

Rental Item	Qty	Rate/Day	Total/Day
400 bbl Sloped Bottom, Lined and Sour	1	\$ 20	\$ 20
8' x 40' Rig Mat	1	\$ 10	\$ 10
Berm Block	7	\$ 1	\$ 7
Berm Crossing Stair	1	Included	Included
Tank Grounding Package	1	Included	Included
<b>Total</b>			<b>\$ 37</b>

## **Mob/Demob and Set-up**

Mobilization and set-up	\$ 23,356
-------------------------	-----------



CCRP Cost Estimate Table W-21: Fuel Storage Cost Estimate

Demobilization	\$ 23,356
Permit	Cost + 10%
Yukon Power Lift (if required)	Cost + 10%
Cleaning, servicing, repairs & fluid/solid disposal charges are extra	Extra
<b>Total</b>	<b>\$ 46,713</b>

**Purchase Items**

Secondary Containment Liner	<b>\$ 2,000</b>
-----------------------------	-----------------

**50,000 L Enviro Tank**

50,000 L Enviro Tank Rental (Provided by Dall Contracting Ltd.)	<b>\$ -</b>
50,000 L Enviro Tank Mobilization - Estimated by Wood	<b>\$ 23,356</b>
50,000 L Enviro Tank Demobilization - Estimated by Wood	<b>\$ 23,356</b>

No Charge (Dall Contracting Quote)  
Assumed same as Total  
Assumed same as Total



CCRP Cost Estimate Table W-22: Site Electrical Power Estimate

Creek	Option	Asset	Asset Type	Model / Description	Project Duration (months)	Operating Units	Standby Units	Purchase Price	Purchase Cost (Includes 1 Additional Primary)	Monthly Maintenance Cost	Maintenance Cost over Project Duration	Fuel Consumption (At Half Load & 18 hours daily)						Mob / Demob			Total Cost
												gal / hr	L / hr	hours	Litres	\$ / L	Cost	Unit	Price	Cost	
Clinton	CC1	Aggreko - 200KW	Diesel Generator	200	17.1	1	-	\$ 50,000.00	\$ 50,000.00	\$ 1,000	\$ 17,081	7.70	29.15	9,352	272,584	\$ 1.39	\$ 378,892	1	\$ 4,673	\$ 4,673	\$ 450,646
Clinton	CC1	Aggreko - 300KW	Diesel Generator	300	17.1	2	1	\$100,000.00	\$ 300,000.00	\$ 1,000	\$ 34,162	11.30	42.78	18,704	800,053	\$ 1.39	\$ 1,112,073	3	\$ 4,673	\$ 14,018	\$ 1,460,253
Clinton	CC1	Portable Light Tower	Towable Light Tower	N/A	17.1	6	-	\$ 10,000.00	\$ 60,000.00	\$ 500	\$ 51,243	0.90	3.41	35,870	122,205	\$ 1.39	\$ 169,864	6	\$ 1,324	\$ 7,943	\$ 289,051
Clinton	CC2	Aggreko - 200KW	Diesel Generator	200	27.7	1	-	\$ 50,000.00	\$ 50,000.00	\$ 1,000	\$ 27,721	7.70	29.15	15,177	442,381	\$ 1.39	\$ 614,909	1	\$ 4,673	\$ 4,673	\$ 697,303
Clinton	CC2	Aggreko - 300KW	Diesel Generator	300	27.7	2	1	\$100,000.00	\$ 300,000.00	\$ 1,000	\$ 55,442	11.30	42.78	30,355	1,298,416	\$ 1.39	\$ 1,804,798	3	\$ 4,673	\$ 14,018	\$ 2,174,258
Clinton	CC2	Portable Light Tower	Towable Light Tower	N/A	27.7	6	-	\$ 10,000.00	\$ 60,000.00	\$ 500	\$ 83,163	0.90	3.41	58,214	198,328	\$ 1.39	\$ 275,675	6	\$ 1,324	\$ 7,943	\$ 426,782
Clinton	CC3	Aggreko - 200KW	Diesel Generator	200	54.6	1	-	\$ 50,000.00	\$ 50,000.00	\$ 1,000	\$ 54,552	7.70	29.15	29,867	870,549	\$ 1.39	\$ 1,210,063	1	\$ 4,673	\$ 4,673	\$ 1,319,287
Clinton	CC3	Aggreko - 300KW	Diesel Generator	300	54.6	2	1	\$100,000.00	\$ 300,000.00	\$ 1,000	\$ 109,103	11.30	42.78	59,734	2,555,119	\$ 1.39	\$ 3,551,615	3	\$ 4,673	\$ 14,018	\$ 3,974,735
Clinton	CC3	Portable Light Tower	Towable Light Tower	N/A	54.6	6	-	\$ 10,000.00	\$ 60,000.00	\$ 500	\$ 163,655	0.90	3.41	114,558	390,284	\$ 1.39	\$ 542,494	6	\$ 1,324	\$ 7,943	\$ 774,092
Wolverine	WC1	Aggreko - 300KW	Diesel Generator	300	6.0	1	1	\$100,000.00	\$ 200,000.00	\$ 1,000	\$ 6,000	11.30	42.78	3,285	140,516	\$ 1.39	\$ 195,317	2	\$ 4,673	\$ 9,345	\$ 410,662
Wolverine	WC1	Portable Light Tower	Towable Light Tower	N/A	6.0	2	-	\$ 10,000.00	\$ 20,000.00	\$ 500	\$ 6,000	0.90	3.41	4,200	14,309	\$ 1.39	\$ 19,889	2	\$ 1,324	\$ 2,648	\$ 48,537
Wolverine	WC2	Aggreko - 200KW	Diesel Generator	200	33.8	1	-	\$ 50,000.00	\$ 50,000.00	\$ 1,000	\$ 33,769	7.70	29.15	18,489	538,902	\$ 1.39	\$ 749,073	1	\$ 4,673	\$ 4,673	\$ 837,515
Wolverine	WC2	Aggreko - 300KW	Diesel Generator	300	33.8	2	1	\$100,000.00	\$ 300,000.00	\$ 1,000	\$ 67,539	11.30	42.78	36,977	1,581,711	\$ 1.39	\$ 2,198,579	3	\$ 4,673	\$ 14,018	\$ 2,580,135
Wolverine	WC2	Portable Light Tower	Towable Light Tower	N/A	33.8	6	-	\$ 10,000.00	\$ 60,000.00	\$ 500	\$ 101,308	0.90	3.41	70,916	241,600	\$ 1.39	\$ 335,824	6	\$ 1,324	\$ 7,943	\$ 505,075
Wolverine	WC3	Aggreko - 200KW	Diesel Generator	200	33.8	1	-	\$ 50,000.00	\$ 50,000.00	\$ 1,000	\$ 33,769	7.70	29.15	18,489	538,902	\$ 1.39	\$ 749,073	1	\$ 4,673	\$ 4,673	\$ 837,515
Wolverine	WC3	Aggreko - 300KW	Diesel Generator	300	33.8	2	1	\$100,000.00	\$ 300,000.00	\$ 1,000	\$ 67,539	11.30	42.78	36,977	1,581,711	\$ 1.39	\$ 2,198,579	3	\$ 4,673	\$ 14,018	\$ 2,580,135
Wolverine	WC3	Portable Light Tower	Towable Light Tower	N/A	33.8	6	-	\$ 10,000.00	\$ 60,000.00	\$ 500	\$ 101,308	0.90	3.41	70,916	241,600	\$ 1.39	\$ 335,824	6	\$ 1,324	\$ 7,943	\$ 505,075



CCRP Cost Estimate Table W-23: Conventional Health & Safety Estimate

Creek	Option	Monthly Safety Reporting			On-Site Medic			Field Supplies			Monthly Safety Meetings			Total Cost	Reference / Assumptions
		Qty (months)	Unit Price	Cost	Qty (months)	Unit Price	Cost	Qty (months)	Unit Price	Cost	Qty (months)	Unit Price	Cost		
Clinton	CC1	17.1	\$ 1,200	\$ 20,497	17.1	\$ 12,500	\$ 213,513	17.1	\$ 100	\$ 1,708	17.1	\$ 4,270	\$ 72,936	<b>\$ 308,654</b>	<p>Assumes project duration based on haul years (from CC1) plus 2 months on either end of hauling.</p> <p>On-Site medic costs assumed at \$150k per year with 20% additional fees from the service provider.  <a href="http://neuvoo.ca/salary/?job=Field%20Medic">http://neuvoo.ca/salary/?job=Field%20Medic</a></p> <p><a href="https://simplerlife.com/collections/medical-kits-supplies-and-equipment/products/25-patient-deluxe-medical-kit-797-pieces">https://simplerlife.com/collections/medical-kits-supplies-and-equipment/products/25-patient-deluxe-medical-kit-797-pieces</a></p> <p>Assumes on-site staff will attend monthly safety meetings to review plans, procedures, safe work practices, incidents etc.</p>
	CC2	27.7	\$ 1,200	\$ 33,265	27.7	\$ 12,500	\$ 346,513	27.7	\$ 100	\$ 2,772	27.7	\$ 4,270	\$ 118,369	<b>\$ 500,919</b>	
	CC3	54.6	\$ 1,200	\$ 65,462	54.6	\$ 12,500	\$ 681,894	54.6	\$ 100	\$ 5,455	54.6	\$ 4,270	\$ 232,935	<b>\$ 985,746</b>	
Wolverine	WC1	6.0	\$ 1,200	\$ 7,200	6.0	\$ 12,500	\$ 75,000	6.0	\$ 100	\$ 600	6.0	\$ 1,540	\$ 9,240	<b>\$ 92,040</b>	<p>Assumes on-site staff will attend monthly safety meetings to review plans, procedures, safe work practices, incidents etc.</p>
	WC2	33.8	\$ 1,200	\$ 40,523	33.8	\$ 12,500	\$ 422,117	33.8	\$ 100	\$ 3,377	33.8	\$ 5,810	\$ 196,200	<b>\$ 662,217</b>	
	WC3	33.8	\$ 1,200	\$ 40,523	33.8	\$ 12,500	\$ 422,117	33.8	\$ 100	\$ 3,377	33.8	\$ 5,810	\$ 196,200	<b>\$ 662,217</b>	



CCRP Cost Estimate Table W-24: Asbestos Abatement Estimate

				CC1	CC2	CC3	WC1	WC2	WC3
Tyvek Overalls, Respirators and Standard PPE	Project Duration	Months		17.1	27.7	54.6	6.0	33.8	33.8
	Quantity	Workers		61	61	61	22	83	83
	Unit Price	\$/worker/month		\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
<b>SubTotal</b>				<b>\$ 2,083,886</b>	<b>\$ 3,381,967</b>	<b>\$ 6,655,283</b>	<b>\$ 264,000</b>	<b>\$ 5,605,715</b>	<b>\$ 5,605,715</b>
Air Quality Monitoring	Project Duration	Months		17.1	27.7	54.6	6.0	33.8	33.8
	Quantity	Workers		61	61	61	22	83	83
	Unit Price	\$/worker/month		\$ 600	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600
<b>SubTotal</b>				<b>\$ 625,166</b>	<b>\$ 1,014,590</b>	<b>\$ 1,996,585</b>	<b>\$ 79,200</b>	<b>\$ 1,681,714</b>	<b>\$ 1,681,714</b>
Equipment Filter	Project Duration	Vehicle.months		171	277	546	24	338	338
	Unit Price		No significant cost impact beyond regular H&S	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>SubTotal</b>			<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Change and Wash Facility Supply and Maintenance	Project Duration	Months		17.1	27.7	54.6	6.0	33.8	33.8
	Cost	Camp cost	Camp cost	\$ 8,900,390	\$ 13,353,611	\$ 24,583,116	\$ 1,204,500	\$ 18,653,260	\$ 18,653,260
	Unit Price	Percent of camp cost	20%	\$ 1,780,078	\$ 2,670,722	\$ 4,916,623	\$ 240,900	\$ 3,730,652	\$ 3,730,652
<b>SubTotal</b>				<b>\$ 1,780,078</b>	<b>\$ 2,670,722</b>	<b>\$ 4,916,623</b>	<b>\$ 240,900</b>	<b>\$ 3,730,652</b>	<b>\$ 3,730,652</b>
Controlled Work Perimeter	Project Duration	Months		17.1	27.7	54.6	6.0	33.8	33.8
	Unit Price		No significant cost impact beyond regular H&S	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>SubTotal</b>			<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Vehicle Washdown Building and Pressure Washers	Quantity	Months		17.1	27.7	54.6	6.0	33.8	33.8
	Cost	Washdown Building	Escalated from WorleyParsons 2014: 1ea - 80'x120' temporary building , 300mm SOG, 4ea - 4.5 GPM pressure washers w/ 600Gal tanks..	\$ 464,771	\$ 464,771	\$ 464,771	Not Applicable	\$ 464,771	\$ 464,771
	Cost	Pressure Washers	Escalated from WorleyParsons 2014	\$ 23,796	\$ 23,796	\$ 23,796	Not Applicable	\$ 23,796	\$ 23,796
	Cost	Maintenance	4man hours / day	\$ 49,439	\$ 80,236	\$ 157,894		\$ 97,742	\$ 97,742
<b>SubTotal</b>				<b>\$ 538,006</b>	<b>\$ 568,803</b>	<b>\$ 646,461</b>	<b>Not Applicable</b>	<b>\$ 586,309</b>	<b>\$ 586,309</b>
<b>Total</b>				<b>\$ 5,027,136</b>	<b>\$ 7,636,081</b>	<b>\$ 14,214,952</b>	<b>\$ 584,100</b>	<b>\$ 11,604,390</b>	<b>\$ 11,604,390</b>



## CCRP Cost Estimate Table W-25: Earth Moving Estimate - Option CC1

Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 10% to calculate net operating hours).

