

PEACE RIVER REGIONAL DISTRICT
REGIONAL PARKS COMMITTEE MEETING
A G E N D A

for the meeting to be held on **Monday, January 29, 2018**
in the Regional District Office Boardroom 1981 Alaska Avenue,
Dawson Creek, BC, commencing at 10:30 a.m.

- 1. Call to Order: Staff to call the meeting to Order**
- 2. Election of Chair (Elected Official will assume the Chair)**
- 3. Director's Notice of New Business:**
- 4. Adoption of Agenda:**
- 5. Adoption of Minutes:**
M-1 Regional Parks Committee Meeting Minutes of October 10, 2017
- 6. Business Arising from the Minutes:**
- 7. Delegations:**
D-1 Jana Zelenski, Principal Landscape Architect, Lanarc Consultants – Blackfoot and Montney Centennial Regional Park Draft Final Report and Concept Review
- 8. Reports:**
R-1 September 29, 2017 – Bryna Casey, Parks and Rural Recreation Coordinator – Trails Policy Amendment
R-2 – September 27, 2017 – Bryna Casey, Parks and Rural Recreation Coordinator – Wolverine Nordic Ski Association Recreational Trails Grants-in-Aid Amendment Request
R-3 – January 4, 2018 - Bryna Casey, Parks and Rural Recreation Coordinator – 2018 Recreational Trails Grants-in-Aid Allocations
R-4 – January 9, 2018 - Bryna Casey, Parks and Rural Recreation Coordinator – 2018 Draft Regional Parks Budget
R-5 – August 8, 2017 – Bryna Casey, Parks and Rural Recreation Coordinator – Peace Valley Lookout Options
- 9. New Business:**
- 10. Adjournment:**

January 29, 2018



PEACE RIVER REGIONAL DISTRICT
REGIONAL PARKS COMMITTEE
MEETING MINUTES

M-1

DATE: October 10, 2017
PLACE: Boardroom, Regional District Office, Fort St. John, BC
PRESENT: **Directors**
Director Dan Rose, Meeting Chair
Director Karen Goodings
Director Don McPherson
Director Rob Fraser
Staff
Trish Morgan, General Manager of Community Services
Bryna Casey, Parks and Rural Recreation Coordinator
Sheri Williams, Recording Secretary
Delegates
Jana Zelenski, Lanarc Consultants

CALL TO ORDER: The meeting was called to order at 8:35 a.m.

ADOPTION OF THE AGENDA:

Oct 10, 2017 Agenda MOVED by Director Fraser, SECONDED by Director McPherson,
That the Regional Parks Committee agenda for the October 10, 2017 meeting be adopted.
Call to Order
Director's Notice of New Business
Adoption of the Agenda
Minutes
M-1 Regional Parks Committee Meeting Minutes of May 10, 2017
Business Arising from the Minutes
Delegations
D-1 Jana Zelenski, Principal Landscape Architect, Lanarc Consultants – Blackfoot and Montney Park Design
Preliminary Concept Review
Correspondence
C-1 October 4, 2017 – Parks Committee Update Presentation and Preliminary Concept Review, Lanarc
Consultants
C-2 September 7, 2017 – Park Design Study – Engagement Report, Lanarc Consultants
Reports
R-1 September 29, 2017 – Trails Policy Amendment
R-2 September 27, 2017 – Wolverine Nordic Ski Association Recreational Trails Grants-in-Aid amendment
request
New Business
Adjournment

CARRIED.

MINUTES:

M-1 MOVED by Director Goodings, SECONDED by Director Fraser,
May 10, 2017 That the Regional Parks Committee Meeting minutes of May 10, 2017 be adopted.

CARRIED.

BUSINESS ARISING FROM THE MINUTES:

January 29, 2018

NB-1 That the Regional Parks Committee recommend to the Regional Board that a meeting be requested with the North and South Peace MLA's to discuss the potential Boat Launch at Blackfoot Regional Park.

DELEGATION:

D-1 Ms. Jana Zelenski, Principal Landscape Architect, Lanarc Consultants was in attendance to provide
Park Design members with an overview of its findings with respect preliminary concept options for Blackfoot
Concept Review Regional Park and Montney Centennial Regional Park.

REPORTS:

R-1 and R-2 MOVED by Director Goodings, SECONDED by Director Fraser,
Trails Policy That the following reports be deferred to the next Regional Parks Committee meeting:
Amendment and a) September 29, 2017 – Trails Policy Amendment; and
Wolverine Nordic Ski b) September 27, 2017 – Wolverine Nordic Ski Association Recreational Trails Grants-in-Aid
 Amendment Request.

CARRIED.

Adjournment: The Chair adjourned the meeting at 10:15 a.m.

Director Rose, Chair

Sheri Williams, Recording Secretary



Peace River Regional District REPORT

R-1

To: Regional Parks Committee

Date: September 29, 2017

From: Bryna Casey, Parks and Rural Recreation Coordinator

Subject: Trails Policy Amendment

RECOMMENDATION(S):

That the Regional Parks Committee recommend to the Regional Board that the Recreational Trails Grants-in-Aid be amended by;

- 1) Changing the definition and monetary threshold for major and minor capital equipment and adding "Schedule "F" – Minor Capital Equipment Inventory" to the Mandatory Application Documentation; and
- 2) Adding a clause to Section 5.16 of the policy to allow organizations to request a funding amendment for situations where the Society has completed their project with the funds allocated and they have outstanding funds remaining.

BACKGROUND/RATIONALE:

Equipment Inventory:

The following resolution was passed at the February 6, 2017 meeting of the Regional Parks Committee; *"that staff draft a proposed change to the policy, requesting that recreational groups applying for a Recreational Trails Grants-in-Aid include to provide an inventory of all equipment owned by the that group."*

The amended policy is attached for the approval of the Committee. The definition of minor equipment is currently; equipment valued at under \$3,000 and having an extended lifetime over one year. The definition of major equipment is currently; equipment valued at over \$3,000, but staff recommend lowering the threshold to \$500. This change would see groups providing an inventory of all minor capital equipment to ensure that the funding is being used as intended. Note: before recommending that the policy be amended, the Committee should consider whether collecting this information will assist them in determining the level of funding support for each applicant. Further, would the value of the piece of minor equipment be the current value (which could have depreciated since purchase) or would it be the original purchase cost?

Funding Amendment:

The Recreational Trails Grants-in-Aid policy was updated in 2015 to add a section regarding amendments to trails applications. Currently, a funding amendment can only be only be applied for in exceptional circumstances where one of the following has occurred (as found in 5.16 Funding Amendment from Recreational Trails Grants-in-Aid Policy):

- i. An emergency situation has occurred and if not rectified immediately it will pose a liability to the organization (e.g., major bridge crossing lost and poses a hazard to the public); or

January 29, 2018

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CAO: *Ch. Birk*

Page 1 of 3

- ii. The location or scope of the project is required to be moved or altered to meet requirements imposed by the land owner.

Staff recommend bringing this policy in line with the Rural Recreational and Cultural Grants-in-Aid Policy, which allows for amendments in such circumstances where the organization has completed the project with the funds allocated and have outstanding funds remaining. This amendment would incentivize organizations to obtain the best value for dollar and would support the objective of the grant – the development and maintenance of public recreational trails.

OPTIONS:

- 1) The Regional Parks Committee recommend that the policy be amended such that equipment at a cost of less than \$500 per individual piece be considered an ineligible expense under the policy.

Discussion: Rather than requiring groups to provide an inventory of tools with their applications, an alternative may be to restrict what may be applied for under the policy. If the intent of the Committee is to not fund the purchase and replacement of minor hand tools (shovels, rakes, etc.), then it may be better to make tools under a certain value (e.g., \$500 or \$1,000) an ineligible expense. Volunteers are often able to provide household hand tools for projects they are completing. The challenge comes in when some tools or machinery is needed year after year that is more costly to obtain such as stump grinders.

- 2) Regional Parks Committee recommend that no changes be made to the policy.

Discussion: The Committee could assess each application as they are received. The Committee can choose on a case-by-case basis what portions of an application will be supported. The challenge is that it is difficult to be consistent between applications and from year to year in the absence of policy detailing ineligible expenses.

- 3) The Regional Parks Committee provide direction to staff.

STRATEGIC PLAN RELEVANCE:

Strategic objective 5.1 is to continue to implement the Parks and Trails Master Plan.

FINANCIAL CONSIDERATION(S):

Equipment Inventory:

If the Committee chooses to amend the policy such that minor equipment purchases will not be an eligible expense, more funds will be available for other components of projects.

Funding Amendment:

No additional funds will be required and it will incentivize organizations to find the lowest cost option to complete their projects if they can reallocate unused funds for additional projects.

COMMUNICATIONS CONSIDERATION(S):

January 29, 2018

If adopted, staff will make changes to the Recreational Trails Grants-in-Aid as directed and will post on the PRRD website and distribute to any groups who have applied to this grant in the past or who intend to for the 2018 granting year.

OTHER CONSIDERATION(S):

Requiring an inventory of minor capital equipment would increase the amount of time and effort required by organizations to apply for this funding.

Attachments:

DRAFT – Recreational Trails Grants-in-Aid Policy

DRAFT - Schedule “F” – Minor Capital Equipment Inventory

Peace River Regional District Statement of POLICY and PROCEDURE			
Department:	Administration	Policy No.	0340-30-8
Section:	Community Services	Issued:	
Subject:	Recreational Trails Grants-in-Aid	Effective:	September 3, 2017
Board Resolution # and Date:	RD/15/09/23 September 3, 2015	Page:	1 of 5
		Replaces:	0340-30-8
Issued by:	Trish Morgan, GM Community Services	Dated:	June 25, 2014
Approved by:	Chris Cvik, Chief Administrative Officer		

1. POLICY

That the Regional Board provide grants to non-profit organizations within the region to support the development and maintenance of public recreational trails.

2. PURPOSE

The Peace River Regional District recognizes the importance of recreational trails for its citizens in terms of enhanced quality of life, health and well-being, economic benefits, protection and conservation of the environment and preservation of local history and culture. In accordance with the Peace River Regional District's Parks and Trails Master Plan, the Regional District aims to provide support and supplemental funding for the development, maintenance and improvements of recreational trails within the region for public use.

3. RESPONSIBILITY

The General Manager of Community Services or designate is responsible for ensuring compliance with the Policy.

4. DEFINITIONS

- a) **Board of Directors** in this document refers to the Peace River Regional District's Board of Directors.
- b) **Capital infrastructure** is defined as the addition of a permanent structural improvement or the restoration of some aspect of a property that will either enhance the property's overall value or increase its useful life.
- c) **Debt** is defined as an amount owed to a person or organization for services, products or loans funds not yet paid for.
- d) **Funding amendment** is defined as the reallocation of funds from a previously approved project to a new project or new project location.
- e) **Minor capital equipment** is defined as equipment valued at under ~~\$3,000~~ **\$500** and has an extended lifetime over one year.
- f) **Major capital equipment** is defined as equipment valued at over ~~\$3,000~~ **\$500**.
- g) **Operation funding** is defined as funding provided for costs to ensure the day to day operation of a trail such as insurance and supplies.

January 29, 2018

Subject: Recreational Trails Grants-in-Aid Policy	Policy #:0340-30-8	Page 2 of 6
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- h) **Supplemental funding** is defined as funding that is an addition to other sources of funds or revenue.
- i) **Wages** is defined as any payment, stipend or honorarium made for labour or services to an employee or volunteer under the direction of an employer or organization.

5. PROCEDURE

5.1 Regional Trails Grant Funding

- a) Funding for recreational trail grants will be subject to annual review by the Regional Parks Committee and must be approved by the Board of Directors in the annual financial plan.
- b) Annual recreational trail grant funding will not exceed \$75,000 per year unless determined by resolution of the Board of Directors.

5.2 Eligible Applicants

An eligible applicant must:

- a) be a registered non-profit society in good standing with the Province of BC; and
- b) be based in the Peace River Regional District.

5.3 Application Limit

Each organization is allowed to submit no more than one application per year.

5.4 Amount of Grant

The cost-sharing formula will be up to a maximum of a 75% Regional District contribution, with the balance being the applicant contribution.

5.5 Eligible Projects

Eligible projects must:

- a) Be for construction, renewal, maintenance or expansion of recreational trails available for public use within the Peace River Regional District;
- b) Not start construction prior to approval of the application;
- c) Be duly authorized by resolution of the society(s) making the application – joint applications for partnership projects must include a resolution by all partner organizations;
- d) Be supported by at least one of the following land tenure arrangements:
 - i) Provincial land tenure agreement which may include a Recreation and Trail Sites BC agreement, Park Use Permit, or nominal rent tenure (e.g., license of occupation);
 - ii) Private land owned by the applicant non-profit organization; or
 - iii) Local government agreement supported by Council or Board resolution for projects on local government land.
- e) Avoid creating interface conflict between Crown and private lands.

5.6 Eligible Costs

Eligible costs are defined as all direct costs properly and reasonably incurred and paid solely and specifically in relation to the project. Eligible costs include:

- a) Trail and amenity design and engineering costs;
- b) Construction costs;
- c) Purchase of minor capital equipment (i.e., chainsaws);
- d) Purchase of capital infrastructure (i.e., bridges, warming shelters);
- e) Purchase of signage and trail markers;
- f) Marketing and promotion of the project upon completion;
- g) Volunteer celebration activities; and
- h) Training and safety courses.

5.7 Ineligible Costs

Ineligible costs include:

- a) Administrative costs and overhead;
- b) Major capital equipment purchases (i.e., mulchers, quads, etc.);
- c) Payment of debt;
- d) Direct payment of wages or volunteer honorariums; and
- e) Land acquisition.

5.8 Applicant Selection Criteria

- a) Primary project selection criteria will be focused on whether the project:
 - i. provides opportunities for healthy lifestyles – physical, mental and spiritual;
 - ii. fosters “regional pride” in the natural environment of the Regional District;
 - iii. strives to make recreational trails accessible for multiple different user groups and those with mobility challenges;
 - iv. utilizes public lands (Crown or local government) while avoiding conflict with private lands; and
 - v. builds on the Provincial Trails Strategy (i.e., Connecting Communities).
- b) Secondary consideration will be given to the degree to which projects meet one or more of the following criteria:
 - i. **Geographic coverage:** ideally the regional trail system should be effectively distributed throughout the Regional District. Potential sites should be of interest to the whole region in the interest of servicing all residents.
 - ii. **Environmental, education or heritage representation:** representative or regionally significant landscapes should be considered when developing a new trail or preserving an existing one. Potential sites should be chosen to represent the diverse landscapes that the area encompasses. Balancing wildlife values against the proposed benefits of trail development should also be considered along with the unique historic, cultural, ecological, and educational aspects of the area.
 - iii. **Project and ongoing operational costs:** development, maintenance and ongoing operational costs must be identified to be reasonably manageable by the organization responsible for trail development and ongoing management.

- iv. **Partnerships:** fostering partnerships with interest groups or other government agencies should be considered as it will aid in offsetting costs to develop and maintain existing or future regional trails.
- v. **Proximity:** trails that are located in close proximity to existing trails and parks or similar amenities should be considered.
- vi. **Already established as an unofficial trailhead:** trails that are already established or maintained in a positive manner and demonstrate a high utilization rate should be considered.
- vii. **User and site safety and the capacity to maintain:** user and site must be considered to ensure the non-profit groups are able to maintain them to a reasonable and safe standard expected of a natural trail for the safe enjoyment of the public.

5.9 Mandatory Application Documentation

Applicants must submit the following documents in their application:

- a) Completed application form (Schedule 'A')
- b) Application checklist (Schedule 'D')
- c) Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding
- d) Project budget which includes:
 - i. detailed cost estimates;
 - ii. sources of confirmed revenue;
 - iii. sources of revenue yet to be confirmed (i.e., other grant applications still pending decision); and
 - iv. Sources of confirmed donations for labour and/or materials.
- e) Three (3) quotes for any items valued at over \$3,000
- f) Current and year-end financial statements (balance sheet and income statement)
- g) Map and pictures showing the location of the project and planned route
- h) Evidence of a land tenure agreement with the Province of BC or local government or proof of ownership by the non-profit organization.
- i) Two (2) letters of support from other organizations or groups supporting the project
- j) Completed inventory of all minor capital equipment (e.g., chainsaws) (Schedule 'F')

Failure to provide adequate documentation during the application process and/or comply with the eligibility requirements for funding assistance may jeopardize funding eligibility. Late applications will not be accepted.

5.10 Application Deadline

- a) Applications must be received by the Regional District by November 15 of each year.

5.11 Adjudication Process

- a) The Regional Parks Committee and the Board of Directors have the discretion to accept, reject or amend any application. Applications may be rejected for the following reasons:
 - i. Incomplete or late applications;

- ii. Failure to maintain society status;
 - iii. Failure to rationalize the need for funding;
 - iv. Failure to prove that the project is in the best interest of the community at large.
- b) Upon receipt of applications, the Regional Parks Committee will meet to review all eligible applications and to make funding recommendations to the Board of Directors for final decision.
 - c) All applications will be adjudicated based on need, availability of funds in the fiscal year and selection criteria noted in section 10 of this policy.
 - d) Successful applicants will be advised of the Board's decision by April 15 of each year subject to the adoption of the Annual Financial Plan and funding for the grant has been approved by the Board of Directors.

5.12 Unallocated Funds

Any funds that are not allocated in a calendar year shall be utilized to reduce the tax requisition in the next calendar year.

5.13 Unspent Funds

- a) Organizations must utilize allocated funds within three (3) years of ratification by the Board of Directors and will not be permitted to carry over funds past three years.
- b) Any funds not claimed by an organization after three (3) years will be returned to the service area by resolution of the Board of Directors and utilized to reduce the tax requisition in the next calendar year.

5.14 Claim Reimbursement

- a) Approved applications must provide proof of costs by submitting invoices and a completed claim form attached as Schedule 'B'.
- b) Copies of all invoices must be submitted for expense claim reimbursement. Claims may not be made for goods or services incurred before the approval of the grant.
- c) In exceptional circumstances, organizations may request in advance the total or partial payment of the approved grant from the Regional District. Organizations must make this request in writing to the Chief Financial Officer.

5.15 Annual Reports

- a) All organizations that receive a Regional Trails Grant-in-Aid must complete an Annual Report as attached hereto as Schedule 'C' by the last calendar day in December.
- b) Funds for the current year will not be reimbursed to an organization until any outstanding Annual Reports for that organization have been received by the Regional District.
- c) Photos must be provided showing project progress and/or completion as part of the annual report.

5.16 Funding Amendment:

- a) Organizations may apply for a funding amendment to reallocate funds already approved by the Board of Directors only in exceptional circumstances where the following may occur:
 - i) An emergency situation has occurred and if not rectified immediately it will pose a liability to the organization (e.g., major bridge crossing lost and poses a hazard to the public); or

Subject: Recreational Trails Grants-in-Aid Policy	Policy #:0340-30-8	Page 6 of 6
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ii) The location or scope of the project is required to be moved or altered to meet requirements imposed by the land owner; or

iii) They have completed their project with the funds allocated and have outstanding funds remaining.

b) Applicants must provide:

- i. a completed funding amendment form;
- ii. a resolution of support from their organization;
- iii. a letter from the property owner (e.g., Crown, local government, etc.) detailing why the amendment is necessary, their support of the change to the project and their authorization to proceed; and
- iv. a map of the area(s).

b. The Regional Parks Committee will review the request and recommend to the Regional Board to approve or deny the funding amendment request.

c. The Regional Board has the sole discretion to approve or deny all funding amendment requests.

5.17 Recognition

- a) Grant recipients will recognize the financial contributions of the Regional District by prominently displaying a plaque or sign at the trail head.
- b) Grant recipients who maintain websites, social media sites and/or membership newsletters will provide Regional District with recognition in the form of prominently displaying a note of thanks next to the Regional District's logo.
- c) Grant recipients may be requested to issue a joint press release and photo with the Regional District from time to time.



**Recreational Trails Grants-in-Aid
Schedule "F" – Minor Capital Equipment Inventory**

Please provide a listing of all minor capital equipment inventory belonging to your Society

Note: minor capital equipment inventory defined as "equipment valued at under \$500 and has an extended lifetime over one year.

Hand Tools (e.g., hammers, axes, rakes, shovels, etc.)

Power Tools (e.g., jigsaws, chain saws, power drills, etc.)

Other Tools (e.g., wheel barrows, lawn fertilizers/seeder, etc.)



Peace River Regional District REPORT

To: Regional Parks Committee

Date: August 31, 2017

From: Bryna Casey, Parks and Rural Recreation Coordinator

Subject: WNMS Recreational Trails Grants-in-Aid Amendment Request

RECOMMENDATION(S):

That the Regional Parks Committee recommend to the Regional Board that the following amendment request from the Wolverine Nordic Mountain Society (WNMS) be denied based on not meeting the criteria for amendment and because it is an ineligible cost for funding as per the current Recreational Trails Grants-in-Aid policy.

BACKGROUND/RATIONALE:

In 2017, WNMS requested and were approved for funding of \$8,034 through the Recreational Trails Grants-in-Aid. The Society applied in order to complete improvements to the Windfall Lake trail and the Greg Duke Memorial trail. The original project was completed in July of 2017 and was well under budget, with only \$4,561 of the \$8,034 being spent. These savings were due to;

- receiving a reduced rate on helicopter service; and
- the organization being able to transport materials using ATVs instead of helicopters as originally budgeted for.

The applicant is now requesting that the original application be amended to include the now complete installation of new boardwalk for 20m of trail on the Babcock Falls trail and 30m on the Bergeron Falls trail. The installation of these boardwalks were completed on the weekend of July 21 and 22, which was previous to the amendment request being brought to staff. The cost of installation was \$1,157.53. The policy states that the payment of debt is an ineligible cost, and as this project has already been completed, this would be considered a debt payment.

Further, the amendment request does not meet the policy requirements for amending an application. Per the policy, a funding amendment can only be only be applied for in exceptional circumstances where one of the following has occurred (as found in 5.16 Funding Amendment from Recreational Trails Grants-in-Aid Policy)

- i. An emergency situation has occurred and if not rectified immediately it will pose a liability to the organization (e.g., major bridge crossing lost and poses a hazard to the public); or
- ii. The location or scope of the project is required to be moved or altered to meet requirements imposed by the land owner.

OPTIONS:

The Regional Parks Committee could recommend to the Regional Board that they approve the amendment request, as the Regional Board has the sole discretion to approve or deny all funding amendment requests.

January 29, 2018

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Dept. Head: *J. Morgan*

CAO: *Ch. Birk*

Page 1 of 2

STRATEGIC PLAN RELEVANCE:

Strategic objective 5.1 is to continue to implement the Parks and Trails Master Plan.

FINANCIAL CONSIDERATION(S):

Should the Regional Parks Committee recommend to the Regional Board the amendment of the application and payment of the cost of installing boardwalk, \$1,157.53 would be claimed against the remaining funds and paid to the group. \$2,315.47 would remaining to reduce the tax requisition in the next calendar year.

Should the Regional Parks Committee recommend to the Regional Board the denial of the amendment request, \$3,473 would be carried forward to reduce the tax requisition in the next calendar year.

COMMUNICATIONS CONSIDERATION(S):

Once determined as applicable or not applicable, WNMS will receive a letter confirming the status of their amendment request.

OTHER CONSIDERATION(S):

None at this time.

Attachments:

Amendment Request from WNMS

R-2



PEACE RIVER REGIONAL DISTRICT

Regional Trails Grants-in-Aid

Schedule "E" – Funding Amendment

APPLICANT INFORMATION	
Name of Organization: WOLVERINE NORDIC + MOUNTAIN SOCIETY	Date: 03 Aug 2017
Contact: Charles Helm	Phone: 250 242 3984
Mailing Address: Box 1690 Tumbler Ridge V0C 2W0	
Email: helm, c. w @ gmail. com	Fax: 250 242 4076
PROJECT TO PROVIDE FUNDS	
Year Funds Granted: 2017	Amount Granted: \$ 8 034. 00
Current Project Description: (project for which funds were originally applied for) Enhancements to Windfall Lake trail Enhancements to Greg Duke Lakes trail These projects were completed on time (late July) and well under-budget. This was because we could get by with a Rocon instead of a helicopter for the Greg Duke Lakes trail, and transported the lumber to the trailhead in private vehicles. Also, the helicopter for the Windfall Lake trail was provided at a lower-than-expected rate because of our non-profit status. ✓	
REASON FOR AMENDMENT	
TOTAL Cost of New Project: Proposed New Project: (reason for request and description of project, project budget) We had two other major trail enhancement projects in 2017. 1) Babcock Falls trail boardwalk. In 2014 we received funding from PRRD to install 100 m of boardwalk across a wet meadow - we thought this was sufficient, but over time it became clear that a further 20 m needed boardwalks. We carried the lumber in by hand and built the boardwalks at the site on July 21st. Cost of lumber: \$ 332.27 2) Bergeron Falls trail boardwalk. There was one persistent wet spot of over 30 m which was becoming soggy and degraded. We used a Rocon to get the lumber to the site, and installed the boardwalk on July 22nd. Cost of lumber: \$ 635.46 THESE PROJECTS ARE SO SIMILAR TO WHAT PRRD HAS SUPPORTED IN THE PAST THAT WE ARE ASKING IF THEY CAN BE ADDED TO OUR 2017 PROJECTS AND REIMBURSED.	

January 29, 2018



REPORT

To: Regional Parks Committee

Date: January 4, 2018

From: Bryna Casey, Parks and Rural Recreation Coordinator

Subject: **2018 Recreational Trails Grants-in-Aid Allocations**

RECOMMENDATION(S):

1. That the Regional Parks Committee recommends to the Regional Board that a \$20,000 grant be provided to the Whiskey Jack Nordic Ski Club from the 2018 Recreational Trails Grants-in-Aid to complete the architectural/engineering design for a warming shelter and to complete an archaeological assessment and clearing, grading, and removing stumps for a stadium area.
2. That the Regional Parks Committee recommends to the Regional Board that an \$18,871 grant be provided to the Chetwynd Outdoors Club from the 2018 Recreational Trails Grants-in-Aid to:
 - a) complete an engineering feasibility study and development plan for trails;
 - b) create a learning grid and cleared space in which to teach cross country ski lessons;
 - d) advertise trails to the public once complete; and
 - c) develop trails by purchasing trail maintenance equipment (including chain saws and safety gear) in the Little Prairie Community Forest.
3. That the Regional Parks Committee deny and not forward Bear Mountain Nordic Ski Association's grant application to the Board, as their application was received after the deadline and was incomplete.
4. That the Regional Parks Committee recommend to the Regional Board that the 2018 Recreational Trails Grants-in-Aid budget be reduced from \$75,000 to \$40,000 for 2018.

BACKGROUND/RATIONALE:

Applications for Recreational Trails Grants-in-Aid must be received by the Regional District by November 15 of each year. Applications are adjudicated based on need, availability of funds, and the selection criteria as set out in Section 10 of the Recreational Trails Grants-in-Aid Policy Statement. Successful applicants are able to access funding by April 15 of each year. This year, the Regional District received 3 applications of which 2 met the Recreational Trails Grants-in-Aid eligibility requirements.

Whiskey Jack Nordic Ski Club (WJNSC): The WJNSC trails were selected as a venue for the 2020 BC Winter Games and are requesting funding to construct a 'stadium' area and to begin work on a day lodge to house indoor programming needs and to provide a resting space for users.

Specifically for the stadium project, they are applying for funding to clear, grade, and remove stumps from the location where the stadium will be created and to commission an archaeological assessment, as required by BC Parks. An archaeological assessment is required as there will be movement of organic materials and smoothing out bumps, swales and slopes. The stadium, in cross country ski terms, is a large flat area in which to stage starts and finishes of ski racing, which does

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Dept. Head: *J. Morgan*

CAO: *Ch. Birk*

Page 1 of 4

January 29, 2018

not contain bleachers or any fixed infrastructure. The stadium will be located at an area proximal to the proposed day lodge warming shelter and will link two trails.

For the day lodge, WJNSC is requesting funding for architectural/engineering design plan to develop plans for the warming shelter facility. The proposed warming shelter will be a multi-use facility which will house indoor programming needs and will be used as a place for breaks during skiing outings and races.

These trails are located within Beaton Provincial Park and any work requires a Park Use Permit from BC Parks. The Park Use Permit for the day lodge has been completed and provided, but has not yet been approved for the stadium area. If this grant is approved release of the funds will be contingent upon receiving a copy of the approved Park Use Permit.

This application meets all eligibility criteria to be funded under the Recreational Trails Grants-in-Aid Policy.

Total Project Cost:	\$50,853.00
Total Trails Grants-in-Aid Eligible Expenses:	\$50,853.00
Applicant Contribution:	\$30,853.00
75% PRRD Maximum of Eligible Expenses:	\$38,139.75
Applicant request:	\$20,000.00

Staff Recommendation: That the Regional Parks Committee recommend to the Regional Board that a **\$20,000** grant be provided to the Whiskey Jack Nordic Ski Club from the 2018 Recreational Trails Grants-in-Aid to complete the architectural/engineering design for a warming shelter and to complete an archaeological assessment, clear, grade, and remove stumps for a stadium area.

2. Chetwynd Outdoors Society (COS): COS is requesting funding to develop ski trails within the Little Prairie Community Forest (within a 5 minute drive to Chetwynd). COS would like to expand the existing trail network, and provide an area for ski instruction. Funding is being requested for an engineering feasibility study and development plan and for the creation of a learning grid (mulching and levelling), a space in which to teach cross country ski lessons (mulching and levelling), and some trail maintenance equipment (including chain saws and safety gear). Furthermore, the group is applying to the Regional District for advertising for the trails once complete and for trail signage. It should be noted that the group also requested snowmobile insurance and liability insurance funding, which are ineligible under the Recreational Trails Grants-in-Aid policy and so was subtracted from the original amount requested by the group. **This application meets all eligibility criteria to be funded under the Recreational Trails Grants-in-Aid Policy.**

Total Project Cost:	\$31,391.00
Total Trails Grants-in-Aid Eligible Expenses:	\$30,271.00
Applicant Contribution:	\$11,400.00
75% PRRD Maximum of project cost:	\$23,543.25
75% PRRD Maximum of Eligible Expenses:	\$22,703.25
Applicant Request:	\$19,991.00
Applicant Request minus ineligible expenses:	\$18,871.00

Staff Recommendation: That the Regional Parks Committee recommends to the Regional Board that an \$18,871 grant be provided to the Chetwynd Outdoors Club from the 2018 Recreational Trails Grants-in-Aid to:

- a) complete an engineering feasibility study and development plan for trails;
- b) create a learning grid and cleared space in which to teach cross country ski lessons;
- d) advertise trails to the public once complete; and
- c) develop trails by purchasing trail maintenance equipment (including chain saws and safety gear) in the Little Prairie Community Forest.

3. Bear Mountain Nordic Ski Association (BMNSA): BMNSA is requesting funding for the groundwork for two bridges on the North Bissette Creek, including rock, hauling, machine time for driving piles, placing rock, building approaches, tree removal, welding and fabricating and disposal of old bridges. Furthermore, they are requesting funding for the purchase and installation of culverts on the wettest parts of the trails. While the project costs are eligible for funding under the Recreational Trails Grants-in-Aid policy, **this application does not meet all of the eligibility criteria to be funded under Recreational Trails Grants-in-Aid policy at this time for the following reasons;**

- The applicant failed to provide project budget (including detailed cost estimates, sources of confirmed revenue, sources of revenue yet to be confirmed, sources of donations for labour and/or materials), three quotes for any items valued at over \$3,000, current and year-end financial statements, map and pictures showing the location of the project and planned route, Society resolution of support and two letters of support from other organizations.
- The applicant submitted Schedule 'A' after November 15, 2017 and so, the application is marked as late.

Total Project Cost:	Unknown
Applicant Contribution:	Unknown
75% PRRD Maximum:	Unknown
Applicant Request:	\$55,000.00

Staff Recommendation: That the Regional Parks Committee deny and not forward Bear Mountain Nordic Ski Association's grant application to the Board as their application was received after the deadline and was incomplete.

OPTIONS:

That Regional Parks Committee recommend to the Regional Board that alternate amounts be allocated to the eligible applicants.

STRATEGIC PLAN RELEVANCE:

- ☐ Ensure that the Solid Waste Management Plan is operating on a fiscally defensible basis.
- ☐ Ensure effective execution of Public Safety and Emergency Services initiatives.
- ☐ Foster Collaboration on services with municipalities and electoral areas.
- ☐ Establish a strategy for coordinated advocacy on identified issues.
- ☒ Manage parks and trails in the region.
- ☐ Support the agricultural industry within the regional district.

☐ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

\$40,000 has been budgeted in the draft budget for the 2018 Regional Parks function for Recreational Trails Grants-in-Aid for 2018. \$38,871 is recommended by staff to be allocated in support of two of the eligible applicants. This funding will assist to provide trail development and maintenance grants throughout the whole region. The Regional Parks Committee could fund the eligible groups to a maximum of 75% of their eligible expenses and increase the proposed budget as required.

COMMUNICATIONS CONSIDERATION(S):

Recreational trail groups from across the region were invited to submit applications. The Recreational Trails Grants-in-Aid were advertised by email, on the PRRD website, and through the Peace River Regional District Office Facebook page. All recipients of the grant, once determined, will receive a letter confirming the status of their funding request.

OTHER CONSIDERATION(S):

The next deadline for Recreational Trails Grants-in-Aid applications is November 15, 2018 for consideration by the Regional Parks Committee in the 2019 budget.

Attachments:

Please see the attached applications and spreadsheets detailing the grant requests;

1. Whiskey Jack Nordic Ski Club
2. Chetwynd Outdoor Club
3. Bear Mountain Nordic Ski Association

2018 Recreational Trails Grants-in-Aid

Organization Name	Proposed Project	Total Project Cost	Applicant Contribution	Maximum 75% of Total Project Cost	\$ Request	Maximum Recommended to Parks Committee	Amount Recommended to Board	Notes
Whiskey Jack Nordic Ski Club	To complete the groundwork for two bridges on the North Bissette creek, including rock, hauling, machine time for driving piles, placing rock, building approaches, tree removal, welding and fabricating and disposal of old bridges.	Unknown	Unknown			\$0.00		Meets eligibility criteria
Blizzard Bike Club	The group is applying to the Regional District for to construct a 'stadium' area and to begin work on a warming day lodge. Expenses include; engineering and architect fees, clearing and grading for stadium area.	\$50,853.00	\$30,853.00	\$38,139.75	\$20,000.00	\$20,000.00		Meets eligibility criteria
Chetwynd Outdoors Society	COS is requesting funding to develop ski trails within the Little Prairie Community Forest. COS would like to expand the existing trail network, and provide an area for ski instruction. Funding is being requested for an engineering feasibility study and development plan and for the creation of a learning grid, a space in which to teach cross country ski lessons, and some trail maintenance equipment (including chain saws and safety gear).	\$31,391.00	\$11,400.00	\$23,543.25	\$19,991.00	\$18,871.00		Does not meet eligibility criteria. Incomplete application.

\$38,871.00

Amounts determined on January 16, 2018	
Total Fund	\$ 75,000.00
Total Allocated	\$38,871.00
Total Available	\$ 36,129.00

January 29, 2018



PEACE RIVER REGIONAL DISTRICT

Recreation Trails Grants-in-Aid

Schedule "A" - Application

Date: November 10, 2017 Society Number: 46479

APPLICANT INFORMATION

1) Name of Organization: Whiskey Jack Nordic Ski Club

2) Contact Person: Eliza Stanford

Position: President

Mailing Address: 9508 113 Avenue, Fort St. John, Bc V1J 2W9

Phone: 250 785 0973 Fax: _____

Email: eliza.s@telus.net

Website: _____

Please list our organization on the PRRD website as a "Local Community Group" ☒ Yes ☐ No
(please check one)

- 3) Purpose of your organization & description of the types of activities your organization is involved in.
The WJNSC maintains 15 kms of cross country ski trails in Beatton Provincial Park. Maintenance includes: weekly or as needed grooming; general trail maintenance in the off season, including clearing of downed trees, mowing of trails. The WJNSC also offers lessons for children, youth and adults and has rental skis for skiers without equipment.

- 4) If applicable, does your organization own any facilities or properties? ☐ Yes ☒ No

Please give the 9-1-1 address and legal description of the property that your organization either leases or owns.

SEC 33 TP 84 R 19 W6M

- 5) Executives of Your Organization:
President/Chair



Name: Eliza Stanford Phone: 250 785 0973 Email: eliza.s@telus.net

Vice President/Vice Chair

Name: Ken Johnson Phone: 250 785 0628 Email: kjohnson@progressenergy.com

Treasurer

Name: Sara Richardson Phone: 250 787 9695 Email: northsara1@gmail.com

Secretary

Name: Danielle Layman Phone: 250 785 8510 Email: dlayman@telus.net

6) Please provide a 5 year action plan for your organization.

Year 1:	Current: Finish storage building to lock-up stage; confirm remaining funding to install insulation and electrical and tie in to Hydro.
Year 2:	Create Stadium area for programming needs and start/finish zone for races. Planning for day lodge.
Year 3:	Build day lodge: start in spring of 2019 and complete by January of 2020; Build accessible outhouse; acquire larger groomer
Year 4:	Host 2020 BC Winter Games
Year 5:	Continue with programming, meeting needs of skiers, building membership

PROPOSED PROJECT INFORMATION (please complete the questions below or attach a separate sheet)

7) Describe the project for which your organization is requesting funding.



1. With the 2020 BC Winter Games on the near horizon, the WJNSC is compressing a 5 year schedule of future projects into 2.5 years. We have broken down the components: day lodge, outhouse and stadium and will embark on the stadium this coming year with the day lodge the following year. The stadium, in cross country ski terms, is a large flat area in which to stage starts and finishes of ski racing. This kind of stadium does not contain bleachers or any fixed infrastructure. The minimum size of stadium to host this level of event is 40 meters by 100 meters, so we have selected an area in the immediate vicinity of the trailhead and proposed day lodge where the land is relatively flat but forested in which to create the stadium. The stadium will link two trails so for programming needs and future event hosting, the location is perfect. The area is currently forested, and will need clearing, grading, and removal of stumps. It is significant and will require an archeological assessment as there will be quite a bit of rearranging of organic materials to smooth out any naturally occurring bumps, swales and slopes.

2. In order to ready the WJNSC for the next phase of our development it is important that we create working plans for the day lodge, in order to facilitate the next phase of planning and fundraising so we are including this component in our budget. The day lodge has long been an important and desired facility in our plans for the future. A day lodge is a gathering place for skiers; a place to warm up during longer ski outings; a place to facilitate programming for children, youth and adults; a place for non-skiing parents to watch their children; a place to administer events; and a focal point for all things nordic in the North Peace. We need a day lodge to solidify our future as a club.

8) Describe how your project will provide opportunities for healthy lifestyles - physical, mental and spiritual.

1. The stadium is a REQUIREMENT of this level of provincial event. In addition to this event however, the WJNSC will make steady use of this area for programming, including children's and adult lessons. Future smaller race events will focus around this area for a start and finish zone as well.

2. The day lodge will encourage people to ski longer as they can store their water, food and take a break, meet other skiers, and make Beatton Park their destination. We are optimistic that the day lodge will go a long way to increasing our membership, thereby making the WJNSC more self sufficient as we build community and foster relationships amongst recreation minded individuals. We are well aware, as our membership increases and skier visits increase, that more people are re-discovering cross country skiing and snowshoeing and there may be many reasons why people choose to come to Beatton Park to pursue those activities. Aside from the physical reasons, coming to recreate in a beautiful provincial park enhances the physical experience and it also becomes one of mental wellness. If we can get people to come to the park, if they are not skiers, and offer them a respite in a day lodge with views to the boreal forest, then their mental and spiritual experience is enriched.