CRP Cost Estimate Table W-25: Earth Moving Estimate - Option CC1				Load and Haul		Load	Haul
		Load and Haul Cost	\$	19,923,602	\$	4,804,961	\$ 15,118,642
Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 10% to calculate net operating hours).		Rate/tonne	\$	2.28	\$	0.55	\$ 1.73
		Rate/m <sup>3</sup>	\$	4.56	\$	1.10	\$ 3.46
Production Target	Tonnes/year =	6,144,359					
Caterpillar 385C	Loaders Required =	2.00		2.00			
Caterpillar 745C	Trucks Required =	6.80		7.00			
	Duration of Remediation =	1.42 years					
					</		

## LOADER HOURS

Calendar Time				Loading Productivities and Truck Match				Metric
	Days	365		Loader			Caterpillar 385C	
	Shifts per day	2		Truck			Caterpillar 745C	
	Shift Length	12		Bucket Capacity	m <sup>3</sup>	4.6		
Calendar Time (h/year)		8,760		Bucket Capacity	tonne	8.3		
				Truck Capacity	m <sup>3</sup>	73.8		
Available Time	= Calendar Time - Down Time			Truck Capacity	tonne	41.0		
	Availability	85.0%		Insitu Bulk Density	t/m <sup>3</sup>	2.00		
	Down Time (h/year)	1,314		Bulk Factor		1.30		
Available Time (h/year)		7,446	0.85	Loose Density	t/m <sup>3</sup>	1.54		
				Moisture	%	5.0%		
Gross Operating Time	= Available Time - Operating Standby			Fill Factor		0.84		
	Operating Standby			Effective Bucket Capacity	m <sup>3</sup>	3.85		
	Internal (h/shift)		min/day	Wet/Loose Density	t/m <sup>3</sup>	1.62		
	Lunch & Breaks	1.00	120	Tonnes/Pass	tonne	6.2		
	Meeting	0.04	5	Theoretical Passes (Volume)		19.14		
	Shift Change	0.17	20	Theoretical Passes (Weight)		6.57		
No Blast =>	Blast Delay	-	-	Actual Passes		5		
	Fueling	0.25	30	Truck Load	m <sup>3</sup>	19.3		
	Operator Inspection	-	-	Truck Load	tonne	31.2		
	External (h/year)			Truck Fill % (Volume)		26%		
	Industrial	-	-	Truck Fill % (Weight)		76%		
	Weather	120	20	Loader Cycle Time	seconds	22		
	No Power	-	-	Loader Spot Time	seconds	35		
	Operating Standby (h/year)	1,007	195	Load Time per Truck	seconds	123		
	Gross Operating Hours (h/year)	6,439		Maximum Truck Loads per hour		29.27		
Net Operating Time	Gross Operating Time - Operating Delay			Maximum Productivity	(wet t/adj. NOH)	914		
	Utilization	73%		Maximum Productivity	(wet t/NOH)	685		
	Operating Delay (h/year)	1719	282.61	Maximum Productivity	(wet t/GOH)	502		
Net Operating Hours (h/year)		4,720		Maximum Productivity	(dry t/GOH)	477		
				Maximum Productivity	(wt/yr)	3,233,873		
Adjustment Factors			min/cycle	Maximum Productivity	(wt/day)	8,860		
	Truck availability to shovel	75%	0.68	Maximum Productivity	(dt/year)	3,072,179		
	Shovel Wait for Truck	1180		Maximum Productivity	(dt/day)	8,417		
Adjusted Net Operating Hours (h/year)		3,540						

## TRUCK HOURS

<b>Calendar Time</b>					
Days	365				
Shifts per day	2				
Shift Length	12				
<b>Calendar Time (h/year)</b>	<b>8,760</b>				
<b>Available Time</b>					
Availability	85%				
Down Time (h/year)	1,314				
<b>Available Time (h/year)</b>	<b>7,446</b>				
<b>Gross Operating Time</b>					
Operating Standby					
<u>Internal (h/shift)</u>					
Lunch & Breaks	1.00	120			
Meeting	0.04	5			
Shift Change	0.17	20			
No Blast => <b>Blast Delay</b>		-			
Fueling	0.25	30			
Operator Inspection		-			
<u>External (h/year)</u>					
Industrial		-			
Weather	120	20			
No Power		-			
Operating Standby (h/year)	1,007				
<b>Gross Operating Hours (h/year)</b>	<b>6,439</b>	86%			
<b>Net Operating Time</b>					
Utilization	73%				
Operating Delay (h/year)	1739				
<b>Net Operating Hours (h/year)</b>	<b>4,701</b>				

Truck Capacity	tonne	31.2
Travel Distance one way	km	0.80
Loaded	km/h	12.00
Empty Return	km/h	40.00
Truck haul cycle time	min	5.20
Load Time	minutes	2.05
Queue Time	minutes	1.00
Dump Time	minutes	1.00
Total Cycle Time	minutes	9.25
Maximum Truck Loads per hour		6.49
Maximum Productivity	(wet t/NOH)	202
Maximum Productivity	(wet t/GOH)	148
<b>Maximum Productivity</b>	<b>(dry t/GOH)</b>	<b>140</b>
Maximum Productivity	(wt/year)	951,684
Maximum Productivity	(wt/day)	2,607
<b>Maximum Productivity</b>	<b>(dt/year)</b>	<b>904,100</b>
<b>Maximum Productivity</b>	<b>(dt/day)</b>	<b>2,477</b>



CCRP Cost Estimate Table W-26: Earth Moving Estimate - Option CC2

Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 10% to calculate net operating hours).

CRP Cost Estimate Table W-26: Earth Moving Estimate - Option CC2					Load and Haul	Load	Haul				
					Load and Haul Cost	\$	32,334,280	\$	7,798,035	\$	24,536,245
Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 10% to calculate net operating hours).					Rate/tonne	\$	2.28	\$	0.55	\$	1.73
					Rate/m³	\$	4.56	\$	1.10	\$	3.46
Production Target	Tonnes/year =	6,144,359			Waste Material Volume (In Bank) m³		In-Situ Bulk Density t/m³	2.00	Waste Material Tonnage t	14,194,000	
Caterpillar 385C	Loaders Required =	2.00	2.00								
Caterpillar 745C	Trucks Required =	6.80	7.00								
	Duration of Remediation =	2.31	years								

## LOADER HOURS

Calendar Time				Loading Productivities and Truck Match				Metric
	Days	365		Loader			Caterpillar 385C	
	Shifts per day	2		Truck			Caterpillar 745C	
	Shift Length	12		Bucket Capacity	m <sup>3</sup>	4.6		
Calendar Time (h/year)		8,760		Bucket Capacity	tonne	8.3		
Available Time	= Calendar Time - Down Time			Truck Capacity	m <sup>3</sup>	73.8		
	Availability	85.0%		Truck Capacity	tonne	41.0		
	Down Time (h/year)	1,314		Insitu Bulk Density	t/m <sup>3</sup>	2.00		
Available Time (h/year)		7,446		Bulk Factor		1.30		
Gross Operating Time	= Available Time - Operating Standby			Loose Density	t/m <sup>3</sup>	1.54		
Operating Standby				Moisture	%	5.0%		
	Internal (h/shift)		min/day	Fill Factor		0.84		
	Lunch & Breaks	1.00	120	Effective Bucket Capacity	m <sup>3</sup>	3.85		
	Meeting	0.04	5	Wet/Loose Density	t/m <sup>3</sup>	1.62		
	Shift Change	0.17	20	Tonnes/Pass	tonne	6.2		
No Blast => Blast Delay		-	-	Theoretical Passes (Volume)		19.14		
	Fueling	0.25	30	Theoretical Passes (Weight)		6.57		
	Operator Inspection	-	-	Actual Passes		5		
	External (h/year)			Truck Load	m <sup>3</sup>	19.3		
	Industrial	-	-	Truck Load	tonne	31.2		
	Weather	120	20	Truck Fill % (Volume)		26%		
	No Power	-	-	Truck Fill % (Weight)		76%		
	Operating Standby (h/year)	1,007	195	Loader Cycle Time	seconds	22		
Gross Operating Hours (h/year)		6,439		Loader Spot Time	seconds	35		
Net Operating Time	Gross Operating Time - Operating Delay			Load Time per Truck	seconds	123		
	Utilization	73%		Maximum Truck Loads per hour		29.27		
	Operating Delay (h/year)	1719	282.61	Maximum Productivity	(wet t/adj. NOH)	914		
Net Operating Hours (h/year)		4,720		Maximum Productivity	(wet t/NOH)	685		
Adjustment Factors			min/cycle	Maximum Productivity	(wet t/GOH)	502		
	Truck availability to shovel	75%	0.68	Maximum Productivity	(dry t/GOH)	477		
	Shovel Wait for Truck	1180		Maximum Productivity	(wt/yr)	3,233,873		
Adjusted Net Operating Hours (h/year)		3,540		Maximum Productivity	(wt/day)	8,860		
				Maximum Productivity	(dt/year)	3,072,179		
				Maximum Productivity	(dt/day)	8,417		

## TRUCK HOURS

<b>Calendar Time</b>					
	Days	365			
	Shifts per day	2			
	Shift Length	12			
	<b>Calendar Time (h/year)</b>	8,760			
<b>Available Time</b>					
	Availability	85%			
	Down Time (h/year)	1,314			
	<b>Available Time (h/year)</b>	7,446			
<b>Gross Operating Time</b>					
	Operating Standby				
	<u>Internal (h/shift)</u>				
	Lunch & Breaks	1.00	120		
	Meeting	0.04	5		
	Shift Change	0.17	20		
No Blast =>	<b>Blast Delay</b>	-	-		
	Fueling	0.25	30		
	Operator Inspection	-	-		
	<u>External (h/year)</u>				
	Industrial	-	-		
	Weather	120	20		
	No Power	-	-		
	Operating Standby (h/year)	1,007			
	<b>Gross Operating Hours (h/year)</b>	6,439	86%		
<b>Net Operating Time</b>					
	Utilization	73%			
	Operating Delay (h/year)	1739			
	<b>Net Operating Hours (h/year)</b>	4,701			



CCRP Cost Estimate Table W-27: Earth Moving Estimate - Option CC3

CRP Cost Estimate Table W-27: Earth Moving Estimate - Option CC3				Load and Haul	Load	Haul
	Load and Haul Cost	\$	63,629,781	\$	15,345,548	\$ 48,284,233
Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 10% to calculate net operating hours).	Rate/tonne	\$	2.28	\$	0.55	\$ 1.73
	Rate/m <sup>3</sup>	\$	4.56	\$	1.10	\$ 3.46
Production Target	Tonnes/year =	6,144,359				
Caterpillar 385C	Loaders Required =	2.00	2.00			
Caterpillar 745C	Trucks Required =	6.80	7.00			
	Duration of Remediation =	4.55 years				
				Waste Material Volume (In Bank) m <sup>3</sup>	In-Situ Bulk Density t/m <sup>3</sup>	Waste Material Tonnage t
				13,966,000	2.00	27,932,000

## LOADER HOURS

Calendar Time					
	Days		365		
	Shifts per day		2		
	Shift Length		12		
<b>Calendar Time (h/year)</b>			<b>8,760</b>		
<b>Available Time</b>					
	= Calendar Time - Down Time				
	Availability		85.0%		
	Down Time (h/year)		1,314		
<b>Available Time (h/year)</b>			<b>7,446</b>		
<b>Gross Operating Time</b>					
	= Available Time - Operating Standby				
	Operating Standby				
	<u>Internal (h/shift)</u>			min/day	
	Lunch & Breaks		1.00	120	
	Meeting		0.04	5	
	Shift Change		0.17	20	
No Blast =>	Blast Delay		-	-	
	Fueling		0.25	30	
	Operator Inspection		-	-	
	<u>External (h/year)</u>				
	Industrial		-	-	
	Weather		120	20	
	No Power		-	-	
	Operating Standby (h/year)		1,007	195	
<b>Gross Operating Hours (h/year)</b>			<b>6,439</b>		
<b>Net Operating Time</b>					
	Gross Operating Time - Operating Delay				
	Utilization		73%		
	Operating Delay (h/year)		1719	282.61	
<b>Net Operating Hours (h/year)</b>			<b>4,720</b>		
<b>Adjustment Factors</b>					
				min/cycle	
	Truck availability to shovel		75%	0.68	
	Shovel Wait for Truck		1180		
<b>Adjusted Net Operating Hours (h/year)</b>			<b>3,540</b>		
<b>Loading Productivities and Truck Match</b>					
	Loader				Caterpillar 385C
	Truck				Caterpillar 745C
	Bucket Capacity	m³			4.6
	Bucket Capacity	tonne			8.3
	Truck Capacity	m³			73.8
	Truck Capacity	tonne			41.0
	Insitu Bulk Density	t/m³			2.00
	Bulk Factor				1.30
	Loose Density	t/m³			1.54
	Moisture	%			5.0%
	Fill Factor				0.84
	Effective Bucket Capacity	m³			3.85
	Wet/Loose Density	t/m³			1.62
	Tonnes/Pass	tonne			6.2
	Theoretical Passes (Volume)				19.14
	Theoretical Passes (Weight)				6.57
	Actual Passes				5
	Truck Load	m³			19.3
	Truck Load	tonne			31.2
	Truck Fill % (Volume)				26%
	Truck Fill % (Weight)				76%
	Loader Cycle Time	seconds			22
	Loader Spot Time	seconds			35
	Load Time per Truck	seconds			123
	Maximum Truck Loads per hour				29.27
	Maximum Productivity	(wet t/adj. NOH)			914
	Maximum Productivity	(wet t/NOH)			685
	Maximum Productivity	(wet t/GOH)			502
	<b>Maximum Productivity</b>	<b>(dry t/GOH)</b>			<b>477</b>
	Maximum Productivity	(wt/yr)			3,233,873
	Maximum Productivity	(wt/day)			8,860
	<b>Maximum Productivity</b>	<b>(dt/year)</b>			<b>3,072,179</b>
	<b>Maximum Productivity</b>	<b>(dt/day)</b>			<b>8,417</b>

## TRUCK HOURS

<b>Calendar Time</b>			
Days	365		
Shifts per day	2		
Shift Length	12		
<b>Calendar Time (h/year)</b>	<b>8,760</b>		
<b>Available Time</b>			
Availability	85%		
Down Time (h/year)	1,314		
<b>Available Time (h/year)</b>	<b>7,446</b>		
<b>Gross Operating Time</b>			
Operating Standby			
<u>Internal (h/shift)</u>			
Lunch & Breaks	1.00	120	
Meeting	0.04	5	
Shift Change	0.17	20	
<b>No Blast =&gt;    <u>Blast Delay</u></b>		-	
Fueling	0.25	30	
Operator Inspection		-	
<u>External (h/year)</u>			
Industrial		-	
Weather	120	20	
No Power		-	
Operating Standby (h/year)	1,007		
<b>Gross Operating Hours (h/year)</b>	<b>6,439</b>	86%	
<b>Net Operating Time</b>			
Utilization	73%		
Operating Delay (h/year)	1,739		
<b>Net Operating Hours (h/year)</b>	<b>4,701</b>		

Truck Capacity	tonne	31.2
Travel Distance one way	km	0.80
Loaded	km/h	12.00
Empty Return	km/h	40.00
Truck haul cycle time	min	5.20
Load Time	minutes	2.05
Queue Time	minutes	1.00
Dump Time	minutes	1.00
Total Cycle Time	minutes	9.25
Maximum Truck Loads per hour		6.49
Maximum Productivity	(wet t/NOH)	202
Maximum Productivity	(wet t/GOH)	148
<b>Maximum Productivity</b>	<b>(dry t/GOH)</b>	<b>140</b>
Maximum Productivity	(wt/year)	951,684
Maximum Productivity	(wt/day)	2,607
<b>Maximum Productivity</b>	<b>(dt/year)</b>	<b>904,100</b>
<b>Maximum Productivity</b>	<b>(dt/day)</b>	<b>2,477</b>





## CCRP Cost Estimate Table W-28: WC2 Material Volumes and Disposition

Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate.

Option WC3 Earth Moving Rate/m3	\$	9.00
Option CC2 Earth Moving Rate/m <sup>3</sup>	\$	4.56

Components	Length (m)	Surface Area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Fill Sources & Spoil Dispositions	Fill Volumes (m3)			Cost	Cost Reference
					Tails	Dump Spoil	Imported		
<b><u>TAILINGS DUMP</u></b>									
Overall Tailings Volume	-	<b>448,000</b>	<b>7,688,000</b>						
Main Buttress Fill Volume (4.5H:1V)	-	190,000	3,954,000	From excavated tails/Clinton Waste Dump spoil	2,370,000	1,584,000		\$ 28,353,324	CC2 for tails, WC3 for spoil
Excavated tailing (7H:1V)	-	168,000	2,370,000	To buttress fill					Included above
Sub-Excavation Volume Perimeter Berm (2H:1V)	-	24,000	121,000	Spoil to PCSS				\$ 1,088,514	Option W3B Earth Moving
Compacted Granular Fill (Berm)	-	50,000	550,000	Imported, select material			550,000	\$ 28,239,090	CCRP Cost Estimate Table W-19 - Engineered Sands, Gravels, and Riprap Estimate
1 m Capping over all tailings	-	358,000	358,000	From Clinton Waste Dump spoil		358,000		\$ 1,589,495	Option W3B Earth Moving
SubTotal					<b>2,370,000</b>	<b>1,942,000</b>	<b>550,000</b>	<b>\$ 59,270,422</b>	
<b><u>BUTTRESS FILL DAM</u></b>									
Excavated Tailings and Ice Rich Colluvium Volume	-	29,000	169,000	Spoil to PCSS				\$ 1,520,321	Option W3B Earth Moving
Select Rockfill Shell and Backfill Volume	-	53,000	738,000	Imported, select material			738,000	\$ 37,891,724	CCRP Cost Estimate Table W-19 - Engineered Sands, Gravels, and Riprap
Chimney and Basal Drain Volume	-	52,000	192,000	Imported, select material			192,000	\$ 9,858,009	CCRP Cost Estimate Table W-19 - Engineered Sands, Gravels, and Riprap
8 inch Perforated pipes	400	-	-					\$ 66,715	Alberta Transportation Unit Price Average 2019. Item D615 * 1.2
8 inch Solid pipe length	300	-	-					\$ 50,036	
SubTotal					<b>0</b>	<b>0</b>	<b>930,000</b>	<b>\$ 49,386,806</b>	
Total							<b>\$ 108,657,228</b>		



CCRP Cost Estimate Table W-29: Earth Moving Estimate - Option WC3

Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 20% to calculate net operating hours).

Production Target	Tonnes/year =	5,306,111	
Caterpillar 385C	Loaders Required =	2.00	2.00
Caterpillar 745C	Trucks Required =	15.64	16.00
	Duration of Remediation =	2.81	years

		Load and Haul		Load		Haul
Load and Haul Cost	\$	67,163,988	\$	8,203,484	\$	58,960,503
Rate/tonne	\$	4.50	\$	0.55	\$	3.95
Rate/m <sup>3</sup>	\$	9.00	\$	1.10	\$	7.90

Waste Material Volume (In Bank) m <sup>3</sup>	In-Situ Bulk Density t/m <sup>3</sup>	Waste Material Tonnage t
7,466,000	2.00	14,932,000

LOADER HOURS

Calendar Time			Loading Productivities and Truck Match			Metric
	Days	365	Loader		Caterpillar 385C	
	Shifts per day	2	Truck		Caterpillar 745C	
	Shift Length	12	Bucket Capacity	m³		4.6
Calendar Time (h/year)		8,760	Bucket Capacity	tonne		8.3
Available Time		= Calendar Time - Down Time	Truck Capacity	m³		73.8
	Availability	85.0%	Truck Capacity	tonne		41.0
	Down Time (h/year)	1,314	Insitu Bulk Density	t/m³		2.00
Available Time (h/year)		7,446	Bulk Factor			1.30
Gross Operating Time		= Available Time - Operating Standby	Loose Density	t/m³		1.54
	Operating Standby		Moisture	%		5.0%
	Internal (h/shift)		Fill Factor			0.84
	Lunch & Breaks	1.00	Effective Bucket Capacity	m³		3.85
	Meeting	0.04	Wet/Loose Density	t/m³		1.62
	Shift Change	0.17	Tonnes/Pass	tonne		6.2
No Blast =>	Blast Delay	-	Theoretical Passes (Volume)			19.14
	Fueling	0.25	Theoretical Passes (Weight)			6.57
	Operator Inspection	-	Actual Passes			5
	External (h/year)		Truck Load	m³		19.3
	Industrial	-	Truck Load	tonne		31.2
	Weather	120	Truck Fill % (Volume)			26%
	No Power	-	Truck Fill % (Weight)			76%
	Operating Standby (h/year)	1,007	Loader Cycle Time	seconds		22
Gross Operating Hours (h/year)		6,439	Loader Spot Time	seconds		35
Net Operating Time		Gross Operating Time - Operating Delay	Load Time per Truck	seconds		123
	Utilization	63%	Maximum Truck Loads per hour			29.27
	Operating Delay (h/year)	2363	Maximum Productivity	(wet t/adj. NOH)		914
Net Operating Hours (h/year)		4,076	Maximum Productivity	(wet t/NOH)		685
Adjustment Factors			Maximum Productivity	(wet t/GOH)		434
	Truck availability to shovel	75%	Maximum Productivity	(dry t/GOH)		412
	Shovel Wait for Truck	1019	Maximum Productivity	(wt/yr)		2,792,690
Adjusted Net Operating Hours (h/year)		3,057	Maximum Productivity	(wt/day)		7,651
			Maximum Productivity	(dt/year)		2,653,055
			Maximum Productivity	(dt/day)		7,269

TRUCK HOURS

Calendar Time		Days	365	Truck Capacity	tonne	31.2
	Shifts per day		2	Travel Distance one way	km	2.65
	Shift Length		12	Loaded	km/h	12.00
Calendar Time (h/year)			8,760	Empty Return	km/h	40.00
Available Time				Truck haul cycle time	min	17.23
	Availability		85%			
	Down Time (h/year)		1,314			

Available Time (h/year)		7,446	
Gross Operating Time			
Operating Standby			
Internal (h/shift)			
Lunch & Breaks		1.00	120
Meeting		0.04	5
Shift Change		0.17	20
No Blast =>	Blast Delay		-
	Fueling	0.25	30
	Operator Inspection		-
External (h/year)			
Industrial			-
Weather		120	20
No Power			-
Operating Standby (h/year)		1,007	
Gross Operating Hours (h/year)		6,439	86%
Net Operating Time			
Utilization		63%	
Operating Delay (h/year)		2382	
Net Operating Hours (h/year)		4,057	

Load Time	minutes	2.05	
Queue Time	minutes	1.00	
Dump Time	minutes	1.00	
Total Cycle Time	minutes	21.28	
Maximum Truck Loads per hour		2.82	
Maximum Productivity	(wet t/NOH)	88	
Maximum Productivity	(wet t/GOH)	55	
Maximum Productivity	(dry t/GOH)	53	
Maximum Productivity		(wt/year)	357,094
Maximum Productivity		(wt/day)	978
Maximum Productivity		(dt/year)	339,239
Maximum Productivity		(dt/day)	929



## CCRP Cost Estimate Table W-30: Haul Road Construction Estimate - Option WC3

ion WC3		<i>Load and Haul</i>		<i>Load</i>		<i>Haul</i>	
<b>Load and Haul Cost</b>	\$	4,598,312	\$	837,270	\$	3,761,042	
<b>Rate/tonne</b>	\$	3.02	\$	0.55	\$	2.47	
<b>Rate/m<sup>3</sup></b>	\$	6.03	\$	1.10	\$	4.94	

Note: Reductions in base materials management productivities that are related to asbestos abatement have been applied to this estimate (equipment utilization reduced by 20% to calculate net operating hours).

Production Target	Tonnes/year =	5,306,111	
Caterpillar 385C	Loaders Required =	2.00	2.00
Caterpillar 745C	Trucks Required =	9.67	10.00
	Duration of Remediation =	0.29	years

Waste Material Volume (In Bank) m <sup>3</sup>	In-Situ Bulk Density t/m <sup>3</sup>	Waste Material Tonnage t
762,000	2.00	1,524,000

## LOADER HOURS

Calendar Time				Loading Productivities and Truck Match				Metric
	Days	365		Loader			Caterpillar 385C	
	Shifts per day	2		Truck			Caterpillar 745C	
	Shift Length	12		Bucket Capacity	m <sup>3</sup>	4.6		
Calendar Time (h/year)		8,760		Bucket Capacity	tonne	8.3		
				Truck Capacity	m <sup>3</sup>	73.8		
Available Time	= Calendar Time - Down Time			Truck Capacity	tonne	41.0		
	Availability	85.0%		Insitu Bulk Density	t/m <sup>3</sup>	2.00		
	Down Time (h/year)	1,314		Bulk Factor		1.30		
Available Time (h/year)		7,446		Loose Density	t/m <sup>3</sup>	1.54		
				Moisture	%	5.0%		
Gross Operating Time	= Available Time - Operating Standby			Fill Factor		0.84		
	Operating Standby			Effective Bucket Capacity	m <sup>3</sup>	3.85		
	Internal (h/shift)		min/day	Wet/Loose Density	t/m <sup>3</sup>	1.62		
	Lunch & Breaks	1.00	120	Tonnes/Pass	tonne	6.2		
	Meeting	0.04	5	Theoretical Passes (Volume)		19.14		
	Shift Change	0.17	20	Theoretical Passes (Weight)		6.57		
No Blast =>	Blast Delay	-	-	Actual Passes		5		
	Fueling	0.25	30	Truck Load	m <sup>3</sup>	19.3		
	Operator Inspection	-	-	Truck Load	tonne	31.2		
	External (h/year)			Truck Fill % (Volume)		26%		
	Industrial	-	-	Truck Fill % (Weight)		76%		
	Weather	120	20	Loader Cycle Time	seconds	22		
	No Power	-	-	Loader Spot Time	seconds	35		
	Operating Standby (h/year)	1,007	195	Load Time per Truck	seconds	123		
	Gross Operating Hours (h/year)	6,439		Maximum Truck Loads per hour		29.27		
				Maximum Productivity	(wet t/adj. NOH)	914		
Net Operating Time	Gross Operating Time - Operating Delay			Maximum Productivity	(wet t/NOH)	685		
	Utilization	63%		Maximum Productivity	(wet t/GOH)	434		
	Operating Delay (h/year)	2363	388.46	Maximum Productivity	(dry t/GOH)	412		
Net Operating Hours (h/year)		4,076						
				Maximum Productivity	(wt/yr)	2,792,690		
Adjustment Factors			min/cycle	Maximum Productivity	(wt/day)	7,651		
	Truck availability to shovel	75%	0.68	Maximum Productivity	(dt/year)	2,653,055		
	Shovel Wait for Truck	1019		Maximum Productivity	(dt/day)	7,269		
Adjusted Net Operating Hours (h/year)		3,057						

## TRUCK HOURS

<b>Calendar Time</b>					
	Days	365			
	Shifts per day	2	Truck Capacity	tonne	31.2
	Shift Length	12	Travel Distance one way	km	1.40
<b>Calendar Time (h/year)</b>		8,760	Loaded	km/h	12.00
<b>Available Time</b>			Empty Return	km/h	40.00
	Availability	85%	Truck haul cycle time	min	9.10
	Down Time (h/year)	1,314			

Available Time (h/year)		7,446	
Gross Operating Time			
Operating Standby			
Internal (h/shift)			
Lunch & Breaks		1.00	120
Meeting		0.04	5
Shift Change		0.17	20
No Blast =>	Blast Delay		-
	Fueling	0.25	30
	Operator Inspection		-
External (h/year)			
Industrial			-
Weather		120	20
No Power			-
Operating Standby (h/year)		1,007	
Gross Operating Hours (h/year)		6,439	86%
Net Operating Time			
Utilization		63%	
Operating Delay (h/year)		2382	
Net Operating Hours (h/year)		4,057	

Load Time	minutes	2.05
Queue Time	minutes	1.00
Dump Time	minutes	1.00
Total Cycle Time	minutes	13.15
Maximum Truck Loads per hour		4.56
Maximum Productivity	(wet t/NOH)	142
Maximum Productivity	(wet t/GOH)	90
<b>Maximum Productivity</b>	<b>(dry t/GOH)</b>	<b>85</b>
Maximum Productivity	(wt/year)	577,732
Maximum Productivity	(wt/day)	1,583
<b>Maximum Productivity</b>	<b>(dt/year)</b>	<b>548,845</b>
<b>Maximum Productivity</b>	<b>(dt/day)</b>	<b>1,504</b>





CCRP Cost Estimate Table W-31: Aggregate Load and Haul from Site 11 Estimate

				Load and Haul Cost		\$	5,268,760
				Rate/tonne		\$	15.97
				Rate/m <sup>3</sup>		\$	26.34
Production Target	Tonnes/year =	246,841					
Caterpillar 330F	Loaders Required =	1.00	1.00				
International - tandem 9900 - 14	Trucks Required						
YD - - Dump Box	=	7.99	8.00				
	Duration of Remediation =	1.34	years				

Gravel Volume	In-Situ Bulk Density	Gravel Tonnage
m <sup>3</sup>	t/m <sup>3</sup>	t
200,000	1.65	330,000

LOADER HOURS									
Calendar Time					Loading Productivities and Truck Match				
	Days	365			Loader			Caterpillar 330F	Metric
	Shifts per day	1			Truck			International - tandem 9900 - 14 YD - - Dump Box	
	Shift Length	12			Bucket Capacity	m <sup>3</sup>	1.5		
Calendar Time (h/year)		4,380			Bucket Capacity	tonne	2.8		
Available Time					Truck Capacity	m <sup>3</sup>	14.0		
	= Calendar Time - Down Time				Truck Capacity	tonne	23.1		
	Availability	85.0%			Insitu Bulk Density	t/m <sup>3</sup>	1.65		
	Down Time (h/year)	657			Bulk Factor		1.30		
Available Time (h/year)		3,723			Loose Density	t/m <sup>3</sup>	1.27		
Gross Operating Time					Moisture	%	5.0%		
	= Available Time - Operating Standby				Fill Factor		0.84		
	Operating Standby				Effective Bucket Capacity	m <sup>3</sup>	1.29		
	Internal (h/shift)		min/day		Wet/Loose Density	t/m <sup>3</sup>	1.34		
	Lunch & Breaks	1.00	60		Tonnes/Pass	tonne	1.7		
	Meeting	0.04	3		Theoretical Passes (Volume)		10.85		
	Shift Change	0.17	10		Theoretical Passes (Weight)		13.40		
No Blast =>	Blast Delay		-		Actual Passes		5		
	Fueling	0.25	15		Truck Load	m <sup>3</sup>	6.5		
	Operator Inspection		-		Truck Load	tonne	8.6		
	External (h/year)				Truck Fill % (Volume)		46%		
	Industrial		-		Truck Fill % (Weight)		37%		
	Weather	120	20		Loader Cycle Time	seconds	22		
	No Power		-		Loader Spot Time	seconds	35		
	Operating Standby (h/year)	554	107		Load Time per Truck	seconds	123		
	Gross Operating Hours (h/year)	3,169			Maximum Truck Loads per hour		29.27		
Net Operating Time					Maximum Productivity	(wet t/adj. NOH)	252		
	Gross Operating Time - Operating Delay				Maximum Productivity	(wet t/NOH)	126		
	Utilization	65%			Maximum Productivity	(wet t/GOH)	82		
	Operating Delay (h/year)	1109	182.30		Maximum Productivity	(dry t/GOH)	78		
Net Operating Hours (h/year)		2,060							
Adjustment Factors					Maximum Productivity	(wt/yr)	259,832		
	Truck availability to shovel	50%	min/cycle	2.05	Maximum Productivity	(wt/day)	712		
	Shovel Wait for Truck	1030			Maximum Productivity	(dt/year)	246,841		
Adjusted Net Operating Hours (h/year)		1,030			Maximum Productivity	(dt/day)	676		

TRUCK HOURS									
Calendar Time					Truck Capacity				
	Days	365			Truck Capacity	tonne	8.6		
	Shifts per day	1			Travel Distance one way	km	14.00		
	Shift Length	12			Loaded	km/h	40.00		
Calendar Time (h/year)		4,380			Empty Return	km/h	50.00		
Available Time					Truck haul cycle time	min	37.80		
	Availability	85%							

	Down Time (h/year)	657	
	Available Time (h/year)	3,723	
Gross Operating Time			
	Operating Standby		
	Internal (h/shift)		
	Lunch & Breaks	1.00	60
	Meeting	0.04	3
	Shift Change	0.17	10
No Blast =>	Blast Delay		-
	Fueling	0.25	15
	Operator Inspection		-
	External (h/year)		
	Industrial		-
	Weather	120	20
	No Power		-
	Operating Standby (h/year)	554	
	Gross Operating Hours (h/year)	3,169	85%
Net Operating Time			
	Utilization	83%	
	Operating Delay (h/year)	539	
	Net Operating Hours (h/year)	2,630	

Load Time	minutes	2.05		
Queue Time	minutes	1.00		
Dump Time	minutes	1.00		
Total Cycle Time	minutes	41.85		
Maximum Truck Loads per hour			1.43	
Maximum Productivity	(wet t/NOH)		12	
Maximum Productivity	(wet t/GOH)		10	
Maximum Productivity	(dry t/GOH)		10	
Maximum Productivity (dt/year)				32,505
Maximum Productivity (dt/day)				89
Maximum Productivity	(dt/year)		30,879	
Maximum Productivity	(dt/day)		85	