- 9) Describe how the project will foster "regional pride" in the natural environment of the Regional District.
1. With all the trail improvements that the WJNSC has done over the past several years, year round use of the trails at Beatton Park has increased dramatically. Maintained trails are a huge attraction for walkers, mountain bikers, horseback riders in the off season, and snowshoers and cross country skiers in the winter season. We record winter trail use and our numbers keep going up every year. Conservatively we estimate over 2000 trail visits over a 4-5 month ski season. Our membership continues to rise each year, with a total last season of 131 members and nearly 300 followers on our Facebook page. In addition to regular users and members, we have many visitors to the area who are looking for rental equipment which we can provide. Their experience in Beatton Park is a unique one, and if their beginner ski experience is enhanced by a large open level area in which to learn, it will be a better experience for them. This stadium area is very important for event hosting for the WJNSC; events are the ultimate in the creation of regional pride as you bring together people who are competing, spectating and officiating; the excitement level is very high during events at all levels.
 2. By creating an all season destination for residents of the North Peace, people are motivated to get out and enjoy nature and as a result, they are happier. The WJNSC has been told by many members that they really enjoy coming to Beatton and is one of the reasons they choose to stay in the north. (told to us by members of the medical community). A day lodge is the gathering place for all events from organized races or a simple ski day. A day lodge can be used by multiple user groups in all seasons, but our focus is on winter use; a warm resting place can extend the ski day. It is our hope that school groups will utilize the day lodge and bring more students out to ski or snowshoe. The more people that visit Beatton Park, the more pride they will have in their region.



- 10) Describe how the project will make trails more accessible for multiple different user groups and those with mobility challenges.
1. One component of the 2020 BC Winter Games is Para Nordic, and it is possible that we will have up to 4 para nordic skiers at our facility for the Games. Outside of the Games, the stadium will be a perfect location within our whole trail system for a para nordic skier to learn to ski. It will be an ideal location for a "classroom" of skiers as there will be space to spread out, practiced learned skills, and for instructor observation. The stadium will also serve as a ski playground, an important component of ski instruction. Whether or not para nordic skiers will attend the 2020 BC Winter Games, we need be prepared to host them.
 2. The day lodge will be fully accessible to skiers and members of the public. By having a day lodge in which to rest, to get fitted with equipment, to eat, the ski experience is better, particularly if someone has mobility issues and they require more time and space in which to prepare. As part of our plan for 2020, we are proposing an accessible pit toilet as per BC Parks standards, to be located in the vicinity of the trailhead and day lodge.
- 11) Describe how the project will utilize Crown or local government lands and measures that will be taken to avoid conflict with private lands (where applicable).
The project takes place on provincial park land and there are no conflicts with private landowners.



- 12) Describe how the project will build on the Provincial Trails Strategy (http://www.sitesandtrailsbc.ca/documents/Trail_Strategy%20for_BC.pdf)

1. The stadium area will be a major component of the whole trail system as it will become a major focal point and gathering place for skiers and, although not a trail in and of itself, is connected to the bigger trail system in place at Beatton Park. There are 5 locations for First Nations signage, two of which are in and around the trailhead and proposed stadium. With archeological testing to take place, FN are required to be on site during this assessment.

With many different users of the trails, particularly in the summer months, the WJNSC strives to accommodate them all. The snow shoe trails, now maintained by the Blizzard Bike Club, are an ideal destination for winter hikers. The ski trails offer a wide variety of terrain for all levels of skiers. The benefits for skiers is great, with more opportunity for ski instruction and participation in event hosting, and this in turn benefits the community and the province. When people are enjoying winter in the Peace Country, everyone benefits.

By having a stadium area, there is also opportunity for educational programming, in all seasons. Having 30 school children on a 40 meter wide trail is less confining than an 8 meter wide trail, and allows for educational discourse, nature appreciation and other activities to occur.

The health and fitness benefits of a stadium area are immense, and will promote more ski play activities to take place. Lessons will be more easily taught to all ages with a larger area in which to ski.

2. The day lodge will inspire more people to come out to the trails to walk, run, ride their bikes, snowshoe and ski, and with a warm place as part of the day trip, the outing will be longer; people can link up with more like minded recreation minded individuals; groups can organize outings knowing that there is place for all; the WJNSC can expand on existing programming by extending the day for skiers; skiers will no longer be "ships passing in the night" as they can socialize with other skiers; skiers can eat and drink on their break in the day lodge and not in their cars; and a day lodge will bring more people of all abilities out to Beatton Park in the winter.

- 13) How many volunteers does your organization have and approximately how many hours does your membership contribute each year?

The WJNSC has approximately 20-30 different volunteers, some of whom come out for short one-time events, and others who volunteer regularly all year. We estimate that our members put in 800+ hours annually to ensure the smooth running of the club.



- 14) If there are continuing costs to operate or maintain your project, how do you plan to meet these costs in the future?
There will be minimal costs to maintain this project in the future. It will be seeded then mowed annually when our club does fall trail maintenance.

- 15) Please provide on a separate sheet information on how your project addresses one or more of the secondary selection criteria:

Geographic Coverage	Ideally the regional trail system should be effectively distributed throughout the Regional District. Potential sites should be of interest to the whole region in the interest of servicing all residents.
Environmental, education or heritage representation	Representative or regionally significant landscapes should be considered when developing a new trail or preserving an existing one. Potential sites should be chosen to represent the diverse landscapes that the area encompasses. Balancing wildlife values against the proposed benefits of trail development should also be considered along with the unique historic, cultural, ecological, and educational aspects of the area.
Partnerships	Fostering partnerships with interest groups or other government agencies should be considered as it will aid in offsetting costs to develop and maintain existing or future regional trails.
Proximity	Trails that are located in close proximity to existing trails and parks or similar amenities should be considered.
Already established as an unofficial trailhead	Trails that are already established or maintained in a positive manner and demonstrate a high utilization rate should be considered.
User and site safety and the capacity to maintain	User and site must be considered to ensure the non-profit groups are able to maintain them to a reasonable and safe standard expected of a natural trail for the safe enjoyment of the public.

18) TOTAL funds requested from the Regional District: \$20,000

INCLUDED THE FOLLOWING ATTACHMENTS WITH YOUR APPLICATION



- a) Application Checklist
- b) Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding
- c) Project budget including:
 - i. Detailed cost estimates
 - ii. Sources of confirmed revenue
 - iii. Sources of revenue yet to be confirmed (i.e., pending grant applications)
 - iv. Sources of donations for labour and/or materials
- d) Three (3) quotes for any items valued at over \$3,000
- e) Current and year-end financial statements (balance sheet and income statement)
- f) Map and pictures showing the location of the project and planned route
- g) Confirmation of an agreement with Recreation and Trail Sites BC or BC Parks or a Council/ Board resolution providing authorization to develop or re-establish a trail on local government property
- h) Two (2) letter of support from other organizations or groups supporting the project.

A handwritten signature in blue ink, appearing to be 'L. Smith'.

Signature of Applicant

November 10, 2017

Phone

250 785 0973

Whiskey Jack Nordic Ski Club Recreation and Trails Grant Application 2017

1. Geographic Coverage

The Beatton Park trails service the population of the residents of the North Peace, including residents of Fort St. John. Skiers come from as far as the Upper Cache on a regular basis to use the trails in the winter.

2. Environment, education or heritage representation

With FN interpretive signage to be installed in the future, we are addressing the heritage of the area. As well, the WJNSC is very aware of natural drainages and seasonal runoff when planning for new trails, and take steps to avoid sensitive areas. Any trail construction that involves soil disturbance is required to get an archeological assessment, and should any artifact turn up, we will take steps to avoid that site and work around it.

3. Partnerships

The WJNSC maintains the ski trails, and the Blizzard Bike Club also maintains bike trails, one of which is the snow shoe trail. The Rocky Mountain Cadets also train on the ski trails, and as biathlon is one of the events to take place in 2020, we will be working closely with Biathlon BC to make sure their needs are being met for the Games.

4. Proximity

The proposed stadium area is a part of the existing trails at Beatton Park.

5. Already established as an unofficial trailhead

The Beatton Park trails are well established and a known destination for hikers, bikers, horseback riders, snowshoers and cross country skiers.

6. User and site safety and the capacity to maintain

The stadium area, once constructed, will not require much further maintenance other than keeping it clear of downed trees and annual mowing.

Whiskey Jack Nordic Ski Club

Notes to Recreation and Trails Grant application, November 2017

Request for 3 quotes:

I requested quotes from 4 different companies for this work and received two quotes. In the past we have worked with quite a few different contractors for various components of our trail expansion work and recent clearing for the storage building. We have always gone with the lower quotes and exercised extreme prudence in managing our expenses. The contractors we have used are very sympathetic to our club and enjoy working with the WJNSC and we trust them to a) give us honest estimates of proposed work and b) do the work in a tidy and professional manner, an important aspect to consider when working in a provincial park.

Confirmation of a BC Parks agreement providing authorization for the project to proceed on local government lands:

We are unable to get such a written authorization at the time of application deadline. BC Parks has a lengthy permit amendment process which we plan to begin shortly. This process takes 6 months or more, after which we proceed with the archeological assessment. Work on this project will not take place until September, 2018 in any case, due to Parks restricting the WJNSC to this short window of time to do any trail work. We cannot proceed with any work without a permit and we expect this to be in place by summer of 2018. A copy of the permit can be provided to the PRRD prior to submitting a claim for any grant if requested.

January 29, 2018

SPECIAL PROVISIONS

1. Purpose

This Permit is issued to the Permittee for the purpose of **maintenance of existing ski trails, any culverts, signs and facilities, and construction of four additional structures** associated with the Beaton Park ski trails.

- (i) new compound with fence
- (ii) new equipment shed for groomer machine
- (iii) **new day lodge / warming shelter**
- (iv) new outhouse

2. Permittee Designated Representative

The Permittee appoints the following representative to be responsible for liaison between BC Parks and the Permittee:

Name: Eliza Stanford
 Company: Whiskey Jack Nordic Ski Club Society
 Address: 9508 113 Avenue, Fort St. John BC V1J 2W9
 Telephone: 250-785-0973
 Email: Eliza.S@telus.net

3. BC Parks Contact Information

The Designated Representative must contact the Area Supervisor with any requirements or questions regarding this Park Use Permit. Alternatively, contact the associated regional office for this information.

Park, Protected Area or Conservancy Name	Regional Contact Information
Beaton Park	Ministry of Environment, BC Parks Northern Region - Peace 400, 10003 - 110th Avenue Fort St. John BC V1J 6M7 <i>Regional Office:</i> (250) 787-3411 <i>Fax:</i> (250) 787-3490

4. Contact Requirements

- (a) The Whiskey Jack Nordic Ski Club shall provide **two months' notice and a complete schedule of associated activities** to BC Parks Area Supervisor prior to the beginning and/or continuation of all activities associated with the new improvements to be constructed.
- (b) The Permittee shall also provide bi-weekly updates to the Area Supervisor during these active operations (new construction activities) in the form of written communication supported by photographs of the sites and conditions.
- (c) The Permittee shall inform the Area Supervisor, prior to initiating fieldwork and upon completion of the work. A field contact and method of contacting them shall be provided.

Whiskey Jack Nordic Ski Club - MINUTES - September 21, 2017

In Attendance: Kara Simmons, Bruce Kosugi, Eliza Stanford, Danielle Layman, Carl Jorgenson

1. **Call to order** 12:10 p.m.
2. **Approval of minutes of last meeting:** January 16, 2017
3. **Approval/additions to agenda.** Danielle Layman Approved. Additions: Tsungayi's resignation and set clean up date.
4. **Treasurer's report** - \$63,813 as of August 31, 2017
5. **Membership Report** - 17 members to date
6. **Correspondence** None
7. **Ongoing business:**
 - a) **Interpretive signs:** No update as the signs are currently still in the process of being made by Verena Hoffman.
 - b) **Storage building progress:** Building is in process. The pad is being packed.
 - c) **Links grooming:** Links will be groomed this year for classic skiing only.
 - d) **Website:** Meeting regarding this issue will be held on Sept 22, 2017.
 - e) **Snow fence:** Scheduled on October 7th, 10:00 a.m.
 - f) **Clean Up:** Scheduled on October 1, 10:00 a.m. to mow, trim twigs and branches.
 - g) **Resignation of Tsungayi:** Tsungayi has resigned and Kara Simons will help in this area.
8. **New Business:**
 - a) **Loppet:** Eggnog Open will be held on Dec 16, 2017 - time and details TBD. Volunteers are needed to help organize.
 - b) **Officials level 1 course October 28:** Kara reported that we will need to host the instructor. Promotion will be needed to ensure good attendance; as well we need for officials for event hosting. Details are being finalized.
 - c) **ski rentals** -Andrea Morison is hoping to organize rentals this year in her garage.
 - d) **Daylodge** - Eliza will ask for volunteers to form a committee.
 - e) **Resolution to ask the PRRD to apply for recreation and trails grant for day lodge; need 2 letters of support:** Eliza made a resolution to request the PRRD to apply for recreation and trails grant for stadium and plans for the day lodge. She will ask the City of Fort St. John and the Blizzard Cycle Club for letters of support. Kara seconded the motion.
 - f) **alternative to Jackrabbits: youth ski group (non competitive)** - Kara discussed the possibility of holding more events for youth to encourage youth to take up the sport.
 - g) **December 15-17 - NCCP Coaching Level 1 Dawson Creek**
 - h) **application underway for 3rd permit amendment with BC Parks for: expanded day lodge and stadium area:** Eliza discussed the need for a stadium area.
9. **Adjournment** 1:00 p.m.

January 29, 2018

Whiskey Jack Nordic Ski Club Budget for Stadium and Plans for Day Lodge

Item	Confirmed				
SOURCES OF REVENUE					
PRRD Trails Grant 2018	No	\$20,000.00			
NDIT	No	\$23,000.00			
Corporate	No	\$4,653.00			
Misc. Club fundraising	Yes	\$2,000.00			
In-kind: removal of market trees	Yes	\$1,200.00			
Total Revenue		\$50,853.00			
PROJECT BUDGET					
Clearing, bucking, stumping and disposal		\$9,000.00			
Stripping and re-spreading of topsoil		\$3,000.00			
Grading and sloping		\$16,000.00			
Removal of market trees from site		\$1,200.00			
Archeological assessment		\$5,392.00			
Signage - additional trail signs		\$550.00			
Auger rental for sign installation		\$150.00			
Seeding of stadium area		\$250.00			
Day Lodge plans - architectural fees		\$3,000.00			
Day Lodge plans - engineering fees		\$1,500.00			
Subtotal		\$40,042.00			
GST		\$2,002.00			
Contingency 20%		\$8,809.00			
Total Expenses		\$50,853.00			
PRRD Recreation and Trails Grant Request					
		\$20,000.00			

January 29, 2018

Total Credits	33,932.21
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Unauthorized Overdraft Interest Paid YTD..... \$0.00

Deposit Account Interest Rate Summary

Date	Rate	Date	Rate	Date	Rate
03-27-17	0.050				

Unauthorized OD Interest Rate Summary

Date	Rate	Date	Rate	Date	Rate
10-01-17	21.000	10-31-17	21.000		

Organization Chequing ACCOUNT 102000468231 - GAMING ACCOUNT

Date	Description	Debits/ Interest	Credits/ Principal	Balance
Oct01	Balance Forward			9.98
Oct31	Maintenance Service Charge	-2.00		7.98
	Total Debits	-2.00		
	Total Credits		0.00	

Unauthorized Overdraft Interest Paid YTD..... \$0.02

Deposit Account Interest Rate Summary

Date	Rate	Date	Rate	Date	Rate
03-27-17	0.050				

Unauthorized OD Interest Rate Summary

Date	Rate	Date	Rate	Date	Rate
02-28-17	21.000				

Membership Shares ACCOUNT 391000468231 - Membership Equity Shares

Date	Description	Debits/ Interest	Credits/ Principal	Balance
Oct01	Balance Forward			55.61

There is no activity for this account.

January 29, 2018

Sites N Sounds Consulting

4567 Vellencher Road Prince George BC. V2K 4P1

Phone: 250 962-1511 Cell: 250 612-8285

E-Mail: rmackling@shaw.ca

Estimate for:

November 7, 2017

Whiskey Jack Nordic Ski Club

9508 – 113 Avenue

Fort St. John, BC.

V1J 2W9

Attn: Eliza Stanford <eliza.s@telus.net>

Estimate for archaeological services regarding an Archaeological Impact Assessment for the proposed Ski Club stadium area in Beaton Provincial Park (as per your Nov 6, 2017 map).

Description	Hours	Unit Price	Total
Archaeological Fieldwork Including travel	36.0	\$ 92.00/hr.	\$ 3312.00
Pre/post onsite review and report	26.0	\$ 80.00/hr.	\$ 2080.00
	Sub total		\$ 5392.00
	GST	5%	\$ 269.60
	Estimate only:		\$ 5661.60

Note: I have an Archaeological Permit 2014-0150 already in place to conduct Archaeological Assessments in Provincial Parks, which remains effective until Dec 2018. Once Parks approves your project including an archaeological assessment then we can contact the affected First Nations for the required 30-day consultation period prior to any work proceeding. Should Archaeological Material be discovered, additional work may be required but only after discussions on site occur. Should the project be completed in less time than I have estimated then the resulting final bill will be adjusted accordingly. This estimate does not include any First Nations participation should there be a request by First Nation(s) to be involved and you give approval. We are happy to work with experienced First Nations field personnel. In addition, if archaeological monitoring and/or post archaeological assessment be required or requested then additional costs will occur.

Thank you for contacting Sites N Sounds Consulting.



Richard M Gilbert
Archaeologist/Partner
Sites N Sounds Consulting

January 29, 2018

From: Irving Jensen irving.jensen@peacenorth.ca
Subject: Project Estimate Beaton Park Stadium Grounds
Date: November 7, 2017 at 8:27 AM
To: Eliza Stanford eliza.s@telus.net

Good morning Eliza Please accept my estimate as follows

Clearing, bucking, decking, stumping and stump disposal 9000.00

Stripping topsoil and re spreading when grading is complete 3000.00

Grading and sloping 16000.00

Total Estimate \$ 28,000.00 + tax

Thank You for this opportunity to participate on your clubs projects.

Regards: Irving Jensen
president - peace north excavating inc
office 250 785-5900
cell 794-8600
e-mail irving.jensen@peacenorth.ca

January 29, 2018

From: Nathan Bashaw nathanbashaw@ymail.com
Subject:

Date: November 12, 2017 at 6:11 PM

To: Eliza Stanford eliza.s@telus.net

NB

Eliza,

Apologies for the delay, here is the quote for the mulching.

Mulching flagged off area in Beatton Park with trucking and incidentals ie - teeth
\$6700.00

I have Steven doing a quote for the leveling and dirt work. I will send as soon as I have it, which should be Monday.

NB

Nathan Bashaw
North Ascent Environmental Inc.
Director
[250-794-7947](tel:250-794-7947)
<http://www.northascent.com/>

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Thank you.

28,700

January 29, 2018

Hi Eliza,

Thanks for that information. The timeline sounds good and I can develop the drawings for about \$3000 in fees. I'm assuming I will be able to reference your dad's signature design details - such as the roof trusses - from his past project drawing sets. We will definitely need a structural engineer to be involved.

Timing wise, perhaps I could meet with your dad in a few weeks to begin the project. I may not be able to begin drawing until January but at least your dad and I could begin talking about it and I could see what he has in terms of drawings and details for me to reference.

It would be very helpful to come and see the site as well. Perhaps also early in the new year - or did you have another date in mind?

I will need to sign a contract with you which I am obligated to do by my licensing body. I could mail it up to you if that suits you. Please let me know your address.

Can you also tell me the Authority Having Jurisdiction with whom we will be applying for a building permit?

Please let me know if that all sounds good. And thanks again for the opportunity!

Best,
Laura

Laura Killam Architecture + Design
Laura Killam, Architect AIBC LEED AP 604.729.8868

January 29, 2018

WHISKEY JACK NORDIC SKI CLUB SOCIETY

FINANCIAL STATEMENTS

APRIL 1, 2016 - MARCH 31, 2017

(UNAUDITED - SEE NOTICE TO READER)

Whiskey Jack Nordic Ski Club Society

Financial Statements Year Ending March 31, 2017

The financial statements of the Whiskey Jack Nordic Ski Club (WJNSC) have been prepared by Directors in accordance with generally accepted principles, consistently applied and appropriate in the circumstances. The financial statements have, in the Board of Directors' opinion, been properly prepared with reasonable limits of materiality and within the framework of the accounting policies summarized in the notes to the financial statements.

The Board of Directors depends on a system of internal controls that provide reasonable assurance, on a cost-effective basis, that the financial information is reliable and accurate. The system of internal controls is monitored by the Board of Directors. No internal or external audits are conducted into these controls.

The Board of Directors has not engaged any accounting firm to prepare these statements. The responsibility for the accuracy and completeness of the representations in the financial statements remains with the Board of Directors.

Signed, this 31st day of March, 2017.



Sara Richardson, Treasurer, Whiskey Jack Nordic Ski Club

WHISKEY JACK NORDIC SKI CLUB SOCIETY**FINANCIAL STATEMENTS
Year Ending March 31, 2017****Notice to Reader**

We have compiled the balance sheet of the Whiskey Jack Nordic Ski Club as at March 31, 2017 and the statements of income for the year then ended from information provided by the Board of Directors. We have not audited, reviewed or otherwise attempted to verify the accuracy or completeness of such information nor have we engaged anyone to perform such activities. Readers are cautioned that these statements may not be appropriate for their purposes.

Signed this, 31st day of March, 2017.



Sara Richardson, Treasurer, Whiskey Jack Nordic Ski Club

Whiskey Jack Nordic Ski Club Society
Income Statement 01.04.2016 to 31.03.2017

REVENUE

Sales Revenue	
Memberships	9,630.00
RAFFLE	0.00
Fundraising	47.50
Interest	61.85
Event/Loppet Revenue	280.00
Drop Box	1,133.45
Grants	3,674.00
Donations - Corporate	1,568.16
Donations - Individual	5,355.00
Ski Equipment Sales	0.00
COURSE FEE	70.00
SDP Seasonal Equipment Rentals	440.00
Kids Ski Equipment Rentals	95.00
Ski Equipment Rentals	782.00
Ski Lessons SDP	780.00
Coaching - Kids Ski Skool	20.00
Coaching - Adult	223.35
Net Sales	<u>24,160.31</u>
TOTAL REVENUE	<u>24,160.31</u>

EXPENSE

Cost of Goods Sold	
Purchases	<u>11.19</u>
Net Purchases	<u>11.19</u>
Total Cost of Goods Sold	<u>11.19</u>
General & Administrative Expenses	
Advertising & Promotions	0.00
RAFFLE EXPENSES	0.00
Signage	315.68
Business Fees & Licenses	40.00
Membership Drive - table rental	15.00
Insurance - Equipment	1,980.00
Bank Fees	20.02
Office Supplies	57.54
Miscellaneous Expenses	56.00
Event/Loppet Expenses	84.47

Equipment - Maintenance	1,037.40
Fuel for skidoos	388.28
Repair & Maintenance	78.90
Membership Dues for CCBC	2,697.00
Zone4 Fees	10.00
Memberships - other	25.00
Trail Project	0.00
Children's Programming	195.24
Ski Rentals	7,468.11
Coaching Fees	0.00
Officials Training	1,459.00
Total General & Admin. Expenses	<u>15,927.64</u>
 TOTAL EXPENSE	 <u>15,938.83</u>
 NET INCOME	 <u>8,221.48</u>

Generated On: 07.04.2017



Sara Richardson, Treasurer, Whiskey Jack Nordic Ski Club

January 29, 2018

WHISKEY JACK NORDIC SKI CLUB SOCIETY

Notes to FINANCIAL STATEMENTS

Year Ending March 31, 2017

1. Purposes of the Organization

The Whiskey Jack Nordic Ski Club (WJNSC) is a not-for-profit organization incorporated under the Societies Act of British Columbia.

The Constitution of the WJNSC states that the purposes of the organization is to:

- a) to identify the recreational and competitive needs of cross country skiers in the community;
- b) to organize, administer and coordinate appropriate cross country ski opportunities for all ages in the community on a year round basis;
- c) to assist already established cross country ski groups and programs;
- d) to obtain and manage the necessary finances, personnel and equipment to operate community cross country ski programs and facilities;
- e) to encourage and foster the principles of self-development, leadership and sportsmanship in cross country skiing.

The WJNSC as originally incorporated in 1985.

2. Significant Accounting Policies

Basis of Presentation

The financial statements are presented showing the most recently completed fiscal year. The projected budget provides figures for capital acquisition.

Contributed Services

Volunteer hours contributed to assist the WJNSC in carrying out its service delivery activities are not recognized in the financial statements because of the difficulty of determining their fair value.

Statement of Changes in Financial Position

No Statement of Changes in Financial Position is shown, as it would not provide any material additional information.

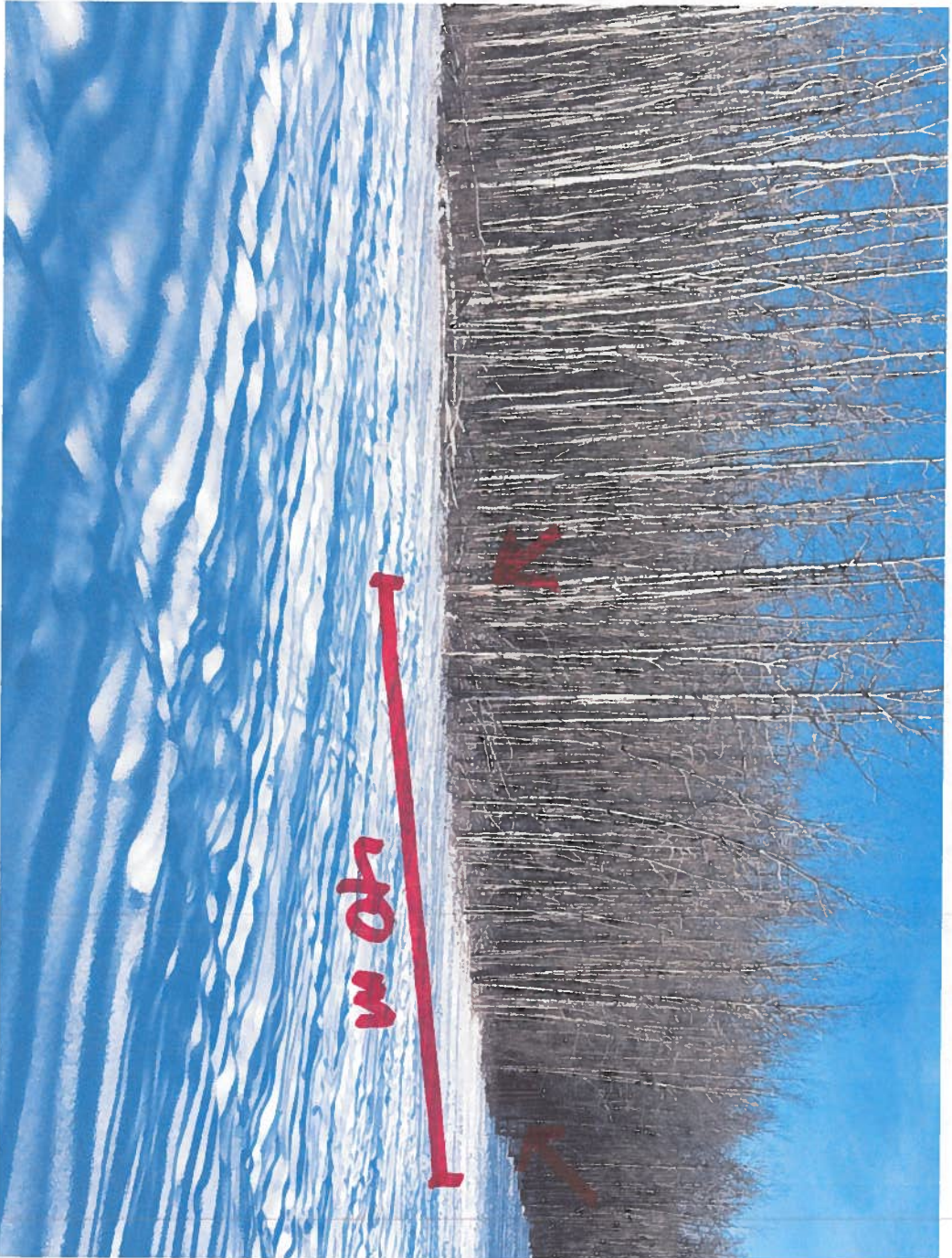
3. Related Party

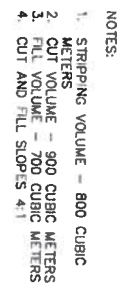
The WJNSC currently holds membership with the Fort St. John Sports Council, and is a member group with Cross Country BC, the provincial sport organization for cross country skiing.

No member or volunteer with the WJNSC received remuneration for their services. Reasonable expenses would be reimbursed.

The WJNSC currently holds no debts.

(Unaudited – See Notice to Reader)





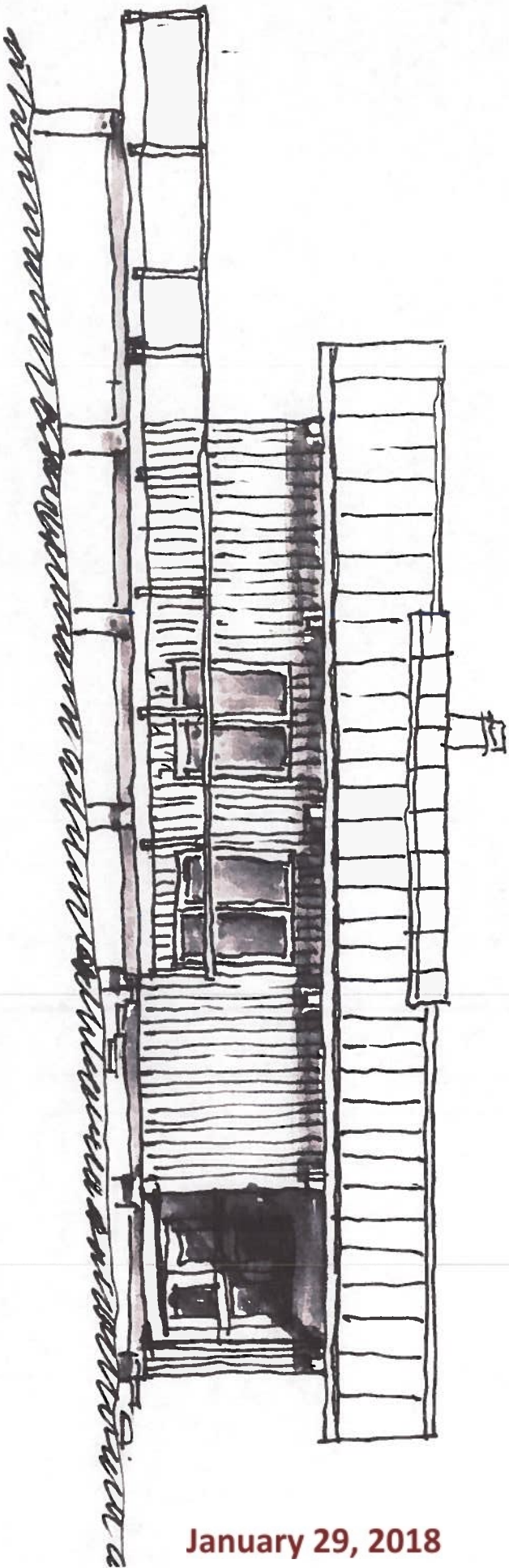
FOR INFORMATION ONLY 2015-12-17

Distribution - Publishers - Contacts
1974-1999 Annual, 71 W 20th St, NY 10011
Phone (212) 767-6200 Fax (212) 767-1811

EMERY JACK SHEDS BEATON PARK STRUCTURES SITE PLAN

2018-17-
C

Sketches of Day Lodge that need to be developed into working plans.

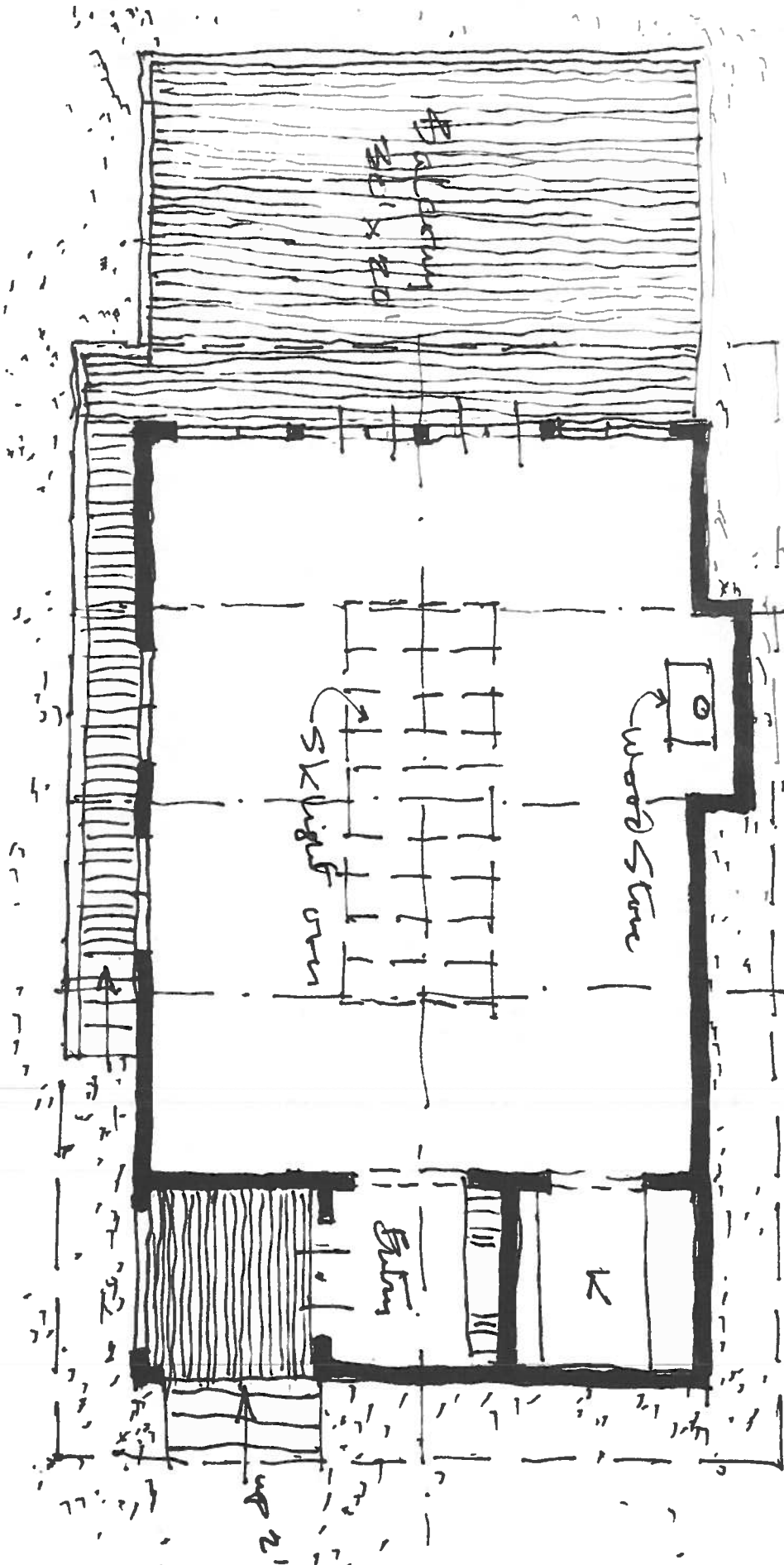


East Elevation.

January 29, 2018

WJNSC

Plan.
Scale: 1/8" = 10"



50'

WJNSC



CROSS COUNTRY BC

Oct 4, 2017

To whom it may concern,

This letter is in strong support of the Whiskey Jack Nordic Ski Club's plans to improve its ski trails and facilities.

Cross Country BC is the provincial governing body for the sport of cross country skiing and one of our missions is to develop and maintain support structures for the delivery of cross country ski programs (recreational through to competitive) to a broad cross section of the community. As such, we fully support Whiskey Jack's plans.

Whiskey Jack has been working very hard over the past number of years to improve the ski experience for both members and visitors alike. Their current projects are of particular importance as they prepare for the upcoming 2020 BC Winter Games in Fort St. John. We have seen first-hand the amazing legacy associated with hosting the Games, with many clubs across BC absolutely thriving due to improvements made many years ago.

Whiskey Jack's work thus far has attracted many new and returning skiers to the sport in the North Peace and we applaud them for their efforts. As a case in point, they've had 4 consecutive years of record membership!

We hope that you can help support this worthy initiative. We are confident it will result in more people getting outside during our long winters and enjoying a fantastic healthy, low-impact activity – a true sport for life!

Sincerely,

Wannes Luppens
Executive Director

January 29, 2018



July 18th, 2017

To Whom it May Concern:

RE: Whiskey Jack Nordic Ski Club

The Fort St John & District Sports Council supports the Whiskey Jack Nordic Ski Club in its initiatives to:

- Develop a stadium area to serve as a start and finish zone for races and also as an area for lessons and programming.
- Construct a Day Lodge. This would be a multi-use facility which would house their indoor programming needs and also to be used as a place that is warm for breaks, resting, or eating during their skiing outings and races.

Fort St John has been awarded the 2020 BC Winter Games. The above mentioned stadium and day lodge are necessary to effectively host the cross country ski events for this Provincial event.

Promoting a healthy life style is one of the objectives of the Fort St John & District Sports Council therefore we feel it is important to stay active and to participate in winter sport during our 5 – 6 month winters. We feel the above mentioned initiatives will help us reach our goal and will provide our citizens with the opportunity to remain active.

Yours truly,

Chair

Fort St. John & District Sports Council, 10631 – 100th Street, Fort St. John, BC, V1J 3Z5. Phone: 250-785-5163

January 29, 2018



PEACE RIVER REGIONAL DISTRICT

Recreation Trails Grants-in-Aid

Schedule "D" – Application Checklist

Applicant Name: Whiskey Jack Nordic Ski Club

Date: December 8, 2017

All application packages must include the following items.

- ☒ Completed Recreational Trails Grants-in-Aid application form.
- ☒ Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding.
- ☒ Project budget including sources of revenue (confirmed and pending), donations and expenses.
- ☐ Three (3) quotes for any items valued at over \$3,000.
- ☒ Current and year-end financial statements.
- ☒ Map of the proposed project and route.
- ☒ Pictures of the proposed project and route.
- ☒ Confirmation of a Recreation and Trail Sites BC or BC Parks Agreement OR Council/Board resolution providing authorization for the project to proceed on local government lands.
- ☒ Two (2) letters of support from other organizations or groups supporting the project

FOR REGIONAL DISTRICT USE ONLY:

Follow up: Park use permit outstanding - very long process - says that
~~they can~~ hope to receive PUP by the summer and can send
prior to beginning work/submitting invoice.