CCRP Cost Estimate Table W-32: Riprap Load and Haul from Km 63 Quarry Estimate

				Load and Haul Cost		\$	15,517,381
				Rate/tonne		\$	38.79
				Rate/m <sup>3</sup>		\$	77.59
Production Target	Tonnes/year =	1,066,488					
Caterpillar 385C	Loaders Required =	2.00	2				
Caterpillar 745C	Trucks Required =	46.93	47				
	Duration of Remediation =	0.38	years				

RipRap Volume m <sup>3</sup>	In-Situ Bulk Density t/m <sup>3</sup>	RipRap Tonnage t
200,000	2.00	400,000

LOADER HOURS

				Metric	
Calendar Time				Loading Productivities and Truck Match	
	Days	365		Loader	Caterpillar 385C
	Shifts per day	1		Truck	Caterpillar 745C
	Shift Length	12		Bucket Capacity	m <sup>3</sup> 4.6
Calendar Time (h/year)		4,380		Bucket Capacity	tonne 8.3
				Truck Capacity	m <sup>3</sup> 73.8
				Truck Capacity	tonne 41.0
Available Time		= Calendar Time - Down Time		Insitu Bulk Density	t/m <sup>3</sup> 2.00
	Availability	85.0%		Bulk Factor	1.30
	Down Time (h/year)	657		Loose Density	t/m <sup>3</sup> 1.54
Available Time (h/year)		3,723		Moisture	% 5.0%
				Fill Factor	0.50
Gross Operating Time		= Available Time - Operating Standby		Effective Bucket Capacity	m <sup>3</sup> 2.30
	Operating Standby			Wet/Loose Density	t/m <sup>3</sup> 1.62
	Internal (h/shift)		min/day	Tonnes/Pass	tonne 3.7
	Lunch & Breaks	1.00	60	Theoretical Passes (Volume)	32.09
	Meeting	0.04	3	Theoretical Passes (Weight)	11.01
	Shift Change	0.17	10	Actual Passes	5
No Blast =>	Blast Delay		-	Truck Load	m <sup>3</sup> 11.5
	Fueling	0.25	15	Truck Load	tonne 18.6
	Operator Inspection		-	Truck Fill % (Volume)	16%
	External (h/year)			Truck Fill % (Weight)	45%
	Industrial		-	Loader Cycle Time	seconds 22
	Weather	120	20	Loader Spot Time	seconds 35
	No Power		-	Load Time per Truck	seconds 123
	Operating Standby (h/year)	554	107	Maximum Truck Loads per hour	29.27
Gross Operating Hours (h/year)		3,169		Maximum Productivity	(wet t/adj. NOH) 545
				Maximum Productivity	(wet t/NOH) 273
				Maximum Productivity	(wet t/GOH) 177
Net Operating Time		Gross Operating Time - Operating Delay		Maximum Productivity (dry t/GOH) 168	
	Utilization	65%			
	Operating Delay (h/year)	1109	182.30		
Net Operating Hours (h/year)		2,060			
				Maximum Productivity	(wt/yr) 561,310
				Maximum Productivity	(wt/day) 1,538
Adjustment Factors			min/cycle		
	Truck availability to shovel	50%	2.05	Maximum Productivity (dt/year) 533,244	
	Shovel Wait for Truck	1030		Maximum Productivity (dt/day) 1,461	
Adjusted Net Operating Hours (h/year)		1,030			

TRUCK HOURS

Calendar Time					
	Days	365		Truck Capacity	tonne 18.6
	Shifts per day	1		Travel Distance one way	km 44.00
	Shift Length	12		Loaded	km/h 40.00
Calendar Time (h/year)		4,380		Empty Return	km/h 50.00
				Truck haul cycle time	min 118.80
Available Time					
	Availability	85%		Load Time	minutes 2.05
	Down Time (h/year)	657			
Available Time (h/year)		3,723			





CCRP Cost Estimate Table W-33: Haul Road Construction - Options CC1, CC2, and CC3

Option CC1 Earth Moving Rate/m <sup>3</sup> \$					4.56
Option	Total Volume (m <sup>3</sup> )	Percent	Allowance Volume (m <sup>3</sup> )	Cost Estimate	Comment
CC1	4,373,000	5%	218,650	\$ 996,180	Judgement based provision for miscellaneous, local works to facilitate movements on the dump during excavations.
CC2	7,097,000	5%	354,850	\$ 1,616,714	Judgement based provision for miscellaneous, local works to facilitate movements on the dump during excavations.
CC3	13,966,000	5%	698,300	\$ 3,181,489	Judgement based provision for miscellaneous, local works to facilitate movements on the dump during excavations.



CCRP Cost Estimate Table W-34: Dozing Equipment Estimate

2019 Option	Creek	Estimated Waste Material Removal Volume (m3)	Shovel Support	Placement Support	Compaction Support	Shovel Support Volume (m3)	Placing Volume (m3)	Selected Dozer	Dozer Count	Total Hours	Compactor Rate/hr	Dozer Rate/hr	Total Cost
CC1	Clinton	4,373,000	1	1	1	4,373,000	4,373,000	Caterpillar - D8K Angle Blade, Tilt Blade, Ripper	2	10,599	\$ 170	\$ 320	\$ 8,585,013
CC2	Clinton	7,097,000	1	1	1	7,097,000	7,097,000	Caterpillar - D8K Angle Blade, Tilt Blade, Ripper	2	17,201	\$ 170	\$ 320	\$ 13,932,732
CC3	Clinton	13,966,000	1	1	1	13,966,000	13,966,000	Caterpillar - D8K Angle Blade, Tilt Blade, Ripper	2	33,849	\$ 170	\$ 320	\$ 27,417,857
WC1	Wolverine	NA		1				Caterpillar - D8K Angle Blade, Tilt Blade, Ripper	1	2,190		\$ 350	\$ 766,500
WC2	Wolverine	4,312,000	1	2	1	2,660,000	8,624,000	Caterpillar - D10	3	10,477	\$ 170	\$ 470	\$ 16,553,575
WC3	Wolverine	7,688,000	1	2	1	7,688,000	7,688,000	Caterpillar - D10	3	20,954	\$ 170	\$ 470	\$ 33,107,150



CCRP Cost Estimate Table W-35: Grading and Road Maintenance Equipment

Option	Creek	Estimated Waste Material Removal Volume (m3)	Selected Grader	Grader Count	Total Hours	Rate/hr	Total Cost
CC1	Clinton	4,373,000	Cat 12H	2	10599	\$ 192	\$ 4,069,932
CC2	Clinton	7,097,000	Cat 12H	2	17201	\$ 192	\$ 6,605,147
CC3	Clinton	13,966,000	Cat 12H	2	33849	\$ 192	\$ 12,998,095
WC1	Wolverine	NA	Cat 12H	1	2190	\$ 192	\$ 420,480
WC2	Wolverine	4,312,000	Cat 12H	2	20954	\$ 192	\$ 8,046,295
WC3	Wolverine	7,688,000	Cat 12H	2	20954	\$ 192	\$ 8,046,295

# CCRP Cost Estimate Table W-36: Engineered Sands, Gravels, and Riprap Estimate

Engineered sands and gravels will be sourced from Site 11, located 14 km from the mine site entrance on the Clinton Creek road.

RipRap will be sourced from a site located at Mile 63 on the Top-of-the-World highway. The site is located 44 km from the Clinton Creek mine.

Quarry	Material	Quantity	Unit	Price	Reference	Price/m3
--------	----------	----------	------	-------	-----------	----------

## Cost to Produce Aggregate

Site 11	Sand and Gravel	1	t	\$ 15.15	Da Daghay Development Corporation. April 28, 2016 Business Plan for the Development of the C-30B Whitehorse Gravel Resource.	
			m3	\$ 25.00		\$ 25.00

## Cost to Transport Aggregate

Site 11	Load and haul 1 m3 gravel from quarry to site.	14	km	\$ 26.34	CCRP Cost Estimate Table W-31: Aggregate Load and Haul from Site 11 Estimate	\$ 26.34
---------	--	----	----	----------	--	----------

**Cost to Produce and Transport Gravel from Site 11 to the Clinton Creek Site (\$/m3)** **\$ 51**

## Cost to Produce Riprap

Mile 63	Riprap	1	t	\$ 25	Judgement based provision.	
			m3	\$ 50	Assumed 2 t/m3	\$ 50

## Cost to Transport Riprap

Mile 63	Load and haul 1 m3 riprap from quarry to site.	44	km	\$ 77.59	CCRP Cost Estimate Table W-32: Riprap Load and Haul from Km 63 Quarry Estimate	\$ 77.59
---------	--	----	----	----------	--	----------

**Cost to Produce and Transport Riprap from Mile 63 to the Clinton Creek Site (\$/m3)** **\$ 128**

## Cost to Place Riprap

Mile 63	Riprap	1	t	\$ 25	Judgement based provision.	\$ 25
			m3	\$ 50	Assumed 2 t/m3	\$ 50

**Cost to Produce, Transport and Place Riprap from Mile 63 to the Clinton Creek Site (\$/m3)** **\$ 229**



CCRP Cost Estimate Table W-37: Flow Conveyance and Erosion Control Cost Estimates

Option	Material	Quantity	Unit	Unit Price	Reference	Unit Price Geographic Correction Factor	Total Cost
CC1	Riprap d50=500mm	19,000	m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ 4,349,683
CC1	Riprap d50=300mm	33,000	m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ 7,554,713
CC1	Supply Coletanche Elastomeric Bitumen Liner ES3	14,374	m2	\$ 23	Layfield Group - July 15, 2019.	1	\$ 335,393
CC1	Supply Non-Woven Geotextile	64,416	m2	\$ 2.00	Layfield Group - July 15, 2019.	1	\$ 128,832
CC1	Install Coletanche Elastomeric Bitumen Liner ES3	14,374	m2	\$ 6.00	Layfield Group - July 15, 2019.	1	\$ 86,244
CC1	Install Non-Woven Geotextile	64,416	m2	\$ 1.50	Layfield Group - July 15, 2019.	1	\$ 96,624
CC1	Spillway Cut	-	m3	\$ 4.56	CCRP Cost Estimate Table W-25: Earth Moving Estim	G225	\$ -
CC1	Spillway Fill	-	m3	\$ 4.56	CCRP Cost Estimate Table W-25: Earth Moving Estim	G225	\$ -
CC1	Steel Sheet Pile Wall	17,280	m2	\$ 706	<a href="http://www.isheetpile.com/articles/cost?units=m">http://www.isheetpile.com/articles/cost?units=m</a>	1.2	\$ 14,636,065
CC1	Ground Thawing						
CC1	Mob/Demob of Specialized Ground Densification Rig/Equipment	1		\$200,000		1	\$ 200,000
CC1	Densification operations	230000	m3	\$ 10		1	\$ 2,300,000
CC1	Select Granular Supply for Densifications	115000	m3	\$ 51	CCRP Cost Estimate Table W-36: Engineered Sands, Gravels, and Riprap Estimate	1	\$ 5,904,537
CC1	Turf reinforced mat (assumed LP-P20 Polypropylene).	-	m2			1	\$ -
CC2	Riprap d50=500mm	37,020	m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ 8,475,015
CC2	Riprap d50=300mm	10,200	m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ 2,335,093
CC2	Riprap d50=175mm	4,670	m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ 1,069,106
CC2	Supply Coletanche Elastomeric Bitumen Liner ES3		m2	\$ 23	Layfield Group - July 15, 2019.	1	\$ -
CC2	Supply Non-Woven Geotextile		m2	\$ 2.00	Layfield Group - July 15, 2019.	1	\$ -
CC2	Install Coletanche Elastomeric Bitumen Liner ES3		m2	\$ 6.00	Layfield Group - July 15, 2019.	1	\$ -
CC2	Install Non-Woven Geotextile		m2	\$ 1.50	Layfield Group - July 15, 2019.	1	\$ -
CC2	Spillway Cut		m3	\$ 4.56	CCRP Cost Estimate Table W-26: Earth Moving Estim	G225	\$ -
CC2	Spillway Fill		m3	\$ 4.56	CCRP Cost Estimate Table W-26: Earth Moving Estim	G225	\$ -
CC2	Steel Sheet Pile Wall	-	m2	\$ 706	<a href="http://www.isheetpile.com/articles/cost?units=m">http://www.isheetpile.com/articles/cost?units=m</a>	1.2	\$ -
CC2	Ground Thawing						
CC2	Turf reinforced mat (assumed LP-P20 Polypropylene). Excluding delivery and installation	26,000	m2	\$ 20	Layfield Group Aug 22, 2019 email - \$9/m2 excluding delivery and installation.	1	\$ 520,000
CC3	Riprap d50=500mm		m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ -
CC3	Riprap d50=300mm		m3	\$ 229	Top-of-the-World Highway source at km 63.	1	\$ -
CC3	Supply Coletanche Elastomeric Bitumen Liner ES3		m2	\$ 23	Layfield Group - July 15, 2019.	1	\$ -
CC3	Supply Non-Woven Geotextile		m2	\$ 2.00	Layfield Group - July 15, 2019.	1	\$ -
CC3	Install Coletanche Elastomeric Bitumen Liner ES3		m2	\$ 6.00	Layfield Group - July 15, 2019.	1	\$ -
CC3	Install Non-Woven Geotextile		m2	\$ 1.50	Layfield Group - July 15, 2019.	1	\$ -
CC3	Spillway Cut		m3	\$ 4.56	CCRP Cost Estimate Table W-27: Earth Moving Estim	G225	\$ -
CC3	Spillway Fill		m3	\$ 4.56	CCRP Cost Estimate Table W-27: Earth Moving Estim	G225	\$ -
CC3	Steel Sheet Pile Wall		m2	\$ 706	<a href="http://www.isheetpile.com/articles/cost?units=m">http://www.isheetpile.com/articles/cost?units=m</a>	1.2	\$ -
CC3	Ground Thawing						
CC3	Turf reinforced mat (assumed LP-P20 Polypropylene). Excluding delivery and installation		m2			1	\$ -
CC3			km				
WC2	Riprap d50=200mm	2085	m3	\$ 229		1	\$ 477,321
WC2	Riprap d50=300mm	2270	m3	\$ 229		1	\$ 519,673
WC2	Riprap d50=450mm	2470	m3	\$ 229		1	\$ 565,459
WC2	Riprap d50=800mm	11640	m3	\$ 229		1	\$ 2,664,753
WC2	Riprap d50=1000mm	5290	m3	\$ 229		1	\$ 1,211,043
WC2	Bedding Gravel	1135	m3	\$ 51		1	\$ 58,275
WC2	Geotextile Fabric	27600	m2			1	\$ -
WC2							
WC2							
WC2							
WC2							
<b>Erosion Control</b>							
WC3	Equipment time and the use of imported select granular material for targeted ditching and swale development on exposed valley surface following a tails removal.	50	ha	\$150,000	Wood judgement based estimate	1	\$ 7,500,000

Notes:

CC1 - Geotextile Length (m) for entire system	1,160
CC1 - Number of sheet pile walls	12
CC1 - Sheet pile wall area (m2)	1,440

CLASS 1 - 200-450mm. CLASS 2 - 300-500mm. CLASS 3 - 500-800mm. CLASS 4 - 800mm +-. 80mm  
Approximate cost for sheet pile wall is based on 2009 RSMeans pricing for the US and extrapolated from the 2009 NASSPA Retaining Wall Comparison Technical Report.  
Unit prices include labour.  
Reference: Wood Drawing No. Spillway - Model2018-Jun24-2 Rev A



CCRP Cost Estimate Table W-38: Sediment Pond Cost Estimate

Item		Description	Unit	Unit Price	Unit Price Geographic Correction Factor	Reference	Quantity		Total Cost	
							Quantity	Note		
1	General	Mobilization/Demobilization	ls			Captured under TF&C			\$0	
2		Care of Water and Erosion Sediment Control during Construction	ls			Captured under TF&C			\$0	
3	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	\$ 0.89		Alberta Transportation 2019 Unit Price Averages	50,000	Surface area of sed pond	\$44,313	
4		Common Excavation	m3	\$ 4.56		Table W-10: Earth Moving Estimate - Option CC1	25,000	Surface area of sed pond assumed 0.5 m deep	\$113,901	
5		Dike construction, backfill	m3	\$ 10.00			37,000	3:1 side slopes assumed 2.5 m high average, 900m in total length	\$370,000	
6		200 mm PVC drainpipe (cleanouts)	m	\$ 20.00	1.2		440	4 runs across sed pond @ 110m each	\$10,560	
7		150mm socked PVC perforated pipe	m	\$ 20.00	1.2		3,150	7 runs length of sed pond (450m)	\$75,600	
8		Bedding gravel	m3	\$ 51.34		Wood Judgement	8,200	bedding material for perforated pipes, 150mm	\$421,019	
9		Rip Rap Pond Dikes inside and outside Placed	m3	\$ 228.93		Table W-21: Engineered Sands, Gravels, and Riprap Estimate	9,500	Class 25kg riprap 450mm thick covering outside face and crest of dike	\$2,174,842	
10		Supply and install precast outlet headwall	each	\$ 5,000.00		Wood Judgement	2		\$10,000	
11		Supply and install precast inlet headwall	each	\$ 5,000.00		Wood Judgement	3		\$15,000	
12		Supply and install precast chamber	each	\$ 2,500.00		Wood Judgement	3		\$7,500	
13		Supply and install manholes	each	\$ 2,500.00		Wood Judgement	8		\$20,000	
14		Non woven geotextile	m2	\$ 5.00	1.2	Alberta Transportation 2019 Unit Price Averages	50,000		\$300,000	
15	Clinton Creek Diversion	Clinton Channel Excavation	m3	\$ 12.65		Alberta Transportation 2019 Unit Price Averages	12,500	500 m linear 25m2 channel cross section for excavation	\$158,125	
16		Clinton Riprap for diversion channel armouring	m3	\$ 228.93			2,950	Class 25kg riprap 450mm thick lining 500m diversion	\$675,346	
17		Clinton Geotextile	m2	\$ 5.00	1.2	Alberta Transportation 2019 Unit Price Averages	7,000	500 m linear length 14 m wide	\$42,000	
18	Wolverine Creek Diversion	Wolverine Channel Excavation	m3	\$ 12.65		Alberta Transportation 2019 Unit Price Averages	1,200	200 m linear 5.2m2 channel cross section	\$15,180	
19		Wolverine Riprap for diversion channel armouring	m3	\$ 228.93			600	Class 25kg riprap 450mm thick lining 200m diversion length	\$137,358	
20		Wolverine Geotextile	m2	\$ 5.00	1.2	Alberta Transportation 2019 Unit Price Averages	1,400	200 m linear length 7 m wide	\$8,400	
Subtotal										\$4,599,144



CCRP Cost Estimate Table W-39: Option CC3 Sediment Pond Cost Estimate

Item	Activity	Description	Unit	Unit Price	Unit Price Geographic Correction Factor	Reference	Quantity		Total Cost
							Quantity	Note	
1	General	Mobilization/Demobilization	ls			Captured under TF&C			\$0
2		Care of Water	ls			Captured under TF&C			\$0
3		Site Prep/Access Roads	ls			Captured under TF&C			\$0
4	Sediment Pond Earthworks	Clearing and stripping, removing and stockpiling overburden	m2	\$ 0.89	1.0	Alberta Transportation 2019 Unit Price Averages	35000	Surface area of sed pond assumed 0.5 m deep	\$31,019
5		Common Excavation	m3	\$ 4.56	1.0	Table W-10: Earth Moving Estimate - Option CC1	17500	Surface area of sed pond assumed 0.5 m deep	\$79,731
6		Dike construction, backfill	m3	\$ 10.00	1.0		27000	3:1 side slopes assumed 2.5 m high average. 900m in total	\$270,000
7		200 mm PVC drainpipe (cleanouts)	m	\$ 20.00	1.2		560	4 runs across sed pond @ 140m each	\$13,440
8		150mm socked PVC perforated pipe	m	\$ 20.00	1.2		2640	11 runs length of sed pond (240m)	\$63,360
9		Bedding gravel	m3	\$ 51.34	1.0		5700	bedding material for perforated pipes. 150mm cover over sed	\$292,660
10		Rip Rap Pond Dikes inside and outside Placed	m3	\$ 228.93	1.0	Table W-21: Engineered Sands, Gravels, and Riprap Estimate	6150	Class 25kg riprap 450mm thick covering outside face and crest	\$1,407,924
11		Supply and install precast outlet headwall	each	\$ 5,000.00	1.0	Wood Judgement	1		\$5,000
12		Supply and install precast inlet headwall	each	\$ 5,000.00	1.0	Wood Judgement	1		\$5,000
13		Non woven geotextile	m2	\$ 5.00	1.2	Alberta Transportation 2019 Unit Price Averages	35000		\$210,000
Total									\$2,378,134



CCRP Cost Estimate Table W-40: Ground Thawing Cost Estimate

Option	Activity	Component	Quantity Derivation	Quantity	Unit	Unit Price	Pricing Derivation	Unit Price Geographic Correction Factor	Total Cost			
CC1	Fin Tube Installations	Heating Elements	6m x 6m grid over 60 ha	1,600	heaters	\$ 540.00	Wood Estimate	1	\$ 864,000	\$32,910,000		
CC1		Casing Installations	6m x 6m grid over 60 ha	1,600	test holes	\$ 20,000.00	Wood Judgement	1	\$ 32,000,000			
CC1		Control Panel		1	lump sum	\$ 46,000.00	Wood Estimate	1	\$ 46,000			
CC1	Power Supply	Generator Purchase	4 - 2MW stationary diesel generators; demand per estimate in Design Report	4	generators	\$ 1,800,000.00	Caterpillar	1	\$ 7,200,000	\$15,245,000		
CC1		Field Installation		1	lump sum	\$ 1,000,000.00	Wood Estimate	1	\$ 1,000,000			
CC1		Enclosures		1	lump sum	\$ 100,000.00	Wood Estimate	1	\$ 100,000			
CC1		Power Supply Testing & Commisioning		1	lump sum	\$ 1,100,000.00	Wood Estimate	1	\$ 1,100,000			
CC1		Power Supply Shipment		1	lump sum	\$ 575,000.00	Wood Estimate	1	\$ 575,000			
CC1		Spare Parts		1	lump sum	\$ 270,000.00	Wood Estimate	1	\$ 270,000			
CC1		Transformer		1	lump sum	\$ 2,800,000.00	Wood Estimate	1	\$ 2,800,000			
CC1		Electrical Distribution Hardware		1	lump sum	\$ 2,200,000.00	Wood Estimate	1	\$ 2,200,000			
CC1		Fuel Supply	Diesel Storage Tanks	3 - 380,000 L tanks; provides for 3.5 days running time	3	Tanks	\$ 1,170,000.00		1		\$ 3,510,000	
CC1			Insulation		1	Lump Sum	\$ 1,000,000.00		1		\$ 1,000,000	
CC1	Fuel Supply Testing & Commisioning			1	Lump Sum	\$ 1,500,000.00		1	\$ 1,500,000			
CC1	Shipment			1	Lump Sum	\$ 400,000.00		1	\$ 400,000			
CC1	Fuel Distribution Piping and Controls			1	Lump Sum	\$ 900,000.00		1	\$ 900,000			
CC1	Diesel		Each 2MW generator consumes 11,000 L/day on continuous operation; 6m x 6m	16,000,000	Liters	\$ 1.39		1	\$ 22,240,000	\$29,550,000		
									\$77,705,000			

CCRP Cost Estimate Table W-41: Hudgeon Lake Drawdown Cost Estimate

Option	Material	Quantity	Unit	Unit Price	Reference	Unit Price Geographic Correction Factor	Total Cost
CC1	Monthly Rent for 42" Floating Pump	1	Pump	\$ 33,000	Etec Quote No. 3071 DVA. July 4, 2019. Pump purchase offer.	1	\$ 221,760
CC2	Monthly Rent for 42" Floating Pump	1	Pump	\$ 33,000	Etec Quote No. 3071 DVA. July 4, 2019. Pump purchase offer.	1	\$ 221,760
CC3	Monthly Rent for 42" Floating Pump	1	Pump	\$ 33,000	Etec Quote No. 3071 DVA. July 4, 2019. Pump purchase offer.	1	\$ 221,760
CC1, CC2, CC3	DELIVERY FREIGHT COST FOR 42" FLOATING PUMP 1x40 FR AND 1X40HC	1	Each	\$ 20,092	Etec Quote No. 3071 DVA. July 4, 2019.	1	\$ 20,092
CC1, CC2, CC3	RETURN FREIGHT COST FOR 42" FLOATING PUMP 1x40 FR AND 1X40HC	1	Each	\$ 16,553	Etec Quote No. 3071 DVA. July 4, 2019.	1	\$ 16,553
CC1, CC2, CC3	PIPING AND ACCESSORIES	1	Each	\$ 269,092	Etec Quote No. 3071 DVA. July 4, 2019.	1	\$ 269,092
CC1, CC2, CC3	50,000 L Envirotank Mobilization and demobilization. Dall Contracting provides tank rental free of charge (July 30, 2019 email from Dall Contracting). Assumes mob/demob from Nelson, BC (1581 km from site)	3162	\$Mob/Demob/ km	\$ 5.90	Dall Contracting Ltd. 110 Galena Rd. Whitehorse, YT Y1A 2W6 867-667-2468 July 20, 2019	1	\$ 18,656
CC1	CC1 – Fuel - delivered to site	66,683	Litres	\$ 1.39	Dall Contracting Ltd. July 30, 2019 email	1	\$ 92,689
CC2	CC2 – Fuel - delivered to site	98,103	Litres	\$ 1.39	Dall Contracting Ltd. July 30, 2019 email	1	\$ 136,363
CC3	CC3 – Fuel - delivered to site	108,376	Litres	\$ 1.39	Dall Contracting Ltd. July 30, 2019 email	1	\$ 150,643
CC-1 Total							\$ 638,841
CC-2 Total							\$ 682,515
CC-3 Total							\$ 696,795

Detail for Above Items

Hudgeon Lake Water Quantity Estimate

Option	Quantity	Unit	Precipitation Adjustment <sup>1</sup>	Water Quantity Reference	Total pumping hours at full capacity <sup>2</sup>
CC1 – Drawdown to 10 m to El: 402 m (10 m below the spillway inlet level)	6,924,533	m3	1,910,550	Wood. Hudgeon Lake Drawdown. 9 July 2019.	680
CC2 – Drawdown 22 m to El: 390 m (10 m below the new lake outlet level of 400 m)	11,087,462	m3	1,910,550	Wood. Hudgeon Lake Drawdown. 9 July 2019.	1,001
CC3 – Complete removal of the lake	12,448,665	m3	1,910,550	Wood. Hudgeon Lake Drawdown. 9 July 2019.	1,105

<sup>1</sup> Adjusted according to the Drawdown Plan (5 m drawdown per year)

<sup>2</sup> Includes volume of daily inflow over the duration realized if pumping at full capacity.

Pump Metrics

Source: Etec. 4 July 2019. Cot. 3071 DVA - WOOD PLC - BF 42 BBS - Canada.pdf

Available pumping hours per day	24	hours
Average flow	12990	m3/hour

Volumes of water to drawdown from the Hudgeon Lake (considering no precipitation)

Phase	Initial Depth (m)	Target Depth (m)	Target Volume Extracted (m3)	Initial Volume (m3)	Volume remaining (m3)	Minimum days required to reach target depth	Hours required based on average pump flow	Extra hours of pumping expected due to precipitation
Phase 1	34.4	29.4	3,782,330	12,478,899	8,696,569	20	291	147
Phase 2	29.4	24.4	3,142,203	8,696,569	5,554,366	20	242	147
Phase 3	24.4	19.4	2,446,268	5,554,366	3,108,098	20	188	147
Phase 4	19.4	14.4	1,716,661	3,108,098	1,391,437	10	132	74
Phase 5	14.4	9.4	983,296	1,391,437	408,141	10	76	74
Phase 6	9.4	4.4	377,907	408,141	30,234	10	29	74

Volumes of water expected during the drawdown due to precipitation

	Catchment Area (km <sup>2</sup> )	Runoff Coefficient	Monthly Precip Assumed (mm)	Extreme storm rainfall (mm/day)	Volume expected per month	Volume expected per day	Total Volume (m3)	Extra days of pumping expected due to precipitation
Monthly (May)								
Runoff	115	0.7	15.86		1,276,730			
Direct Precipitation	0.8	1	15.86		12,688		1,289,418	6
1 in 2 years								
Runoff	115	0.7		19		1,529,500		
Direct Precipitation	0.8	1		19		15,200		
							1,544,700	7
1 in 5 years								
Rainfall Runoff	115	0.7		23.5		1,891,750		
Direct Precipitation	0.8	1		23.5		18,800		
							1,910,550	9

Pump Fuel Requirement

Fuel Economy Off-highway diesel engines. John Deere. PowerTech Plus 13.5L Engine - 100% Load. 13.5L Class @ 395 kW (530 hp).JohnDeere.com/fuelsavings

25.9	Gallon/hour
98.0	Litres/hour



CCRP Cost Estimate Table W-41: Hudgeon Lake Drawdown Cost Estimate

### Fuel Price

Dall Contracting Ltd. July 30, 2019 email	\$	1.39	per Litre
---	----	------	-----------

**Etec Quote No. 3071 DVA. July 4, 2019.**

The minimum rental time will be for 6 months INCLUDES:

Certified personnel for setup, installation and training for operation.

Maintenance materials for every 250 hours of operation. NOT INCLUDED: Diesel for engine operation.

Quote in USD - converted to CAD by Wood using September 10, 2019 published rates.