Comments/Considerations: _____

CSC Use Only

☐ Schedule C–Trails Annual Report

☐ BC Online check

☐ File a copy electronically in groups file



PEACE RIVER REGIONAL DISTRICT
Recreation Trails Grants-in-Aid
Schedule "A" - Application

Date: Nov. 15, 2017

Society Number: S-0059448

APPLICANT INFORMATION

1) Name of Organization: Chetwynd Outdoors Society (COS)

2) Contact Person: Winston Ho

Position: Nordic Ski Trail Coordinator

Mailing Address: PO Box 2065

Fax: n/a

Phone: 778-322-2110

Email: chetoutdoor@gmail.com

Website: https://chetoutdoors.wordpress.com/

Please list our organization on the PRRD website as a "Local Community Group" ☒ Yes ☐ No (please check one)

3) Purpose of your organization & description of the types of activities your organization is involved in.

COS is dedicated to the preservation and expansion of Chetwynd and area outdoor trails. We promote self-propelled activities such as hiking, skiing, climbing, paddling, etc. In the summer, we do trail maintenance and coordinate group hikes for the community. In the winter we have been busy developing Nordic skiing, and snow shoeing. In general, the COS promotes accessible, affordable, healthy, and active lifestyles for the local population!

4) If applicable, does your organization own any facilities or properties? ☐ Yes ☒ No (please check one)

Please give the 9-1-1 address and legal description of the property that your organization either leases or owns.

5) Executives of Your Organization:

President/Chair

Name: Darcy Stanyer Phone: 250-788-5701 Email: ddstanyer@yahoo.ca

Vice President/Vice Chair

Name: John Stokmans Phone: 250-793-0195 Email: stokjock@telus.net

Treasurer

Name: Kristin Atherton Phone: 250-556-9553 Email: athertonkristin@gmail.com



Secretary

Name: Marcie Fofonoff Phone: 250-401-8842 Email: Marcief06@gmail.com

- 6) Please provide a 5 year action plan for your organization.
- | | |
|---------|--|
| Year 1: | Became a cross-country ski BC certified club, obtained liability insurance through cross country Canada, train coaches ages 4-9 (ICC & CC) and CANSI level 1. Purchase grooming equipment. Prepare trails for winter 2018-19 |
| Year 2: | Offer lessons for age 4- adults learn to ski. Groom 5km Caribou Trail and open to public. Develop learning grid and ski playground. Conduct engineering feasibility study. Build warming shelter with fireplace. Financed by NDIT may 2018 application and PRRD Nov 2017 application combined. |
| Year 3: | Train coaches to coach age 4-12. Make trail system more accessible for beginners. Add beginner loops around steep hills. Add in toboggan hill to expand usage base of Nordic center and warming shelter. |
| Year 4: | Expand trail system into the hydroline and red snowshoe trails and other recommendations made by the engineering feasibility study. |
| Year 5: | Operate and maintain trails, continue to provide coaching and lessons. |

PROPOSED PROJECT INFORMATION (please complete the questions below or attach a separate sheet)

- 7) Describe the project for which your organization is requesting funding.
- The Chetwynd Outdoors Society (COS) will convert existing logging roads in the LPCF (Little Prairie Community Forest) into nordic ski trails. The nordic centre's focus will be recreational-based as opposed to competition level. The nordic centre will eventually also provide tobogganing, snowshoeing (pre-existing) and mountain biking (summer) and hiking. We also plan to provide coaching to children by training coaches in ICC and CC in Dawson Creek in 2017-2018 and CANSI in Canmore March 2018 for the 2018-2019 ski season. In addition to skiing, the nordic centre will provide a warming shelter. The COS has over non-voting 400 members and this initiative will have participants of all ages!
- 8) Describe how your project will provide opportunities for healthy lifestyles – physical, mental and spiritual.
- XC skiing is a great, low impact, high cardiovascular activity suitable for people of all ages. It is a very affordable and accessible (5 min drive from downtown Chetwynd) sport relative to other winter sports such as downhill skiing and snowmobiling, with low cost of gear, minimal driving time and significantly cheaper day passes. As with most self-propelled outdoor sports, XC skiing allows people to be outside, connect with nature, helping the body, mind and soul to heal and nurture both mentally and spiritually. The goal is to use volunteer groomers and keep annual memberships under \$60 per person to cover annual operating costs.
- 9) Describe how the project will foster "regional pride" in the natural environment of the Regional District.
- XC skiing in the LPCF will allow people to see how truly beautiful the local Chetwynd area is. As



Chetwynd currently lacks affordable and accessible winter activities, this will be able to bring locals and tourists alike and showcase the beautiful boreal forests just in our backyard. By providing such a cheap and accessible activity, it will help attract and retain people and their families to live in Chetwynd. In the Peace, one of our greatest issues is talent attraction and retention, especially in the winter.

- 10) Describe how the project will make trails more accessible for multiple different user groups and those with mobility challenges.

XC skiing is considered a low impact, accessible and affordable sport, making it very friendly for people of all ages to learn. In addition, per our 5 year plan, we plan on providing coaching and creating a learning grid and skill development ski playground area, suitable for users of all ages!

- 11) Describe how the project will utilize Crown or local government lands and measures that will be taken to avoid conflict with private lands (where applicable).

XC ski trails will be built in the LPCF, all of which is owned by crown and local government lands. There will be zero conflict with private lands. In fact, XC ski trails will utilize logging roads (deactivated in Fall 2017), to further minimize our environmental impact.

- 12) Describe how the project will build on the Provincial Trails Strategy

(http://www.sitesandtrailsbc.ca/documents/Trail_Strategy%20for_BC.pdf)

- Trails will provide meaningful connections between people and nature (see part 8 & 9)
- Sustainable trails system (utilizes existing logging roads, reducing our need to cut more trail) which will maximize benefits for British Columbians
- Collaboration with First Nations groups (LPCF is a collaboration between the District of Chetwynd, West Moberly First Nations and Saulneau First Nations)
- Opportunities for all- trails will be utilized by people of all ages as XC skiing is a very accessible sport (see part 10)
- Benefits for trail users and community- Trails will help to improve health, fitness and talent attraction/retention. See part 9

- 13) How many volunteers does your organization have and approximately how many hours does your membership contribute each year?

10 volunteers, approximately 300 hours per year

- 14) If there are continuing costs to operate or maintain your project, how do you plan to meet these costs in the future?

Through donated volunteer labour, membership fee and private donations. See budget attached.

- 15) Please provide on a separate sheet information on how your project addresses one or more of the secondary selection criteria:



Geographic Coverage	Ideally the regional trail system should be effectively distributed throughout the Regional District. Potential sites should be of interest to the whole region in the interest of servicing all residents.
Environmental, education or heritage representation	Representative or regionally significant landscapes should be considered when developing a new trail or preserving an existing one. Potential sites should be chosen to represent the diverse landscapes that the area encompasses. Balancing wildlife values against the proposed benefits of trail development should also be considered along with the unique historic, cultural, ecological, and educational aspects of the area.
Partnerships	Fostering partnerships with interest groups or other government agencies should be considered as it will aid in offsetting costs to develop and maintain existing or future regional trails.
Proximity	Trails that are located in close proximity to existing trails and parks or similar amenities should be considered.
Already established as an unofficial trailhead	Trails that are already established or maintained in a positive manner and demonstrate a high utilization rate should be considered.
User and site safety and the capacity to maintain	User and site must be considered to ensure the non-profit groups are able to maintain them to a reasonable and safe standard expected of a natural trail for the safe enjoyment of the public.

18) TOTAL funds requested from the Regional District: \$19,991 (see budget attached)

INCLUDED THE FOLLOWING ATTACHMENTS WITH YOUR APPLICATION

- a) Application Checklist
- b) Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding
- c) Project budget including:
 - i. Detailed cost estimates
 - ii. Sources of confirmed revenue
 - iii. Sources of revenue yet to be confirmed (i.e., pending grant applications)
 - iv. Sources of donations for labour and/or materials
- d) Three (3) quotes for any items valued at over \$3,000
- e) Current and year-end financial statements (balance sheet and income statement)
- f) Map and pictures showing the location of the project and planned route
- g) Confirmation of an agreement with Recreation and Trail Sites BC or BC Parks or a Council/Board resolution providing authorization to develop or re-establish a trail on local government property
- h) Two (2) letter of support from other organizations or groups supporting the project.



Peace River Regional District

R-3

**Recreation Trails Grants-in-Aid
Schedule "A" - Application**

Winston Ho

778-322-2110

Signature of Applicant

Phone

Part 15 (PRRD Trails Grant)

15) How our project addresses these secondary selection criteria:

- Partnerships
 - The Chetwynd Outdoors Society (COS) is partnering with the Little Prairie Community Forest (LPCF) for this project to proceed. What's more, the LPCF is a collaboration of groups consisting of the District of Chetwynd, Sauteau First Nations and West Moberly First Nations. The LPCF has already given us a letter of support and committed \$5000 to support us in developing these trails
- Proximity
 - The LPCF already has hiking and mountain biking trails developed in this area. The trailhead for the ski trails will be adjacent to these summer trails and will share the same parking lot, therefore meeting the proximity criteria.
- Already established as an unofficial trailhead
 - Trails are currently used in the summer for hiking, and wood collection. There are also existing snowshoe, hiking and mountain biking trails adjacent to the logging roads we plan on turning into ski trails, all of which share a common parking lot.
- User and site safety and the capacity to maintain
 - Since the roads have already been created and we have the support from the LPCF, maintaining these trails to a safe and reasonable standard should be within the capacity of the COS

Chetwynd Outdoors Society (COS) Board Meeting

Date: November 2nd, 2017

Time: 6:02 pm

Place: Corrina Kennedy's home

Present:

Directors: Darcy Stanyer, John Stokmans, Kristin Atherton

Voting Members: Corrina Kennedy

Non-voting Members: Amy Meyer

Approved:

- 1) Financial report as of Oct 27, 2017
- 2) To sponsor individuals for the cross country ski instructor course in Dawson Creek Dec 15-17, 2017 (1 hotel room and 4 course fees). Stipulations to be communicated by Corrina Kennedy.
- 3) To apply for the Peace River Regional District trails grant for the full amount of \$20,000 as we have more than \$6,000 of in-kind work committed.
- 4) To communicate with LPCF the services the COS can provide towards the cross country ski area and program and request items from them. See list attached.

Adjourned: 6:55 pm

Total Budget for LPCF Nordic Centre & Coaching Development

[illegible]

Florida Center President Summary					
	Before Jan	Jan	March 2015	12 Month duration to Jan 2016	See below: 2015, 2016, 2017
NDT phase 1	\$14,461	\$1,796	\$16,667	\$0.00	
PRAD phase 2	\$10,635	1,773	\$23,391	\$11,000	Initial and from PRAD
NDT phase 2	\$70,851	\$7,076	\$77,960	\$21,000	Total and from NDT report 1
phase 3	\$30,456	\$2,009	\$16,658	\$366	TRD
Annual membership costs	\$18,800	\$1,500		\$15,350	Annual total membership fee applications required from members



Winston Ho <ho.winston@gmail.com>

Mulching quote

1 message

corrina kennedy <corrinackennedy@gmail.com>
 To: Winston Ho <ho.winston@gmail.com>

Corrina Kennedy, P.Eng, M.Sc

Process | Facilities | Project Development Engineer

Mobile: (403) 764-2575

Email: corrinackennedy@gmail.com



Begin forwarded message:

From: Tina Carter <tina@em3inc.ca>
Subject: RE: quotes for grant application due today
Date: November 14, 2017 at 1:40:24 PM MST
To: "Corrina Kennedy" <corrinackennedy@gmail.com>
Reply-To: <tina@em3inc.ca>

Hi Corrina,

We can drop our machine rate to \$400.00 per hour. Approximate time line is 1 hectare per day so it would be an estimate of \$4500.00 per day based on 10 hours of daily mulch.

Thank you,

Tina Carter
 Office Manager/Safety Coordinator

EM3 Services Inc
 8823 72 Street, Fort St. John, B.C. V1J 0B4
 Office: (250) 261-5655
 Cell: (250) 262-5760
 Fax: (250) 261-6441
tina@EM3inc.ca



From: corrina kennedy [mailto:corrinackennedy@gmail.com]
Sent: November-14-17 1:16 PM
To: tcarter@enviro-mulch.com
Subject: quotes for grant application due today

Hi Tina,

Sorry for the last minute request, but I just figured out that putting some of the mulching work on the PRRD trail grant due tomorrow would make sense. I will need to get some quotes for grant application due tomorrow. We will not need to have the work completed until next summer, anytime between July - Sept. We will

We have about 4 hectares of cutblock debris and roots to clear and 500 m of trail 6 m wide of tall thin trees. There are photos in the attached presentation below.

Thanks

Corrina

Corrina Kennedy, P.Eng, M.Sc

Process | Facilities | Project Development Engineer

Mobile: (403) 764-2575

Email: corrinackennedy@gmail.com

January 29, 2018

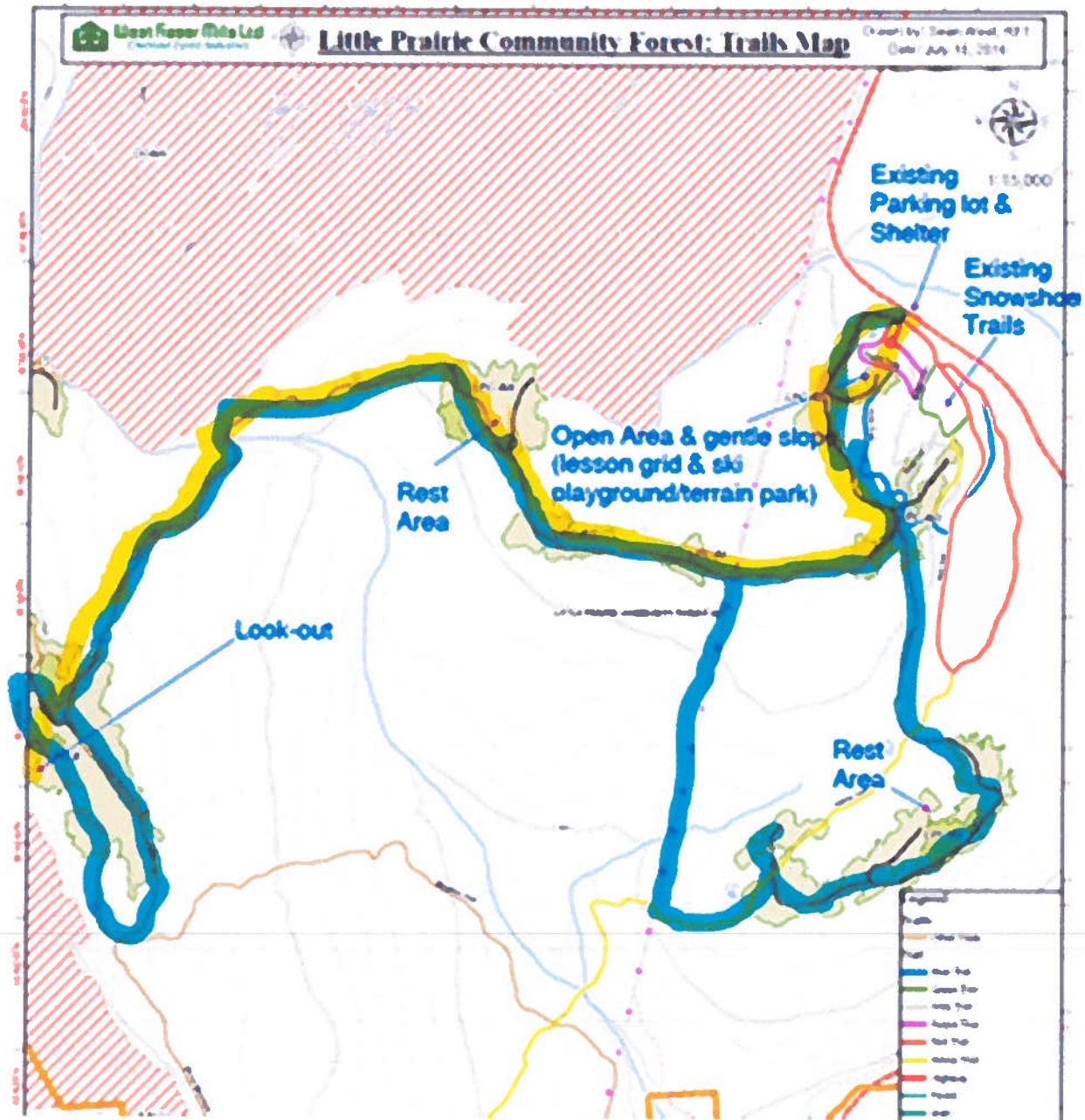
Chetwynd Outdoors Society Financial Statement

	2012/13	2014	2015	2016	2017 to date	
Income						
Memberships	\$ 95.03	\$ 235.00	\$ -	\$ -	\$ 123.00	
Interest	\$ 2.05	\$ 0.17	\$ -	\$ 3.17	\$ 5.72	
Grants	\$ 10,000.00	\$ -	\$ -	\$ 500.00	\$ 500.00	
Fundraising Events	\$ -	\$ -	\$ -	\$ 50.00	\$ -	
Total	\$ 10,097.08	\$ 235.17	\$ -	\$ 553.17	\$ 628.72	
Expenses						
Fundraising						
Event Supplies	\$ -	\$ -	\$ -	\$ 81.80	\$ -	
Marketing						
Printing	\$ -	\$ -	\$ -	\$ 84.45	\$ -	
Trade show	\$ -	\$ 128.63	\$ -	\$ -	\$ -	
Office						
Bank Fees	\$ 20.00	\$ 24.00	\$ 61.00	\$ 5.00	\$ -	
Supplies					\$ 10.35	
Projects						
Martin Falls	\$ -	\$ -	\$ -	\$ -	\$ 95.20	
Bickford	\$ 9,587.75	\$ -	\$ -	\$ 102.29	\$ -	
Taxes & Licenses						
Society Fees	\$ 50.00	\$ 25.00	\$ -	\$ -	\$ -	
Total Expenses	\$ 9,657.75	\$ 177.63	\$ 61.00	\$ 273.54	\$ 105.55	
Net Income	\$ 439.33	\$ 57.54	-\$ 61.00	\$ 279.63	\$ 523.17	Current Balance
						\$ 1,238.67

Updated: 14-Nov-17

January 29, 2018

Yellow is the Caribou Trail for 2018-2019; Blue is to be expanded in the future

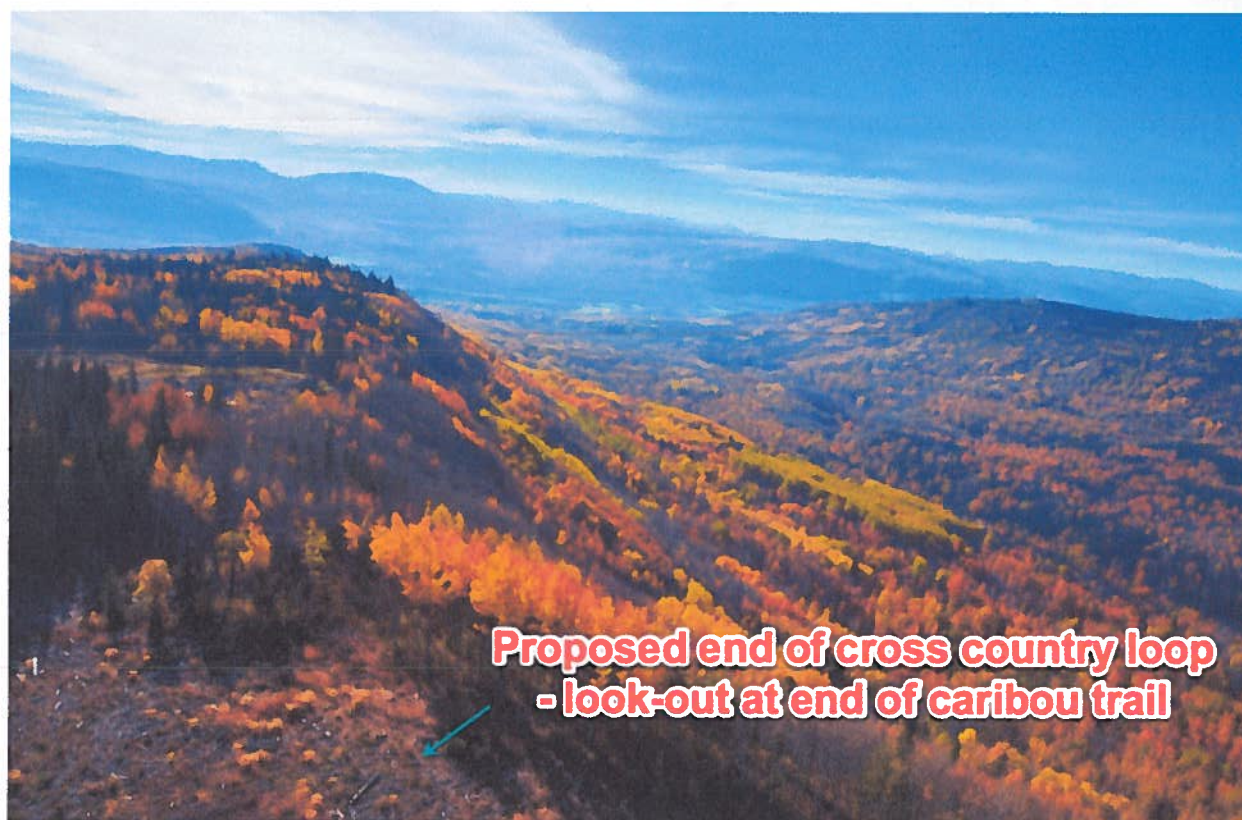


January 29, 2018

View of ski playground area and trailheads at LPCF



January 29, 2018



January 29, 2018



Little Prairie Community Forest
PO Box 1156
Chetwynd, BC, V0C 1J0

District of Chetwynd
PO Box 357
Chetwynd, BC V0C 1J0

October 10th, 2017

Re: Chetwynd Outdoor Society Cross Country Ski Trail Project

Mayor and Council

The Little Prairie Community Forest Board of Directors has met with the Chetwynd Outdoor Society, as well as the Economic Development Officer for the District of Chetwynd Ellen McAvany to discuss the development of Cross Country Ski Trails within the Little Prairie Community Forest boundaries.

The Board would like to support the Chetwynd Outdoor Society in their endeavor to develop Cross Country ski trails in the Little Prairie Community Forest and give permission to use some of the existing trails.

In further support we also approved a donation of \$5000.00 either in cash or as a contribution "In Kind" with regard to the filling in of some ditches and some minor road work.

Thank you

Helene Weightman-Secretary/treasurer

Per

Jeff Beale

President

And Board of Directors

Little Prairie Community Forest

January 29, 2018

**District of Chetwynd**

Box 357
Chetwynd, BC
Canada V0C 1J0

tel: (250) 401-4100
fax: (250) 401-4101
email: d-chet@gochetwynd.com

June 6, 2017

To Whom This May Concern:

Re: Letter of Support

This is to confirm that at the Regular Council Meeting held June 5, 2017 District of Chetwynd Council adopted the following motion:

“THAT Council write a letter of support for the Chetwynd Outdoor Society, for Northern Development Initiative Trust funding; and

THAT Council authorize the Chetwynd Outdoor Society to store grooming equipment in a District building”

Sincerely,

Carol Newsom
Director of Corporate Administration

Vision Statement

Chetwynd exists in order that area residents have sustainable opportunities for
Security, Health, Safety and Prosperity
in surroundings that display the best of our natural environment.

January 29, 2018



Vegetation Management Solutions Provider - since 1986

November 1st 2017

Peace River Regional District trails grant

To Whom It May Concern

RE: Ski Playground/Terrain Park/ Lesson Grid Development

Spectrum Resource Group, free of charge will provide to the Chetwynd Outdoor Society one Certified Tree Faller/ Falling Supervisor with all required equipment for the development of the ski playground/lesson grid for the cross country skiing facility in the Little Prairie Community forest for the duration of one day (10hrs). The value of this service is equal to \$1200.

Yours truly,

A handwritten signature in black ink, appearing to read "Corwin Bowers", written over a horizontal line.

Corwin Bowers

Project Manager

January 29, 2018



PEACE RIVER REGIONAL DISTRICT

Recreation Trails Grants-in-Aid

Schedule "D" – Application Checklist

Applicant Name: _____ Chetwynd Outdoors Society _____

Date: _____ Nov. 10, 2017 _____

All application packages must include the following items.

- ✕ Completed Recreational Trails Grants-in-Aid application form.
- ✕ Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding.
- ✕ Project budget including sources of revenue (confirmed and pending), donations and expenses.
- ✕ Three (3) quotes for any items valued at over \$3,000.
- ✕ Current and year-end financial statements.
- ✕ Map of the proposed project and route.
- ✕ Pictures of the proposed project and route.
- ✕ Confirmation of a Recreation and Trail Sites BC or BC Parks Agreement OR Council/Board resolution providing authorization for the project to proceed on local government lands.
- ✕ Two (2) letters of support from other organizations or groups supporting the project

FOR REGIONAL DISTRICT USE ONLY:

Follow up: Insurance is an ineligible expense - snowmobiles, liability
Budget combines multiple funders & phases.

Comments/Considerations: New First time application. - fits policy.
Small tools (chainsaws & safety eqpt)

CSC Use Only

☐ Update Access Database

☒ BC Online check

☐ File a copy electronically in groups file



PEACE RIVER REGIONAL DISTRICT

Recreation Trails Grants-in-Aid

Schedule "A" - Application

Date: November 15, 2017

Society Number: S-0045828

APPLICANT INFORMATION

Bear Mountain Nordic Ski Association

1) Name of Organization:

?

Pat O'Reilly

2) Contact Person:

Vice President, Trails & Facility

Position:

P.O. Box 21033, Dawson Creek, BC V1G 4X8

Mailing Address:

Fax: N/A

250-219-6235

Phone:

Email: poreilly@pris.bc.ca

<http://www.nordicski.ca/>

Website:

Please list our organization on the PRRD website as a "Local Community Group" x Yes No (please check one)

- 3) Purpose of your organization & description of the types of activities your organization is involved in. The purposes of the Bear Mountain Nordic Ski Association are to plan, develop, maintain, and provide year- round facilities to support a sustainable offering of activities relating to cross country skiing, snowshoeing, cross country running, hiking, mountain biking, bird watching, horseback riding, orienteering, outdoor environmental studies, outdoor sciences, and similar non-motorized educational and recreational possibilities. Moreover, to support programs and activities to meet the



needs of members, in particular those programs that support and contribute to the physical and mental health of the community, those that involve the participation of families, youth, and seniors with a view to enhancing inter-generational interactions, and those that support an integrated athletic development system up to the provincial and national level.

Typical events hosted or sponsored by the Bear Mountain Nordic Ski Club include the "Jack Rabbits" learn-to-ski program for children, zone qualifying events, travel to Winter Games competitions, loppet events, school skiing on our trails, school and community ski instruction in Dawson Creek where we groom and set trails and teaching lanes, moonlight skis, family days, adult ski lessons, volunteer work bee weekends, cat tours for seniors, outdoor/environmental studies programs for students, participation in Canada Ski Fest, coaching clinics, waxing and equipment clinics, birthday parties, cabin stays, guided hikes, and snowshoeing events.

4) If applicable, does your organization own any facilities or properties? ☐ Yes ☒ No *(please check one)*

Please give the 9-1-1 address and legal description of the property that your organization either leases or owns.

Our trails system is held under a long-term Land Use Agreement with the Ministry of Tourism, Sports, and the Arts within the Recreational Reserve Site (16660-20/5989).

Our specific 500 hectare Management Agreement number is 16660-

27/REC2007DPC001, and it is located at 13562 Radar Lake Road, V1G 0C2. It includes the NE, SE, SW 1/4 Section 24, NW, NE, SW, SE 1/4 Section 13, Township 77, Range 15, West of 6th Meridian.

5) Executives of Your Organization:

President/Chair

Name: Adam Langemaier Phone: 250 467 2551 Email: AdamLangemaier@hotmail.com

Vice President/Vice Chair

Name: Pat O'Reilly Phone: 250-782-8796 Email: poreilly@pris.bc.ca



Peace River Regional District

Recreation Trails Grants-in-Aid
 Schedule "A" - Application
Treasurer

Name: Jan Patterson

250-782-3374

Janpatterson@srbg.ca

Phone:

Email:

Secretary

Cathy Clement

Name:

Phone:

Email:

6) Please provide a 5 year action plan for your organization.

- Upgrade and maintenance of the west bridge on South Loop Trail
- Year 1:** (complete) ☐ Reset the single span foot bridge on Bisette Trail
 (complete) ☐ Upgrade and maintenance of the two-span foot bridge on Log Cabin Trail (complete) ☐ Complete 3rd year of the stump removal project and continue the ongoing danger tree falling (complete) ☐
-
- Year 2:** Upgrade and maintenance of the east bridge on the South Loop Trail
 (complete) ☐ Repairs to piling bracing on two-span bridge east on Bisette Trail
 (complete) ☐ Place 5 additional culverts on Wolf, Wolverine, Bisette, and Log Cabin Trails (complete) ☐ Upgrade the solar/wind system on the caretaker facility (postponed to 2017) ☐ Build a storage addition onto the existing shop, measuring 14 x 24 feet. This addition was worth just under \$11,000 and was covered by money and volunteer work by the club. It was completed with the support of \$24,000 from the PRRD (complete) ☐
-
- Year 3:** Build a fund to replace the 1997 snowcat groomer and tiller ☐ Seed all areas disturbed in the last year's bridge and culvert projects (in progress) ☐ Replace culverts and improve widths and levels of sidecuts on West half of trail system (complete) ☐ Upgrade the solar/wind system on the caretaker facility ☐
-
- Year 4:** Repair trail surfaces damaged by wet weather ☐ Replace culverts and improve widths and levels of sidecuts on East half of trail system (in progress) ☐ Continue to build fund to replace groomer ☐ Lighting of 6 km of



 trail? Build a cabin in southwest corner of trail system

Year 5:

Ski lodge on the trail system? Develop and build a biathlon range. This is the last 5 yr. plan that the club developed. Since then, as a result of flooding in June 2015 the plan was modified of necessity. Since the fall of 2016, we have repaired 6 major culvert washouts and started on repairs to the two major bridge washouts on the North Bissette Creek. PRRD has granted \$40,000.00 to that work. We have not spent that money as yet, as we are waiting on further grants from MLFRO, and hopefully, from the PRRD, that will allow us to complete that work. In addition, as part of the trails upgrades, we have installed 72 pipes (culverts) to effect drainage in the wettest areas of the trails. Associated with these culvert installs, there is significant ditching, widening, contouring and grading involved with each of these installed culverts. We have sourced, welded and fabricated over 40 more pipes which will be installed in a phase 3 project this coming summer. This work is to be done in areas where the drainage problems are not as severe.

When the bridge repairs are completed and the above additional culverts installed, we will then place additional focus on the trails surfaces with mulching, leveling and seeding.

PROPOSED PROJECT INFORMATION (please complete the questions below or attach a separate sheet)

7) Describe the project for which your organization is requesting funding.

We have two bridges on the North Bissette. These are bridges that we have done significant work on in the past. As a result of the flooding in June '15, the approaches to these bridges washed out. Reference a prior grant application to PRRD in which we were successful in receiving \$40,000.00 from PRRD. Our sincere appreciation for that! Our challenge is that after doing Stream Assessments, getting engineering expertise regarding possible designs and a number of other costs that we did not expect would be required on ski trails, the costs have soared! The existing bridges are each 30 feet long, their integrity is sound, they are sitting high and dry on their pilings, (as a result of the upgrading we did) however, the approaches are washed out. We have been told by Environment that the bridges must be longer. We cannot just go ahead and replace the approaches. We have to go from 30 feet to 70 feet for the crossing lengths.

To date we have the \$40,000.00 (not yet spent) from PRRD, the environmental assessments are paid for, the engineering of initial plans for the crossings are paid for. (These costs covered by MLFRO through



Trevor Hann at Rec Sites and Trails. We have put a great deal of effort into sourcing four stringers, two for each bridge and locating them on site. We have about one third of the decking materials required. We are presently sourcing pilings and caps for the project. We will require rock, the hauling (no small feat in those locations), machine time for driving piles, placing rock, building approaches (the engineers want us to relocate the sites), tree removal, welding fabricating, etc. We are also required to remove and dispose of the old bridges.

The machines required would be a vibra-pac pile driver attached to a large track hoe, a hoe with thumb to place rock, a D-8 size cat, 2 gravel trucks, a ski steer, two pick up trucks, welder and torches and we would need supervision and labourers. Labourers at \$25 per hour. We would have costs for equipment mob and demob at \$200 per hour. Supervision of the project will cost \$45 per hour. The hoe with vibra pac pile driver at \$300 per hour. Hoe with thumb at \$230 per hour. D-8 cat with winch \$210 per hour. Gravel trucks at \$190 per hour times 2. Skid Steer with tools at \$90 per hour. Pick up trucks at \$150 per day times 2. Welder at \$130 per hour.

Removal and disposal of the two original bridges will cost \$25,000 using the above equipment.

8) Describe how your project will provide opportunities for healthy lifestyles – physical, mental and spiritual.

- . This project will improve trail conditions for current recreation users (skiers, snowshoers, hikers, cross-country runners, birdwatchers, etc.) and provide a better facility for new users (disc golf and mountain bikers) to use the facility and maintain an active healthy lifestyle in a non-motorized environment. With better quality trails for year- round activities, the trails system will be more accessible to users of different fitness levels, reducing potential difficulties in navigating terrain in both summer and winter, thereby reducing physical health barriers and promoting active engagement in the environment through recreational activities. □



9) Describe how the project will foster "regional pride" in the natural environment of the Regional District.

- . We continually hear comments along the lines of "This is the best kept secret in the region!" from people who experience our trails. They speak of the beauty of the area and the ecological diversity. We continually exhort our funders to come and have a look at how we multiply their dollars to create a truly unique recreation space for the South Peace region. By developing new partnerships and continuously improving trail conditions not only for the ski season in the winter, but also for the summer users, we are expanding our reach in the surrounding communities and promoting the idea of citizens benefiting from the natural environment of our own region, without needing to travel far. □ Our trails see users from a broad area of the Peace River Regional District, both urban and rural. We have users from as far west as Mackenzie, north to Fort Nelson and Fort St. John, south to Tumbler Ridge, and east to Grande Prairie, Spirit River, and Rycroft, AB. □

10) Describe how the project will make trails more accessible for multiple different user groups and those with mobility challenges.

We are broadening the accessibility and safety of our trails to different user groups, particularly those partaking in summer sports. In the winter, it is easier to groom a smooth trail with snow pack and careful grooming. However in the summertime, uneven ground is far more prohibitive. We are already in discussion with a local mountain biking group as well as the Dawson Creek disc golf club to build new user partnerships. We continue to work on the trails to improve accessibility and variety of use.

11) Describe how the project will utilize Crown or local government lands and measures that will be taken to avoid conflict with private lands (where applicable).

- . As noted in Question 4 above, we have a current, detailed Land Use Agreement with



the Province of BC. We have an excellent working agreement with the Paradise Valley Snowmobile Club, who is our adjoining neighbour, and we work hand-in-hand with the holder of the grazing lease onsite. Dog walkers, mountain bikers, cross country runners, bird watchers, hikers, and horseback riders use the trails in the spring, summer, and fall. There are no conflicts with private or public lands within the vicinity. □

12) Describe how the project will build on the Provincial Trails Strategy

(http://www.sitesandtrailsbc.ca/documents/Trail_Strategy%20for_BC.pdf)

- . The Bear Mountain Nordic Ski Association is very much aware of the Provincial Trails Strategy and we review our adherence to the strategy on a regular basis. Some of the ways in which we continually build upon the BC Trails Strategy include providing opportunities to foster public awareness and appreciation of nature, promoting mental and physical health and wellness while meeting a growing demand for diverse outdoor trail activities, collaborating with new user groups and actively seeking a wider reach in surrounding communities, ensuring positive relations and respect between all user groups and neighbouring properties, maintaining a comprehensive inventory of our trails, and promoting adventure tourism in our region. □

13) How many volunteers does your organization have and approximately how many hours does your membership contribute each year?

- . Each member of the Nordic Ski Club commits to a minimum of 10 hours of volunteer time as part of their membership. As long as our members are committed to their volunteer time, we can maintain low membership fees. A conservative estimate to volunteer hours is about 3,500 hours per year. Everybody volunteers at least at a minimum level, and we have a core of about 20 to 30



regular volunteers. We also run coaching clinics to train new coaches (about 10 to 12 per year) who then volunteer to coach children on the trails throughout the winter. ☐

14) If there are continuing costs to operate or maintain your project, how do you plan to meet these costs in the future?

- We intend to meet costs for operations and maintenance as we have for well over 20 years – through dedication, commitment, hard work, and continual expansion of user membership revenue. ☐

15) Please provide on a separate sheet information on how your project addresses one or more of the secondary selection criteria:

Geographic Coverage	Ideally the regional trail system should be effectively distributed throughout the Regional District. Potential sites should be of interest to the whole region in the interest of servicing all residents.
Environmental, education or heritage representation	Representative or regionally significant landscapes should be considered when developing a new trail or preserving an existing one. Potential sites should be chosen to represent the diverse landscapes that the area encompasses. Balancing wildlife values against the proposed benefits of trail development should also be considered along with the unique historic, cultural, ecological, and educational aspects of the area.
Partnerships	Fostering partnerships with interest groups or other government agencies should be considered as it will aid in offsetting costs to develop and maintain existing or future regional trails.
Proximity	Trails that are located in close proximity to existing trails and parks or similar amenities should be considered.
Already established as an unofficial trailhead	Trails that are already established or maintained in a positive manner and demonstrate a high utilization rate should be considered.
User and site safety and the capacity to maintain	User and site must be considered to ensure the non-profit groups are able to maintain them to a reasonable and safe standard expected of a natural trail for the safe enjoyment of the public.

18) TOTAL funds requested from the Regional District: \$55,000.00 in addition to the \$40,000.00 allotted last year.


INCLUDED THE FOLLOWING ATTACHMENTS WITH YOUR APPLICATION

- a) Application Checklist
- b) Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding
- c) Project budget including:
 - i. Detailed cost estimates
 - ii. Sources of confirmed revenue
 - iii. Sources of revenue yet to be confirmed (i.e., pending grant applications)
 - iv. Sources of donations for labour and/or materials
- d) Three (3) quotes for any items valued at over \$3,000
- e) Current and year-end financial statements (balance sheet and income statement)
- f) Map and pictures showing the location of the project and planned route
- g) Confirmation of an agreement with Recreation and Trail Sites BC or BC Parks or a Council/Board resolution providing authorization to develop or re-establish a trail on local government property
- h) Two (2) letter of support from other organizations or groups supporting the project.

 Signature of Applicant

 Phone



PEACE RIVER REGIONAL DISTRICT

Recreation Trails Grants-in-Aid

Schedule "D" – Application Checklist

Applicant Name: Bear Mountain Nordic Ski

Date: Dec/17

All application packages must include the following items.