1.32

ITEM	Description	Quantity
1	Floating 42" Pump, with 3.60 mts <sup>3</sup> / sec with flotation chambers in fiber glass	1
	-Two stage	
	-John Deere 6135HF485 (electr.) with 500 h.p. at 1800 rpm Diesel Engine	
	-Heat Exchanger for Diesel Engine	
	-Heat Exchanger for aftercooler of Diesel Engine	
	-ZF 350-1 R5.458 Transmission	
	-Flexible coupling between pump and pipe	
	-Level control tank for diesel	
	-Thermal Protection for industrial engine	
	-ANSI standardized bolt pattern in outlet flange from flexible coupling.	
	-Shaft spacer for servicing seal without pump removal	
	-Aftercooler piping in stainless steel 316 with additional structural protection	
	-Fuel lines adequate for low sulfur diesel/biodiesel	
	-Water hose input to lubricate seal and bearing when testing on ground	
2	Heavy duty bilge pump (15 feet of head)	1
	-to be used as secondary in compartment subject to oil spills	
3	Electronic engagement for ZF Transmission	1
4	(LED) Motor compartment working lights and on deck working lights on a	1
5	Collapsible handrail	1
6	Assy Duramax Shaft Seal Assembly	1
7	Murphy ML 2000 4X Panel, ready for automatic operation	1
8	Coolant for refrigeration system included (galons)	64
9	Racor fuel filter	1
10	Additional 42" flexible coupling with ANSI bolt pattern	1
11	Plastic floating element for 42" pipe	2

**DELIVERY FREIGHT COST FOR 42" FLOATING PUMP 1x40 FR AND 1X40HC**

Shipping costs (Includes Transportation packing loading, port expenses,	1	Each
Freight Cartagena - Vancouver	1	Each
Insurance	1	Each

**RETURN FREIGHT COST FOR 42" FLOATING PUMP 1x40 FR AND 1X40HC**

Shipping costs (Includes Transportation packing loading, port	1	Each
Freight Vancouver-Cartagena	1	Each
Insurance	1	Each

## PIPING AND ACCESSORIES

250 meters HDPE Pipeline from 42-48"	1	Each
Unions and accessories for pipeline and discharge flap gate	1	Each
The pipeline can be re-bought from ETEC to WOOD PLC at a 25% of the total pipelines cost.	1	Each

[illegible]

Monthly Rent Fee (taxes not included)	\$ 33,000
---------------------------------------	-----------

Etec Quote No. 3071 DVA. July 4, 2019.	\$ 8,758
Etec Quote No. 3071 DVA. July 4, 2019.	\$ 11,080
Etec Quote No. 3071 DVA. July 4, 2019.	\$ 253

<b>TOTAL FREIGHT COST, CIF VANCOUVER</b>	<b>\$</b>	<b>20,092</b>
--	-----------	---------------

Etec Quote No. 3071 DVA, July 4, 2019.	\$ 4,435
Etec Quote No. 3071 DVA, July 4, 2019.	\$ 11,880
Etec Quote No. 3071 DVA, July 4, 2019.	\$ 238

<b>TOTAL FREIGHT COST, CIF VANCOUVER</b>	<b>\$</b>	<b>16,553</b>
--	-----------	---------------

Etec Quote No. 3071 DVA. July 4, 2019.	\$	277,629
Etec Quote No. 3071 DVA. July 4, 2019.	\$	81,160
Etec Quote No. 3071 DVA. July 4, 2019.	-\$	89,697

<b>TOTAL PIPELINE AND ACCESORIES</b>	<b>\$ 269,092</b>
--------------------------------------	-------------------



CCRP Cost Estimate Table W-42: Annual Post Closure Costs

Current Costs C&M Costs			Assumed Partitioning			
			Clinton		Wolverine	
			%	Cost	%	Cost
Care & General Maintenance	Inspections	\$300,000	70%	\$210,000	30%	\$90,000
	Access	\$200,000	50%	\$100,000	50%	\$100,000
Monitoring	Water Quality	\$1,000,000	80%	\$800,000	20%	\$200,000
	Hydrotechnics	\$200,000	80%	\$160,000	20%	\$40,000
	Geotechnics (a)	\$200,000	50%	\$100,000	50%	\$100,000
	Partner Communications/Consultations	\$200,000	50%	\$100,000	50%	\$100,000
Owner's Project Management & Admin		\$100,000	50%	\$50,000	50%	\$50,000
Total		\$2,200,000		\$1,520,000		\$680,000

Monitoring Cost over Project Duration

Option	Duration	Cost
CC1	1.42	\$ 1,508,825
CC2	2.31	\$ 2,448,692
CC3	4.55	\$ 4,818,716
WC1	0.50	\$ 530,000
WC2	2.81	\$ 2,982,961
WC3	2.81	\$ 2,982,961

a Includes costs for inclinometer monitoring and InSar analyses that are largely incremental to current expenditures

Sediment Pond Cleanup Costs	CC3	WC1	Comments
Cleanup Volume (m3)	90000	23000	Assume 1.5m sediment over pond settling area requires removal every 5 years.
Mob/Demob	\$50,000	\$50,000	
Excavation, Haul and Place @20\$/m3	\$1,800,000	\$460,000	
Annualized Cost Over 5 Years	\$360,000	\$92,000	This cost will be annualized to simplify the discounted present value calculations. This process will overestimate the present value but not to a degree that will materially influence the

Post Closure Provisions		CC1			CC2			CC3			WC1			WC2			WC3		
		% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/ Rationales	% Current	Cost	Comments/Rationales
Baseline																			
Care & General Maintenance	Inspections	100%	\$210,000	Maintenance of dam requires ongoing inspections.	25%	\$52,500	Avoids dam classification; lower inspection liability.	15%	\$31,500	No lake; lowest inspection liability.	100%	\$90,000	Maintenance of unstable slope requires ongoing inspections.	100%	\$90,000	Per CC1	15%	\$13,500	No impounded water; lowest inspection liability.
	Access	100%	\$100,000	Maintenance of dam requires ongoing inspections.	25%	\$25,000	Avoids dam classification; lower inspection liability.	15%	\$15,000	No lake; lowest inspection liability.	100%	\$100,000	Maintenance of unstable slope requires ongoing inspections.	100%	\$100,000	Per CC1	15%	\$15,000	No impounded water; lowest inspection liability.
Monitoring	Water Quality	25%	\$200,000	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$200,000	Per CC1.	15%	\$120,000	Per CC1 but no lake reduces requirement.	25%	\$50,000	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$30,000	Per WC1 but lower because tails covered.	15%	\$30,000	Per WC1 but lower because no tails remaining in valley.
	Hydrotechnics	25%	\$40,000	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$40,000	Per CC1.	15%	\$24,000	Per CC1 but no lake reduces requirement.	25%	\$10,000	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$6,000	Per WC1 but lower because tails covered.	15%	\$6,000	Per WC1 but lower because no tails remaining in valley.
	Geotechnics	100%	\$100,000	Maintenance of dam requires ongoing inspections.	25%	\$25,000	Avoids dam classification; lower inspection liability.	0%	\$0	No lake; lowest inspection liability.	200%	\$200,000	Maintenance of unstable slope requires expanded inspection regime.	100%	\$100,000	Maintenance of dam requires ongoing inspections.	0%	\$0	No impounded water; lowest inspection liability.
Partner Communications/Consultations		25%	\$25,000	Ongoing demands will decline as post closure protocols become routine.	25%	\$25,000	Per CC1.	15%	\$15,000	Per CC1 but no lake reduces requirement.	25%	\$25,000	Ongoing demands will decline as post closure protocols become routine.	15%	\$15,000	Per WC1 but lower because tails covered.	15%	\$15,000	Per WC1 but lower because no tails remaining in valley.
Owner's Project Management & Admin		25%	\$12,500	Ongoing demands will decline as post closure protocols become routine.	25%	\$12,500	Per CC1.	15%	\$7,500	Per CC1 but no lake reduces requirement.	25%	\$12,500	Ongoing demands will decline as post closure protocols become routine.	15%	\$7,500	Per WC1 but lower because tails covered.	15%	\$7,500	Per WC1 but lower because no tails remaining in valley.
Sediment Pond Cleanouts												\$92,000	Assumes this pond cleanout liability will be extend indefinitely.						
Totals			\$687,500			\$380,000			\$213,000			\$579,500			\$348,500			\$87,000	
Totals (Rounded)			\$690,000			\$380,000			\$210,000			\$580,000			\$300,000			\$100,000	
Time Limited Premiums (i.e. for the 10 years following completion of closure activity)																			
Care & General Maintenance	Inspections				50%	\$105,000	Will require inspections of valley restoration results/progress (assume required for 10 years).	50%	\$105,000	Per CC2							50%	\$45,000	Per CC2.
	Access				50%	\$50,000	Will require inspections of valley restoration results/progress (assume required for 10 years).	50%	\$50,000	Per CC2							50%	\$50,000	Per CC2.
Monitoring	Water Quality				50%	\$400,000	Will require additional monitoring as valley restoration is in progress (assume required for 10 years).	50%	\$400,000	Per CC2							50%	\$100,000	Per CC2.
	Hydrotechnics																	\$0	
Partner Communications/Consultations					25%	\$25,000	Will require additional consultations as valley restoration is in progress (assume required for 10 years).	25%	\$25,000	Per CC2							25%	\$25,000	Per CC2.
Owner's Project Management & Admin					25%	\$12,500	Will require additional mangement as valley restoration is in progress (assume required for 10 years).	25%	\$12,500	Per CC2							25%	\$12,500	Per CC2.
Sediment Pond Cleanouts									\$360,000	Assumes sediment pond will be required for 10 years following closure as Clinton Creek Valley undergoes									
Totals			\$0			\$592,500			\$952,500									\$232,500	
Totals (Rounded)			\$0			\$590,000			\$950,000									\$230,000	





CCRP Cost Estimate Table W-42: Annual Post Closure Costs

Current Costs C&M Costs				Assumed Partitioning			
				Clinton		Wolverine	
				%	Cost	%	Cost
Care & General Maintenance	Inspections	\$300,000	70%		\$210,000	30%	\$90,000
	Access	\$200,000	50%		\$100,000	50%	\$100,000
Monitoring	Water Quality	\$1,000,000	80%		\$800,000	20%	\$200,000
	Hydrotechnics	\$200,000	80%		\$160,000	20%	\$40,000
	Geotechnics (a)	\$200,000	50%		\$100,000	50%	\$100,000
	Partner Communications/Consultations	\$200,000	50%		\$100,000	50%	\$100,000
Owner's Project Management & Admin		\$100,000	50%		\$50,000	50%	\$50,000
Total		\$2,200,000			\$1,520,000		\$680,000

Monitoring Cost over Project Duration		
Option	Duration	Cost
CC1	1.42	\$ 1,508,825
CC2	2.31	\$ 2,448,692
CC3	4.55	\$ 4,818,716
WC1	0.50	\$ 530,000
WC2	2.81	\$ 2,982,961
WC3	2.81	\$ 2,982,961

a Includes costs for inclinometer monitoring and InSar analyses that are largely incremental to current expenditures

Sediment Pond Cleanout Costs	CC3	WC1	Comments
Cleanout Volume (m3)	90000	23000	Assume 1.5m sediment over pond settling area requires removal every 5 years.
Mob/Demob	\$50,000	\$50,000	
Excavation, Haul and Place @20\$/m3	\$1,800,000	\$460,000	
Annualized Cost Over 5 Years	\$360,000	\$92,000	This cost will be annualized to simplify the discounted present value calculations. This process will overestimate the present value but not to a degree that will materially influence the

Post Closure Provisions (NPV)		CC1				CC2				CC3				WC1				WC2				WC3			
		% Current	Cost	Comments/Rationales		% Current	Cost	Comments/Rationales		% Current	Cost	Comments/Rationales		% Current	Cost	Comments/Rationales		% Current	Cost	Comments/Rationales		% Current	Cost	Comments/Rationales	
Baseline																									
Care & General Maintenance	Inspections	100%	\$9,050,654	Maintenance of dam requires ongoing inspections.	25%	\$2,262,663	Avoids dam classification; lower inspection liability.	15%	\$1,357,598	No lake; lowest inspection liability.	100%	\$3,878,852	Maintenance of unstable slope requires ongoing inspections.	100%	\$3,878,852	Per CC1	15%	\$581,828	No impounded water; lowest inspection liability.						
	Access	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	25%	\$1,077,459	Avoids dam classification; lower inspection liability.	15%	\$646,475	No lake; lowest inspection liability.	100%	\$4,309,835	Maintenance of unstable slope requires ongoing inspections.	100%	\$4,309,835	Per CC1	15%	\$646,475	No impounded water; lowest inspection liability.						
Monitoring	Water Quality	25%	\$8,619,670	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$8,619,670	Per CC1.	15%	\$5,171,802	Per CC1 but no lake reduces requirement.	25%	\$2,154,918	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$1,292,951	Per WC1 but lower because tails covered.	15%	\$1,292,951	Per WC1 but lower because no tails remaining in valley.						
	Hydrotechnics	25%	\$1,723,934	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$1,723,934	Per CC1.	15%	\$1,034,360	Per CC1 but no lake reduces requirement.	25%	\$430,984	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$258,590	Per WC1 but lower because tails covered.	15%	\$258,590	Per WC1 but lower because no tails remaining in valley.						
	Geotechnics	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	25%	\$1,077,459	Avoids dam classification; lower inspection liability.	0%	\$0	No lake; lowest inspection liability.	200%	\$8,619,670	Maintenance of unstable slope requires expanded inspection regime.	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	0%	\$0	No impounded water; lowest inspection liability.						
Partner Communications/Consultations		25%	\$1,077,459	Ongoing demands will decline as post closure protocols become routine.	25%	\$1,077,459	Per CC1.	15%	\$646,475	Per CC1 but no lake reduces requirement.	25%	\$1,077,459	Ongoing demands will decline as post closure protocols become routine.	15%	\$646,475	Per WC1 but lower because tails covered.	15%	\$646,475	Per WC1 but lower because no tails remaining in valley.						
Owner's Project Management & Admin		25%	\$538,729	Ongoing demands will decline as post closure protocols become routine.	25%	\$538,729	Per CC1.	15%	\$323,238	Per CC1 but no lake reduces requirement.	25%	\$538,729	Ongoing demands will decline as post closure protocols become routine.	15%	\$323,238	Per WC1 but lower because tails covered.	15%	\$323,238	Per WC1 but lower because no tails remaining in valley.						
Sediment Pond Cleanouts			\$0			\$0			\$0			\$3,965,048	Assumes this pond cleanout liability will be extend indefinitely.		\$0			\$0							
Totals			\$29,630,117			\$16,377,374			\$9,179,949			\$24,975,495			\$15,019,776			\$3,749,557							
Totals (Rounded)			\$29,630,000			\$16,380,000			\$9,180,000			\$24,980,000			\$15,000,000			\$3,700,000							
Time Limited Premiums (i.e. for the 10 years following completion of closure activity)																									
Care & General Maintenance	Inspections		\$0		50%	\$943,171	Will require inspections of valley restoration results/progress (assume required for 10 years).	50%	\$943,171	Per CC2		\$0			\$0			50%	\$404,216	Per CC2.					
	Access		\$0		50%	\$449,129	Will require inspections of valley restoration results/progress (assume required for 10 years).	50%	\$449,129	Per CC2		\$0			\$0			50%	\$449,129	Per CC2.					
Monitoring	Water Quality		\$0		50%	\$3,593,034	Will require additional monitoring as valley restoration is in progress (assume required for 10 years).	50%	\$3,593,034	Per CC2		\$0			\$0			50%	\$898,259	Per CC2.					
	Hydrotechnics		\$0			\$0			\$0			\$0			\$0				\$0						
Partner Communications/Consultations			\$0		25%	\$224,565	Will require additional consultations as valley restoration is in progress (assume required for 10 years).	25%	\$224,565	Per CC2		\$0			\$0			25%	\$224,565	Per CC2.					
Owner's Project Management & Admin			\$0		25%	\$112,282	Will require additional mangement as valley restoration is in progress (assume required for 10 years).	25%	\$112,282	Per CC2		\$0			\$0			25%	\$112,282	Per CC2.					
Sediment Pond Cleanouts			\$0			\$0			\$3,233,731	Assumes sediment pond will be required for 10 years following closure as Clinton Creek Valley undergoes		\$0			\$0				\$0						
Totals			\$0			\$5,322,182			\$8,555,912										\$2,088,451						
Totals (Rounded)			\$0			\$5,320,000			\$8,560,000										\$2,090,000						