- ☒ Completed Recreational Trails Grants-in-Aid application form.
- ☒ Resolution from the society(s) board of directors authorizing the project and application to the Regional District for funding.
- ☒ Project budget including sources of revenue (confirmed and pending), donations and expenses.
- ☒ Three (3) quotes for any items valued at over \$3,000.
- ☒ Current and year-end financial statements.
- ☒ Map of the proposed project and route.
- ☒ Pictures of the proposed project and route.
- ☒ Confirmation of a Recreation and Trail Sites BC or BC Parks Agreement OR Council/Board resolution providing authorization for the project to proceed on local government lands.
- ☒ Two (2) letters of support from other organizations or groups supporting the project

FOR REGIONAL DISTRICT USE ONLY:

Follow up: Staff requested supporting documents Nov. 20/17
Group responded that they will re-apply on the next intake
as they have already more than enough work to do"

Comments/Considerations: No supporting documentation
Received late

B

CSC Use Only

☐ Update Access Database

☒ BC Online check

☐ File a copy electronically in groups file



REPORT

To: Regional Parks Committee

Date: January 9, 2018

From: Bryna Casey, Parks and Rural Recreation Coordinator

Subject: **2018 Draft Regional Parks Budget**

RECOMMENDATION(S):

That the Regional Parks Committee accept the 2018 Regional Parks' budget as presented and that it be forwarded to the Regional Board for approval in the 2018 Annual Financial Plan.

BACKGROUND/RATIONALE:

Attached please find the proposed 2018 budget for the Regional Parks function. The following is a brief explanation of the projects proposed for 2018. Please note, staff have issued the park maintenance tender documents for Montney Centennial, Blackfoot, and Spencer Tuck Regional Parks, but they will not close until February 1, 2018. The final costs (including shoulder season) for park maintenance will be included in the budget after February 1, 2018 for adoption by the Regional Board.

Parks Tour and Meeting with Prophet River First Nations - \$5,000

Prophet River First Nation (PRFN) is looking to add approximately 1,000 acres of reserve lands to their current territory. Minaker River Park is included in a greater portion of land that they have identified, due in part to it being within traditional territory and because of the burial grounds that are adjacent. At the October 10, 2017 meeting the Regional Parks Committee Directors asked if land is transferred if there would be a way to;

- define acceptable uses for public access to the area;
- develop a process by which the public may be able to register to use the land; and
- discern if there could be any process by which the PRFN is able to monitor usage so that the public could still use the park for camping, recreation, and parking trailers to access lands beyond.

At this meeting, the Regional Parks Committee suggested that it would be prudent to meet with the PRFN again, potentially at the Prophet River First Nations Office, to discuss next steps.

Peace Valley Lookout Project – \$30,300

The Peace Valley Lookout is located just outside of the municipal boundaries of Fort St. John. In 2017, there was renewed interest in the potential development of this location. At the January 29, 2018 Regional Parks Committee meeting staff will bring forward a work plan and recommendation that the following items be included in the 2018 budget in order to further investigate adding the Peace Valley Lookout as a Regional Park. An investigative permit from the Crown will be required to complete any further studies at this location, specifically in order to complete the Drainage and Runoff Study. The Drainage and Runoff Study was recommended in the 2012 Remedial Options Report. Staff also recommend that a new design plan be conducted and new cost estimates be generated for this potential park site given the amount of time that has passed since the original study, changes to the physical land, and installation of some amenities.

- Investigative Permit License fee - \$300
- Drainage and Runoff Study - \$15,000

January 29, 2018

Staff Initials: *Casey*

Dept. Head: *J. Morgan*

CAO: *Chibrik*

Page 1 of 3

- Park Design Review and Public Engagement - \$15,000

Trail Project Feasibility - \$75,000

In September of 2017, the Regional District was notified that a \$30,000 grant was received in order to have a feasibility study completed to provide a plan for a trail proposed for development between Charlie Lake and Fort St. John and Dawson Creek and Pouce Coupe. A further \$40,000 was approved by the Regional Board for the project. In 2018, staff will finalize scope of work with partner member municipalities, issue RFP, select proponent who will be responsible to determine potential trail routes between the communities, social and financial costs (e.g., development and maintenance, maintenance models), benefits (socio-economic, health), identify any adjacent landowner concerns, as well as solicit a great amount of feedback from the public to determine level of support, concerns, design options, and usage. \$5,000 is currently budgeted for marketing and promotion of the project.

Blackfoot Park Expansion - \$0

Blackfoot Park is the most well-known and well used regional park. Concerns have been brought forward regarding vandalism, safety, and misuse of the park. In 2017, staff engaged the services of a consultant to develop a plan to address the recommendations, with final presentation to the Regional Board set to occur on February 8, 2018. No improvements have been budgeted for Blackfoot Regional Park for 2018 as the final report has not yet been reviewed by the Regional Parks Committee or the Regional Board and no direction has yet been given.

Montney Centennial Regional Park Expansion - \$0

This park sits on the edge of Charlie Lake, a lake that has multiple private, provincial, and municipal parks. From time to time concerns over how the park is being used have come forward. In 2017, staff engaged the services of a consultant to develop a plan to address the future of the park, with final presentation to the Regional Board set to occur on February 8, 2018. No improvements have been budgeted for Montney Centennial Regional Park for 2018 as the final report has not yet been reviewed by the Regional Parks Committee or Regional Board and direction has yet to be given.

Marketing & Promotion - \$15,000

The Master Plan recommends annually promoting the regional park system to the public, as it was determined that many residents were unaware of the regional parks. In 2018, staff will encourage the exploration of regional parks by using the theme “get wild!” Staff will develop geocaching caches for children/adults/families to find. The regional parks will be marketed over a variety of mediums – from radio to web banners to regional Visitor’s Guides. A “Welcome to Your Regional Park” brochure and sign will be developed for public use and distribution, outlining the do’s and do not’s of visiting one of the parks and promoting of the other parks in the region. Staff will also coordinate the development of a google map “street view” on the PRRD “Parks” webpage, providing visitors and residents with easy directions to one of the regional parks. Furthermore, staff will look to hold one event in the parks focusing on water safety and outdoor education at Spencer Tuck Regional Park on Moberly Lake. A communications plan will be developed in March for the third annual Parks Day Event.

Bylaw and Policy development: Staff Time

In 2018, Community Services will work on updating existing bylaws and developing policies and guidelines. Some the items that the Master Plan recommends developing or updating include:

- Parks Regulatory Bylaw
- Parkland acquisition and disposition guidelines/policy
- Park classification policy
- Commemorative gifting policy and program

OPTIONS:

That the Regional Parks Committee recommend changes to the 2018 Regional Parks budget as drafted by staff.

STRATEGIC PLAN RELEVANCE:

- ☐ Ensure that the Solid Waste Management Plan is operating on a fiscally defensible basis.
- ☐ Ensure effective execution of Public Safety and Emergency Services initiatives.
- ☐ Foster Collaboration on services with municipalities and electoral areas.
- ☐ Establish a strategy for coordinated advocacy on identified issues.
- ☒ Manage parks and trails in the region.
- ☐ Support the agricultural industry within the regional district.
- ☐ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

The proposed budget for 2018 Regional Parks is \$561,990, which is approximately \$39,000 more than was budgeted in 2017.

COMMUNICATIONS CONSIDERATION(S):

None

OTHER CONSIDERATION(S):

None at this time.

Attachments:

Draft 2018 Regional Parks Budget

2018 Regional Parks DRAFT Budget

Regional Parks Administration	CODE	2017	2017 YTD	2017 Variance	2018
	Wages	\$0.00	\$66,775.00	\$56,175.00	\$10,600.00
	Benefits	\$0.00	\$19,174.00	\$16,912.00	\$2,262.00
	WCB	\$0.00	\$774.00	\$656.00	\$118.00
	Policy Review (Legal)		\$1,000.00	\$0.00	\$1,000.00
Travel, Training, Conferences & Workshops		\$210.00	\$5,000.00	\$2,581.00	\$2,419.00
Travel in Region - Use of RD vehicles		\$211.00	\$500.00	\$500.00	\$0.00
	Meals	\$215.00	\$1,000.00	\$154.00	\$846.00
	Mapping	\$227.00	\$3,000.00	\$320.00	\$2,680.00
	Communication	\$230.00	\$1,000.00	\$0.00	\$1,000.00
Marketing & Promotions		\$240.00	\$15,000.00	\$13,999.00	\$1,001.00
	Insurance	\$260.00	\$2,800.00	\$2,750.00	\$50.00
Trails Support Grant		\$244.00	\$75,000.00	\$75,000.00	\$0.00
Adminstration Fees		\$260.00	\$29,625.00	\$30,625.00	-\$1,000.00
	Miscellaneous	\$299.00	\$4,000.00	\$104.00	\$3,896.00
	Supplies Shop	\$361.00	\$5,000.00	\$676.00	\$4,324.00
Safety/Danger Tree Removal		\$435.00	\$50,000.00	\$13,300.00	\$36,700.00
SUB-TOTAL			\$279,648.00	\$213,752.00	\$65,896.00
					\$262,481.00

Blackfoot Park	553	2017	2017 YTD	2017 Variance	2018
	Contractor	\$8,663.00	\$5,000.00	\$3,663.00	\$15,000.00
	Public Works Meals	\$200.00	\$128.61	\$71.39	\$200.00
Water tankloader & Insurance		\$1,300.00	\$1,011.22	\$288.78	\$1,000.00
	Toilet pumping	\$1,500.00	\$600.00	\$900.00	\$1,500.00
	BC Hydro	\$1,000.00	\$123.75	\$876.25	\$1,000.00
Miscellaneous Supplies & Repairs		\$2,000.00	\$1,289.82	\$710.18	\$2,000.00
	Park Signs	\$6,000.00	\$1,728.24	\$4,271.76	\$2,000.00
	Fire Rings	\$1,000.00	\$1,492.59	-\$492.59	\$1,000.00
	Picnic Tables	\$5,500.00	\$4,012.50	\$1,487.50	\$3,000.00
1 New Outhouse - Tops Only		\$6,000.00		\$6,000.00	\$0.00
Road work and campsite pads		\$4,000.00	\$1,445.00	\$2,555.00	\$4,000.00
Recycle Bin and Hide-A-Bag		\$2,500.00		\$2,500.00	\$2,500.00
	Park Design	\$25,000.00	\$11,944.60	\$13,055.40	\$0.00
SUB-TOTAL		\$64,663.00	\$28,776.33	\$35,886.67	\$33,200.00

Minaker River	560	2017	2017 YTD	2017 Variance	2018
	Contractor	\$23,909.00	\$13,800.00	\$10,109.00	\$23,909.00
	Public Works Meals	\$200.00		\$200.00	\$200.00
	Supplies	\$1,000.00		\$1,000.00	\$1,000.00
eway Assessment & Engineering/Road Work		\$2,500.00		\$2,500.00	\$0.00
Parks Tour and Meeting with PRFN		\$5,000.00		\$5,000.00	\$5,000.00
	Park Signs	\$0.00		\$0.00	\$0.00
	Park Outhouses	\$0.00		\$0.00	\$0.00
	Fire Rings	\$500.00	\$742.59	-\$242.59	\$0.00
	Miscellaneous	\$500.00		\$500.00	\$0.00
	Picnic Tables	\$0.00		\$0.00	\$0.00
Recycle Bin and Hide-A-Bag		\$0.00		\$0.00	\$0.00
SUB-TOTAL		\$33,609.00	\$14,542.59	\$19,066.41	\$30,109.00

Montney Park	561	2017	2017 YTD	2017 Variance	2018
	Contractor	\$21,210.00	\$9,052.50	\$12,157.50	\$15,000.00
	Public Works Meals	\$200.00	\$42.87	\$157.13	\$200.00
	Insurance	\$100.00	\$24.00	\$76.00	\$100.00
	BC Hydro	\$1,750.00	\$1,352.91	\$397.09	\$1,750.00
Misc. Supplies & Repairs		\$2,500.00	\$8.03	\$2,491.97	\$2,500.00
	Fire Rings	\$500.00	\$242.59	\$257.41	\$500.00
	Toilet Pumping	\$1,500.00		\$1,500.00	\$1,500.00
	Park Signs	\$7,000.00	\$4,094.91	\$2,905.09	\$4,000.00
	Park Kiosk	\$2,000.00		\$2,000.00	
Recycle Bin and Hide-A-Bag		\$2,500.00		\$2,500.00	\$2,500.00
	Picnic table	\$3,000.00	\$2,675.00	\$325.00	\$3,000.00
Park Development Feasibility Study		\$25,000.00	\$11,944.59	\$13,055.41	
	Road Work	\$3,000.00	\$2,534.62	\$465.38	\$3,000.00
SUB-TOTAL		\$70,260.00	\$31,972.02	\$38,287.98	\$34,050.00

January 29, 2018

Spencer Tuck		564	2017	2017 YTD	2017 Variance	2018
	Contractor		\$14,812.88	\$6,412.50	\$8,400.38	\$15,000.00
	Public Works Meals		\$200.00	\$142.90	\$57.10	\$200.00
	Insurance		\$100.00	\$264.00	-\$164.00	\$100.00
	Misc. supplies & Repairs		\$1,000.00	\$814.33	\$185.67	\$1,000.00
	Vacuum Pumping Toilets		\$1,500.00		\$1,500.00	\$1,500.00
	Recycle Bin		\$2,500.00		\$2,500.00	\$2,500.00
	Park Signs		\$3,500.00	\$1,600.00	\$1,900.00	\$3,500.00
	Park Kiosk		\$2,000.00		\$2,000.00	\$2,000.00
	Outhouse Replacement		\$2,500.00		\$2,500.00	\$2,500.00
	Spread Gravel and Repair Road					\$2,500.00
	Fire Rings		\$500.00	\$742.59	-\$242.59	\$500.00
	SUB-TOTAL		\$28,612.88	\$9,976.32	\$18,636.56	\$31,300.00

Swan Lake Weir		565	2017	2017 YTD	2017 Variance	2018
	Insurance		\$1,100.00	\$690.00	\$410.00	\$1,100.00
	Permit Fees		\$1,800.00	\$50.00	\$1,750.00	\$1,800.00
	Swan Lake Planning		\$0.00		\$0.00	\$100.00
	Misc repairs & Maintenance		\$3,000.00		\$3,000.00	\$3,000.00
	Maintenance Contract		\$6,100.00	\$6,100.00	\$0.00	\$7,500.00
	SUB-TOTAL		\$12,000.00	\$6,840.00	\$5,160.00	\$13,500.00

Sundance Lake		567	2017	2017 YTD	2017 Variance	2018
	Contractor		\$14,500.00	\$11,687.50	\$2,812.50	\$14,500.00
	Public Works Meals		\$200.00	\$14.29	\$185.71	\$200.00
	Insurance		\$100.00	\$95.00	\$5.00	\$100.00
	Vacuum pumping toilets		\$750.00	\$710.00	\$40.00	\$750.00
	Misc supplies & repairs		\$500.00	\$123.37	\$376.63	\$500.00
	Park Kiosk		\$2,000.00		\$2,000.00	\$2,000.00
	Fire Rings		\$500.00		\$500.00	\$500.00
	Gravel		\$1,000.00		\$1,000.00	\$1,000.00
	SUB-TOTAL		\$19,550.00	\$12,630.16	\$6,919.84	\$19,550.00

Peace Lookout Project			2017	2017 YTD	2017 Variance	2018
	License Fee					\$300.00
	Drainage and Runoff Study					\$15,000.00
	Park Design and Public Engagement		\$0.00	\$0.00	\$0.00	\$15,000.00
	SUB-TOTAL		\$0.00	\$0.00	\$0.00	\$30,300.00

Trail Project Feasibility			2017	2017 YTD	2017 Variance	2018
	Feasibility Study					\$70,000.00
	Advertising		\$0.00	\$0.00	\$0.00	\$5,000.00
	SUB-TOTAL		\$0.00	\$0.00	\$0.00	\$75,000.00

Various RD Park Properties		569	2017	2017 YTD	2017 Variance	2018
	Various RD Park Properties		\$0.00	\$2,286.55	-\$2,286.55	\$5,000.00
	SUB-TOTAL		\$0.00	\$2,287.00	-\$2,287.00	\$5,000.00

Pink Mountain Biodiversity Initiative			2017	2017 YTD	2017 Variance	2018
	Signage		\$0.00	\$0.00	\$0.00	\$7,500.00
	SUB-TOTAL		\$0.00	\$0.00	\$0.00	\$7,500.00

Reserves & Miscellaneous			2017	2017 YTD	2017 Variance	2018
	Transfer to Operating Reserve	\$600.00	\$5,000.00	\$5,000.00	\$0.00	\$10,000.00
	Transfer to Capital Reserve	\$603.00	\$10,000.00	\$10,000.00	\$0.00	\$10,000.00
	SUB-TOTAL		\$15,000.00	\$15,000.00	\$0.00	\$20,000.00

**TOTAL Regional Parks
Operations & Capital** **\$523,342.88 \$335,776.42 \$187,566.46 \$561,990.00**

January 29, 2018

Service Fund Category	Regional General Operating - 01		Portfolio Staff	Parks & Recreation Committee Manager of Community Services									
7180 Regional Parks			Requisition Exhibit 9		First Draft - For Presentation Feb. 21, 2018							(Used same, 2% inflation, or actual)	
2018 Category	Acct #	See Note	Account Name	2017 Budget	2017 Actual	2017 Variance	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget		
REVENUE													
7180 Regional Parks													
01-1-7180-	110		Requisition - electoral	205,204	205,204	0	202,115	283,508	287,284	291,136	295,064		
01-1-7180-	111		Requisition - municipal	92,610	92,610	0	84,994	119,222	120,809	122,429	124,081		
01-1-7180-	120		Grants-in-lieu	9,500	35,966	26,466	25,000	25,500	26,010	26,530	27,061		
01-1-7180-	New 16		NH Health Living Grant (Trails)				30,000						
01-1-7180-	155		Admin Fees	19,095	19,095		40,000	40,000	40,000	40,000	40,000		
01-1-7180-	157	7	Recovered costs	1,000	1,000		1,000	1,000	1,000	1,000	1,000		
01-1-7180-	190		Appr. Surplus - Regional Parks	195,935	195,935	0	178,881	-	-	-	-		
Total Category Revenue				523,343	549,810	26,467	561,990	469,230	475,104	481,095	487,206		
Tax Rates (based on current year assessments)>>				0.013	Change from LY	(0.001)	0.012	0.017	0.018	0.018	0.018		
Total Amount to Requisition: 287,109				297,813	Requisition/Parcel Tax		287,109	402,730	408,094	413,565	419,145		
Prior Year Requisition: 297,813				9,500	Grants		25,000	25,500	26,010	26,530	27,061		
Change from Prior Year -10,704					Borrowing Proceeds								
					Trsf. From Reserves								
				195,935	Prior Year Surplus		178,881						
				20,095	Other		71,000	41,000	41,000	41,000	41,000		
EXPENDITURES													
				523,343			561,990	469,230	475,104	481,095	487,206		
7180 Regional Parks													
01-2-7180-	200		Wages	66,775	62,545	-4,231	67,743	69,097	70,479	71,889	73,327		
01-2-7180-	205		Benefits	19,174	18,559	-614	18,043	18,404	18,772	19,148	19,531		
01-2-7180-	206		WCB	774	742	-32	765	780	796	812	828		
01-2-7180-	210	8	Travel, Training, Conferences & Works	5,000	2,581	-2,419	5,000	5,000	5,000	5,000	5,000		
01-2-7180-	211		Travel in Region - Use of RD Vehicle	500	500		500	510	520	531	541		
01-2-7180-	215		Meals	1,000	154	-846	1,000	1,000	1,020	1,040	1,061		
01-2-7180-	227		Mapping	3,000	320	-2,680	3,000	500	500	500	500		
01-2-7180-	230		Communication - telephone & internet	1,000		-1,000	1,000	1,000	1,000	1,000	1,000		
01-2-7180-	240	11	Marketing & Promotion	15,000	13,999	-1,001	15,000	11,500	11,500	11,500	11,500		
01-2-7180-	244	17	Trails Support Grant	75,000	75,000		40,000	50,000	50,000	50,000	50,000		
01-2-7180-	246		Signage		401	401							
01-2-7180-	16		Trails Feasibility Project				75,000						
01-2-7180-	250		Legal	1,000		-1,000	1,000	1,000	1,000	1,000	1,000		
01-2-7180-	260		Insurance	2,800	2,750	-50	2,900	2,958	3,017	3,078	3,139		
01-2-7180-	261	1	Administration fees	29,625	30,625	1,000	47,530	47,530	47,530	47,530	47,530		
01-2-7180-	299		Miscellaneous	4,000	441	-3,559	4,000	4,000	4,000	4,000	4,000		
01-2-7180-	361		Supplies - shop	5,000	1,533	-3,467	5,000	5,100	5,202	5,306	5,412		
01-2-7180-	435		Safety / Dangerous Tree Removal	50,000	13,300	-36,700	50,000	50,000	50,000	50,000	50,000		
15 Pink Mountain Biodiversity Initiative							7,500						
01-2-7180-	553	3	Park - Blackfoot	64,663	42,712	-21,951	33,200	33,864	34,541	35,232	35,937		
01-2-7180-	560	6	Park - Minaker	33,609	14,543	-19,066	30,109	30,711	31,325	31,952	32,591		
01-2-7180-	561	4	Park - Montney	70,260	40,630	-29,630	34,050	34,731	35,426	36,134	36,857		
01-2-7180-	564	5	Park - Spencer Tuck (Moberly)	28,613	10,070	-18,543	31,300	31,926	32,565	33,216	33,880		
01-2-7180-	565	7	Park - Swan Lake (Weir)	12,000	6,840	-5,160	13,500	13,770	14,045	14,326	14,613		
01-2-7180-	567	2	Park - Sundance Lake	19,550	14,968	-4,582	19,550	19,941	20,340	20,747	21,162		
01-2-7180-	568	12	Peace Lookout Project				30,300	30,906	31,524	32,155	32,798		
01-2-7180-	569		Park - Various RD Park Properties		2,717	2,717	5,000	5,000	5,000	5,000	5,000		
01-2-7180-	600		Transfer to Operating Reserve	5,000	5,000		10,000	10,000	10,000	10,000	10,000		
01-2-7180-	603		Transfer to Capital Reserve	10,000	10,000		10,000	10,000	10,000	10,000	10,000		
Total Category Expenditures				523,343	370,929	-152,414	561,990	469,230	475,104	481,095	487,206		
Surplus (deficit) carry forward					178,881		38,647	Operating Reserve Dec. 31				41,080	
					**	Change from LY Budget	7.38%	Maximum \$50,000				Bylaw 2074	

January 29, 2018

Service	Regional	Portfolio	Parks & Recreation Committee
Fund	General Operating - 01	Staff	Manager of Community Services
Category	7180 Regional Parks	Requisition Exhibit	9
First Draft - For Presentation Feb. 21, 2018			(Used same, 2% inflation, or actual)

7180 Regional Parks (continued)**Budget Notes:**

- 1 Admin Fee paid to Emergency Planning for GM of Community Services & Community Services Coordinator time (est. \$37,223) Plus Admin. \$13,500 PLUS \$7,000 to SW for Labourers = \$50,723
- 2 Sundance Lake includes: Contractor; PW Meals; Insurance; Vacuum pumping toilets; Misc. supplies & repairs; Park Kiosk; Fire Rings and gravel.
- 3 Blackfoot includes: Contractor; PW Meals; Water Tankloader & Insurance; Cleaning Supplies; Toilet pumping; BC Hydro; Misc. Supplies & Repairs; Park Signs; Park Kiosk; Fire Rings; Picnic Tables; Road work and campsite pads; Recycle Bin and Hide-A-Bag. **Project Book Page 48**
- 4 Montney includes: Contractor; PW Meals; Insurance; BC Hydro; Misc. Supplies & Repairs; Fire Rings; Toilet Pumping; Park Signs; Recycle Bin and Hide-A-Bag; Picnic Table; and Road Work. **Project Book Page 39**
- 5 Spencer Tuck includes: Contractor; PW Meals; Insurance; Supplies & Repairs; Vacuum Pumping Toilets; Park Signs; Advertisement; Park Kiosk; Outhouse Replacement; gravel & road repair; recycle bin; and Fire Rings
- 6 Minaker includes: Contractor; PW Meals; Supplies; Parks Tour and Meeting ith PRFN; Fire Rings.
- 7 Swan Lake Weir includes: Insurance; Permit Fees; Misc. Repairs & Maintenance; Maintenance Contract.
- 8 Combined Travel, Training, Conferences & Workshops.
- 9 The RD is now Carbon Neutral therefore no requirement to contribute to carbon reserve.
- 10 Accounting requirement to show interest earned on reserves (In/Out) with no tax effect. Recording purposes only - no budget.
- 11 Rivers Day; Fathers Day Fishing; new brochure and printing (park rules, map, to be displayed at park kiosks and tourism)geocaching activity (collectable medallions or badges; give away items (SWAG)
- 12 License fee; Drainage and Runoff Study; and Park Design and Public Engagement
- 13 Contribution to Fort St. John toward the Charlie Lake Boat Launch upgrades & repairs.
Per Master Plan: 2018 - Picnic Shelter & Design of New Campsites (Blackfoot); 2019 - Construction of 10 new campsites (Blackfoot) & Picnic Shelter (Spencer Tuck); 2020 - Creation of new campsites, and additional amenities as recommended in Park Improvement Study (Montney Centennial Park); and 2021 - Addition of new campsites on upper bench (Montney Centennial). No capital budgeted in 2017 since it is for Park Improvement Study and included in the Blackfoot & Montney budgets.
- 14 Pink Mountain Biodiversity Initiative: (Signage \$7,500 per motion July 27, 2017)
- 16 Board motion Aug. 10/17 for Trails Feasibility examining trails between FSJ & CL and DC & PC. \$70K project with \$30K NH Health Living Grant
- 17 Any amount not claimed is transferred to payable to be paid out as claimed and each year is a new budget.

As of Dec. 31, 2016		Tangible Capital Assets			Net Value	No Debenture	
Fund			Original	Accu. Dep.			
48		Buildings	1,136,540	1,074,927	61,613		
		Parks	278,893	235,256	43,637		
		Land			-		
		Total	1,415,433	1,310,183	105,250		
		Annual Depreciation Expense	38,256	Equity	143,506		
						Capital Reserve Balance Dec. 31	51,115

January 29, 2018

EXHIBIT 9

Regional Parks

Category

[1-7180](#)

Basis of Apportionment: Converted Hospital Assessments - Improvements ONLY

Tax Rate or Other Limitations:

\$ 0.066 per \$1,000 taxable value

SLP 26, LGA 799.1 (2)(a)

Max. Product \$ 959,075

First Draft - For Presentation Feb.	Requisition Amount	Tax Rate Per 1000	Figures for Apportionment	Percent	Prior Year Adjustment	Adjusted Requisition
Tumbler Ridge	8,126	0.012	65,526,086	2.83%	14	8,140
Dawson Creek	21,665	0.012	174,687,916	7.55%	5	21,670
Hudson's Hope	4,060	0.012	32,735,447	1.41%	51	4,111
Fort St. John	39,558	0.012	318,967,415	13.78%	603	40,161
Taylor	4,246	0.012	34,233,178	1.48%	(472)	3,773
Pouce Coupe	1,055	0.012	8,508,026	0.37%	3	1,058
Chetwynd	6,059	0.012	48,856,910	2.11%	21	6,081
Area B	90,548	0.012	730,114,963	31.54%	245	90,793
Area C	20,868	0.012	168,261,084	7.27%	(510)	20,358
Area D	52,769	0.012	425,492,659	18.38%	239	53,008
Area E	38,155	0.012	307,653,149	13.29%	(199)	37,956
<i>See Area E Jurisdiction Split Below</i>						
Total	287,109	0.012	2,315,036,833	100.00%	(0)	287,109

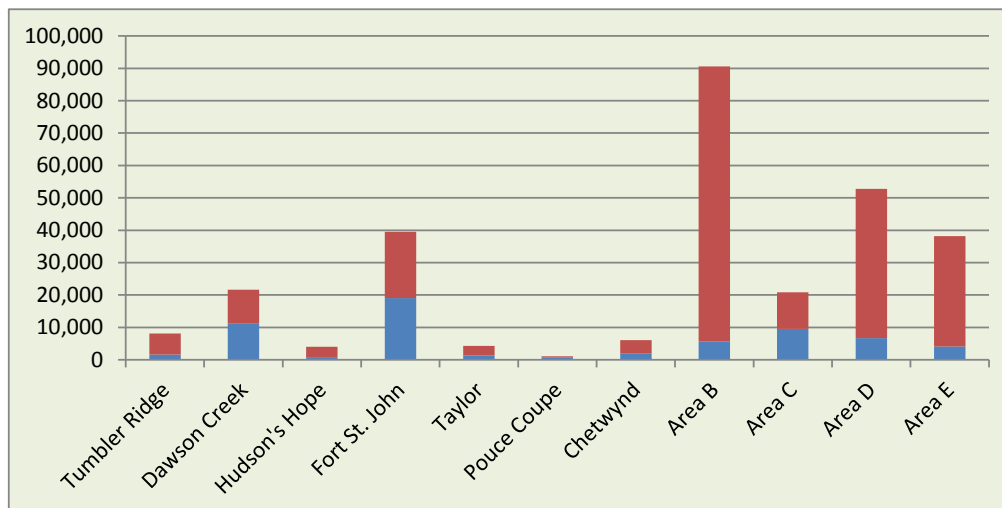
Area E - Jurisdiction 759	37,740	304,309,525	98.91%	(197)	37,544
Area E - Jurisdiction 760	415	3,343,624	1.09%	(2)	413
	38,155	307,653,149	100%	(199)	37,956

Municipal Requisition:	84,994
Electoral Area Requisition:	202,115
Total Requisition:	287,109

[After Prior Year Adj](#)

	<u>Last Year</u>	<u>Change %</u>	<u>Change \$</u>
Requisition	297,813	-3.6%	(10,704)
Assessment	2,284,262,725	1.3%	30,774,108
Tax Rate	0.013	-4.9%	(0.001)

Class 1 - Residential Total All Other Classes



January 29, 2018



REPORT

To: Regional Parks Committee

Date: August 8, 2017

From: Bryna Casey, Parks and Rural Recreation Coordinator

Subject: Peace Valley Lookout Options

RECOMMENDATION(S):

- 1) That the Regional Parks Committee recommends to the Regional Board that staff be authorized to apply for an investigative permit for a 32 ha portion of parcel of land where the Peace Valley Lookout is located.
- 2) That the Regional Parks Committee recommends to the Regional Board that a "Drainage and Storm Water Management Plan" be budgeted for and completed in 2018.
- 3) That the Regional Parks Committee recommends to the Regional Board that staff be authorized to budget to update to the Peace Valley Lookout Design Study and conduct public engagement in 2018, pending Board approval following the completion of a "Drainage and Storm Water Management Plan."

BACKGROUND/RATIONALE:

At the Regional Board meeting of May 25, 2017, the following resolution was passed;

"that staff be directed to bring forward options to revisit the feasibility and design plans for the Peace Valley Lookout."

The Peace Valley Lookout is located on Crown land approximated 3km south on 100th Street from the intersection of 100th Street and Highway 97, just outside of the municipal boundaries of Fort St. John. A right-of-way belonging to the Ministry of Transportation and Infrastructure runs along the west side of the Lookout site. As this property sits on crown land, the responsibility for upkeep and maintenance has traditionally been undefined, but the informal lookout location draws many visitors every day. The Regional District had investigated the possibility of taking on this Lookout as a Regional Park, but discontinued the project in 2012 due to the potential of slide activity at the location and the increased expense to operate and monitor that site as compared to other potential park sites. In 2017, there has been renewed interest in the potential development of this location.

1) Overview of Previous Studies

Peace Valley Lookout Planning Feasibility Study (March 2010)

This study is the preliminary investigation into the feasibility of obtaining the Peace Lookout as a Regional Park and provides recommendations for development. This document provides geotechnical and environmental recommendations, a conceptual design based on public input, potential marketing measures, maintenance considerations, next steps, cost estimates, and phasing options for development.

January 29, 2018

Staff Initials: *BCasey*

Dept. Head: *J Morgan*

CAO: *Chibrik*

Page 1 of 4

Stage 1 and Limited Stage 2 Preliminary Site Investigations: Peace Valley Lookout (March 2011)

This study was recommended in the Peace Valley Lookout Planning Feasibility Study and assessed the potential presence of contaminants, hazardous materials, or waste materials that may affect subsequent use of the property. Since the parcel had been used as a landfill in the past, the soils, groundwater, and surface water were assessed for contamination. This study concluded that based on the findings of the report, that further work was not required at the time.

Preliminary Desktop Geotechnical Assessment for Proposed Lookout Upgrade (September 2012)

This report was also called for in the original feasibility study and provides a summary of geotechnical conditions present at the lookout and recommendations related to the proposed developments. The report said that there is potential for slide movements to affect the site and that there is some inherent risk in further developing the area. The report recommends continuing annual monitoring of the site (using permanent survey monitoring points to evaluate changes in the ground surface over the whole area of the site), appropriate signage (warning the public of potential for slides), set back of fences, and monthly visual monitoring by PRRD staff.

Peace Valley Lookout: Remedial Options Report: A Summary of Completed Work and Suggested Next Steps (October 2012)

This report suggests potential next steps to the project after the geotechnical and environmental studies had been completed and provides recommendations for next steps for remediation at the property. Cost estimates and recommendations were provided to be used by the PRRD to determine the viability of acquisition of the property and conversion to a regional park.

2) Overview of Previous Physical Works Completed at the Site

In the fall of 2011, the Ministry of Transportation and Infrastructure (MOTI) did a significant amount of work on the site. They removed the majority of existing household garbage, car hulks, and appliances that had been dumped at the site. MOTI also placed fill in some areas, installed rip rap, and hydro-seeded to help prevent further erosion. MOTI also installed fencing near the edge of the bank, picnic tables, and signage. Interpretive signage was also installed by the North Peace Historical Society.

3) Recommended Work Plan

Below is the proposed work plan for the Peace Lookout project. Some of these projects are likely to happen concurrently.

1. Application for Temporary License of Occupation

In order to conduct work at this site, a temporary license (formerly known as an investigative permit) will need to be obtained from the Province in the 32 ha area. The cost of the application is \$262.50 and permits typically take 140 days to obtain. This license can be valid for between 1-30 years.

2. Drainage and Storm Water Management Plan

The 2012 Remedial Options Report recommends that prior to any long term regional park development plans being made, that a drainage and storm water management plan be completed at a 2012 cost estimate of \$7,000 which the consultant has suggested has increased to between \$12,000 and \$15,000 in 2018. In the scope of the project the PRRD will require that the study provides recommendations for mitigation and estimated costs to remediate the runoff issues that

affect the slope. A storm water management plan would be created out of the information gathered. Should the recommended costs for mitigation and remediation be supported by the Regional Board, the storm water management plan would then be implemented (after tenure to the property be completed) so that runoff does not continue to flow over the banks causing erosion and further slumping. It is important to note that from time to time the Regional District has received inquiries about issues due to water run-off in the area impacting properties in the Old Fort Area. The Regional District has referred property owners to the appropriate agency in each case. Should the Regional District obtain and maintain the property as a regional park, it will be very important to ensure that the drainage is appropriately managed to decrease the risk of any impacts from water run-off from the Peace Lookout.

3. Design Plans and Public Engagement

The original design plan (included in the original Peace Valley Lookout Planning Feasibility Study) was developed in 2010 provided for a phased development of the site.

Given the amount of time that has passed since the original study, that site has seen erosion, that the installation of the fence and picnic tables installed by the Ministry of Transportation and Infrastructure have had to be moved to account for this erosion, it is recommended that a new design plan be conducted and new cost estimates be gathered. The development of the site could still be phased in over time and as budgets allow. An updated design plan would provide guidance on how the site should be developed ensuring it meets the direction of the Board. The recommended priority should be to improve safety, including lighting, bear proof waste receptacles, and ensuring the fencing is maintained. Should appropriate grants become available, costs may be offset for further design elements and only with the approval of the Board.

Other design elements of the proposed park are listed as;

- Landscape items (hardy plants that are native to the area, native grass species, windrow to the west of the property)
- Site amenities (overhead lighting, 2 outhouse type washrooms)
- Interpretive components (kiosk placed at the southeast corner for park information, interpretive panels that tell of the history of the valley below, etc.)

Proper design and effective use of the built environment can lead to a reduction in the incidence of crime as well as an improvement in the quality of life. For example, consistent maintenance and monitoring as well as design elements such as proper lighting can reduce vandalism and increase safety.

All reports will be brought back to the Regional Parks Committee and then to the Regional Board for further direction once complete.

OPTIONS:

- 1) That the Regional Parks Committee recommend to the Regional Board that no further work be completed at the Peace Valley Lookout location.
- 2) That the Regional Parks Committee recommend to the Regional Board to provide direction to staff.

STRATEGIC PLAN RELEVANCE:

- ☐ Ensure that the Solid Waste Management Plan is operating on a fiscally defensible basis.
- ☐ Ensure effective execution of Public Safety and Emergency Services initiatives.
- ☐ Foster Collaboration on services with municipalities and electoral areas.
- ☐ Establish a strategy for coordinated advocacy on identified issues.
- ☒ Manage parks and trails in the region.
- ☐ Support the agricultural industry within the regional district.
- ☐ Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

It costs \$262.50 to submit an application for License of Occupation.

Should the Regional Parks Committee recommend to the Regional Board to authorize the Surface Erosion, Drainage, and Runoff Study, the cost of the study (approximately \$15,000) could be budgeted for in 2018 Regional Parks budget.

Should the Regional Parks Committee recommend to the Regional Board to authorize an update to the Peace Valley Lookout Design Study, including public engagement for 2018, the cost of the study (approximately \$15,000) could be budgeted for in 2018 Regional Parks budget.

COMMUNICATIONS CONSIDERATION(S):

No communication considerations at this time.

OTHER CONSIDERATION(S):

The Regional Parks and Trails Master Plan (adopted by the Regional Board in 2014) recommends that the Regional Park system does not expand at this time, and that the necessary improvements to the five existing regional parks be completed prior to creating any new regional parks.

Attachments:

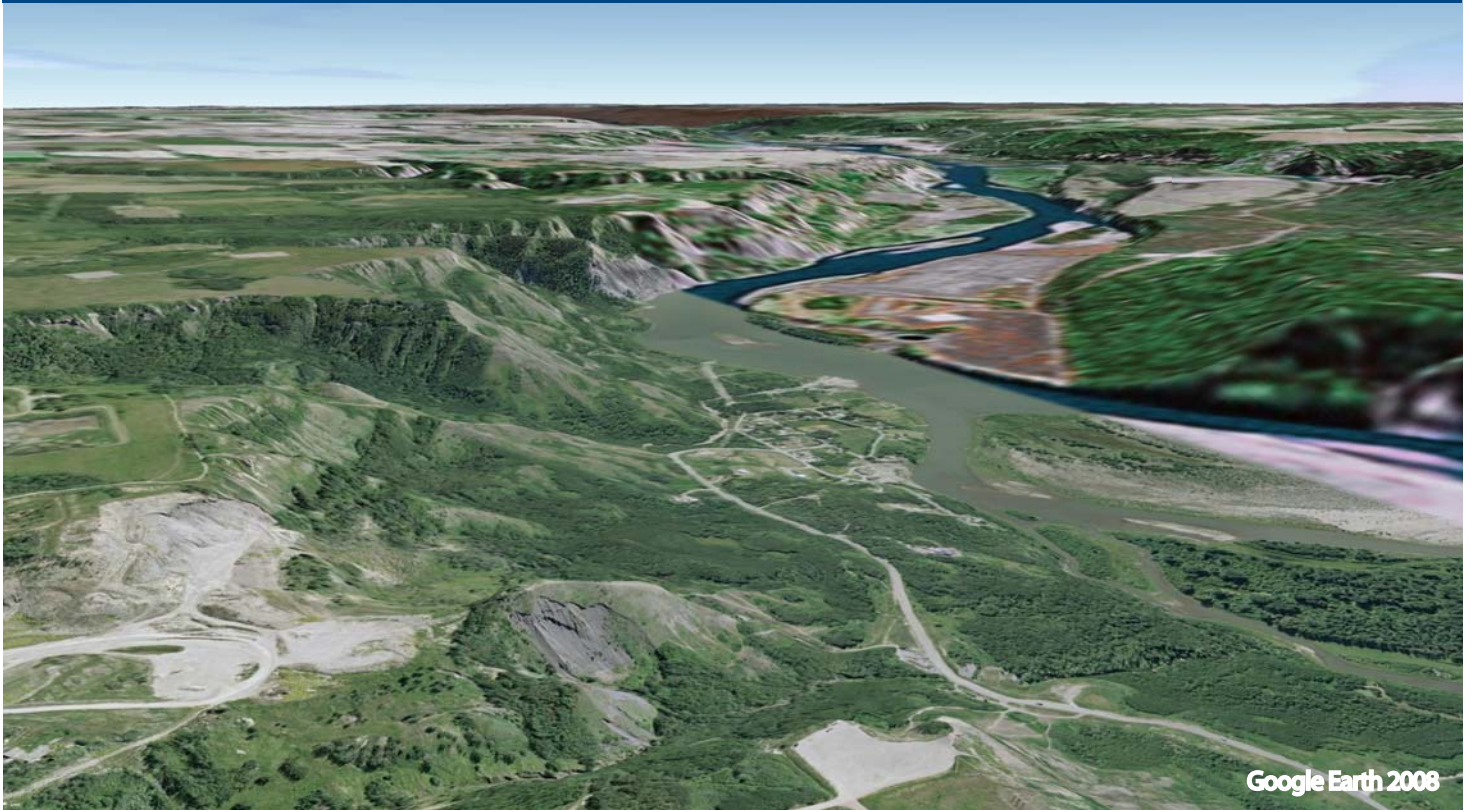
- Peace Valley Lookout Planning Feasibility Study (March 2010)
- Stage 1 and Limited Stage 2 Preliminary Site Investigations: Peace Valley Lookout (March 2011)
- Preliminary Desktop Geotechnical Assessment for Proposed Lookout Upgrade (September 2012)
- Peace Valley Lookout: Remedial Options Report: A Summary of Completed Work and Suggested Next Steps (October 2012)



Peace River Regional District

PEACE VALLEY LOOKOUT

Planning Feasibility Study

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TABLE OF CONTENTS

1.0	INTRODUCTION / BACKGROUND	1
2.0	GEOTECHNICAL.....	3
3.0	ENVIRONMENTAL.....	4
3.1	INTRODUCTION	4
3.2	REMEDIAL OPTIONS REPORT.....	5
4.0	CONCEPTUAL DESIGN	7
4.1	BACKGROUND	7
4.2	DEVELOPMENT AREA	7
4.3	TOPOGRAPHY	9
4.4	ACCESS ROADS AND DRAINAGE.....	9
4.5	UNDERGROUND UTILITIES.....	9
4.6	CONCEPT PLAN.....	9
5.0	MARKETING ANALYSIS.....	12
6.0	MAINTENANCE / PRESERVATION.....	13
7.0	LIMITATIONS.....	14
8.0	NEXT STEPS / RECOMMENDATIONS	14

Appendix 1 - Community Check-In (November 30, 2009)

Appendix 2 - Geotechnical Quote

Appendix 3 - Stakeholder Consultation

Appendix 4 - Community Check-In (February 17, 2010)

Appendix 5 - Peace Valley Lookout – Concept Plan

Appendix 6 - Cost Estimates And Phasing

1.0 INTRODUCTION / BACKGROUND

The Peace Valley Lookout is located on Crown Land approximately 3 km south on 100th Street from the intersection of 100th Street and Highway 97 in Fort St. John. The site provides a panoramic view of the Peace River which winds through a valley and beside a community called The Old Fort.

The Peace River Regional District (PRRD) is investigating the feasibility of converting the Peace Valley Lookout into a Regional Park. The North Peace Fringe Area Official Community Plan supports the development of this area through the following policies:

Section 10
PARK, OPEN SPACE AND NATURAL ENVIRONMENT

10.3 Policies

Policy 6 To work with the general public, committees, societies, organizations, First Nations and provincial agencies in identifying and protecting sites of scenic, heritage, cultural, historical, paleontological or archaeological significance within the Plan area.

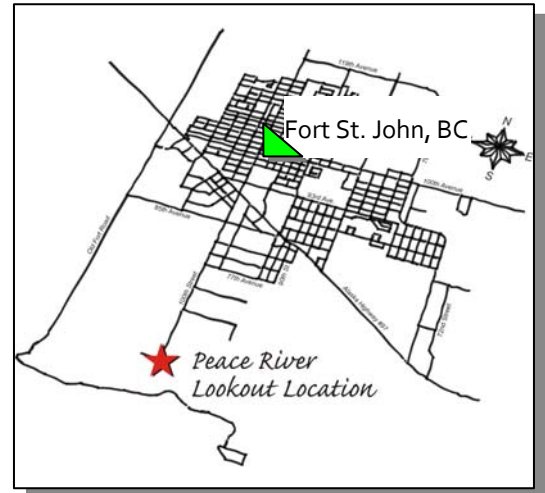
Policy 9 To work collaboratively with the stakeholders and agencies having jurisdiction to discourage damage caused by all terrain vehicles.

Policy 15 To recognize that the Peace River is one of 20 rivers in BC proclaimed as a BC Heritage River in order to provide greater emphasis on river related values during land use planning processes, to raise awareness of the importance of a healthy river system, to help protect the special values of the river and to build a stronger public support for and involvement in stewardship of the river.

The Lookout Site is already established as a locally known viewing point for rural and Fort St. John residents. The site has potential as a Park which, when reclaimed and redesigned, would draw local visitors and tourists due to its location overlooking a beautiful valley with the Peace River running through it.

This Planning Feasibility Study is intended to guide the PRRD in their decision pertaining to acquisition of park land, development of park facilities and a lookout, and projections for potential capital and costs related to on-going maintenance. This Study will outline steps and fees associated with creating a Regional Park and Lookout including:

- Geotechnical Information;
- Environmental Information;
- Conceptual Design of the Lookout;
- Marketing Analysis;
- Maintenance / Preservation; and



➤ Next Steps / Recommendations.

This Planning Feasibility Study incorporates input from PRRD staff as well as community organizations, associations, societies and businesses in the Peace River Regional District. Two public Community Check-In sessions were held. The goal of the first Community Check-In session was to set priorities and gauge the public's interest in the project. At the second Community Check-In session, a proposed concept plan and related budget and phasing options were presented for the public to comment on. Results from the two Community Check-In sessions can be found in Appendices 1 and 4.



Photos from Community Check-In #1 held at the North Peace Leisure Pool in Fort St. John on November 30, 2009.



2.0 GEOTECHNICAL

Northern Geo Testing & Engineering Ltd. (Northern Geo) was contacted by Focus to provide a quote for a Geotechnical Investigation and Slope Stability Assessment. The following is an overview of their recommendations and fees.

Based on the conceptual drawing provided to Northern Geo, it is understood that the Peace River Regional District proposes to develop a site at the south end of 100th Street. The lookout area would include a paved parking area, staging and picnic areas, a viewing platform, parks, trails, monuments and educational features. The site overlooks the Peace River Valley, with a long slope extending approximately 160m vertically to Old Fort Road over steep and undulating slopes, and an additional 60m over flatter, hummocky slopes down to the Peace River channel.

There are significant surface erosion features (water carved channels with debris), soil slumps and scarps, indicating both surface and subsurface soil instability potential on and below the site. It is also understood that there have been geotechnical assessments undertaken by others in the Old Fort area below the proposed development, and these assessments have indicated both shallow and moderately deep to deep-seated instability. The anticipated soil stratigraphy below the outlook area will likely consist of clay, clay tills and clay shale with possible sand and gravel layers.

Northern Geo proposes a threefold investigation process to accomplish the following objectives:

- ♦ Desktop Study - initially review existing landslide and slope inclinometer information in the area
- ♦ Slope Stability Assessment - assess overall global slope stability conditions at the site with deep test hole drilling and slope data
- ♦ Foundation Assessment - evaluate the near surface conditions at the site for foundation design of the proposed development with shallow test hole drilling

The proposed investigation may be carried out as one project simultaneously or as three separate but related studies. Detailed descriptions of these objectives can be found in Appendix 2.

Task	Timeline	Fees
Desktop Study	1 week	\$2,575
Slope Stability Assessment	1 Year (monitored)	\$53,045
Foundation Assessment	1 day	\$7,931
TOTAL (with disbursements and GST)		\$63,551

3.0 ENVIRONMENTAL

3.1 *Introduction*

During the preparation of this pre-feasibility cost estimate, environmental site assessments reports were not available for review. Focus understands that the subject property has been used for a long time by the public for recreational purposes. However, illegal dumping of household and commercial solid waste is evident on the slopes. In addition, based on anecdotal information provided by local residents, there could be debris disposed and buried at the flat portion of the subject property.

3.1.1 Scope of Work

The following scope of work is suggested for the property prior to re-development:

1. Conduct an Environmental Site Assessment (ESA) and limited soil sampling;
2. Develop Conceptual Site Remedial Options; and
3. Provide rough site clean up cost estimate.

3.1.2 Phase I Environmental Site Assessment (ESA)

The objective of the Phase I ESA would be to comment on whether past or present site use, either on-site or off-site, may have a potential to cause environmental impairment of the subject property. The Phase I ESA will be conducted in general accordance with the Canadian Standards Association (CSA) document "Z768-01 Phase I Environmental Site Assessment", dated November 2001 and reaffirmed in 2006.

The scope of work for the Phase I ESA will include the following:

- Review available historical information for the subject site and the immediate surrounding areas, including air photos and property listing and street directories;
- Review relevant environmental information from the BC Online Site Registry, the BC Ministry of Environment online Water Resources Atlas and the City of Fort St. John;
- Obtain and review historical and current land titles of the subject site;
- Review available public information such as geological and hydrogeological reports and maps;
- Conduct a site visit and personal interviews to evaluate the historic site activities and determine if there is a presence of materials which could cause harm to humans and ecological systems; and
- Prepare the Phase I ESA report suitable for submission to the Peace River Regional District in support of the property re-development application.

Focus is proposing to conduct the Phase I ESA site visit at the time of geotechnical soil investigation which will allow for environmental soil logging and sampling. Limited quantities of soil samples (4 to 6) will be collected during the geotechnical investigation to assess the soil quality at the site.

The Phase I will identify areas of potential environmental concern (APEC) and areas where additional environmental assessment is warranted.

Based on the Phase I ESA recommendation and soil quality assessment results conceptual site remediation – restoration options will be developed and presented to the Peace River Regional District for review and comments.

3.2 Remedial Options Report

Based on the information gathered during this pre-feasibility proposal preparation, the following media have been identified that could be potentially impacted by historic activities at the site: soil, surface water and groundwater. It is expected that shallow soils and surface water bodies (creek) at the site or near the site could be potentially impacted by illegal dumping, import of fill material from unknown sources and unreported releases of contaminants. Since the water table at the site is expected to be located several meters below the local grade, the impacts to the local groundwater are estimated to be at the lesser rate. Therefore, a contingency for the groundwater quality assessment is not included in this proposal.

The remedial objectives (RO) developed for the site should be based on BC Ministry of Environment (MoE) Contaminated Site Regulations¹ (CSR). Under the CSR, based on the proposed land use, the site specific APEC and the primary contaminants of concern (CoC) will be identified. Furthermore, mandatory and site specific exposure pathways and potential receptors will be identified and numerical standards applied to assess the soil quality and likelihood of contaminants from soil leaching into surface and groundwater. In addition a pre-screening risk assessment could be conducted.

Remedial options implementation and performance monitoring would require implementation of a sampling and analytical testing rationale for soil, groundwater and, potentially, surface water and air. These media samples should be collected before, during and after the remedial activities.

3.2.1 Remedial Methods

Impacted media, such as soil, surface water, sediment and groundwater at the site should be remediated to the environmental objectives developed following the completion of assessment activities. At this point in time, only a conceptual remediation action plan (RAP) is presented. The following conceptual remedial options have been considered for the proposed Lookout.

- Shallow Soils in Source Areas - excavate, treat, segregate, reuse and/or dispose of soils and debris from 'hot spots' at the flat portion of the site;
- Deep Soil – In-situ bioremediation (soil vapour extraction – bio venting);
- Collect, segregate and dispose of soils and debris from the slopes of the property, if required;
- Groundwater - In-situ bioremediation, Monitored Natural Attenuation (MNA), if required; and
- Surface water – creek channel restoration.

The methods selected are based on the brief review of a Google Map[®] image of the site, some anecdotal information, and common industry practices.

¹ Contaminated Sites Regulation (CSR), B.C. Reg. 375/96, including amendments up to B.C. Reg. 239/2007.

Flat Area

An excavation area based on the environmental site assessment should be reviewed by the geotechnical engineer to determine if all impacted soils could be safely removed and replaced with non-impacted fill material without compromising the site slope stability and bearing capacity. If soils can not be excavated in certain areas, impacted soils should be contained by applying a low-permeability barrier (clay or synthetic liner) and if necessary, capped. In areas where asphalt pavement will be applied, the capping material thickness should be adjusted accordingly. The impacted soils containment and capping should be completed in accordance with CSR and local municipality requirements. Generally, within the parking area, soils should be compacted to 95% of Standard Proctor and hydraulic conductivity of 10^{-7} m/s would be sufficient to prevent surface water intrusion. In addition, surface water runoff should be diverted from the site to minimize surface water intrusion into contaminated soils.

For cost estimate purposes, 0.5 m thick layer of surface soil distributed across the site was used in the remedial cost estimate.

Slopes

On the slopes of the site, large areas of distressed vegetation are visible. In addition, large pieces of abandoned equipment, cars, household appliances and other solid waste debris are noted. In order to restore the slopes, the debris should be removed and the slopes re-vegetated with native species and existing vegetation growth promoted.

Prior to commencing debris collection and disposal, special attention should be paid to the project safety procedures development. The site-specific hazards assessment, administration, hazard control and mitigation procedures should be developed. In addition, a site-specific health and safety plan should be prepared and available at the site during the remedial activities. The debris at the slopes should be collected manually wherever possible to minimize further damage to vegetation on the slopes. The hand-collected debris should be stored in large waste bins (totes) and prepared for removal. Larger pieces (appliances, cars, etc.) should be secured in place to prevent mobilization (tumbling) before commencing their removal. Once secured, larger pieces of debris and waste bins will be airlifted by helicopter and brought to the flat part of the property for further processing, separation and disposal to a landfill.

Task	Timeline	Fees
Environmental Site Assessment	1 week	\$10,045
Remedial Options Report	1 week	\$6,320
Remediation and Reporting	6 weeks	\$270,625
TOTAL (with disbursements and GST)		\$286,990

4.0 CONCEPTUAL DESIGN

4.1 Background

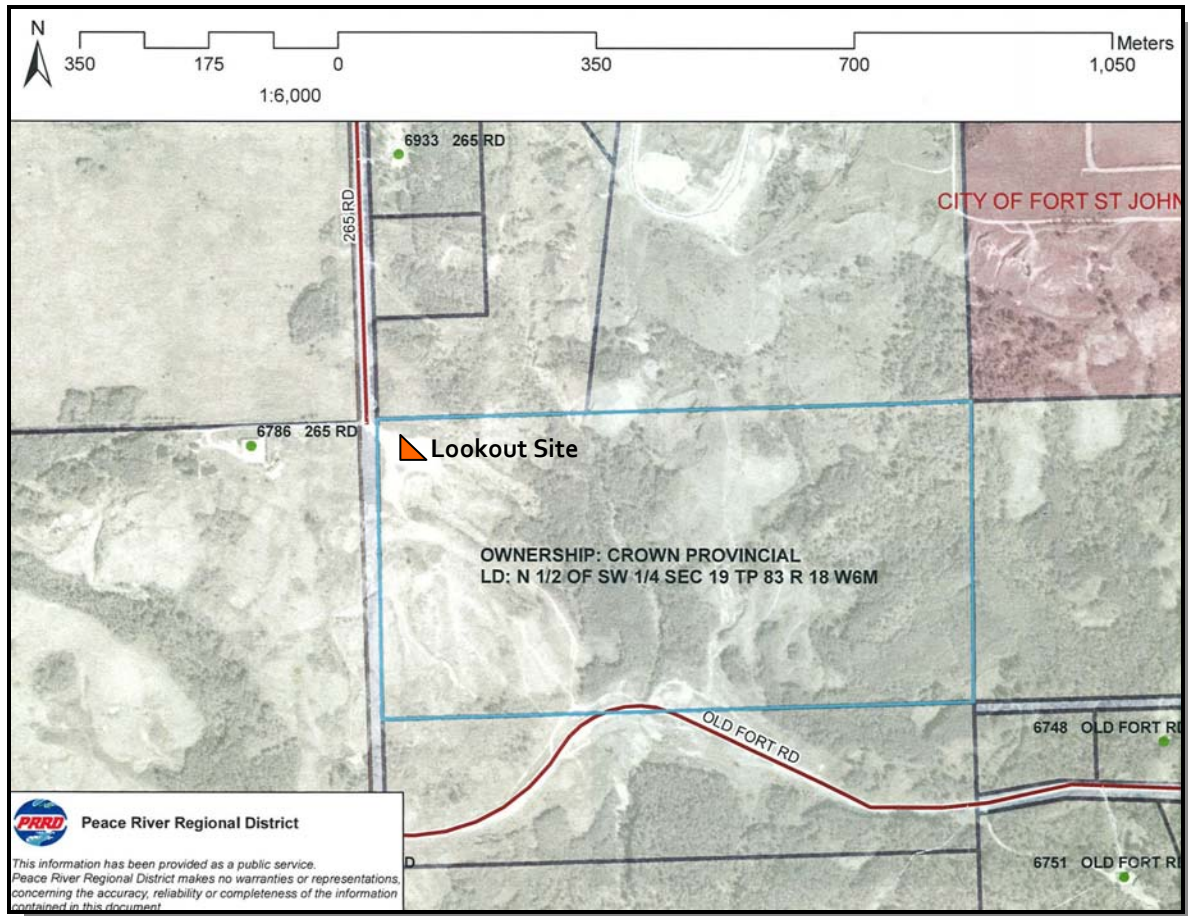
The conceptual design of the Peace Valley Lookout is a direct result of public input that was gathered at a Community Check-In session held on November 30th, 2009 at the Peace River Regional District office in Fort St. John (refer Appendix 1 for Community Check-In results). A few of the main themes that were expressed at the Community Check-In as well as through an online survey and individual conversations include:

- Safety - create a safe environment for visitors to walk around and enjoy the view – create a vehicle buffer to keep cars away from the edges and prevent dumping
- Security – issues surrounding youth parties and vandalism at the site and surrounding properties
- Retaining the site's integrity – site is currently used as a passive space for picnicking and site-seeing – residents in surrounding areas bring visitors to the site for the view, which is its greatest draw
- Tell the history – many historical sites can be seen from the Lookout, as well as the Peace River, which is an important asset to the area
- Keep it simple – current users enjoy the site and all it has to offer just as it is but expressed their desire to make it safe and functional without detracting from its natural beauty

Based on this feedback, a concept plan was created in consultation with the Peace River Regional District. The following information explains the rationale and preliminary findings.

4.2 Development Area

The current site of the Peace Valley Lookout is located on Provincial Crown Land described as the N ½ of SW ¼, Sec. 19, TP. 83, R18, W6M (refer Map 1). A right-of-way belonging to Ministry of Highways runs along the west side of the Lookout site and the site is not within the current Agricultural Land Reserve boundary. Historically, this site has been used as an informal land fill. For this planning feasibility study, only the Study Area as identified in Map 2 is being considered. In the future, it is recommended that a broader study area be considered to incorporate a trail system linking the existing graveyard and "Old Fort" community to the Lookout site.



4.3 *Topography*

For this planning feasibility study, a topographical survey of the area was not provided or conducted. All topography has been gauged based on photos and site visits only. The site, while generally flat at the immediate Lookout site, slopes to the south. It is estimated that there is a 1 to 2m difference in elevation from the north side of the site to the south side. The southern edge of the site drops down vertically approximately 160m to the Old Fort Road below and an additional 60m (approx.) to the Peace River channel. The topography not only makes the site unique but also poses a challenge in terms of safety.

4.4 *Access Roads and Drainage*

The site has one access which is located approximately 3 km south on 100th Street from the intersection of 100th Street and Highway 97 in Fort St. John. Pavement on this access road ends approximately at the City of Fort St. John municipal boundary. Beyond the municipal boundary, this access road also services 3 residents on the way to the Lookout site. This existing access road adequately provides access to the Lookout site. The proposed concept plan (refer Appendix 5) illustrates a large parking island at the entrance to the site. This would direct through traffic into the site and creates a right turn out of the site. It is recommended that in the future, if any upgrades are made to the road (e.g. widening or paving) that consideration be made for a roadside walking trail, making pedestrian access to the Lookout site safer.

From preliminary review of the site, it appears that some of the bank instability may be due to spring run-off being directed over the southern side of the bank. A provision for drainage has been included in Appendix 6 – Cost Estimates and Phasing. It is recommended that rain water and run-off be collected either on-site and piped to other areas or alternatively, a ditch be constructed that directs the water around the site. Further investigation and study by an engineer is needed to address drainage for the Lookout site.

4.5 *Underground Utilities*

To the best of our knowledge and with all the information presented to date, Focus believes that there are currently no underground utilities at this site.

4.6 *Concept Plan*

4.6.1 Theme

The concept theme of the proposed park is both functional and historical, with a focus on using local materials whenever possible. The name “Peace Valley Lookout” speaks to the function of the site - a place to take visitors for a panorama of the Peace River flowing through the valley and a resting site for passing travelers. While visitors gather at the Lookout site, the interpretive components spell out the history of the area from both the Settlers and the First Nation perspective.

Suggested materials include items such as:

- Boulders, possibly donated from the surrounding farmland;
- pipe (e.g. surplus from pipeline projects) used for post and chain barriers;

- concrete benches and picnic tables;
- timber frame constructed washroom facilities, gazebo and entrance sign; and
- wood decking, possibly sourced from pine beetle infested trees.

4.6.2 Parking

The Concept Plan provides for a number of parking options including:

- 2 dedicated bus parking stalls;
- 6 recreation vehicle (RV) stalls; and
- 15 regular 3.0m wide parking stalls and 1 designated accessible stall.

Parking will not be designated until Phase III (refer Appendix 6) of the project when it is intended that the parking area will be paved with asphalt. At that time, lines will be painted and the designated accessible stall will be identified with a vertically mounted sign and the International Symbol of Access painted on the pavement.

4.6.3 Landscape Items

Landscaping in terms of plant material has been kept to a minimum and will be chosen from a palette of species that are hardy and native to the area. No provisions have been made for an irrigation system and plants will need to be hand watered for the first year or until established. Grass areas will be seeded with native grass species and hand watered until established. A windrow will be provided along the west side of the site to screen the Lookout site from the neighbouring property.

4.6.4 Site Amenities

The concept plan intends that overhead lighting be provided to improve safety and security for users during early morning or evening use. However, the site is not intended to be used for overnight camping.

No potable water source and no community sewer service are available at the site.

The concept plan has sited 2 washroom (outhouse type) facilities that will have buried holding tanks and will require maintenance on a regular basis.

4.6.5 Interpretive Components

The interpretive components of the Lookout will be on-site and potentially off-site. Kiosks placed at the staging area (southeast corner of parking lot) will contain relevant information about the park, including hours of operation (if required), safety information, relevant public notices, sponsor advertising, etc. Interpretive panels will be placed on the large viewing deck located on the southern point of the park. These interpretive panels will tell the history of the valley below from the Settlers and First Nations perspective. A map of all the historic Forts will be made available, and will refer to sites along the river bank below. In future phases, these sites could be tied into the mapping by placing physical markers at the actual sites large enough to be seen from the Lookout and colour coded to correspond to the mapping. There are also opportunities to inform visitors about the local area and its history, current uses, local legends, First Nations or information about the night skies and the mighty Peace River.

4.6.6 Phasing

The Park could be developed in five phases (refer Appendix 6) . The priority of the phasing is to first improve the safety of the current site and subsequently layer in the aesthetic, and lastly, the interpretive components.

4.6.7 Crime Prevention Through Environmental Design (CPTED)

Lighting:

Lighting should be low-level, downward facing, vandal-resistant, and sufficient to illuminate walkways and washroom buildings. Lighting will be directed away from the deck so as not to interrupt star-gazing activity etc.

Sightlines:

In terms of CPTED, sightlines, both into and within the Lookout site have been maintained and opportunities for hiding places have been minimized.

Signage:

Good signage is important. The design allows for entry signage, information kiosks, and interpretive panels. Signs should state hours of operation, rules of conduct, contact numbers, and wayfinding if necessary.

Safety:

Oftentimes, a real test is to ask yourself “would I feel comfortable here?” The intent of the design is to clearly see the site and what it offers - viewing deck, washrooms, picnic sites and information boards. People can get out and stretch their legs, have some lunch, walk around a bit, “ooh” and “aaah” at the stunning views and the great park space, and then be on their way.

A key to the success of this development is not only the natural surveillance on the site, but diligent maintenance and upkeep. While no one element is entirely vandal-proof, there is also responsibility on the part of the District to look after the site. If it looks rundown and abandoned, the message will be that it is an unloved and uncared for site, and the resultant behavior will reflect that. Broken bulbs or glass, graffiti, and litter should be cleared promptly. Also having community groups involved with clean-up and maintenance would bring a sense of ownership to the site.

Sponsorship for the site could come from a variety of sources such as the Kinsmen, Rotary, Lions, or other service groups, or the First Nations Treaty 8 group. They could sponsor or fund elements such as the deck, the interpretive panels, the gazebo, the benches and picnic tables, working in partnership with the regional district. There tends to be a greater sense of ownership and pride when organizations fundraise for project components.

4.6.8 Universal Accessibility

One accessible parking stall will be provided and the parking lot access, walking path, gazebo and wood viewing decks will be made wheelchair accessible. There will be an effort as well to incorporate Braille into the interpretive panels.

5.0 MARKETING ANALYSIS

The site should be promoted in several different ways to gain the most exposure and draw the most visitors.

Signage: Signage along Highway 97 (the Alaska Highway) will be a key component to marketing the Lookout. Binocular symbols much like the ones that designate “wildlife viewing” could be incorporated into the City of Fort St. John attraction signs. At the corner of 100th Street and Highway 97, another sign should be posted for the turn off, and lastly, the entrance sign to the Lookout site will announce arrival to the site.

Print: The following are opportunities for print advertising:

- Peace Valley Lookout brochures could be developed and made available at all surrounding visitor information centres including Dawson Creek, Taylor, Pouce Coupe, Fort St. John, Chetwynd, and as far away as Nelson and Prince George.
- Ads and information could be provided to the following print magazines: British Columbia Vacation Planner, BC Outdoor Adventure Guide and the BC Insiders Guide.

Internet and Digital Marketing Opportunities:

- HelloBC.com
- fortstjohn.ca
- prrd.bc.ca
- poucecoupe.ca
- districtoftaylor.com
- gochetwynd.com
- dawsoncreek.ca
- northernbritishcolumbia.com
- bctravelguide.ca
- camping.bc.ca

Word of Mouth / Programming: The Lookout site is already a place where local residents take visitors to enjoy the view. The site has potential to host small celebrations and events. A good way to animate the space, thus getting people to use it, is to program it. Programming opportunities could include star gazing, painting, nature appreciation, crafting, plant walks and historical talks. The Lookout site could also become part of school curriculum.

6.0 MAINTENANCE / PRESERVATION

The concept for the Lookout site caters to low maintenance and preservation costs. Most of the site furnishings will be concrete and wood. More specific and appropriate materials will be researched in subsequent phases once this project moves forward.

Weekly maintenance could include:

- Watering trees and grass until establishment
- Emptying garbage cans
- Picking up litter from site
- Ensuring the washroom facilities are cleaned and stocked, repairing any vandalism and monitoring holding tank levels
- Maintaining the kiosk information
- Winter snow removal and sanding as needed
- Sweeping / shoveling walkways

Monthly maintenance could include:

- Mowing the grass once established
- Pumping outhouse holding tanks
- Painting over any graffiti
- Grading gravel parking lot

Yearly maintenance could include:

- Painting
- Repairing potholes
- Adding gravel to parking lot as needed until it is paved

Task	Approx. hrs	Fees
Maintenance Contractor Wages	800hrs/yr	\$20,000
Equipment and Supplies		\$30,000
TOTAL		\$50,000

7.0 LIMITATIONS

This report is limited in nature and should not be relied upon either as a confirmation of regulatory compliance or of conditions on site, either above or below grade.

The evaluations presented in this report are based on information provided by individuals, available site records, readily available historical documents and observations made during limited site reconnaissance. Focus has accepted as true the information obtained from these sources but makes no representation or warranty regarding the accuracy or reliability of the information.

The services provided by Focus and the sub-consultants retained for this project have been provided in accordance with the standard of care applicable to similar services provided at the place and time of these services.

This report and the information contained in it is intended solely for the use of The Peace River Regional District for that project described as the Peace Valley Lookout Planning Feasibility Study and should not be relied upon or used by any other person whatsoever for any other purpose. Any such use is at the sole risk of the unauthorized user and without any responsibility on the part of Focus.

8.0 NEXT STEPS / RECOMMENDATIONS

The Peace Valley Lookout presents a unique opportunity to expand upon something that is currently unique and special to the residents in the Fort St. John and surrounding areas. The view of the valley from the Lookout site is meaningful both historically and aesthetically.

Given the remoteness of the site, problems have surfaced including vandalism, improper use and safety concerns. Through proper site planning, monitoring and maintenance, these problems can be minimized. Some next steps and recommendations that this report summarizes include:

1. Gather geotechnical data to gauge the stability of the slope with possible on-going monitoring.
2. Gain knowledge of the environmental history and possible solutions in terms of impact to surrounding water courses and habitat.
3. Retain an engineer to design the proper handling of drainage and run-off.
4. Obtain a detailed survey of the site for grading and drainage purposes.
5. Phase the development of the site to first address public safety.
6. Seek opportunities for partnerships / sponsors to aid in cost-sharing, monitoring and maintenance.
7. Partner with the local RCMP in a strategy to monitor the site at night.
8. Seek locally-made materials, products and services where appropriate during construction.
9. Set up a maintenance and preservation schedule to ensure vandalism is kept to a minimum and public safety is maintained.

10. Consult local First Nation communities and local historians for content in interpretive components.
11. Market the Lookout site in a variety of methods including signage, print and online sources to gain the most exposure.
12. In the future, consider linking the Lookout site with the historic graveyard below by means of a trail or stair system.
13. In the future, provide vehicle baffles at the bottom of the bank to prevent vehicular and off-road equipment access.
14. When the opportunity arises, approach the Ministry of Transportation and Infrastructure to consider upgrading the access road (100th Street) to include asphalt paving and a dedicated pedestrian lane.

A skilled team of professionals were called upon to consider the development potential of this site. Should the project move forward, all consultants and sub-consultants involved in this initial investigation would consider it a privilege to continue to work on the development of the Peace Valley Lookout site.

Appendix 1

Community Check-In (November 30, 2009)

Advertising for the event as follows:

Energeticcity.ca

Thursday, Nov. 19th thru to Monday, Nov. 30th

Alaska Highway News

Wednesday, Nov 25th and Friday, Nov 27th

CBC

Emailed to the CBC North website for their community events section

Moose FM

Press Release sent out

The PRRD website posted the day and time and posters were put up around FSJ announcing the event.

PRRD emailed electronic invites to various stakeholders for distribution to membership

Welcome to the Peace River Regional District

Peace River Lookout Community Check-In

The Peace River Regional District (PRRD) is undertaking a feasibility study to guide their decision regarding acquisition of park land, development of park facilities and a lookout and projections for potential capital and costs related to construction and on-going maintenance for the Peace River Lookout site.

Community Check-In Purpose...

- Inform rural and Fort St. John residents as well as surrounding area stakeholders about projects happening in their area
- Gain local knowledge of the Lookout area
- Gather input on significant themes / concepts for the Lookout
- Gather input on marketing opportunities and benefits of creating a Regional Park

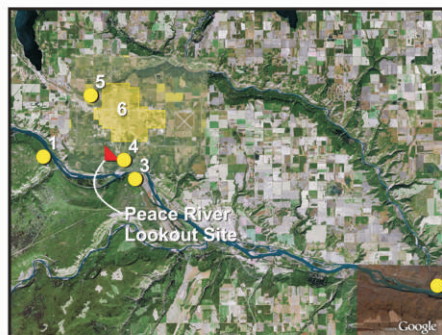
We Need your Input...

- Please provide comments on spaces defined on project boards
- Please vote for your favourite theme with red and green dots
- Please talk to PRRD staff and Focus representatives about your concerns, experience and vision for the Lookout site



You Could Win!

Please fill out an exit survey and have your name entered into a draw for a Winter Vehicle Emergency Kit!



Trading Post Locations in the Fort St. John Area (courtesy of the Fort St. John Museum and Archives)

- 1 ROCKY MOUNTAIN FORT 1794-1805
 - earliest European settlement on mainland British Columbia
- 2 FORT J'EPINETTE 1806-1823
 - established by the Northwest Company called St. John name changed in 1821 when Hudson's Bay company took over the management of the fort
- 3 FORT ST. JOHN 1860's-1872
 - fort re-opened after a lapse of 40 years
- 4 FORT ST. JOHN 1872-1925
 - Hudson's Bay Company factor Frank Beaton moved post to a new location across the river
- 5 FORT ST. JOHN 1925
 - Frank Beaton again moved the post to be closer to the new settlers
- 6 FORT ST. JOHN PRESENT (approximate boundary)



Old Fort St. John 1906

Parks / Attractions in the area

- Scenic Highway from FSJ to Hudson's Hope
- W.A.C. Bennett Dam
- Williston Lake
- Beaton Provincial Park
- Charlie Lake Provincial Park
- The Alaska Highway
- The Exemplar
- North Peace Museum
- Taylor Gold Panning Days

Glaciation, tectonic forces (movement of the earth's plates) and climate have created the soils, vegetation, forest ecosystems and subsurface formations that exist today. The vast **flat plateau** that dominates the eastern regions of the planning area was formed by retreating glaciers. **Soils are generally fine textured** with deeply incised streams. The north eastern area tends towards saturated soils and **muskeg** while south eastern soils are drier. Moving westward, the topography rises to the rolling and hilly landscapes of the foothills and ends in the Rocky Mountains. River systems originating in the mountains cut deeply through **bedrock** and can be straight, **meandering or braided**. Rivers are the dominant hydrological feature in the planning area. The major river systems include the **Halfway, Graham, Beaton, Sikanni-Chief, Fontas and Peace River** systems. Where **lakes** exist, they tend to be **small and shallow** with low to moderate productivity. Significant lakes include **Charlie Lake and Redfern Lake**. Over **40 fish species**, including mountain whitefish, bull trout, Arctic grayling, rainbow trout, lake white fish and walleye are found, mostly in the large rivers and streams. The area has a fairly typical northern continental climate. Cold winters, short growing seasons and low precipitation limit the vegetation, agricultural crops and forest ecosystems that can thrive here. Mean **daily temperatures** range from -30.4°C to +21.50°C. Most of the moisture carried by the **prevailing westerly winds** falls on the west side of the Rocky Mountains, outside of the planning area. Average annual precipitation is 295.9 mm of rainfall and about 198.2 mm in equivalent **snow cover**. Some areas can suffer a water deficit, especially during summer. The **short growing season** is somewhat offset by the long sunny northern days during spring and summer. Substantial populations of large mammals such as **deer, elk, sheep, goat and moose** inhabit the LRMP area. Both **black and grizzly bear** are found across the planning area. Other significant wildlife include fur bearers such as marten and a variety of birds, including **waterfowl and warblers**. **White spruce, lodge pole pine and trembling aspen** are the main commercial tree species, accounting for most of the timber harvested in the planning area.