Post Closure Provisions (NPV)			CC1				CC2				CC3				WC1				WC2				WC3			
			% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales	% Current	Cost	Comments/Rationales			
Baseline And Time Limited Premiums (i.e. for the 10 years following completion of closure activity)																										
Care & General Maintenance	Inspections	100%	\$9,050,654	Maintenance of dam requires ongoing inspections.	25%	\$3,205,835	Avoids dam classification; lower inspection liability.	15%	\$2,300,770	No lake; lowest inspection liability.	100%	\$3,878,852	Maintenance of unstable slope requires ongoing inspections.	100%	\$3,878,852	Per CC1	15%	\$986,044	No impounded water; lowest inspection liability.							
	Access	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	25%	\$1,526,588	Avoids dam classification; lower inspection liability.	15%	\$1,095,605	No lake; lowest inspection liability.	100%	\$4,309,835	Maintenance of unstable slope requires ongoing inspections.	100%	\$4,309,835	Per CC1	15%	\$1,095,605	No impounded water; lowest inspection liability.							
Monitoring	Water Quality	25%	\$8,619,670	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$12,212,704	Per CCL	15%	\$8,764,836	Per CC1 but no lake reduces requirement.	25%	\$2,154,918	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$1,292,951	Per WC1 but lower because tails covered.	15%	\$2,191,209	Per WC1 but lower because no tails remaining in valley.							
	Hydrotechnics	25%	\$1,723,934	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	25%	\$1,723,934	Per CCL	15%	\$1,034,360	Per CC1 but no lake reduces requirement.	25%	\$430,984	Ongoing monitoring to validate performance; a fraction of design development and permitting data requirements.	15%	\$258,590	Per WC1 but lower because tails covered.	15%	\$258,590	Per WC1 but lower because no tails remaining in valley.							
	Geotechnics	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	25%	\$1,077,459	Avoids dam classification; lower inspection liability.	0%	\$0	No lake; lowest inspection liability.	200%	\$8,619,670	Maintenance of unstable slope requires expanded inspection regime.	100%	\$4,309,835	Maintenance of dam requires ongoing inspections.	0%	\$0	No impounded water; lowest inspection liability.							
Partner Communications/Consultations		25%	\$1,077,459	Ongoing demands will decline as post closure protocols become routine.	25%	\$1,302,023	Per CCL	15%	\$871,040	Per CC1 but no lake reduces requirement.	25%	\$1,077,459	Ongoing demands will decline as post closure protocols become routine.	15%	\$646,475	Per WC1 but lower because tails covered.	15%	\$871,040	Per WC1 but lower because no tails remaining in valley.							
Owner's Project Management & Admin		25%	\$538,729	Ongoing demands will decline as post closure protocols become routine.	25%	\$651,012	Per CCL	15%	\$435,520	Per CC1 but no lake reduces requirement.	25%	\$538,729	Ongoing demands will decline as post closure protocols become routine.	15%	\$323,238	Per WC1 but lower because tails covered.	15%	\$435,520	Per WC1 but lower because no tails remaining in valley.							
Sediment Pond Cleanouts			\$0			\$0			\$3,233,731			\$3,965,048	Assumes this pond cleanout liability will be extend indefinitely.		\$0			\$0								
Totals			\$29,630,117			\$21,699,555			\$17,735,861			\$24,975,495			\$15,019,776			\$5,838,008								
Totals (Rounded)			\$29,630,000			\$21,700,000			\$17,740,000			\$24,980,000			\$15,000,000			\$5,800,000								



CCRP Cost Estimate Table W-43: CCRP - Major, Supplementary Investigative Costs by Option

Investigative Requirement	Hrs/Test Holes	Unit Cost (\$/Hr or TH)	Cost	CC1	CC2	CC3	WC1	WC2	WC3
<b>ERT</b>									
Equipment Purchase			\$50,000						
Field Time	300	200	\$60,000						
Interpretation / Reporting Time	200	200	\$40,000						
			<b>Total</b>	<b>\$150,000</b>	<b>\$150,000</b>	<b>\$150,000</b>		<b>\$150,000</b>	
Dump Foundation Characterization	50	\$110,000	\$5,500,000	\$5,500,000	\$5,500,000	\$5,500,000			
Ice Rich PF Delineation									
CC1 Spillway Bedrock Data	30	\$110,000	\$3,300,000	\$3,300,000					
Pump Tests	25	\$20,000	\$500,000	\$500,000	\$500,000	\$500,000			
WC2 Buttress / Dam Investigation	20	\$110,000	\$2,200,000					\$2,200,000	
			<b>Totals</b>	<b>\$9,450,000</b>	<b>\$6,150,000</b>	<b>\$6,150,000</b>	<b>\$0</b>	<b>\$2,350,000</b>	<b>\$0</b>

**Derived from 2018 Investigative Costs**

Drilling/Sub Costs (i.e. TA 10)	\$1,615,000
Wood Super Costs (i.e. TA 11)	\$700,000
Total Cost	<u>\$2,315,000</u>
Test Holes Completed	21
Unit Cost /TH	\$110,238

## CCRP Cost Estimate Table W-44: 2019 Estimate Factors and Assumptions

### Soil Density

Material	Density (t/m3)	Reference
Waste Dump	2	Wood. June 11, 2019 email correspondence.
Tailings	2	Wood. June 11, 2019 email correspondence.

### EPCM and Contingency

EPCM	Contingency	Incidental Temporary Facilities and Controls
10%	25%	3%

### General

Financial Item	Value	Reference
Discount Rate	2.00%	Bank of Canada. 2019. Yield Curves for Zero-Coupon Bonds. Downloaded on May 16, 2019 from <a href="https://bankofcanada.ca/rates/interest-rates/bond-yield-curves/">https://bankofcanada.ca/rates/interest-rates/bond-yield-curves/</a> .
Life Cycle Duration (years)	100	Post Closure Activities following completion of closure activity.
Life Cycle Duration (years)	10	Post Closure Activity Time Limited Premiums (i.e. for the 10 years following completion of closure activity).
Base Year Applied for Discount Rate	January 1, 2019	Wood. May 2019. Estimate Basis Memorandum.
Currency	Q2 2019 Canadian dollars	Wood. May 2019. Estimate Basis Memorandum.
Land rights-of-way have been established for construction		Wood. May 2019. Estimate Basis Memorandum.
All major works will be performed by a workforce from Whitehorse.		Wood. May 2019. Estimate Basis Memorandum.
A camp will be established at the Clinton Creek site to accommodate all on-site personnel. All camp facilities will be brought in from Edmonton, AB		Wood. May 2019. Estimate Basis Memorandum.
Sufficient site preparations (clearing, grubbing, topsoil stripping and subgrade preparation) will have been completed previously at the Clinton Creek site to accommodate camp and site facilities		Wood. May 2019. Estimate Basis Memorandum.
All on-site personnel will be on a "two weeks on, two weeks off" rotation schedule		Wood. May 2019. Estimate Basis Memorandum.
One grader will be allocated full-time for road maintenance during construction in the summer (May to September)		Wood. May 2019. Estimate Basis Memorandum.
Two graders and one dozer will be allocated full-time for snow removal and road maintenance during construction in the winter (October to April)		Wood. May 2019. Estimate Basis Memorandum.
diesel fuel costs \$1.36/L plus the cost of transportation from Dawson City to site		Wood. May 2019. Estimate Basis Memorandum.
All heavy equipment, camps, facilities and materials will be compatible with transport across: - the Yukon River via the existing ferry or ice bridge; and ♦ the Fortymile River via the existing bridge.		Wood. May 2019. Estimate Basis Memorandum.

Statistics Canada. Table 18-10-0058-01 Machinery and equipment price index, by industry of purchase, quarterly. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810005801>

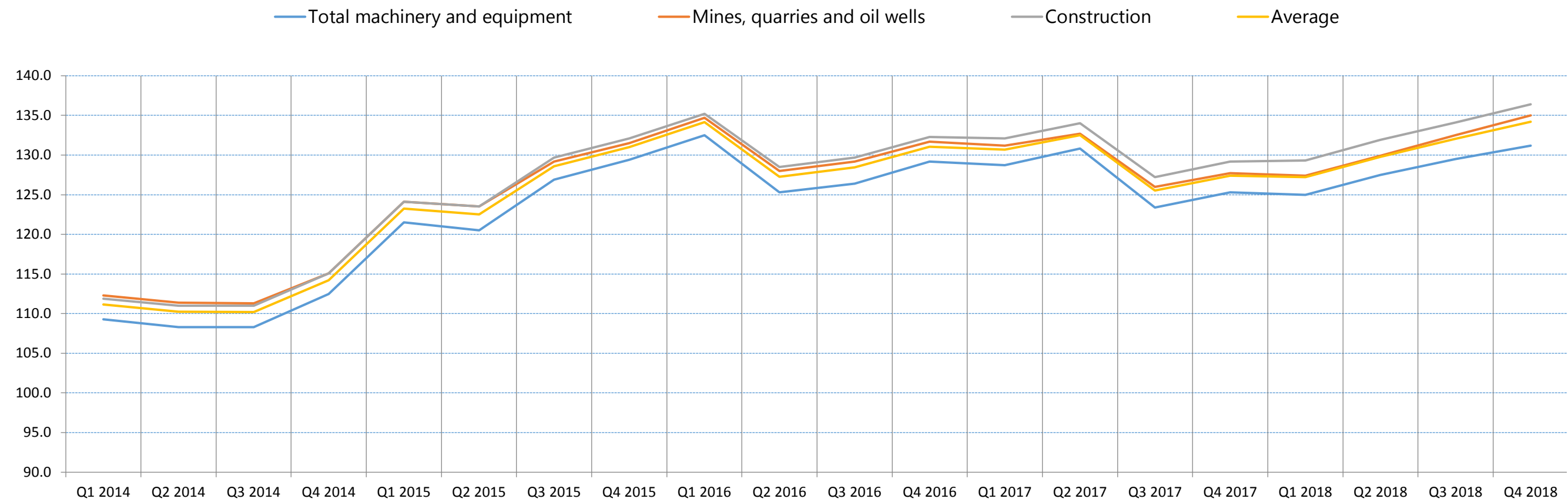
Survey or program details:  
Mines, quarries and oil wells. Construction.  
Geography:  
Canada

Quarter and Year	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
Total machinery and equipment	109.3	108.3	108.3	112.5	121.5	120.5	126.9	129.4	132.5	125.3	126.4	129.2	128.7	130.8	123.4	125.3	125.0	127.5	129.5	131.2
Mines, quarries and oil wells	112.3	111.4	111.3	115.1	124.1	123.5	129.2	131.5	134.7	128.0	129.2	131.7	131.2	132.7	126.0	127.7	127.4	129.9	132.5	135.0
Construction	111.9	111.0	111.0	115.1	124.1	123.5	129.7	132.1	135.2	128.5	129.7	132.3	132.1	134.0	127.2	129.2	129.3	131.9	134.1	136.4
Average	111.2	110.2	110.2	114.2	123.2	122.5	128.6	131.0	134.1	127.3	128.4	131.1	130.7	132.5	125.5	127.4	127.2	129.8	132.0	134.2



Percent change for Q1 2014 to Q4 2018.

20.72



Footnotes:

1. This quarterly CANSIM table replaces CANSIM table 327-0042 which has been archived. This CANSIM table contains quarterly data starting from the first quarter 1997.

2. With the release of second quarter 2015, all data for 2014 has been revised.

3. The classification structure by industry in the 2010-based Machinery and Equipment Price Index (MEPI) series is based on the 2009 Input Output Final Demand Classification (IOFDC). By using the 2009 IOFDC, some historical series can no longer be calculated. Where possible, the historical series are published and consist of all data for the quarters prior to the first quarter 2010. The historical series were obtained by linking together indexes from the 2010-based MEPI series and the corresponding 1997-based MEPI series. Also, these historical series were obtained by rebasing the 1997-based MEPI series using, as the rebasing factor, the ratio of 100 to the annual average index of 2010.

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810005801&pickMembers%5B0%5D=3.2>

# CCRP Cost Estimate Table W-46: Statistics Canada Average Hourly Earnings

Average hourly earnings for employees paid by the hour, by industry, annual <sup>1 2 3 4</sup>

Annual

Table: null (formerly CANSIM 281-0030)

Geography: Canada, Province or territory

	Canada					Yukon					Northwest Territories <sup>5 6</sup>				
	Including overtime					Including overtime					Including overtime				
North American Industry Classification System (NAICS) <sup>4</sup>	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Industrial aggregate excluding unclassified businesses 7 8	\$ 23.26	\$ 23.57	\$ 23.85	\$ 24.26	\$ 25.06	\$ 26.09	\$ 25.31	\$ 26.55	\$ 27.41	\$ 27.73	\$ 30.80	\$ 30.98	\$ 31.27	\$ 30.37	\$ 31.81
Mining, quarrying, and oil and gas extraction	\$ 41.08	\$ 39.44	\$ 38.98	\$ 38.40	\$ 41.52	..	..	..	..	..	..	..	..	..	..
Construction	\$ 30.72	\$ 30.95	\$ 31.70	\$ 32.22	\$ 32.82	..	..	..	..	..	36.18B	\$ 35.40	\$ 36.59	\$ 39.53	\$ 37.88

A : data quality: excellent (All "A" at time of download)

.. : not available for a specific reference period

B : data quality: very good

Current dollars

## Footnotes:

- 1 Data quality indicators are based on the coefficient of variation (CV). Quality indicators indicate the following: A - Excellent (CV from 0% to 4.99%); B - Very good (CV from 5% to 9.99%); C - Good (CV from 10% to 14.99%); D - Acceptable (CV from 15% to 24.99%); E - Use with caution (CV from 25% to 34.99%); F - Too unreliable to publish (CV greater than or equal to 35% or sample size is too small to produce reliable estimates).
- 2 The introduction of administrative data in 2001 and the associated change in methodology resulted in level shifts for some series. This affects the comparability of pre- and post-2001 estimates.
- 3 Earnings data are based on gross payroll before source deductions.
- 4 Industry estimates in this table are based on the 2017 North American Industry Classification System (NAICS) Version 3.0.
- 5 Although the creation of Nunavut officially took place in April 1999, the Survey of Employment, Payrolls and Hours (SEPH) was only able to begin publishing separate estimates for Northwest Territories and Nunavut with the release of the January 2001 data. Efforts were undertaken to estimate the employment for Nunavut back to April 1999. These are available upon request by contacting Client Services (toll-free: 1-866-873-8788; statcan.labour-travail.statcan@canada.ca), Labour Statistics Division.
- 6 Since January 2001, the Survey of Employment, Payrolls and Hours (SEPH) program no longer combines Northwest Territories and Nunavut. They are produced as two separate territories.
- 7 Industrial aggregate covers all industrial sectors except those primarily involved in agriculture, fishing and trapping, private household services, religious organisations and the military personnel of the defence services.
- 8 Unclassified businesses (00) are businesses for which the industrial classification (North American Industry Classification System [NAICS] 2017 Version 3.0) has yet to be determined.