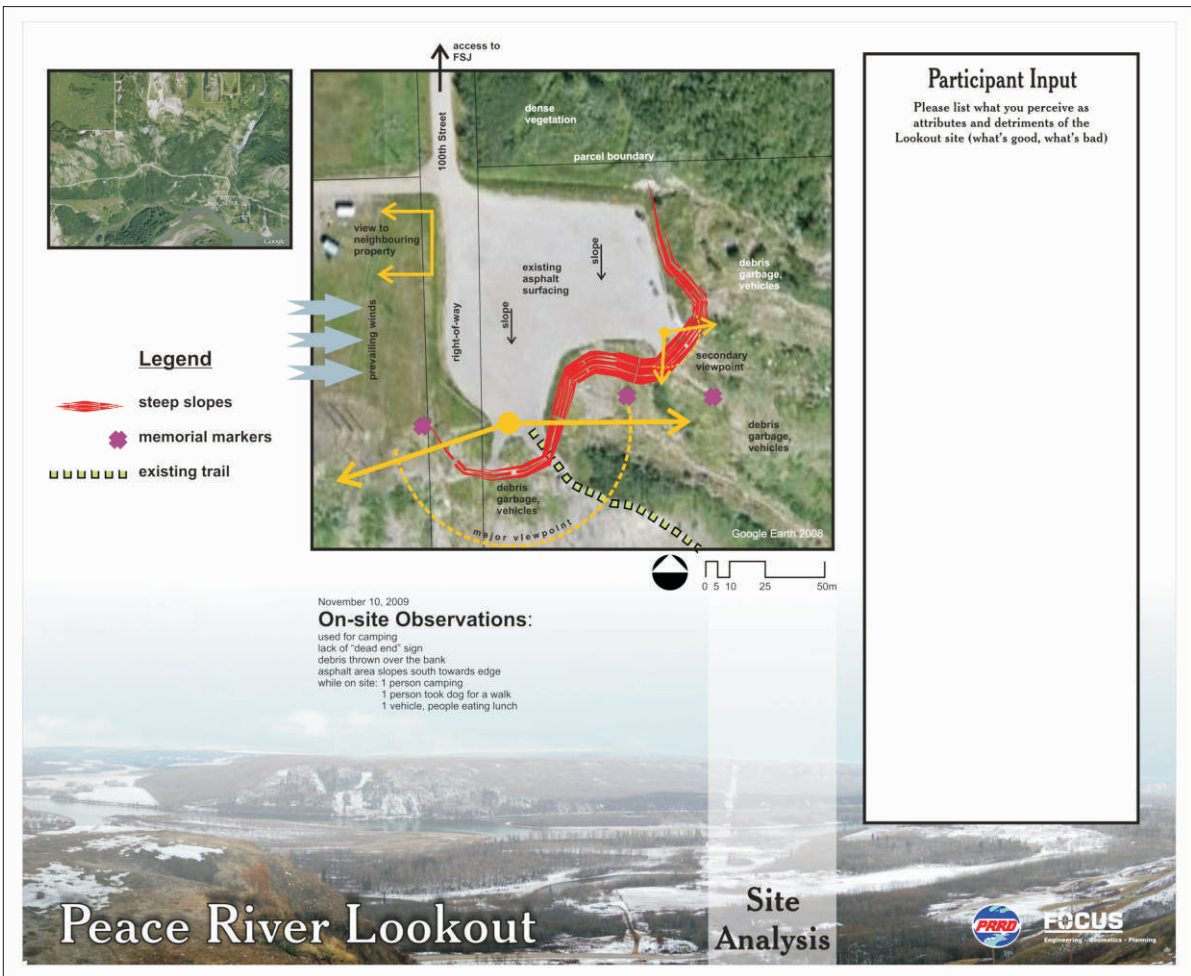
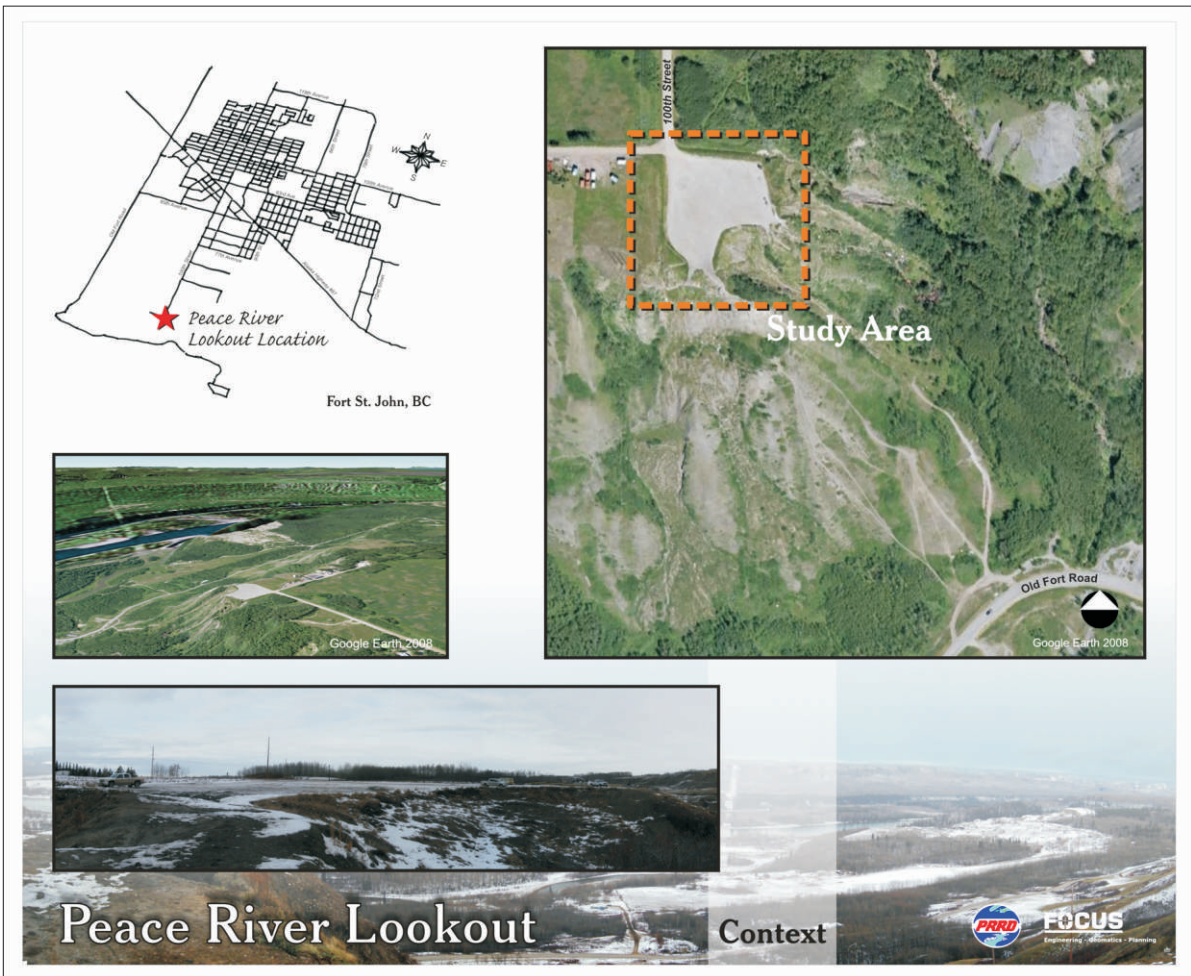
(courtesy of Integrated Land Management Bureau - Fort St. John Land and Resource Management Plan)

Participant Input

Please list any other relevant information that makes this site unique.



January 29, 2018



November 30th Peace River Lookout Survey Results

Questions	Results
1. Check where you currently live: • Electoral B • Electoral C • In Fort St. John • Other	0 9 7 1
2. Do you currently use the Lookout site? • Yes • No If so, what for?	15 2 ▪ Sight seeing ▪ Walking ▪ Eating lunch ▪ Just visiting ▪ Walking ▪ Bring family and friends to see the beautiful scenery ▪ I work on 100th street and occasionally walk to the point at lunch and after work ▪ Eating lunch on occasion ▪ Viewing the fall leaves changing colours ▪ Watch the valley in early morning full of fog ▪ Scenic viewing ▪ Show visitors a wonderful vista ▪ Viewing scenery ▪ Moderate hiking ▪ Lunch site ▪ Showing visitors and new to town people ▪ See the river in all 4 seasons ▪ To show every person who visits FSJ or is new to the area the outstanding view of the Peace River, where the approx. Site C Dam might be located and where FSJ was located on the river etc. ▪ Walking ▪ I've gone there but don't use it regularly ▪ Visitors ▪ Lunch or supper site while RV-ing ▪ I have used the site over 200 times - I am a retired educator turned counselor – have counseled countless men while eating lunch there ▪ To show off area history to visitors ▪ To enjoy the view ▪ Relaxing ▪ Taking the visitors to see the Peace ▪ Sometimes but it is presently a bit

	embarrassing because of litter and old cars etc.. Fun to run to on a nice day ▪ Eat lunch
3. Do you see any benefits to developing the lookout site? If so, what are they?	▪ Very much, clean area up and make it a welcome spot for tourists ▪ Yes, it is already advertised as a tourist attraction ▪ Yes, tourists, more local usage, Less garbage ▪ I believe the lookout would be a wonderful place to attract tourism to the City and area ▪ Yes, if the site was developed, with a walkway from FSJ, many more people would utilize it, the view is beautiful ▪ Reduction of garbage – it spoils the view, great place for photos etc. ▪ Enhance visitor appreciation, greater constructive use by community members ▪ Recreational / picnic / walks ▪ Yes, get rid of garbage & develop it as a lookout point ▪ TREMENDOUS, FSJ needs a tourism site to promote the area & it's the area that can cater to all the historic aspects as well as the environment ▪ Absolutely, and it is long overdue. ▪ Provide a much cleaner / neater image of the region if all the garbage is removed ▪ Provide a safer area for vehicles and visitors ▪ Provide a tourism attraction for visitors ▪ Yes, clean it up, mark the heritage, create a safe site to visit ▪ Absolutely. One of the only places to view the Peace. I've seen many tourists there. Many folks go for an evening drive. Fabulous sunsets or moon rises ▪ Safety – improved barriers since it is already used ▪ Visitor information, historical site viewing ▪ Clean up garbage over the edge ▪ Yes tourism – lots of history ▪ Tourism or local people want to look out on one of the most impressive rivers in Canada ▪ Yes, NEBC does not have enough Parks
4. Are there any amenities that you could envision being located at the Lookout site?	▪ Playground ▪ Picnic area ▪ Walking trails ▪ <u>No</u> playground ▪ Lookout shelter, picnic area with garbage and recycling ▪ I see a tourism centre with a lookout porch along with trails attached as being the best option

	▪ Walkway from FSJ on the other side of the ditch so walking is safe ▪ Xeriscaping ▪ Picnic site ▪ Garbage cans ▪ Water fountain ▪ Dog water fountain ▪ Lookout area ▪ Pave site – wind blows continually ▪ Road needs to be paved to lookout ▪ SPCA is up the road and it would be really nice to have a walking trail for dogs & walkers ▪ Benches ▪ Grassy area ▪ Retaining wall to stop vehicles from accessing the edge ▪ Interpretive signs ▪ Trails ▪ Benches ▪ Washroom ▪ Periodic security tours ▪ Facility inspection ▪ Only minimal or it becomes so complicated & the point of developing becomes lost in the bureaucracy ▪ Paving, barricades, picnic tables & garbage receptacles would be all that's needed in my opinion ▪ RV & bus parking ▪ Picnic area with small amphitheatre for music & busking ▪ Many kiosks scattered throughout the site with a variety of historic & environmental (geology/geography) information ▪ Hiking information ▪ Wildlife sighting plaques ▪ Picnic tables ▪ Sani-dump & toilets ▪ Garbage cans ▪ Historic info kiosk ▪ Safety trails ▪ Parking places outlined ▪ Bicycle parking ▪ Decent boardwalk site ▪ Garbage receptacles ▪ Picnic tables required on the periphery ▪ Eliminate the huge flat area for vehicle antics ▪ Kiosk with attendant needed ▪ Paved road to site ▪ Paved parking ▪ Info kiosk
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	▪ Decorative railing ▪ Safety barriers ▪ Boardwalk ▪ Outhouses ▪ Sani-dump ▪ Cement curbs well back from edge will slow up / stop people from dumping and stop vehicles from going over (average 1-2 a year) ▪ Lower speed limit – dust control – safety – lots of deer – hikers ▪ Walkway from town – safety – summer time has lots of foot traffic ▪ Steel bench screw piled in – longevity – low maintenance ▪ Overlooking heritage site – plaque – selling point for tourism ▪ Washrooms like the one on the Attachie Hill on Hudson Hope road. Pave, curb, clean-up and landscape. Vandals will mess it up but keep on it and keep it clean ▪ Playground and tables
--	---

5. Other comments

Shannon's List of Issues Discussed

- This project should be, and maybe is, part of a larger program of historic preservation and research. The Peace River (north and south) has no authority in charge of historic site research, archive collection, important political document preservation. The Regional District hopefully is developing such a program with this one project being one of many adding to a longer term goal.
- Site was a garbage dump until approx. 1967
- 1942 – army trucks dumped over the edge
- Be prepared for a lot of garbage – may affect budget
- Hill has slid in the past and may slide more in the future
- Drainage a big concern
- Need to take into consideration bottom of slope – need fencing at the bottom to prohibit ATV & motorbikes from going up the hill
- Historically connect the graveyard down below with the lookout
- McRae concerns (adjacent property owners) kids partying at night, fires in the summer, noise, garbage in the area, safety, maintenance, on-going monitoring, drainage
- Needs something to draw people off the highway – Regional Tourism Centre and possibly a partnership with oil and gas companies
- View to Site C – could have BC Hydro as a partner
- Build a restaurant
- Accidents happen on part of road just after pavement ends – fishtailing
- Lots of large trucks get lost and have to turn around at the lookout
- There have been people camping in the bush next just before the lookout and down the bank
- One resident thinks that the kids partying place has re-located so situation may be getting better for the immediate area
- Historically, pow wows were held at the bottom of the bank and the first nations

camped at the top of the bank

Ron's List of Issues Discussed

- quads and the problem on and around the lower area (mainly)
- security issues pertaining to improvements might be problematic (5-6 folks)
- opportunity to show tourists a wonderful viewscape
- upper pad -- great place to eat lunch by the locals ... 3 folks
- history – opportunity to provide an interpretive centre in a kiosk (area was a dumping site for US army vehicles, and dump site)
- put a fence on the lower road to impede quads
- put a picnic spot north off of Old Fort Rd
- consider site for stargazing 2-3 folks
- improve the road 2x
- consider using binoculars –vandalism was mentioned
- consider upgrading the trail
- consider a garbage cleanup of the site 2-3 folks (vehicles, fridges, stoves, microwaves, glass)
- look at providing just a minimal amount of money to upgrade the viewpoint
- from 12. eluding to not gating the parking area on the upper level
- from 12. eluding to perhaps just adding 60 tryons around the circumference of the upper parking area
- maintaining a Keep It Simple Concept approach

Trish's List of Issues Discussed

Issues:

- Speed limit needs to be reduced and/or enforced
- There needs to be a bigger stop sign at the entrance to the site
- Garbage left onsite and over the edge
- Location is used to shoot off fireworks
- After hours noise and parties
- Ditching on side needs to be replaced or upgrades
- Need signage that tells users there is a steep drop off
- Squatters
- Difficult to walk along the road to the site because there is no sidewalk or safe path
- Too much gravel, site needs paving to reduce dust and mud

Ideas:

- Despite the slope the area is good for hiking
- Make the lookout structure out of metal so it can't be burned
- Make a full circle walking trail that is off the road and safe
- Make it day use only
- The site could be made into a rest stop with a restaurant
- Add decking and guard rails
- Purchase adjacent parcel and make into a larger park
- Partner with the Energy Interpretive Centre to develop an attraction
- Make designated trails for hiking & ATVs
- Move the FSJ Tourism Centre to the site
- Add items that draw people there like monuments, proper signage and stationary binoculars
- Add picnic area with concrete tables

Concerns for future:

- Site needs have someone to maintain it and be a presence there to reduce vandalism and crime (possibly 24 hours)
- Ability to ticket for after hours use

History:

- The property may have at one time been owned by the Beattons

Email Response:

A resident from North Pine

- 1) the garbage needs to be cleaned up
- 2) she is concerned about safety and that barriers and reflectors should be installed to increase safety
- 3) there is an old sign that warns people about the drop off, but it has been grown over by trees or shrubs
- 4) they often take friends and family there when they come to visit and although they enjoy the scenery the safety issue always comes up
- 5) in 1985 when they moved to Canada there used to be very large trees at the site which she thinks stopped people from driving over the edge

Email Response:

The lookout is my favourite place to have lunch in the summer. Unfortunately I have a meeting during this community check in so I can't attend although I think that if the PRRD installed concrete picnic benches, garbage cans and cleaned up the bottom of the hill (all of the old vehicles) it would only enhance this area. Maybe a barrier or small fence should be installed at the end of the road (where you drive up to it) so that vehicles can't go over the end of the bank. There were a couple of concrete barriers there before but I can't remember if they are still there.

Email Response:

In regards to the proposed development of the lookout area, I have included a few points;

1. If we are to encourage people to take 100th to the lookout area then upgrades to the road will be a 'must' not only for the safety and comfort but also to the existing property owners who will see an increase in traffic.
2. Proper safety factors must take precedence to the view as history in this area has indicated safety needs a bit more attention. This not only should include barriers and safe parking/turning areas but also proper lighting.
3. If we are encouraging people to the area then we must also encourage proper maintenance; garbage, snow removal, security measures, etc.

Taking just these few points into consideration we can all see that a 'staged' upgrade is going to be more than a few dollars upfront to make the area look good.

In addition to the above concerns what about;

- The cost for the clean up needed just to get started,
- the upkeep and costs associated with the long term care for the area,
- costs for the marketing and promotion of the point to create interest,

- realistically how many people will visit this area (beyond the teenagers and existing users) and will it really offset the TOTAL investment being considered, and
- where will the money come from?

If additional traffic is created in this area resulting from the look out development, then does this mean that the district is willing to encourage tourist related development leading up to the lookout point – remembering that this is in ALR territory?

Faxed Comment

I like new parks, but my concern is the PRRD going to take care of it? Last year PRRD decided to close the Beaton Park on the way to Cecil Lake. This park was still well used even though no maintenance was done for years. On a hot day you could count 100 cars at this location. I question the use of our tax dollars after just abandoning the Beaton Park which would have been used more if maintained.

Appendix 2

Geotechnical Quote



Consulting
Engineering

Inspection
& Testing

Materials
Technology

9211 – 100 Ave.
Fort St John, BC
V1J 1X6

Tel. (250) 261-6615
Fax (250) 261-6614

Branch Offices:

- Abbotsford
(888) 855-9753
- Surrey
(604) 543-8871
- Whistler
(604) 938-2812
- Kelowna
(250) 860-9955
- Squamish
(604) 898-1420
- Salmon Arm
(250) 803-0248
- Burnaby
(604) 436-9111
- Williams Lake
(250) 296-4118
- Dawson Creek
(250) 782-8557

November 23, 2009
Our Proposal No.: FSJ204

Focus
10716 – 100th Avenue
Fort St. John, BC
V1J 1Z3

Attention: Mr. Rick Franzen, g.s.c.

**RE: Geotechnical Investigation and Slope Stability Assessment
Proposed Peace River Lookout Development
South End of 100th Street
Fort St. John, BC**

Northern Geo Testing & Engineering Ltd. (Northern Geo) is pleased to provide Focus (Client) with this cost estimate for Geotechnical Engineering services. Northern Geo is a full service, geotechnical engineering and materials testing company, fully qualified to carry out this assignment. We offer the services of over 150 engineers and technicians as well as CSA certified materials testing laboratories from four (4) locations throughout B.C. Our Fort St. John office is conveniently located to service your project on short notice.

GEOTECHNICAL INVESTIGATION

Based on the conceptual drawing provided to Northern Geo, it is understood that the Peace River Regional District (PRRD) proposes to develop the south end of 100th Street with an upgraded and restored lookout area, including a paved parking area, staging and picnic areas, a viewing shelter, parks, trails, monuments and educational features. The site overlooks the Peace River Valley with a long slope extending approximately 160 m vertically to Old Fort Road over steep and undulating slopes, and an additional 60 m over flatter hummocky slopes down to the Peace River channel.

There are significant surface erosion features (water-carved channels with debris), soil slumps and scarps, indicating both surface and below surface soil instability potential on and below the site. It is also understood that there have been geotechnical assessments undertaken by others in the Old Fort area below the proposed developments, and that these assessments have indicated both shallow and moderately deep to deep-seated instability. The anticipated soil stratigraphy below the outlook area will likely consist of clay, clay tills and clay shale with possible sand and gravel layers.

We propose a threefold investigation process – A) to initially review existing landslide and slope inclinometer information (desktop study) in the area; B) to assess the overall global slope stability conditions at the site with deep test hole drilling and slope data and C) to evaluate the near surface conditions at the site for foundation design of the proposed development with shallow test hole drilling.

The proposed investigations may be carried out as one project simultaneously, or possibly as three separate, but related studies.

A) Desktop Study

Northern Geo would carry out research in order to review existing mapping, test holes, slope failures, slides and any slope inclinometer information, where available in the area. A report of the findings would be provided summarizing the existing available information and potential future slope failure risk assessment, based on these.

January 29, 2018

B) Slope Stability Assessment

Northern Geo proposes to advance one deep borehole at the site to a minimum depth of 180 m. The test hole would be drilled, logged and sampled using an air rotary drilling rig. A slope inclinometer would be installed, and then monitored periodically over several months to a year or more, in order to measure the magnitude and depth of possible deep seated slope movements and advise on overall slope stability potential. The installed Slope Indicator could also determine that there is little to no deep seated movement at the actual location of the proposed development; however, this data would also provide valuable historical information in the event of future ground movements.

C) Foundation Assessment

Northern Geo proposes to advance six shallow test boreholes; four to 3 m depth and two to approximately 8 m with geotechnical testing for this phase of the work.

A local drilling rig from Fort St. John would be used to drill the bore holes. Depending on soil conditions encountered, the estimated depth of the bore holes may vary. Northern Geo expects the field work would be completed in approximately one day (6 to 8 hours).

BC One Call would be notified and other underground utilities prior to undertaking the drilling.

Due diligent care would be exercised to avoid damaging any existing utilities, however, we would still depend upon the accuracy of the utility locates and other information provided to us.

The boreholes will be logged and sampled by a representative of Northern Geo. All soil samples including Standard Penetration testing (SPT's) and undisturbed Shelby Tube samples and other representative soil samples would be returned to our laboratory for moisture content, soil classification tests, grain-size analyses, unconfined strength tests and water soluble sulphates and other tests, as required.

Upon completion of the field work, Northern Geo will prepare geotechnical reports summarizing the findings of the field and laboratory work, soil stratigraphy, groundwater conditions and slope inclinometer information, and provide geotechnical recommendations for the proposed site development including foundation recommendations, slope stability and setback recommendations, site preparation, comments and recommendations on site drainage, trenching of utilities, backfill and compaction specifications, as required. Northern Geo will prepare three separate reports for each phase of the work or one report encompassing all phases of the work. If a Slope Indicator is installed at the site as described above, it would be necessary to set up a monitoring schedule so that Northern Geo staff could monitor the installation and return the data to the Client. Along with a plot of the data, interpretation of the data and recommendations on further reading frequency would also be provided.

Testing or assessment of soils with respect to environmental considerations is outside the scope of this proposed geotechnical assessment.

COMPANY OVERVIEW AND QUALIFICATIONS

Northern Geo's operations offer full-service solutions to clients throughout British Columbia and Northern Alberta. We are dedicated to the consistent achievement of industry-leading standards of excellence in consulting, including:

- Geotechnical engineering
- Materials engineering
- Testing and inspection
- Infrastructure and civil projects

With ten (10) locations in British Columbia, the company can draw on its experienced local managers and geographical reach to support the needs of clients, regardless of project size and complexity. Northern

January 29, 2018

Geo's depth of resources allows us to provide you with innovative solutions engineered to fit perfectly with your business challenges.

Our ability to attract and retain highly educated, trained and dedicated professionals enables Northern Geo to meet the diverse needs of clients. The company supports the development of its staff through training opportunities, the latest technological tools and interoffice exchange of information.

ESTIMATE OF FEES

Northern Geo's estimate of fees is provided in three parts as Table One. The estimate of fees is based on the information available to Northern Geo at the time of preparation of this proposal. If extremely poor ground conditions are encountered and deeper boreholes are required, Northern Geo will contact the Client for authorization prior to deepening the test boreholes. The estimate of fees also assumes all hours at regular time rates. Overtime rates may apply to hours outside of 8:00 to 17:00 Monday to Friday.

RESUMES OF KEY SENIOR PERSONNEL

Mike Robinson Operations Manager

Mr. Robinson has been involved as a civil engineering technician in various projects through north-eastern British Columbia, Vancouver Island and the Lower Mainland for 16 years. These projects have included performing proctor tests and compaction testing on various types of fill, from plastic clay to well graded crushed aggregate, in an assortment of residential subdivisions and roads, commercial and industrial construction sites, and oil field plant sites. Other work has included concrete testing and quality control and assurance from residential to industrial sites, high-rise office towers, airports and rapid transit sky trains, asphalt testing and design, emulsion and cutback testing, laboratory and field soil testing. In addition, Mr. Robinson's experience extends to construction monitoring and quality control/assurance services for a wide variety of projects, including excavation and backfill supervision, landslide repair, aggregate crusher product at rock and gravel quarries, installation of driven steel piles and cast-in-place concrete piles and septic envelope design. Mr. Robinson has also been involved extensively with Municipal and Ministry road investigation/design, construction supervision and construction materials testing in North-eastern British Columbia for the past 8 years.

David Neitsch, P.Eng. Senior Geotechnical Engineer

Mr. Neitsch has extensive geotechnical engineering, field construction monitoring, soils and materials testing experience working in Alberta and British Columbia over the last 22 years. Since 2000, he has worked out of Edmonton, AB and Kelowna, BC involved in many field projects from on-site inspection, testing and reporting on several highway slide repair jobs to quality control and quality assurance testing and management of landfill construction to extensive test drilling programs. He has worked up in the developing oilsands mining area at Fort McMurray managing a materials testing office. Prior to working out of Northern Geo's Fort St. John office in 2009, Mr. Neitsch has carried out geotechnical engineering consulting work in the Kelowna and Okanagan Valley area since 2007. He was the geotechnical consultant for the construction of the Turtle Lake Dam, earth filled reservoir, southeast of Kelowna in 2007 and 2008.

David Neitsch has experience with numerous geotechnical engineering investigations and reports on both residential and commercial developments in the interior of British Columbia providing foundation design for both shallow and deep foundations, slope stability issues and remediation work, soft soils and swelling clay sites. Mr. Neitsch is a specialist in geotechnical construction inspection, contract supervision, field engineering including quality assurance and control (QA/QC) and field construction trouble-shooting. He has worked successfully with many clients and contractors on a variety of projects. He has also supervised all types of geotechnical drilling, including the installation of slope inclinometers.

January 29, 2018

TABLE ONE
ESTIMATE OF FEES

PART A) DESKTOP STUDY

RESEARCH – allow about 1 day	\$1500
REPORT PREPARATION	\$1000
TELEPHONE, FAXING, COMPUTER - 3% of fees	\$75
ESTIMATED TOTAL + GST	\$2575.00

PART B) SLOPE STABILITY ASSESSMENT

LOCATES (includes BC One Call, private or public locators, if necessary)	\$500
DRILLING SUBCONTRACTOR(S) – see attached quote	*\$30,000
FIELD WORK (includes logging and sampling test holes, slope inclinometer installation and initial measurements)	\$5000
SLOPE INCLINOMETER CASING & PROTECTIVE HOUSING	\$9000
LABORATORY TESTING, includes moisture contents, Atterberg Limits (~4), Hydrometers (~4), Unconfined compressive strength tests (~4) Other – sulphates, chlorides, pH, Resistivity, as required	\$3000
REPORT PREPARATION (includes soil logs, plan & recommendations)	\$4000
TELEPHONE, FAXING, COMPUTER - 3% of fees	\$1545
ESTIMATED TOTAL + GST	\$53,045.00

*If the Client does not request that the subcontractors bill the Client directly, a 15% surcharge will be applied. The above quote does not include future slope inclinometer monitoring costs.

AT THE TIME OF WRITING THIS PROPOSAL, NO FIRM DRILLING QUOTES HAVE BEEN RECEIVED BY NORTHERN GEO, THEREFORE, PART B OF THIS ESTIMATE SHOULD ONLY BE USED FOR DISCUSSION PURPOSES AT THIS POINT.

PART C) FOUNDATION ASSESSMENT

	\$500, contingent on timing of the work with part B
LOCATES (includes BC One Call, private locates, if necessary)	
DRILLING SUBCONTRACTOR(S)	*\$2000
FIELD WORK (includes logging and sampling test holes, travel, etc.)	\$1200
LABORATORY TESTING, includes moisture contents, Atterberg Limits (~3), Hydrometers (~2), Unconfined compressive strength tests (~2) Other – sulphates, chlorides, pH, Resistivity, as required	\$1500
REPORT PREPARATION (includes soil logs, plan & foundation recommendations)	\$2500
TELEPHONE, FAXING, COMPUTER - 3% of fees	\$231
ESTIMATED TOTAL + GST	\$7931.00

*If the Client does not request that the subcontractors bill the Client directly, a 15% surcharge will be applied.

The above estimate of fees assumes mobilization (travel), field drilling and sampling work only. Any delays due to site access, work permits, etc. would be at hourly rates. It is recommended that a contingency amount of approximately 15% of the estimated total cost be provided in the event of construction delays due to adverse weather conditions, overtime work, problematic conditions and unforeseen circumstances beyond Northern Geo's control.

January 29, 2018

On-going monitoring of the Slope Inclinator and reporting results would be invoiced to the Client on an as required, hourly basis. Discussions, attendance at meetings and other Client requests would also be charged at current hourly rates.

Northern Geo would like to thank you for the opportunity to submit this cost estimate. If you have any questions regarding this cost estimate, or if we can provide any additional information, please contact one of the undersigned below at the Fort St. John office directly at (250) 261-6615.

Yours truly,

Northern Geo Testing & Engineering Ltd.
A Metro Testing Laboratories Ltd. Company


David Neitsch, P. Eng.
Senior Geotechnical Engineer

Nov. 23/09


for Mike Robinson
Operations Manager

January 29, 2018

Appendix 3

Stakeholder Consultation

Ministry of Environment – Steve McIvor

The Lookout site is in hunting area – basically anything outside of municipal boundaries is hunting area.

The Lookout is located in Management Unit 734

Deer-Nov 1

Moose-Aug 15

Elk-Sept 1

Black bear-Aug 15-Nov 15, Apr 1-June 15

The Regional District can apply for a “No-Shooting” zone to be applied to the area however; Steve did not think that there was a danger issue because of the close proximity to the City limits.

Ministry of Environment – Steve Fraser

Ministry has no concerns about the project

First Nation Consultation – Erma Stanonik 250-785-0612 ext 224

Trish Morgan met with the Treaty 8 Dane-zaa Beaver Language Authority. The elders were in support of the project and the design. They indicated that if the project goes ahead they would likely be interested in working with the Regional District in the future by providing First Nations cultural and historical information as part of the interpretive information incorporated into the project.

Northeast Invasive Plant Committee

Dalmation Toadflax – NEIPC Plan says all sites will be managed – there is an issue with the large site found this year at the Fort St. John Lookout. Bio control agents were released in the centre of this large infestation on very difficult terrain while strategies to eliminate the site are investigated. Note the bio control has been very successful in other parts of the province.

Carignan, Gaetane D ILMB:EX - Gaetane.Carignan@gov.bc.ca

This is probably a side issue, but I know that the lookout has a yellow-toadflax problem (one of the 12 most unwanted weeds in the Peace). Steph and I treated it with bio-control last year (we released special, expensive bugs on it). This was due to the steep slopes being too hazardous to allow for spraying herbicides. Developments in this area should take measures to control further spread. Also, we'd hate to lose our population of expensive bugs for no good reason, so hopefully nobody will go spray a bunch of chemical without first consulting us and giving us a chance to get our bugs back.

January 29, 2018

Fort St. John Visitor's Information Centre – Deanna Hill, Visitor Services Coordinator

From the Visitor Centre's perspective - I think it would be fabulous to have a park at the Lookout! We send visitors out there quite often in the winter and summer to see the awesome view. However, we always have to warn them about the sometimes rough road and to take care around the edge. Any upgrades or safety developments would be welcome.

January 29, 2018

Appendix 4

Community Check-In (February 17, 2010)

Advertising for the event as follows:

Energeticcity.ca
Feb. 13th to Feb. 17th, 2010

CBC
Emailed to the CBC North website for their community events section

Alaska Highway News
Thursday, Feb. 16th

Northeast News
Thursday, Feb. 11th

The PRRD website posted the day and time

Moose FM
Press Release sent out

PRRD emailed electronic invites to various stakeholders for distribution to membership

Welcome to the
Peace River Regional District

Peace Valley Lookout Community Check-In

The Peace River Regional District (PRRD) is undertaking a feasibility study to guide their decision regarding acquisition of park land, development of park facilities and a lookout and projections for potential capital and costs related to construction and on-going maintenance for the Peace Valley Lookout site.

Community Check-In Purpose...

- Inform rural and Fort St. John residents as well as surrounding area stakeholders about projects happening in their area
- Gain local knowledge of the Lookout area
- Gather input on significant themes / concepts for the Lookout
- Gather input on marketing opportunities and benefits of creating a Regional Park

We Need your Input...

- Please provide comments on spaces defined on project boards
- Please vote for your favourite theme with red and green dots
- Please talk to PRRD staff and Focus representatives about your concerns, experience and vision for the Lookout site



You Could Win!

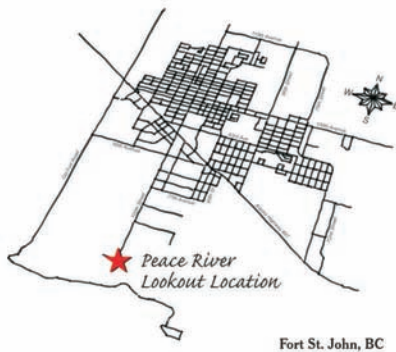
Please fill out an exit survey and have your name entered into a draw for a Winter Vehicle Emergency Kit!

Peace Valley Lookout

Welcome



FOCUS
Engineering • Construction • Planning



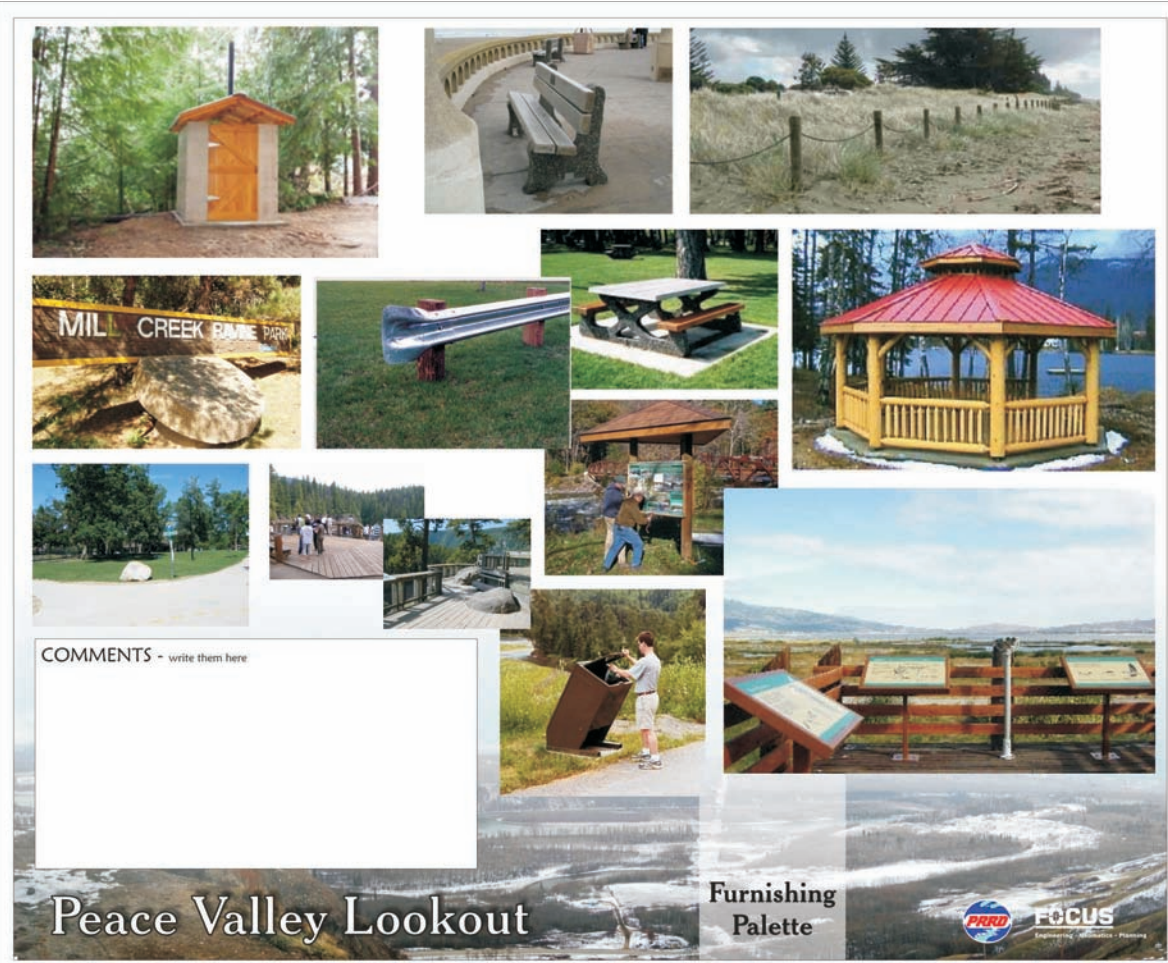
Peace Valley Lookout

Context



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January 29, 2018



PHASE ONE

Preliminary Site Assessments	\$2,575.00
Geotechnical Desktop Study	\$10,045.00
Environmental Site Assessment	\$10,045.00
TOTAL	\$12,620.00

Based on the Preliminary Geotechnical and Environmental results, the following costs could include:

Geotechnical Slope Stability	\$53,045.00
Geotechnical Foundation Assessment	\$7,931.00
Environmental Remedial Options Report	\$6,320.00
Environmental Remediation & Reporting	\$270,625.00
TOTAL	\$337,921.00

TOTAL POTENTIAL COSTS FOR PHASE ONE - \$350,541.00

PHASE TWO **\$212,908.00**

Includes:

- Engineering Design Fees
- Drainage
- Site Furnishings including:
 - trees (windrow to screen neighbours)
 - waste receptacle (bear proof)
 - guard rail
 - boulders
 - entrance sign
 - concrete pad for picnic tables
 - picnic tables
 - washroom facilities
 - lighting

PHASE THREE **\$194,978.00**

Development of Parking Lot Including:

- grading
- subbase preparation
- base gravels

PHASE FOUR **\$153,352.00**

Includes:

- Finish Grading (grass area)
- Topsoil Placement
- Grass Seed
- Parking Lot Asphalt Surfacing
- Paving Stone Staging Area
- Site Furnishings including:
 - pipe and chain fence

PHASE FIVE **\$114,027.00**

Includes:

- Shale Pathway
- Trees
- Shrub
- Wood Deck (2)
- Site Furnishings including:
 - interpretive signs
 - gazebo
 - benches
 - bollards
 - kiosks

COMMENTS - write them here

Peace Valley Lookout

Phasing and Cost Estimates

PRRD **FOCUS**
Engineering • Construction • Planning

January 29, 2018

February 17th Peace River Lookout Survey Results

Questions	Results
1. Check where you currently live: • Electoral B • Electoral C • In Fort St. John • Other	0 4 8 3
2. Do you think the proposed concept for the Peace Valley Lookout accommodates all the current uses? • Yes • No What uses do you believe need to be accommodated?	9 7 ▪ Closed gazebo with heating and stargazing. Keep it simple. The current plan is too expensive and complex. Less will do. ▪ Cement barracades at crest of hill. Gravel ▪ Aesthetic view immediately below site ▪ Indoor heated lookout – like we do sitting in our vehicle ▪ I think the parking lot should still overlook a portion of the ridge. It is cold here and barriers can be built closer to the edge ▪ Historical photos and info of the srea, extension to the FSJ walking trails ▪ I would like to sit in my vehicle and see the river in winter (FSJ climate) ▪ Pictures of the old Fort ▪ A biking / walking trail from the city to the point ▪ Walking path to bottom of hill to Old Fort Road ▪ Advances in the new walking area, history of the area when and how it all come to be ▪ Sight-seeing and hiking access ▪ Just basic uses – anything too elaborate will be destroyed by vandals and anything wooden will be burned, vandalized or otherwise destroyed ▪ Not a good concept – viewpoint only ▪ Stargazing, sunrise / sunset vantage point, lunch stop, washroom, trash receptacle

3. How would you like the potential park to be funded? • A minimal tax increase across the entire region • Corporate donations • Provincial / federal funding • A combination of the options above • other	1 2 4 8 1
4. Other comments ▪ The area looks more natural without the park. It would encourage a bad type of tourism that may pollute and change animal habitat due to people population scaring them away ▪ No tax money, get volunteers and contractors, fix a road or street ▪ The visible garbage in at least three to five ravines must be covered over and re-seeded and re-shrubbed (i.e. low bush juniper) to look good all the time, not just in winter ▪ Power to viewing area, less parking, more park ▪ We like to sit in our heated vehicle and watch the sun rise and set on the river in the winter which is 6 months out of the year. We are there 30 min to 1 hour several days per month ▪ Build the parking lot along one half for parking right to the edge and of a path is needed, build it on the other half ▪ I believe this is a great use for this site. It would be nice to have it cleaned up ▪ This is not a popular site, make it safe and available. Please do not go overboard ▪ Fence bottom of hill to stop vehicles from driving up hill, clean garbage ▪ Xeriscaping instead of lawn ▪ Who and how will the maintenance be funded? Make all permanent structures wide enough for truckers to turn around easily ▪ It will be an asset to the Fort. St. John area to have a place that will be put to use for the right reasons ▪ It is about time ▪ Keep it simple and basic. Barricades that cannot be removed around the outside, pave the area and not much more ▪ Remove and extend to viewpoint. Compare revenues taken out of this country to what is put back. Heavy vehicles have pounded 100th street south into the ground. Highways, ICBC and provincial government could get themselves good press ▪ The current state of the lookout is almost perfect for the majority of current and potential users. Most of these people use it as a place to watch the sunrise, eat lunch, pick some wild Saskatoon berries in the midsummer or unwind before going home after work. The ideal upgrade for the area, in my opinion and my wife's is a basic cleanup, grade or pave the parking area and ring the edge with concrete barriers as those used along curves on a highway. For environmental and aesthetic reasons, toilets would be nice as well as some sort of garbage receptacle. Other than that, I feel that the area should be left much in its current layout, primarily because in the winter it is unlikely that many people will be keen to park away from the edge and walk the loop. The Fish Creek College trails serve that purpose very well and it is unlikely that active people that frequent the College trails will desert	

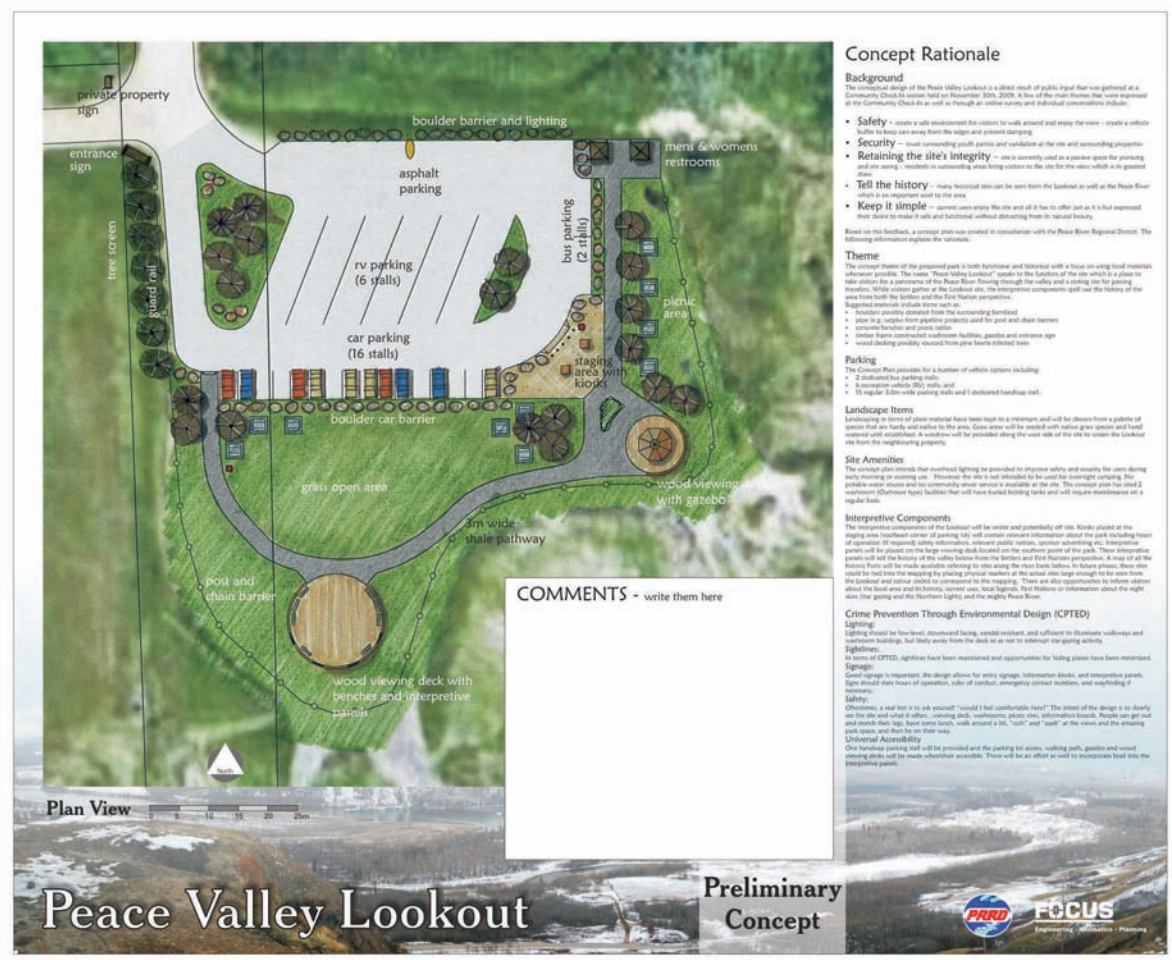
then for a 100m loop at the lookout and are likely to appreciate turning it into a carbon copy of the College trails trailhead. I generally support the KISS principle in regards to this development

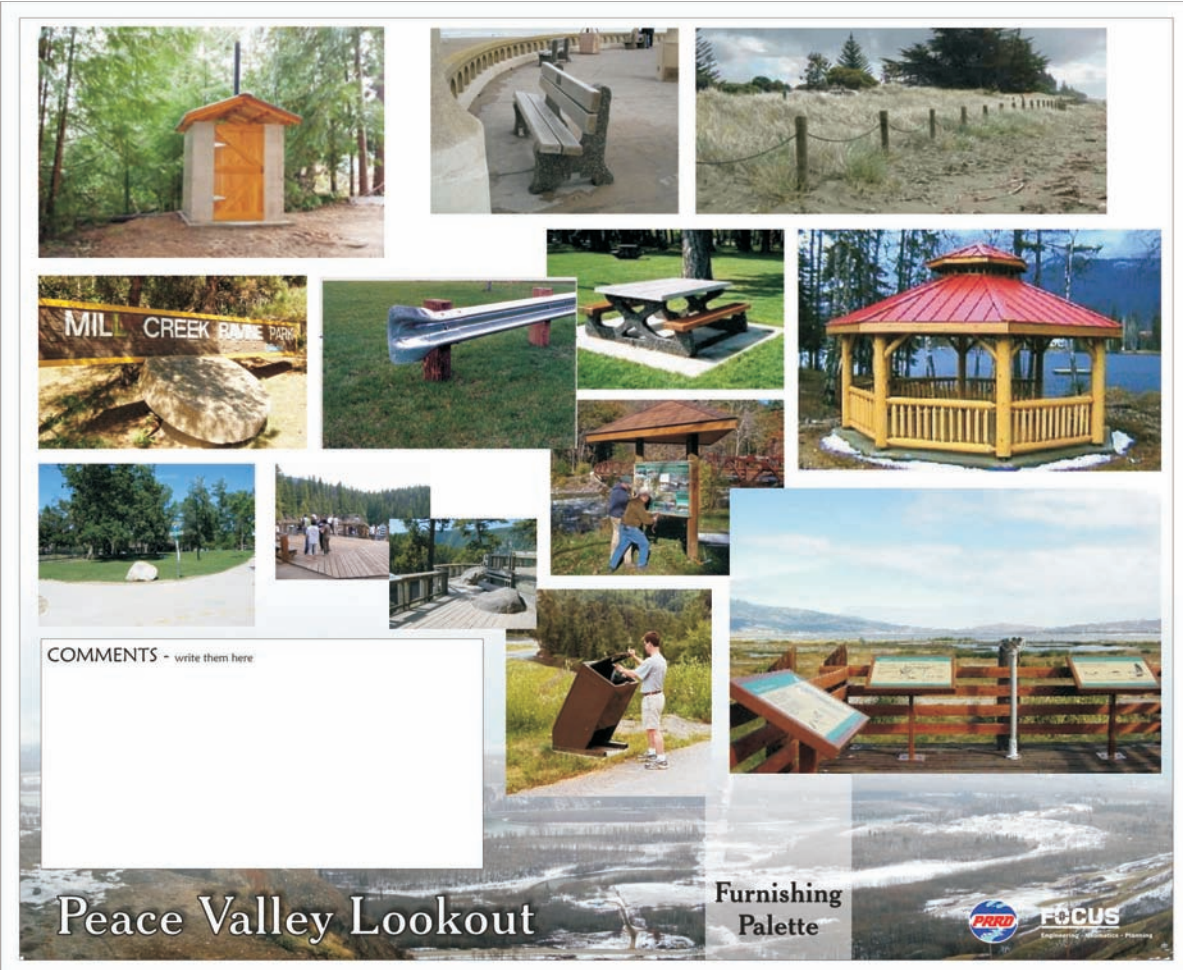
Shannon's List of Issues Discussed

- Residents of Old Fort concerned about dumping
- Worries about vandalism
- Need to keep vehicles from the edge
- Concrete outhouses good – less vandalism
- Can't see the view from the parking lot – perhaps move the parking closer to the edge so people don't have to get out of their cars in the winter
- A walking trail from the bottom to the top – water access
- A walking trail along 100th street
- ICBC / Highways involvement – paving of site and paving of 100th street
- Vandalism issues – perhaps should just be a simple lookout without interpretive panels
- Signs about garbage dumping fines – 1-800 number for reporting
- Tai-chi programming – club is interested in the area – less parking, more green space – make lots of green space because once it is developed, the natural space is gone for ever
- Possibly use fill from surrounding areas
- Possibly put power to viewing deck so there can be music and concerts
- Need bicycle racks

Appendix 5

Peace Valley Lookout – Concept Plan





Appendix 6

Cost Estimates and Phasing

PEACE RIVER LOOKOUT PLANNING FEASIBILITY STUDY					
Concept Plan					
PRELIMINARY CLASS 'C' COST ESTIMATE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	Geotechnical				
	Desktop Study	ea	1	\$2,575.00	\$2,575.00
	Slope Stability Assessment	ea	1	\$53,045.00	\$53,045.00
	Foundation Assessment	ea	1	\$7,931.00	\$7,931.00
2	Environmental				
	Environmental Site Assessment	ea	1	\$10,045.00	\$10,045.00
	Remedial Options Report	ea	1	\$6,320.00	\$6,320.00
	Remediation (debris removal and disposal)	ea	1	\$264,855.00	\$264,855.00
	Environmental Reporting	ea	1	\$5,770.00	\$5,770.00
3	finish grading (grass areas)	m ²	3,210	\$1.60	\$5,136.00
4	drainage	ls	1	\$20,000.00	\$20,000.00
5	topsoil	m ²	3,210	\$2.50	\$8,025.00
6	seed grass	m ²	3,210	\$2.15	\$6,901.50
7	parking lot - gravel surfacing includes grading, subbase prep & base gravel	ls	1	\$150,000.00	\$150,000.00
8	parking lot asphalt surfacing	m ²	3,073	\$20.00	\$61,460.00
9	shale pathway	m ²	461	\$8.00	\$3,688.00
10	trees	ea	26	\$450.00	\$11,700.00
11	shrubs	ea	20	\$30.00	\$600.00
12	paving stone	m ²	190	\$88.00	\$16,720.00
13	wood deck (2)	ls	1	\$50,000.00	\$50,000.00
14	interpretive signs	ea	4	\$1,000.00	\$4,000.00
15	gazebo	ea	1	\$10,000.00	\$10,000.00
16	waste receptacle (bear proof)	ea	2	\$1,150.00	\$2,300.00
17	benches	ea	7	\$1,000.00	\$7,000.00
18	bollards	ea	7	\$250.00	\$1,750.00
19	guard rail	lm	34	\$140.00	\$4,760.00
20	pipe and chain fence	lm	196	\$100.00	\$19,600.00
21	boulders	ea	35	\$300.00	\$10,500.00
22	kiosks	ea	2	\$1,200.00	\$2,400.00
23	entrance sign	ea	1	\$5,000.00	\$5,000.00
24	concrete pad for picnic tables	ea	10	\$500.00	\$5,000.00
25	picnic tables	ea	10	\$1,200.00	\$12,000.00
26	washroom facilities	ea	2	\$7,000.00	\$14,000.00
27	lighting	ea	1	\$6,000.00	\$6,000.00
	Subtotal				\$789,081.50
	20% Contingency				\$157,816.30
	Engineering Design and Inspection Fees				\$78,908.15
	TOTAL				\$1,025,805.95
Notes:					
1. This cost estimate has been prepared from a Conceptual Design using Unit Prices known to the Consultant for current projects of a similar nature. Whereas the actual construction prices at the time of tendering may change due to factors beyond our control, we do not accept liability for the completeness or accuracy of this estimate. Land costs and financing have not been included.					
2. The cost of exploration and development of water sources, treatment, and distribution have not been included in this estimate.					
3. Legal survey and construction services have not been included in this estimate.					
Maintenance Costs					
	744hrs/yr plus equipment and supplies				\$50,000/yr

January 29, 2018

PEACE RIVER LOOKOUT PLANNING FEASIBILITY STUDY					
PHASING OPTIONS					
Phase One					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	Geotechnical	ea	1	\$63,551.00	\$63,551.00
2	Environmental	ea	1	\$286,990.00	\$286,990.00
					\$350,541.00
Phase Two					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
43	Engineering Design	ea	1	\$78,908.15	\$78,908.15
4	drainage	ls	1	\$20,000.00	\$20,000.00
10	trees (windrow to screen neighbours)	ea	7	\$450.00	\$3,150.00
16	waste receptable (bear proof)	ea	2	\$1,150.00	\$2,300.00
19	guard rail	lm	34	\$140.00	\$4,760.00
21	boulders	ea	35	\$300.00	\$10,500.00
23	entrance sign	ea	1	\$5,000.00	\$5,000.00
24	concrete pad for picnic tables	ea	10	\$500.00	\$5,000.00
25	picnic tables	ea	10	\$1,200.00	\$12,000.00
26	washroom facilities	ea	2	\$7,000.00	\$14,000.00
27	lighting	ea	1	\$6,000.00	\$6,000.00
					\$161,618.15
Phase Three					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
7	parking lot - gravel surfacing includes grading, subbase	ls	1	\$150,000.00	\$150,000.00
					\$150,000.00
Phase Four					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
3	finish grading (grass areas)	m ²	3,210	\$1.60	\$5,136.00
5	topsoil	m ²	3,210	\$2.50	\$8,025.00
6	seed grass	m ²	3,210	\$2.15	\$6,901.50
8	parking lot asphalt surfacing	m ²	3,073	\$20.00	\$61,460.00
12	paving stone	m ²	190	\$88.00	\$16,720.00
20	pipe and chain fence	lm	196	\$100.00	\$19,600.00
					\$117,842.50
Phase Five					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
9	shale pathway	m ²	461	\$8.00	\$3,688.00
10	trees	ea	19	\$450.00	\$8,550.00
11	shrubs	ea	20	\$30.00	\$600.00
13	wood deck (2)	ls	1	\$50,000.00	\$50,000.00
14	interpretive signs	ea	4	\$1,000.00	\$4,000.00
15	gazebo	ea	1	\$10,000.00	\$10,000.00
17	benches	ea	7	\$1,000.00	\$7,000.00
18	bollards	ea	7	\$250.00	\$1,750.00
22	kiosks	ea	2	\$1,200.00	\$2,400.00
					\$87,988.00

STAGE 1 AND LIMITED STAGE 2 PRELIMINARY SITE INVESTIGATIONS: PEACE VALLEY LOOKOUT

Project number 20003 and 20003.001 | Reference number 030300386P



Submitted to:

Peace River Regional District
PO Box 810
1981 Alaska Avenue
Dawson Creek, BC
V1G 4H8

Prepared by:

Focus Corporation
420 – 301 Victoria Street
Kamloops, BC
V2C 2A3

March 2011



Engineering - Geomatics - Planning
www.focus.ca

January 29, 2018

EXECUTIVE SUMMARY

Focus Corporation (FOCUS), was retained by the Peace River Regional District (PRRD) to conduct a Stage 1 and Limited Stage 2 Preliminary Site Investigation (PSI) of a site legally described as the Northwest corner of N ½ of SW ¼, Section 19, Township 83, Route 18, W6M. The site is referred to as the Peace Valley Lookout and is located at the south end of 100th Street in Fort St. John, BC (the “Property”). The Property is currently unoccupied and used as a parking lot and lookout over the Peace River valley.

Based on the findings of the Stage 1 PSI, FOCUS identified one on-site Area of Potential Environmental Concern (APEC) that presents moderate potential to cause environmental impairment to the Property.

A Limited Stage 2 PSI was subsequently carried out to confirm the presence/absence of contamination in the subsurface soil at the Property in the vicinity of the identified APEC.

Based on the results of the Limited Stage 2 PSI findings, it is FOCUS’s opinion that further work is not required at this time.

This Executive Summary is provided solely as a brief summary of the key findings of the assessment and is not a complete summary of the conclusions. Please refer to the full contents of the report for all the findings FOCUS made during this Stage 1 and Limited Stage 2 PSI.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
1.0 INTRODUCTION	1
1.1 GENERAL	1
1.2 SCOPE OF WORK	1
2.0 SITE DESCRIPTION	3
2.1 LOCATION AND SITE DESCRIPTION	3
2.2 GEOLOGICAL AND HYDROGEOLOGICAL INFORMATION	4
2.3 CLIMATIC CONDITIONS	4
2.4 FLOOD POTENTIAL	4
2.5 HISTORICAL REVIEW	4
2.6 PREVIOUS REPORTS	5
2.6.1 <i>Peace Valley Lookout, Planning Feasibility Study, Focus Corporation, April 2010.....</i>	<i>5</i>
2.7 INTERVIEWS	5
2.8 LAND TITLE RECORDS	5
2.9 HISTORICAL LAND USE	5
2.10 PEACE RIVER REGIONAL DISTRICT (PRRD) RECORDS	7
2.11 PACIFIC NORTHERN GAS (PNG)	7
2.12 OIL AND GAS DEVELOPMENT	7
2.13 GROUNDWATER SEARCH RESULTS	7
2.14 BC ONLINE SITE REGISTRY	8
2.15 FEDERAL CONTAMINATED SITES INVENTORY	8
3.0 SITE VISIT	9
3.1 GENERAL	9
3.2 SITE STRUCTURES	9
3.3 SURROUNDING LAND USES	9
3.3.1 <i>North.....</i>	<i>10</i>
3.3.2 <i>West.....</i>	<i>10</i>
3.3.3 <i>East.....</i>	<i>10</i>
3.3.4 <i>South.....</i>	<i>10</i>
3.4 ABOVEGROUND STORAGE TANKS (ASTS) AND UNDERGROUND STORAGE TANKS (USTS)	10
3.5 FILL	10
3.6 HAZARDOUS MATERIALS, WASTES AND WASTE DISPOSAL	11
3.7 HAZARDOUS BUILDING MATERIALS	11
3.7.1 <i>Asbestos-Containing Materials (ACM).....</i>	<i>11</i>
3.7.2 <i>Polychlorinated Biphenyls (PCBs).....</i>	<i>11</i>
3.7.3 <i>Lead-Based Paint</i>	<i>12</i>
3.7.4 <i>Spill and Stain Areas</i>	<i>12</i>
3.8 WATER SUPPLY	12
3.9 SEWER SYSTEMS	12
3.10 SUMPS AND DRAINS	12
3.11 SUMMARY OF STAGE 1 PSI FINDINGS	13

TABLE OF CONTENTS (CONT)

4.0	FIELD INVESTIGATION.....	14
4.1	BOREHOLE DRILLING AND COLLECTION OF SOIL SAMPLES	14
4.2	SAMPLE SUBMISSION FOR ANALYTICAL TESTING	15
5.0	RESULTS OF LIMITED STAGE 2 PRELIMINARY SITE INVESTIGATION ..	15
5.1	SOIL CONDITIONS	15
5.2	ASSESSMENT STANDARDS	15
6.0	ANALYTICAL RESULTS.....	18
6.1	SOIL ANALYTICAL RESULTS	18
6.2	QUALITY ASSURANCE/QUALITY CONTROL – RESULTS	18
6.2.1	<i>Laboratory QA/QC</i>	<i>18</i>
6.2.2	<i>Field QA/QC</i>	<i>18</i>
6.2.3	<i>QA/QC Conclusion.....</i>	<i>19</i>
7.0	DISCUSSION.....	19
8.0	CONCLUSIONS	20
9.0	CLOSURE	21
	REFERENCES	22

Imbedded Tables

Table A – Summary of Property Description

Table B – Historical Land Use – The Property

Table C – Historical Land Use – Adjacent Sites

Table D – Groundwater Well Search

Table E – Surrounding Land Use – Adjacent Sites

Table F – APECs and PCOCs

Table G – Boreholes Locations and Purpose

Figures

Figure 1 – Site Location

Figure 2 – Site Plan and Surrounding Areas

Figure 3 – Borehole Locations

Figure 4 – Detailed Soil Analytical Results

Tables

Table 1 – Summary of Soil Analytical Results –Hydrocarbons

Table 2 – Summary of Soil Analytical Results – PAH's

Table 3 – Summary of Soil Analytical Results – VOCs

Table 4 – Summary of Soil Analytical Results – Metals

TABLE OF CONTENTS (CONT)

Appendices

Appendix A – Photographs
Appendix B – Aerial Photographs
Appendix C – Regional District Records
Appendix D – Oil and Gas Search Results
Appendix E – Groundwater Well Search
Appendix F – BC Online Search
Appendix G – Borehole Logs
Appendix H – Analytical Results
Appendix I – Environmental Report General Conditions

1.0 INTRODUCTION

1.1 GENERAL

Focus Corporation (FOCUS), was retained by the Peace River Regional District (PRRD) to conduct a Stage 1 and Limited Stage 2 Preliminary Site Investigation (PSI) for a site legally described as the Northwest corner of N ½ of SW ¼, Section 19, Township 83, Route 18, W6M. The site is referred to as the Peace Valley Lookout and is located at the south end of 100th Street in Fort St. John, BC (the “Property”). The Property is currently unoccupied and used as a parking lot and lookout over the Peace River valley.

The primary objective of the Stage 1 PSI is to assess the potential presence of contaminants, hazardous materials or waste materials of a deleterious nature that may affect subsequent use of the Property. Present and historical use of the Property and the surrounding area was reviewed to establish the potential for adverse impacts to the environmental condition of the Property. The primary objective of the Limited Stage 2 PSI portion was to assess the presence/absence of contamination in the subsurface soil at the Property in the vicinity of Areas of Potential Environmental Concern (APEC’s) identified in the Stage 1 PSI portion, compared with current applicable standards of BC Contaminated Sites Regulation¹ (CSR). It is the understanding of FOCUS that this Stage 1 and Limited Stage 2 PSI report is being completed for due diligence purposes prior to the redevelopment of the Property.

Authorization to proceed with the Stage 1 and Limited Stage 2 PSI was provided by Mr. Fred Banham, Chief Administrative Officer (CAO) of the PRRD, on March 1, 2011.

1.2 SCOPE OF WORK

The scope of work for this Stage 1 and Limited Stage 2 PSI included the following:

1. Conducting a visual observation of the Property and the surrounding areas to identify evidence and sources of possible contamination or environmental impairment, and to determine the presence and specific location of any critical environmental features;
2. Reviewing historical records such as aerial photographs and land titles to determine previous site occupancy and activities;
3. Investigating and collecting relevant information pertaining to environmental concerns on the Property and neighbouring site from such agencies as the City of Dawson Creek, the BC Ministry of Environment (MoE), Federal Contaminated Site Inventory (FCSI), West Coast Title Search, and Pacific Northern Gas (PNG);

¹ *Environmental Management Act* Contaminated Sites Regulation (“CSR”), B.C. Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 [including amendments up to B.C. Reg. 286/2010, effective October 4, 2010].

4. Reviewing available published geological and hydrogeological information for the general area of the Property;
5. Interviewing individuals who were and are familiar with the Property and adjacent sites to obtain background information on past and present operating practices;
6. Determining the location of on-site underground utilities with agencies such as Pacific Northern Gas, the City of Fort St. John, Telus and BC Hydro using the BC-One-Call service and conducting a private utility locate by Underworld Line Locating Ltd. of Fort St. John, BC;
7. Drilling a total of seven boreholes on the Property to a maximum depth of 3.05 m. The boreholes were advanced for the purpose of assessing the presence or absence of hydrocarbon and/or metals contamination in the soil in the vicinity of the illegal dumping areas on the Property;
8. Logging the soil stratigraphy, soil characteristics, and collecting representative soil samples from each borehole;
9. Submitting select soil samples collected from the boreholes for laboratory analyses of benzene, toluene, ethylbenzene, xylenes and styrene (BTEXS), volatile petroleum hydrocarbons (VPH), volatile organic compounds (VOC), extractable petroleum hydrocarbons (EPHs), light/heavy extractable petroleum hydrocarbons (LEPH/HEPH), polycyclic aromatic hydrocarbons (PAHs) and/or metals concentrations;
10. Preparing this Stage 1 and Limited Stage 2 PSI report that summarises the entire investigation and compares the laboratory data obtained on samples to applicable standards from the BC CSR.

The scope of work for the Stage 1 and Limited Stage 2 PSI generally meets the requirements described in the CSR; however, all report components (i.e., additional figures, legal survey) required for submission to the MoE have not been included. If this report is to be submitted to the MoE for review, FOCUS should be contacted to provide the additional documentation.

The protocol followed to complete this Stage 1 and Limited Stage 2 PSI also generally conforms to Canadian Standards Association (CSA) standard CAN/CSA Z-768-01 (R2006) and Z-769-00 (R2008) for completing Phase I and Phase II Environmental Site Assessments.

2.0 SITE DESCRIPTION

2.1 LOCATION AND SITE DESCRIPTION

A Location Map has been attached as Figure 1. Current details of the Property and the surrounding land uses are shown in Figure 2, attached. Selected photographs taken during the site visit are provided in Appendix A. A summary of the Property information is provided in Table A.

Table A: Summary of Property Description

Current Owner	Crown
Legal Description	Northwest corner of N ½ of SW ¼, Section 19, Township 83, Range 18, W6M
PID	N/A
Municipal Address	South end of 100 th Street, outside of Fort St. John city limits, British Columbia
Latitude and Longitude	56° 12' 34.49" North 120° 50' 48.76" West
Zoning	A-2 – Large Agricultural Holdings Zone as shown on the Official Zoning Map – Schedule A, Zoning Bylaw No. 1343, 2001, Map # 13, Peace River Regional District
Property Area	The Property is comprised of one irregular shaped lot, approximately 0.7 ha in area.
Building %	0 %
Landscape %	25% grass and shrub forest, 75% gravel cover
Property bounded by	The property is bounded by one residence to the west, shrub forest to the north, steep sloping grass and shrub forest to the east and south. The Old Fort Road and the Peace River are to the further south.
Slope	The ground surface slopes gently south on the gravel surface (approximately 1-2 %). The east edge of the property has a slope of approximately 60 % towards the east. The south edge of the property has a slope of approximately 60 % towards the south and the Peace River.
Other Information	The property is currently unoccupied and used as a parking lot and lookout over the Peace River Valley. The Property appears to be used for illegal dumping of items such as household appliances and old vehicles. The Property is not located within the Agriculture Land Reserve as outlined by the Agricultural Land Commission.

2.2 GEOLOGICAL AND HYDROGEOLOGICAL INFORMATION

The Agriculture Canada Report No. 42 “Soils of the Fort St. John-Dawson Creek Area, British Columbia” indicates that the surficial geology in the area of the Property consists of primarily till and Falher-Judah soils. Falher-Judah soils are usually developed from the transport of lacustrotill and glaciofluvial materials that were deposited in and around glacial lakes. The soils consist of a dark-grey colour with brown and are generally silty to clayey. They are moderately calcareous and weakly saline. The soils occur on strongly rolling, rigid and hummocky terrain and are found at elevations mainly less than 700-750 m above sea level. Falher-Judah soils are well-drained to moderately well and slowly to moderately pervious.

The Aggregate Potential Map (2007) indicates the bedrock in the area of the Property consists of Fine Grained (Glacio) Lacustrine sediments.

For the purpose of this Stage 1 and Limited Stage 2 PSI, the regional groundwater flow is assumed to follow the topography, and as such, is inferred to flow south towards the Peace River, located approximately 1.3 km south of the Property.

2.3 CLIMATIC CONDITIONS

Fort St. John, British Columbia, is subject to regional climatic conditions. Environment Canada maintains a database of Canadian Climate Normals or Averages that tracks climatic data for locations throughout Canada. Based on available information, Fort St. John has an average annual precipitation of 465 mm. Approximately 67% of the precipitation falls in the form of rain from May to September.

Fort St. John experiences an annual average temperature of 2.0 °C. Approximately 185 days have a maximum temperature less than or equal to 0 °C and the remaining 180 days have a temperature greater than 0 °C.

2.4 FLOOD POTENTIAL

The Property is located 1.3 km north of the Peace River. FOCUS reviewed the Designated Floodplain Map for Peace Region and the Property is not located in the designated floodplain area. Significant flooding of the Property is not likely to occur as the Property is approximately 160 m higher in elevation than the nearest water course, the Peace River.

2.5 HISTORICAL REVIEW

FOCUS conducted a historical review of the Property based on available aerial photographs, personnel interviews, and information available from both regional and provincial regulatory agencies. This section documents the findings of the review and provides a summary of historical areas of potential environmental concern, if any, for both the Property and the surrounding areas.

2.6 PREVIOUS REPORTS

2.6.1 Peace Valley Lookout, Planning Feasibility Study, Focus Corporation, April 2010

Focus completed a Planning Feasibility Study in April 2010. The study referred to the Property as being used for public recreation and the historical use may have included an unlicensed landfill and a dumping ground for United States Army jeeps.

2.7 INTERVIEWS

Mr. Erik Lachmuth, Ministry of Transportation, Fort St. John, BC.

Mr. Lachmuth was interviewed by a representative of FOCUS via telephone on March 3, 2011. He indicated that Ministry of Transportation (MoT) maintains the road (100th Street) up to the northern Property boundary. No information regarding the historical and present land uses of the Property is available from MoT.

Ms. Tammy McRae, Adjacent Resident & McRae Metallizing Services Ltd.

Ms. McRae was interviewed through telephone on March 15, 2011. She indicated that she has lived at the adjacent residence to the west of the Property for 15 years. She stated that the Property has been used for recreational activities and illegal dumping, such as, but not limited to, unknown liquids, garbage, appliances, furniture and vehicles. Ms. McRae indicated that this has occurred for at least the last 15 years. To the best of her knowledge, the Property has never been developed and there were/are no aboveground or underground storage tanks (ASTs/USTs) present on the Property. She also indicated that the Property might have been historically used as a landfill or dump.

Her residential property, located immediately west of the Property, is serviced with a lagoon. There is a one-bay shop on her property for a home-based metalizing business.

2.8 LAND TITLE RECORDS

A land title search conducted by West Coast Title Search indicated that the Property has always been owned by the Crown, therefore there are no land title records for the Property.

2.9 HISTORICAL LAND USE

The sequence of development of the Property and adjacent sites was summarized based on historical information, such as aerial photographs (dated 1950, 1967, 1976, 1979, 1981, 1986, 1996 and 2009), municipal records, land title search and interviews. Selected aerial photographs are provided in Appendix B.

TABLE B: Historical Land Use – the Property

Date	Land Use/Occupant	Information Sources
1950 - 2009	In the aerial photos dated from 1950 to 2009, the Property appears to be cleared but undeveloped. A road is visible to the north of the Property. According to West Coast Title Search, the Property has always been owned by the Crown. According to Ms. McRae, the Property has been undeveloped for at least the last 15 years. However, illegal dumping of domestic waste occurred on the Property and the Property might have historically been used as a landfill.	Aerial Photographs, Land Title Search, and interview

The review of historical land use suggests that the Property has been undeveloped since the 1950s. However, illegal dumping of domestic waste occurred on the Property and the Property might have historically been used as a landfill. As such, FOCUS considers historical use of the Property as an illegal dumping site have a moderate potential to cause environmental impairment to the Property.

TABLE C: Historical Land Use – Adjacent Sites

Direction from Property	Land Use/Occupants	Information Sources
North	In aerial photograph dated 1950, the site to the north appears to be undeveloped. Further northeast of the Property there appears to be a cleared section of land. In aerial photographs dated from 1967 through 2005, the sites to the north appears to be undeveloped and agricultural land.	Aerial Photographs
South	In aerial photographs dated 1950 through 2009, the area to the south appears to be undeveloped.	Aerial Photographs
East	In aerial photographs dated from 1950 to 1996, the site to the east appears to be undeveloped land.	Aerial Photographs

Direction from Property	Land Use/Occupants	Information Sources
West	In aerial photograph dated 1950, the site to the west appears to be undeveloped. In aerial photographs dated from 1967 through 1976, the sites to the east appears to be undeveloped and agricultural land. In aerial photographs dated from 1979 through 2009, there appears to be a residential building east of the Property. An inferred lagoon is visible approximately 200 m west of the Property.	Aerial Photographs

FOCUS considers the historical use of the sites to the north, east, south and west to present a low potential for environmental impairment to the Property.

2.10 PEACE RIVER REGIONAL DISTRICT (PRRD) RECORDS

Information received from the Peace River Regional District (PRRD) indicated that the Property is zoned as A-2 Large Agricultural Holdings Zone according to the Peace River Regional District Zoning By-Lay No. 1343, 2001. The Property is not connected to sanitary or storm sewers, and is not serviced with municipal water. There are no records of any environmental concerns or fire department records on file. The Property has no permits or plans on file. There are no records of any fill, illegal dumping, or miscellaneous use of the Property on file. A copy of the search results supplied by the PRRD is included in Appendix C.

2.11 PACIFIC NORTHERN GAS (PNG)

According to the information provided by PNG, the Property has never been serviced with natural gas. The residence to the west of the property is serviced with natural gas.

2.12 OIL AND GAS DEVELOPMENT

FOCUS conducted a search of the Integrated Land Resource Registry for oil and gas facilities located within a 1 km radius of the Property. There are no pipeline right-of-ways or well sites within 1 km radius of the Property. A copy of the oil and gas facility search results has been included in Appendix D.

2.13 GROUNDWATER SEARCH RESULTS

The BC MoE Groundwater Section database contains records of seven groundwater wells located within a 1.5 km radius of the Property. Information of the groundwater wells identified in the search is summarized in Table D below. A copy of the groundwater well search result has been included in Appendix E.

Table D: Groundwater Well Search

Well Tag Number	Location	Distance from Property (m)	Well Use	Well Depths (m)	Within the Municipal Water Distribution Limits	Likelihood of being Affected by Contaminants Originated from the Property (if any)
80284	North	1,018	Private Domestic	92.4	No	Low
80278	North	1,198	Private Domestic	98.5	No	Low
46593	North	612	Private Domestic	137.2	No	Low
39966	Southeast	1,192	Unknown	36.6	No	Low
102681	Southeast	1,245	Private Domestic	12.2	No	Low
59676	Southeast	1,278	Private Domestic	29.9	No	Low
46054	Southeast	1,139	Unknown	33.5	No	Low

Based on the distance between the wells and the Property, the anticipated flow direction of groundwater, the soils typical of this region (i.e. silt and clay) and the low permeability of these types of soils, it is FOCUS's opinion that the groundwater wells are not likely to be affected by contaminants originating from the Property, if any.

2.14 BC ONLINE SITE REGISTRY

The BC MoE maintains a database called the Site Registry that contains environmental information pertaining to contaminated or potentially contaminated sites. The database can be searched based on geographic location for records such as previous environmental investigations, waste management permits and pollution abatement orders. A search conducted within a 0.5 km radius area surrounding the Property indicated that there are no sites listed on the registry. A copy of the Site Registry search result has been included in Appendix F.

2.15 FEDERAL CONTAMINATED SITES INVENTORY

The Federal Contaminated Site and Solid Waste Landfills Inventory Policy (2000) require custodian departments and agencies to establish and maintain a database of contaminated site for which they are responsible. This information is submitted at least once a year to the Federal Contaminated Site Inventory (FCSI). The Inventory has been available to the public since July 2002 and is maintained by Treasury Board Secretariat, Assets and Acquired Services Directorate. The database can be searched based on different criteria or map navigator. A search conducted for the Fort St. John area, indicated that there are no federal contaminated sites within 1km radius of the Property.

3.0 SITE VISIT

3.1 GENERAL

FOCUS completed a site visit on March 2, 2011. The site visit included a cursory review of the Property and inspection of surrounding sites. Photographs taken during the site visit have been included in Appendix A. The site details and surrounding land use are shown in Figure 2.

The Property is comprised of one abnormally shaped lot situated at the south end of 100th Street, outside of the Fort St. John city limits. The ground surface of the Property is gravelled and slopes very gently to the south. There is a steep embankment along the south and east property boundaries. Currently, the Property is unoccupied and mainly used as a parking lot for the lookout over the Peace River Valley.

3.2 SITE STRUCTURES

There are currently no structures located on the Property.

3.3 SURROUNDING LAND USES

Visible portions of adjacent sites surrounding the Property were also viewed by FOCUS during the site visit to identify land use and any activities that may have the potential to adversely affect the Property. Surrounding site observations are listed in Table E below:

TABLE E: Surrounding Land Use – Adjacent Sites

Direction from Property	Land Use/Occupants
North	100 th Street and an undeveloped shrub forest area.
Northeast	Mainly shrub forest with a ravine.
East	Mainly grassy shrub land, undeveloped, used for trash/vehicle dumping into the ravine.
Southeast	Mainly grassy shrub land, undeveloped, used for trash/vehicle dumping into the ravine.
South	Slope has been used for trash/vehicle dumping. Old Fort Road runs along the base of the bluff.
Southwest	Grassy shrub land and undeveloped. Slope has been used for trash/vehicle dumping.
West	Residential with a home-based business, McRae Metalizing.
Northwest	Agricultural field.

3.3.1 North

100th Street extends from the Property to the north towards Fort St. John. This road is maintained by the BC MoT. The area adjacent to the road is agricultural on the west side and shrub forest on the east side.

3.3.2 West

There is a residential property to the west of the Property with home-based business “McRae’s Metallizing Services Ltd.”. A single family dwelling and two other structures were visible. The structure that houses a vehicle bay/shop with some vehicles/trailers storage is approximately 180 meters from the Property. There is a transformer located on the power pole beside the house. There is a lagoon located on this site, located approximately 200 m west of the Property

3.3.3 East

There is a ravine located east of the Property. Numerous vehicles and household appliances have been abandoned on the slope of the ravine. No other structures were noted to the further east of the Property.

3.3.4 South

There have been numerous vehicles and household appliances dumped over the side of the embankment and down the slope. The Old Fort Road is located to the further south of the Property at the base of the embankment.

3.4 ABOVEGROUND STORAGE TANKS (ASTS) AND UNDERGROUND STORAGE TANKS (USTS)

Storage tanks can present an environmental concern if there is leakage into the surrounding soil or groundwater because of the condition of the tanks and associated piping, or if there is spillage during refilling. The age, condition, contents and relative location of tanks are factors used to assess the environmental risk presented by ASTs or USTs.

There was no evidence of USTs or ASTs present on the Property.

3.5 FILL

Fill from an unknown source has the potential to impact a site, if the soil originates from a property with a known CSR Schedule 2 industrial activity. Typically, fill originating from local commercial gravel pits presents a low potential for environmental impairment.

The Property has been covered with gravel. The origin of this gravel is unknown.

3.6 HAZARDOUS MATERIALS, WASTES AND WASTE DISPOSAL

Illegal dumping of domestic wastes and abandoned vehicles has occurred on or near the Property (on the steep slope to the east and south).

3.7 HAZARDOUS BUILDING MATERIALS

3.7.1 Asbestos-Containing Materials (ACM)

The BC Occupational Health and Safety Regulation defines an asbestos contain material (ACM) as a product containing one percent of asbestos or greater by weight. The presence of non-friable ACMs (bound fibres), such as floor and ceiling tiles, are still in production, though their use in Canada has sharply declined since the mid 1970's. Most friable (easily pulverized) products were also withdrawn from the Canadian market in the mid 1970's and were generally commercially unavailable by 1982. However, some products remained on the shelf and were used in the construction of buildings and homes for several years thereafter. It was not until 1985 that the Hazardous Products Act restricted the use of ACMs.