How to cite: Statistics Canada. Table null Average hourly earnings for employees paid by the hour, by industry, annual

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410020601>



CCRP Cost Estimate Table W-47: Yukon Government Fair Wage Schedule

FAIR WAGE SCHEDULE CATEGORY RATE CHANGES <sup>1</sup>				Percent Change
Effective April 1, 2014		Effective April 1, 2018		
Category A Class	\$31.13	Category A Class	\$33.43	6.9
Boilermaker (erection & repair) (metal framing & walls, drywall application, drywall, contact & suspended ceilings, acoustical & metal, linear ceiling, demountable partition, shaft wall and access floor systems, plenum barriers, fireproofing & plasters)	Interior Systems Mechanic	Boilermaker (erection & repair) (metal framing & walls, drywall application, drywall, contact & suspended ceilings, acoustical & metal, linear ceiling, demountable partition, shaft wall and access floor systems, plenum barriers, fireproofing & plasters)	Interior Systems Mechanic	
Bricklayer & Stone Mason	Linesperson (electric)	Bricklayer & Stone Mason	Linesperson (electric)	
Carpenter	Mechanical Systems Insulator	Carpenter	Mechanical Systems Insulator	
Crane Operator (overhead, climbing, skyway or equivalent)	Millwright	Crane Operator (overhead, climbing, skyway or equivalent)	Millwright	
Diver	Plumber, Steamfitter and Welder (pipe)	Diver	Plumber, Steamfitter and Welder (pipe)	
Electrician	Refrigeration Mechanic	Electrician	Refrigeration Mechanic	
Elevator Mechanic	Sheet Metal Mechanic	Elevator Mechanic	Sheet Metal Mechanic	
Glass & Metal Installer	Sprinkler System Installer	Glass & Metal Installer	Sprinkler System Installer	
Head Cook Camp (over 100 persons)	Structural Steel Erector  (includes reinforcing ironwork)	Head Cook Camp (over 100 persons)	Structural Steel Erector  (includes reinforcing ironwork)	
Heavy Equipment Mechanic	Surveyor	Heavy Equipment Mechanic	Surveyor	
Heavy Equipment Operator	Tile Setter	Heavy Equipment Operator	Tile Setter	
(dragline, gradall, pile driver, shovel, mobile crane)		(dragline, gradall, pile driver, shovel, mobile crane)		
Welder-General (acetylene & electric)		Welder-General (acetylene & electric)		
Category B Class	\$27.91	Category B Class	\$29.97	6.9
Asphalt or Concrete Spreader Operator	Head Cook (1-100 persons)	Asphalt or Concrete Spreader Operator	Head Cook (1-100 persons)	
Batchperson (operator of asphalt or concrete plant)	Heavy Equipment Operator (rubber tire backhoe, tracked backhoe, bulldozer, front-end loaders, graders, scrapers or equivalent)	Batch Person (operator of asphalt or concrete plant)	Heavy Equipment Operator (rubber tire backhoe, tracked backhoe, bulldozer, front-end loaders, graders, scrapers or equivalent)	
Blaster	Heavy Equipment Servicer	Blaster	Heavy Equipment Servicer	
Cement Finisher	Hoist Operator	Cement Finisher	Hoist Operator	
Compressor Operator	Ornamental & Miscellaneous Metal Erector	Compressor Operator	Ornamental & Miscellaneous Metal Erector	
Concrete Mixer Operator	Painter & Paper Hanger	Concrete Mixer Operator	Painter & Paper Hanger	
Driller	Pipe layer	Driller	Pipe layer	
Float Driver	Roofer	Float Driver	Roofer	
Floor Covering Installer (includes carpet & resilient tile)	Truck Driver (heavy - 10 Ton G.V.W. & up)	Floor Covering Installer (includes carpet & resilient tile)	Truck Driver (heavy - 10 Ton G.V.W. & up)	
Category C Class	\$24.75	Category C Class	\$26.58	6.9
Blaster's Helper	Surveyor's Helper	Blaster's Helper	Surveyor's Helper	
Concrete Floatperson (puddleperson, screedperson)	Truck Driver (G.V.W. - 3 to 10 Tons)	Concrete Float Person (puddleperson, screedperson)	Truck Driver (G.V.W. - 3 to 10 Tons)	
Second Cook/Baker, Camp		Second Cook/Baker, Camp		
Category D Class	\$22.47	Category D Class	\$24.12	6.8
Asphalt Raker	Labourer	Asphalt Raker	Labourer	
Camp/Kitchen Helper	Mortar Person	Camp/Kitchen Helper	Mortar Person	
Driller's Helper	Pump Tender	Driller's Helper	Pump Tender	
First Aid Attendant	Roller Operator (roller, packer, or compactor)	First Aid Attendant	Roller Operator (roller, packer, or compactor)	
Flagperson	Roofer's Helper	Flag Person	Roofer's Helper	
Jackhammer Operator	Watchperson or Security Guard	Jackhammer Operator	Watchperson or Security Guard	

<sup>1</sup>[http://www.community.gov.yk.ca/pdf/Fair-Wage-Schedule\\_2018.pdf](http://www.community.gov.yk.ca/pdf/Fair-Wage-Schedule_2018.pdf)

The Fair Wage Schedule (O.I.C. 2005/193) sets the wage rates (by category, class and job title) that can be paid to persons working on a contract for a public work of the Yukon.

Annual adjustments to the Fair Wage Schedule come into effect every year on April 1st, and are based on the previous year's Consumer Price Index (CPI). These adjustments must be paid to all employees working on existing and upcoming construction contracts with the government.



# **Appendix A**

## **Equipment Evaluations**

## Memo

---

**To:** Brian Geddes  
**From:** Antonio Peralta  
**cc:** Chris Wenzel, Geoff Graham  
**Date:** 2019/06/18  
**Re:** Clinton Creek Remediation Project – Mining Equipment Estimate

---

### 1.0 INTRODUCTION

Wood's E&I Solutions requested the support of Wood's Mining Consulting Group to estimate the excavator and truck requirements for the Clinton Creek Remediation Project. The Clinton Creek Mine is a former asbestos mine which was in operation between 1968 and 1978. The site is located 80 km northwest of Dawson City, Yukon (YT), near the confluence of Fortymile River and the Yukon River.

During operation, 60 Mt of waste rock were placed along the south valley wall of Clinton Creek while 11 Mt of tailings were placed along the west valley wall of Wolverine Creek. Subsequent movement of the waste rock and tailings have since blocked Clinton Creek and Wolverine Creek, respectively. The blockage of Clinton Creek from waste rock has resulted in the impoundment of approximately 10 million m<sup>3</sup> of runoff from the surrounding natural portion of the watershed, forming Hudgeon Lake.

Several closure options will be evaluated. These options involve the relocation of waste rock and tailings to backfill the Porcupine Pit. The process to estimate the excavator and truck requirements for each option is described in this memo.

### 2.0 REMEDIATION OPTIONS

The remediation options involving mining equipment are described in Table 1.

**Table 1: Remediation Options Earthmoving Volumes**

Tier 1 - Viable Alternatives			Estimated Waste Rock Removal Volume (m <sup>3</sup> )	Waste Rock Relocation Area	Haul Distance (one way) (km)
CC2	Clinton Creek	Water Passage, Catastrophic Failure Mitigation and Lowering Lake – Conduct sufficient work on the waste rock pile to mitigate a catastrophic failure, construct a water conveyance channel to provide water passage from Hudgeon Lake to Clinton Creek, and lower Hudgeon Lake as part of that concept.	7,667,000	Porcupine Pit	0.4 to 1.2
CC3	Clinton Creek	Water Passage with Reduction of the Lake Level, Eliminating the Dam, and Mitigating Catastrophic Failure – Conduct sufficient work on the waste rock pile to prevent it from acting as a Dam (i.e. as defined by the Canadian Dam Association) on Clinton Creek and to mitigate a catastrophic failure of the waste rock pile. Construct a water conveyance channel to provide water passage through the site. Option involves a significant shift of the creek location to the south.	13,435,000	Porcupine Pit	0.4 to 1.2
WC3A	Wolverine Creek	Isolate the Asbestos – Stabilize tailings pile to allow a cover to be placed or relocate the tailings pile.	7,688,000	Porcupine Pit	3.8
Tier 2 - Alternatives Requiring Extraordinary Measures					
CC1	Clinton Creek	Water Passage and Catastrophic Failure Mitigation – Conduct sufficient work on the waste rock pile to mitigate a catastrophic failure of the pile and construct a water conveyance channel to provide water passage from Hudgeon Lake to Clinton Creek.	4,822,000	Porcupine Pit	0.4 to 1.2

### 3.0 SELECTED EQUIPMENT

No formal equipment selection process was carried out. Instead, a small mining fleet made up of a CAT385 excavator and CAT745 trucks was assumed. This assumption was made based on the material volume to be moved in each alternative, as well as the dimensions of the selected equipment. The CAT385 excavator is shown Figure 1 and the CAT745 truck is shown in Figure 2.

**Figure 1: CAT 385 Excavator**




















**Figure 2: CAT745 Truck**





In addition to the excavator and trucks, support equipment will be required to aid the excavator, spread the material in the Porcupine Pit and the maintain the site roads. A couple of CAT D8 dozers and a CAT 12H grader are enough for this operation. The grader selection is based on the recommended Caterpillar's match for the CAT 745 truck, as shown in Figure 3. The CAT D8 dozer is shown in Figure 4 and the CAT 12H motor grader is shown in Figure 5.

**Figure 3: Caterpillar's Truck to Motor Grader Match**

TRUCK TO MOTOR GRADER MATCH								
	740	770	775	777	785	789	793	797
12/140/160								
14								
16								
18								
24								

NOTE: Calculations based on 30 degree blade angle, standard moldboard width.  
May not be applicable in all applications depending on haul road damage.  
Rule of thumb 2.5 times the truck width.

**Figure 4: CAT D8 Dozer**



**Figure 5: CAT 12H Motor Grader**



Finally, some auxiliary equipment will be required. This equipment includes, but it is not limited to, light plants, a water truck for dust control, a tire handler, a low bed truck to transport track equipment, a maintenance truck and a small loader for overall support and snow removal.

#### **4.0 EXCAVATOR AND TRUCK ESTIMATES**

The Caterpillar's Performance Handbook Edition 48 was used to estimate the excavator and truck productivities. Some assumptions to determine the net operating hours per year were made based on previous experience in mining projects. These assumptions are shown in Table 2.

**Table 2: Assumptions to Calculate Excavator and Truck Productivities**

Parameter	Units	Value
Available days	days/year	365
Number of shifts	shifts/day	2
Shift Length	h	12
Availability	%	85
Operating stand-by		
Lunch & Breaks	h/shift	1.00
Meeting	h/shift	0.04
Shift Change	h/shift	0.17
Fueling	h/shift	0.25
Weather	h/year	120.00
Utilization	%	83
Truck availability to shovel	%	75
Loose Density	t/m <sup>3</sup>	2
Moisture	%	5
Excavator Cycle Time	s	22
Excavator Spot Time	s	35
Road gradient - Loaded Truck	%	10
Road gradient - Empty Truck	%	(10)
Rolling resistance	%	2

The excavator rated capacity is 8.3 t/bucket and the truck rated capacity is 41 t. The maximum production estimated for the excavator is 4.6 Mt/year. The number of trucks for each remediation alternative, as well as the time required to perform the work, are shown in Table 3.

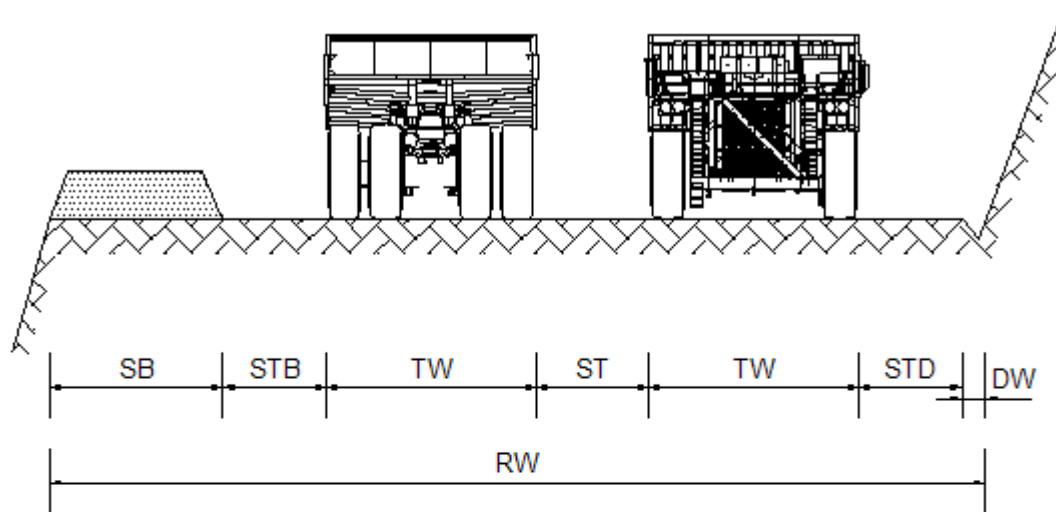
**Table 3: Equipment Estimate Summary**

Name	Place	Estimated Waste Rock Removal Volume (m <sup>3</sup> )	Fleet Production (t/year)	Excavator CAT 385 (Units)	Truck CAT 745 (Units)	Duration (years)
Tier 1 - Viable Alternatives						
CC2	Clinton Creek	7,667,000	4,600,000	1	4	3.4
CC3	Clinton Creek	13,435,000	4,600,000	1	4	6.0
WC3A	Wolverine Creek	7,688,000	4,600,000	1	11	3.4
Tier 2 - Alternatives Requiring Extraordinary Measures						
CC1	Clinton Creek	4,822,000	4,600,000	1	4	2.1

The detailed calculations for each alternative are included in Appendix A.

Operating considerations for the CAT745 truck include a clearance radius of 10m and an estimated road width of 17 m for two-lane road (Figure 6). If a one-lane road is considered the road width decreases to 11 m, as shown in Figure 7. These widths were estimated following Caterpillar's guideline to determine the rolling surface of the road, minimum three times the truck width, and estimating the required width for a safety berm and a culvert. The road width estimates are included in Appendix B. A one-lane road option would require a series of pullouts to allow passing. The productivity of the fleet would be reduced but this reduction is difficult to quantify without having a detailed road design.

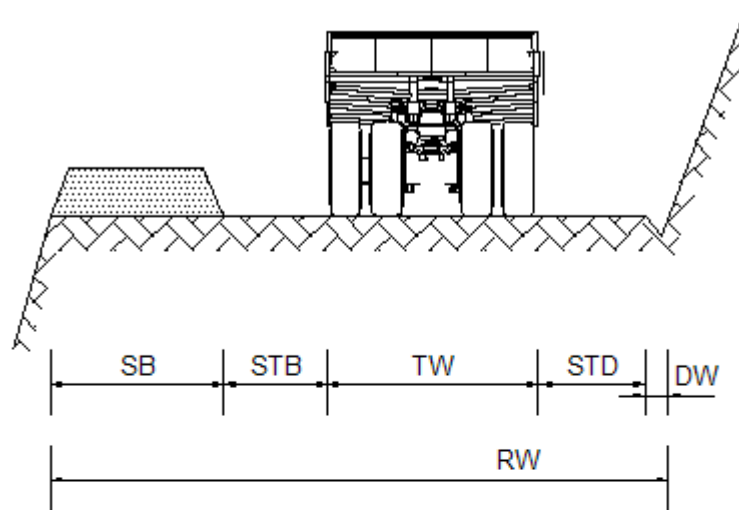
**Figure 6: Two-lane Road Width Estimate for CAT745 Truck**



SB:	Safety Berm	2.52 m
STB:	Space Between Truck and Safety Berm	1.40 m
TW:	Truck Width	4.20 m
ST:	Space Between Trucks	1.40 m
TW:	Truck Width	4.20 m
STD:	Space Between Truck and Ditch	1.40 m
DW:	Ditch Width	1.50 m
RW:	Ramp Width	16.62 m

Truck Width - CAT 745	4.20 m
Rolling Surface Width Rule of Thumb =	12.60 m
Tire Radius	0.95 m

**Figure 7: One-lane Road Width Estimate for CAT745 Truck**



SB:	Safety Berm	2.52 m
STB:	Space Between Truck and Safety Berm	1.40 m
TW:	Truck Width	4.20 m
STD:	Space Between Truck and Ditch	1.40 m
DW:	Ditch Width	1.50 m
RW:	Ramp Width	11.02 m

Truck Width - CAT 745	4.20 m
Rolling Surface Width Rule of Thumb =	8.40 m
Tire Radius	0.95 m

## 5.0 CONCLUSIONS

- The earthmoving equipment fleet size for the Clinton Creek Remediation Project was estimated based on a CAT385 excavator and CAT745 trucks.
- The project involves several remediation options. Four of them require earthmoving equipment. Considering one excavator in operation, the options will require between 2 to 6 years to complete.
- To maximize the excavator productivity, four trucks are required for most options. However, the option that considers hauling the tailings to the Porcupine Pit will require eleven trucks.



- Equipment requirements, including number of units and productivities, assume a conventional operation using a two-lane haul road.
- The project will also need two CAT D8 dozers and a CAT 12H motor grade to support the load/haul fleet.
- Auxiliary equipment will include light plants, a water truck for dust control, a tire handler, a low bed truck, a maintenance truck and a small loader for overall support and snow removal.

## **6.0 APPENDICES**

- Detailed Mining Fleet Estimates. Provided in electronic format: *CC Mining\_CAT745.xlsx*
- Haul Road Width Estimates. Provided in electronic format: *CC Road Width Estimation.xlsx*