ACM may become a health concern if the materials deteriorate or are disturbed and the asbestos fibres become airborne and are subsequently inhaled. If suspect ACM are disturbed during any renovation or demolition work at the Property, a complete asbestos survey (which would include sampling of any suspect ACM) should be conducted prior to the disturbance of these materials in order to prepare and plan for any required ACM removal, as per Worker's Compensation Board (WCB) regulations. Additionally, ACMs that are deteriorated or damaged need to be managed according to WCB regulations.

There have never been any buildings constructed on the Property. Therefore, FOCUS considers the potential for ACMs, as part of a structure or building, being present on the Property to be low. EWD notes that assessment of the potential for ACMs in municipal waste falls outside of the scope of work for this Phase 1 ESA.

3.7.2 Polychlorinated Biphenyls (PCBs)

The past use of PCBs in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors was common. The federal Environmental Contaminants Act, 1976, prohibited the use of PCBs in heat transfer and electrical equipment installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980. However, a widely used alternative to PCBs is naphenic mineral oil. Mineral oil transformers were sometimes contaminated with PCBs during manufacturing or maintenance activities. Electrical equipment taken out of service should be checked prior to disposal and any found or suspected to contain PCBs should be handled and stored as required by the Hazardous Waste Regulation².

² Environmental Management Act, Hazardous Waste Regulation (HWR), BC Reg. 63/88, deposited 1988/02/18, O.C. 268/88, effective 1988/04/01, (includes all amendments up to BC Reg. 63/2009, effective 2009/04/01).

There are no transformers present on or near the Property. FOCUS considers the potential for PCBs being present on the Property to be low.

3.7.3 Lead-Based Paint

In 1976, the Hazardous Products Act restricted the content of lead in exterior paints to 0.5% by weight. However, some products remained on the shelf and were used in the construction of buildings and homes for several years thereafter. This level was later amended in April of 2005 to contain 0.06% by weight of lead in paint. Most interior and exterior paints produced prior to the late 1960s contain significant amounts of lead which, if disturbed, may pose a health risk to the public, especially young children and pregnant women. Generally, lead based paints manufactured after 1980 did not contain significant amounts of lead. However, exterior paints produced before 1992 still have the potential to contain significant amounts of lead. Exterior paints produced after 1992 were virtually lead-free.

Lead paint may become a health concern if the materials deteriorate or they are disturbed during any renovation or demolition work. Potential lead based paints that are deteriorated or will be disturbed through demolition or renovations should be identified and managed in accordance with WCB regulations.

There have never been any buildings constructed on the Property. Therefore, FOCUS considers the potential for lead based paint, as part of a structure or building, being present on the Property to be low. EWD notes that assessment of the potential for lead based paints in municipal waste falls outside of the scope of work for this Phase 1 ESA.

3.7.4 Spill and Stain Areas

The ground surface on the Property was snow covered at the time of the site visit; therefore, a visual inspection of the ground surface was not possible at the time of the site visit.

3.8 WATER SUPPLY

The Property is not serviced with municipal water system.

3.9 SEWER SYSTEMS

The Property is not serviced with sewer systems.

3.10 SUMPS AND DRAINS

Separators and floor drains can present a potential environmental concern if there are cracks or breaks in the separator or piping. Cracks and breaks can be caused by shifting of the building due to expansive clays or inadequate packing of fill material during construction. Floor drains and separators can act as a direct conduit to the subsurface for chemicals (i.e., spills). Additionally, separators can leak separated waste oil and grease into the subsurface.

EWD did not find evidence of buildings constructed on the Property. Therefore, the potential for sumps or drains to have been historically present at the Property is low.

3.11 SUMMARY OF STAGE 1 PSI FINDINGS

Based on the assessment of information compiled during the investigation, FOCUS has identified the following Areas of Potential Environmental Concern (APECs) and associated Potential Contaminants of Concern as listed in Table F and outlined in Figure 2.

Table F: APECs and PCOCs

APEC ID	APEC	Contaminant Type	PCOCs in Soil	PCOCs in Water	Potential Concern
A (On-Site)	Illegal dumping of municipal wastes (garbage, appliances, furniture, and etc.) and abandoned vehicles for numerous years	Gasoline, Diesel, metals, coolant, municipal waste	BTEXS, VPH, LEPH/HEPH, PAHs, metals, VOCs and glycol	BTEXS, VPHw, VHW ₆₋₁₀ , EPHW ₁₀₋₁₉ , LEPHw, PAHs, Dissolved Metals, VOCs and glycol	Moderate
B (Off-Site)	Home-based metallizing business and lagoon	Gasoline and Diesel, coolant, sand-blasting waste and grey water	BTEXS, VPH, LEPH/HEPH, PAHs, VOCs and metals	BTEXS, VPHw, VHW ₆₋₁₀ , EPHW ₁₀₋₁₉ , LEPHw, PAHs, nitrites, nitrates and Dissolved Metals	Low

Notes:

BTEXS: benzene, toluene, ethylbenzene, xylenes and styrene.

VPH: volatile petroleum hydrocarbons with the exception of benzene, toluene, ethylbenzene and xylenes.

LEPH/HEPH: light extractable petroleum hydrocarbons and heavy extractable petroleum hydrocarbons, respectively.

PAHs: polycyclic aromatic hydrocarbons.

VPHw: volatile petroleum hydrocarbons in water with the exception of benzene, toluene, ethylbenzene and xylenes.

VHW₆₋₁₀: volatile petroleum hydrocarbons.

EPHW₁₀₋₁₉: light extractable petroleum hydrocarbons in water.

LEPHw: light extractable petroleum hydrocarbons in water, corrected for PAHs.

VOCs: volatile Organic Compounds.

1. APEC A is the dumping of municipal waste and vehicles at the Property. Municipal wastes (garbage, appliances, furniture and etc.) and abandoned vehicles have been illegally dumped on or near the Property. There is also a potential for the site to have been used as an unlicensed dump in the past. FOCUS considers the potential for environmental impairment to the Property from APEC A to be moderate.
2. APEC B is a home-based business McRae Metallizing Services Ltd and the associated lagoon. This business involves coating, sandblasting, painting and other oilfield services. Due to the small nature of this business and the distance of approximately

180 meters from the Property, FOCUS considers the potential for environmental impairment to the Property from APEC B to be low.

Based on the historical use of the Property it is EWDs opinion that an intrusive investigation should be conducted to determine if significant quantities of municipal waste or other types of waste is present in the fill at the Property. Soil samples should be submitted for analytical testing based on observations of fill type and field screening conducted as part of that investigation.

4.0 FIELD INVESTIGATION

FOCUS supervised the field investigation program which included locating underground utilities, supervision of drilling subcontractors, characterizing and logging soils encountered, collection of subsurface soil samples, and submission of soil samples for analytical testing.

4.1 BOREHOLE DRILLING AND COLLECTION OF SOIL SAMPLES

On March 04, 2011, seven boreholes (BH11-1 through BH11-7) were drilled on the Property using a truck mounted solid stem auger drill rig supplied and operated by Peace Drilling & Research of Fort St. John, BC. The boreholes were drilled to a maximum depth of 3.05 m below surface grade (bsg). The borehole locations are shown on the attached Figure 3 and the borehole logs are included in Appendix G.

Table G below summarizes the location of the boreholes and provides rational for their placement.

Table G: Borehole Locations and Purpose

Borehole / Monitoring Well ID	Location	APEC	Purpose
BH11-1 to BH11-6	Along the edge of the embankment at the south and west portions of the Property	A	Verify if municipal waste fill is present and to assess potential soil contamination associated with potential historical dumping.
BH11-7	Near the center of the site	A	Verify if municipal waste fill is present and to assess potential soil contamination associated with potential historical dumping.

During the drilling program, the 150 mm solid stem augers were advanced and then removed in 1.5 m lengths for soil sampling and logging. Soil samples were collected directly from the auger at approximately 0.75 m intervals or where the stratigraphy changed. Duplicate soil samples were obtained for field measurement of hydrocarbon vapour emissions (HVE) using a RKI Instruments Eagle Series portable multi-gas detector, calibrated to a hexane standard and

operated in the methane elimination mode. HVE concentrations from each sample are indicated on the borehole logs (see Appendix G). Selected soil samples were placed in laboratory supplied jars and stored on ice in coolers during transport under chain-of-custody to Maxxam Analytics Inc. (Maxxam) in Burnaby, BC, for analytical testing.

A total of 40 soil samples, including five blind duplicate soil samples for quality assurance and quality control (QA/QC) requirements, were collected. To minimize the potential for cross contamination, fresh nitrile sampling gloves were worn by FOCUS's field representative and soil collection tools were cleaned with distilled water for each new soil sample collected.

4.2 SAMPLE SUBMISSION FOR ANALYTICAL TESTING

All soil samples were submitted along with a Chain-of-Custody sheet to the Fort St. John depot of Maxxam on March 7, 2011 for testing at their CALA (Canadian Association for Laboratory Accreditation, former CAEAL, Canadian Association for Environmental Analytical Laboratories)-accredited laboratory in Burnaby, BC. Maxxam completed all laboratory analyses following methods approved by BC MoE. Two QA/QC duplicate soil samples were submitted for chemical analysis. The soil samples were tested for BTEXS, VPH, VOC, MTBE, EPHs, LEPH/HEPH, PAHs and/or metals concentrations.

Copies of the laboratory analytical reports are included in Appendix H and results have been tabulated in Table 1 through Table 4. Detailed analytical results are shown on Figure 4, attached.

5.0 RESULTS OF LIMITED STAGE 2 PRELIMINARY SITE INVESTIGATION

5.1 SOIL CONDITIONS

The general soil stratigraphy encountered at the Property consisted of a surficial layer of fill (i.e. sand and gravel) with a thickness ranging from 0.05 m to 0.17 m overlying the native soils. The native soils mostly consisted of silty clay or clay to the maximum of drilling depth of 3.05 m. Detailed description of the soil stratigraphy encountered at each borehole location is presented on the borehole logs attached in Appendix G.

5.2 ASSESSMENT STANDARDS

The analytical test results for all of the soil samples tested have been compared to standards contained in the following documents:

- *Environmental Management Act (EMA)*, Contaminated Sites Regulation (CSR), B.C. Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 [including amendments up to B.C. Reg. 286/2010, effective 2010/10/04].

The following MoE guidance documents were also used:

- Technical Guidance Document 1 (TGD1) – Site Characterization and Confirmation Testing, BC Ministry of Environment (MoE), last updated January 2009;
- Technical Guidance Document 3 (TGD3) – Environmental Quality Standards, BC Ministry of Environment, last updated February 2009; and
- Technical Guidance Document 6 (TGD6) – Water Use Determination, BC Ministry of Environment, July 2010 (effective February 1, 2011)

Current soil quality assessment standards are described in the CSR of the BC *EMA*. Schedules 4 and 5 of the CSR provide generic and matrix numerical standards, respectively, for the assessment and remediation of soils. Generic standards depend solely on land use and matrix standards are risk-based standards that depend on land use and a number of site-specific factors, for example, the use, if any, of groundwater at the site. In addition, Schedule 10 of the CSR contains generic numerical criteria that can be used to determine when a site has been remediated to meet government requirements. Schedule 10 standards are only used to provide remedial targets in relation to human health risks. In addition, effective January 1, 2009, Schedule 11 provides numerical standards for vapour which are specific to human health only. When applying Schedule 10 or 11 standards, further consideration must be given the ecological receptors by the responsible persons.

EPH₁₀₋₁₉ and EPH₁₉₋₃₂ (EPHs) are not regulated substances under the CSR, with the exception of non-aqueous phase liquid (NAPL) standards. Under the CSR, LEPH and HEPH are regulated. LEPH and HEPH are corrected values of EPHs that exclude PAHs. Being such, EPH concentrations are a more conservative value and will be reported equal to or greater than LEPH and HEPH results. EPHs are commonly analysed when PAHs are not identified as a PCOC due to the increase in cost of a LEPH and HEPH analysis. In recognition of the common industry practice to compare EPHs to LEPH and HEPH standards, the MoE has approved, on an interim basis, the equivalency of EPH, and LEPH and HEPH methods indefinitely. For the purpose of this assessment, FOCUS has used this equivalency.

The CSR Agricultural Land use (AL) soil standards, based on present zoning, are considered by FOCUS applicable to the Property. In addition, the Property is likely to be re-developed into a park area in the near future; therefore, the CSR Urban Park Land use (PL) soil standards are applied to the analytical data.

On February 1, 2011 the BC MoE approved TGD6 – Water Use Determination replaced the former TGD6 – Applying Water Quality Standards to Groundwater and Surface Water, last revised in October 2005. Under the new TGD 6, current and future water uses are evaluated separately to determine if drinking water use is applicable. The groundwater at the Property is not currently used for drinking. A search of the BC MoE Groundwater Section database indicates that there are no water wells located within a 0.5 km radius of the Property (please refer to Section 2.12 for more details). The closest water well, #46593, is located approximately 610 m north of the Property in an assumed upgradient direction. According to the lithology information obtained from the well report, well #46593 is overlain by clay soil

with a thickness of 12 m. Based on the range of published hydraulic conductivity values (Freeze and Cherry, 1979), a clay type soil typically has a saturated hydraulic conductivity in the range of 10^{-6} to 10^{-12} m/s, and is considered to have insufficient permeability to supply drinking water. The clay soil is also considered to be a confining geological unit (greater than the 5 m minimum thickness) to protect the deep aquifer typical of the region. As such, it is not likely any contamination identified in shallow soil would migrate vertically through the low permeability clay soils and impact the drinking water aquifer in the area. Therefore, for the purpose of this investigation the BC CSR Drinking Water (DW) standards are considered not to apply to the Property. However, if a legal instrument such as a Determination is required, the presence of clay with a thickness greater than 5 m would need to be verified.

Under the new TGD 6, if a site is located within a radial distance of 500 m from the ecologically active zone of a surface water body containing aquatic life, or there is the potential for contaminated groundwater to flow through preferential corridors that discharge directly to a surface water body containing aquatic life, aquatic life standards would apply. The nearest aquatic receptor is the Peace River located approximately 1.3 km south of the Property. However, a seasonal water course, the ravine, is located immediately east of the Property and connects directly with the Peace River. Therefore, for the purpose of this preliminary investigation, the CSR standards for the protection of freshwater aquatic life (AW) have been applied to the analytical data.

The Property is currently zoned as agricultural. As such, the BC CSR standards for Livestock Water (LW) and Irrigation Water (IW) do apply to the Property.

Therefore, based on this analysis, the applicable standards under CSR are summarized below.

Soils

The CSR Agricultural Land (AL) and Urban Park Land (PL) soil standards apply to the Property. Three site-specific factors of the matrix soil standards apply to the site. These are:

Human Health Protection

- Intake of contaminated soil (applies regardless of site use). Environmental Protection.
- Toxicity to soil invertebrates and plants (applies regardless of site use).
- Groundwater flow to surface water used by freshwater aquatic life.

Environmental Protection

- Toxicity to soil invertebrates and plants (applies regardless of site use).
- Livestock ingesting soil and fodder.
- Major microbial functional impairment.

- Groundwater flow to surface water used by freshwater aquatic life.
- Groundwater used for livestock watering.
- Groundwater used for irrigation.

The most stringent of the site specific factors was chosen to assess the analytical results.

6.0 ANALYTICAL RESULTS

6.1 SOIL ANALYTICAL RESULTS

A synopsis of the soil analytical results is as follows:

- All select soil samples analyzed for hydrocarbon concentrations are below the applicable CSR AL and PL standards.
- All select soil samples analyzed for metals contained metals concentrations below the applicable CSR AL and PL standards.

6.2 QUALITY ASSURANCE/QUALITY CONTROL – RESULTS

6.2.1 Laboratory QA/QC

FOCUS has reviewed the QA/QC reports generated by Maxxam. One soil Method Blank contained detectable arsenic concentrations. Two soil Spiked Blanks contained the recovery of cis-1-3 1,3-dichloropropene and trans-1,3-dichloropropene concentrations outside of the control limits of 60% – 140%. Maxxam stated that the overall quality control for the analysis met acceptable criteria. The remaining 138 QA/QC analytes did not exceed the set laboratory target range for the laboratory duplicate, spike tests or method blank. As such, there is approximately a 0.02% failure rate in Maxxam's QA/QC measurements. Based on this information, EWD considers the analytical results to be reliable.

6.2.2 Field QA/QC

RPD values between the samples and their blind duplicates were calculated as follows:

$RPD (\%) = 200 \times \frac{ABS(X - Y)}{(X + Y)}$ where

X = the concentration of the original sample

Y = the concentration of the blind field duplicate sample

Because analytical error increases near the RDL, an RPD calculation should only be applied where the concentrations of both samples are greater than 5 times the RDL; this is known as the Practical Quantification Limit (PQL).

Soil

The RPD's targets of the blind duplicate soil samples are 35% for inorganic constituents such as metals and salts and 50% for organic constituents such as BTEXS, VPH, EPH, LEPH/HEPH and PAHs. The RPD's targets are set by the lab variability target zones.

Two blind duplicate soil samples were submitted for analysis of BTEXS, VPH and MTBE. All calculated RPD's for blind duplicate samples submitted were below the PQL.

FOCUS considers the analytical results for hydrocarbons in soil to be reliable.

6.2.3 QA/QC Conclusion

Based on the results of the QA/QC program, FOCUS provides the following conclusions:

- The Maxxam laboratory quality assurance program has met FOCUS's quality control expectations; and
- The field QA/QC program has also met FOCUS's quality control objectives.

7.0 DISCUSSION

During the investigation boreholes were drilled along the south and east property boundaries where a steep embankment begins. The concern is that significant municipal waste or other type of waste were dumped at the edge of the embankment and later covered with clay or gravel fill, either through improvements to the lookout or grading that occurred over the years. During the drilling investigation a surficial layer of gravel fill was present on top of native soil. Significant waste fill was not encountered.

Soil sample BH11-2-1 contained a concentration of toluene and xylene equal to the detection limit. Laboratory blanks often have detectable concentrations due to improper cleaning of equipment or when a highly contaminated sample is analysed first. It is EWDs opinion that this result is well within the potential for laboratory error and is not significant.

Groundwater was not investigated in the limited Stage 2 PSI portion of this investigation. As soil contamination and significant municipal waste or other types of fill, other than a surficial layer of gravel, were not encountered; soil analytical data was below or at detection limits, all soil analytical data was below the CSR PL and AL use standards and clay soils were encountered; it is EWDs opinion that the potential for groundwater contamination to be present in a perched water table, if any, is low. Further, there is likely a significant vertical layer of clay present that would be protective of any deeper aquifer.

If there is a requirement to obtain a legal instrument in the future, such as a determination, EWD notes that soil vapour and groundwater may need to be assessed.

8.o CONCLUSIONS

FOCUS completed a Stage 1 and Limited Stage 2 PSI at the Property that included a review of the current and historical conditions for potential environmental concerns both on the Property and adjacent sites. A total of seven boreholes were drilled to a maximum depth of 3.05 m below surface grade to assess the subsurface soil quality in the close vicinity of the potential dumping areas on the Property. The following conclusions were made based on the findings of this investigation.

- The Property has been used for dumping of municipal wastes (garbage, appliances, furniture and etc.) and abandoned vehicles for a number of years. FOCUS considers the potential for environmental impairment to the Property from APEC A – illegal dumping to be moderate;
- One off-site APEC was identified from historical and current activities on the surrounding sites (McRae Metallizing Services). FOCUS considers the potential for environmental impairment to the Property from this APEC, to be low;
- Based upon the existing and future land use, FOCUS considers the CSR AL and PL soil standards are applicable to the Property; and
- Twelve soil samples, including two blind duplicate, were submitted to the laboratory for analysis of BTEXS, VPH, VOCs, EPHs, PAHs, LEPH and HEPH and/or metals concentrations. All concentrations were found to be below the applicable CSR AL and PL standards.

Based on the findings of this Stage 1 and Limited Stage 2 PSI, it is FOCUS's opinion that further work is not required at this time.

9.0 CLOSURE

Conclusions and recommendations presented herein are based on a visual site inspection and historical information that was reviewed at the time of this investigation. This report has been prepared for the use of Peace River Regional District and includes distribution as required for the purposes for which this assessment was commissioned.

The assessment has been carried out in accordance with generally accepted engineering practice. No other warranty is made, either expressed or implied. Engineering judgement has been applied in developing the recommendations in this report. Personnel with professional experience in investigations of this nature and who specifically conducted the investigations at this Property prepared this report. This report was completed by EWD Consulting Corp., a subsidiary of FOCUS, and reference should be made to the Environmental Report – General Conditions' attached in Appendix I that forms a part of this report.

This report was not prepared for submission for a legal instrument as defined under the British Columbia Contaminated Sites Regulation, and as such, soil vapour assessments were not included within the scope of work.

FOCUS trusts that this report satisfies your present requirements. Should you have any questions or comments, please contact our Fort St. John office at (250) 785-0660.

Respectfully submitted,

FOCUS Corporation

Prepared by:



Tannis Brown, B.Sc. A.Ag.
Environmental Scientist

Prepared By:



Jodi Fleming., DipLRM
Environmental Technologist

Senior Reviewed by:



Jeremiah Gladu, B.Sc., ASCT, A.Ag.
Environmental Scientist

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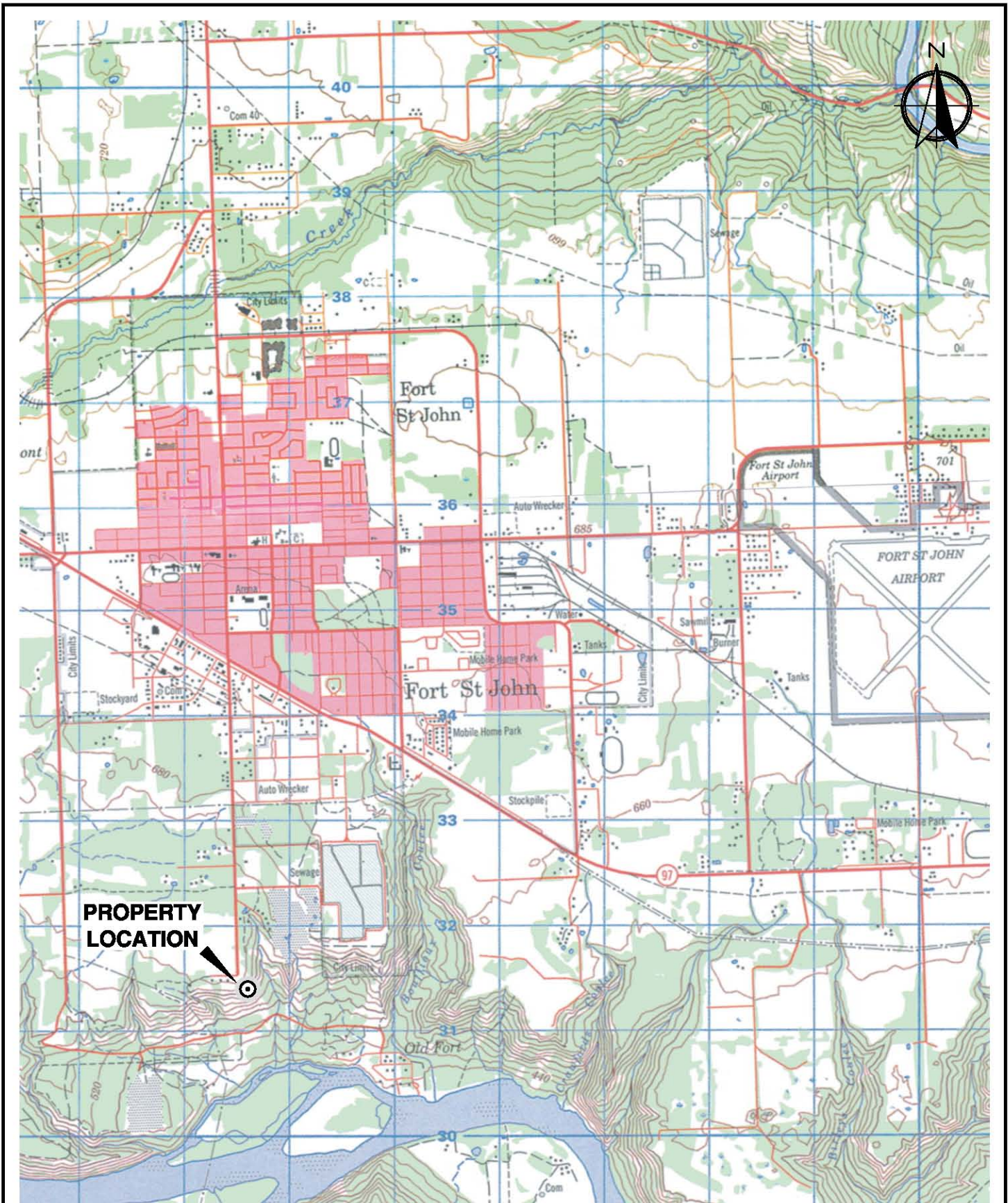
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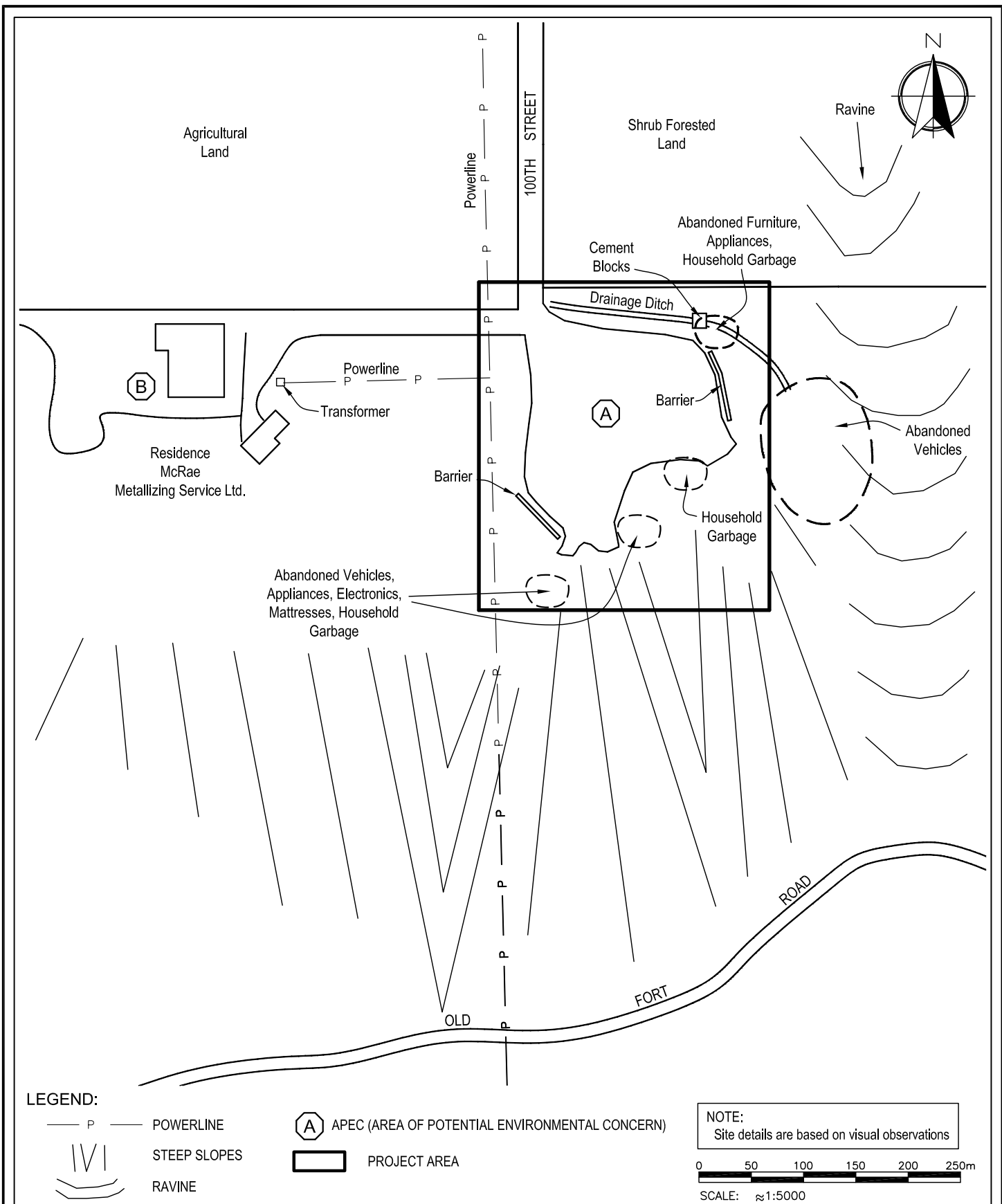
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Figures



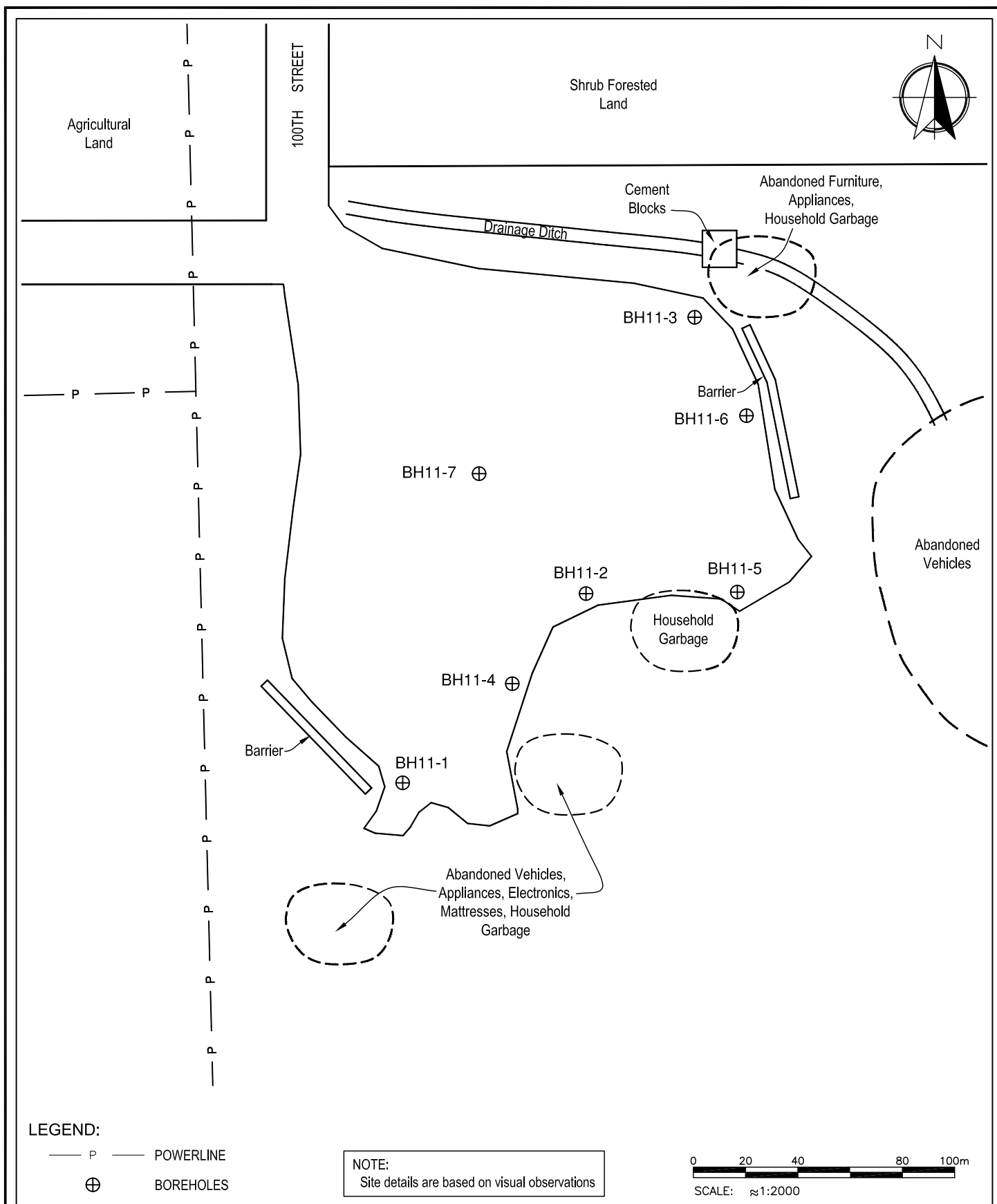
CLIENT: PEACE RIVER REGIONAL DISTRICT	FOCUS Kamloops #420-301 Victoria St. BC, V2C 2A3 Focus Surveys Ph. (250)374-5252 Engineering - Geomatics - Planning Fax (250)372-8336 www.focus.ca		
PROJECT: Stage 1 and Limited Stage 2 Preliminary Site Investigation Peace Valley Lookout	DATE: March 29, 2011	DRAWN BY: TP	CHECKED BY: TB
TITLE: PROPERTY LOCATION MAP	SCALE: 1 : 50,000	PROJECT NO.: 20003.001	CAD FILE NO.: 20003.001_Flg1
			DRAWING NO.: FIGURE 1

January 29, 2018



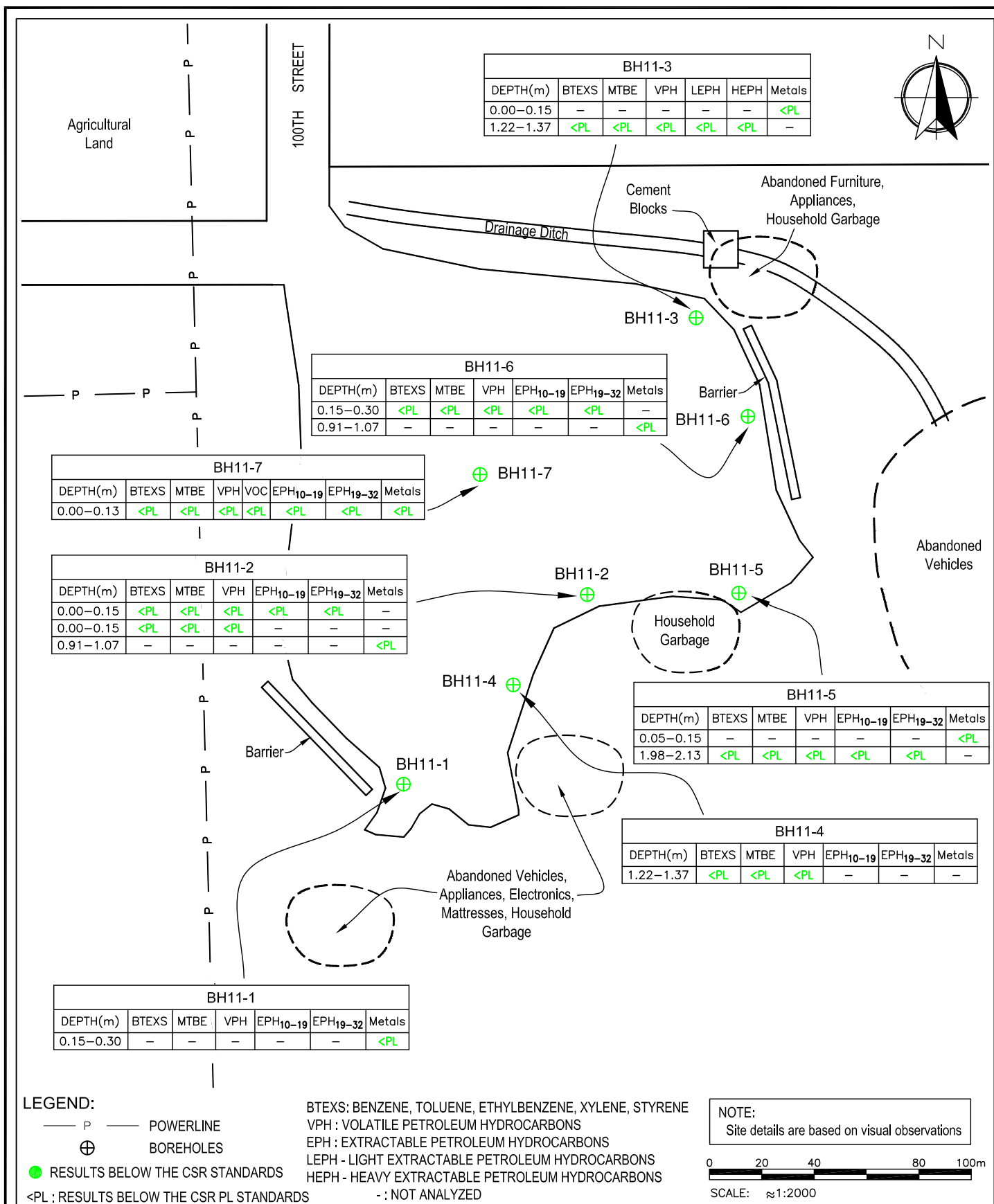
CLIENT: PEACE RIVER REGIONAL DISTRICT		FOCUS Focus Surveys Engineering • Geomatics • Planning Kamloops #420-301 Victoria St. BC, V2C 2A3 Ph. (250)374-5252 Fax (250)372-8336 www.focus.ca			
PROJECT: Stage 1 and Limited Stage 2 Preliminary Site Investigation Peace Valley Lookout					
TITLE: SITE PLAN		DATE: March 29, 2011	DRAWN BY: TP	CHECKED BY: TB	DRAWING NO.: FIGURE 2
		SCALE: ≈ 1: 5000	PROJECT NO.: 20003.001	CAD FILE NO.: 20003.001_Fig2	

January 29, 2018



CLIENT: PEACE RIVER REGIONAL DISTRICT		FOCUS Kamloops #420-301 Victoria St. BC, V2C 2A3 Focus Surveys Ph. (250)374-5252 Fax (250)372-8336 Engineering • Geomatics • Planning www.focus.ca		
PROJECT: Stage 1 and Limited Stage 2 Preliminary Site Investigation Peace Valley Lookout				
TITLE: BOREHOLE LOCATIONS	DATE: March 29, 2011	DRAWN BY: TP	CHECKED BY: TB	DRAWING NO.: FIGURE 3
	SCALE: ≈1:2000	PROJECT NO.: 20003.001	CAD FILE NO.: 20003.001_Fig3	

January 29, 2018



CLIENT: PEACE RIVER REGIONAL DISTRICT		FOCUS Kamloops #420-301 Victoria St. BC, V2C 2A3 Ph. (250)374-5252 Fax (250)372-8336 www.focus.ca Engineering • Geomatics • Planning			
PROJECT: Stage 1 and Limited Stage 2 Preliminary Site Investigation Peace Valley Lookout					
		DATE: March 29, 2011	DRAWN BY: TP	CHECKED BY: TB	DRAWING NO.: FIGURE 4
TITLE: DETAILED SOIL ANALYTICAL RESULTS		SCALE: ≈1:2000	PROJECT NO.: 20003.001	CAD FILE NO.: 20003.001_Fig4	

January 29, 2018

Tables

Table 1: Summary of Soil Analytical Results - Hydrocarbons
Peace River Regional District
Peace Valley Look Out

Sample Location	BH11-2			BH11-3	BH11-4	CSR Standards ¹	
Sample ID	BH11-2-1	BH11-2-1 DUP	% RPD ²	BH11-3-3	BH11-4-3		
Depth (m)	0.0 - 0.15	0.0 - 0.15		1.22 - 1.37	1.22 - 1.37		
Date Sampled	04-Mar-11	04-Mar-11		04-Mar-11	04-Mar-11	AL	PL
Non-Halogenated Volatiles (mg/kg)							
Benzene	<0.005	<0.005	-	<0.005	<0.005	10	10
Toluene	0.02	<0.02	-	<0.02	<0.02	1.5	1.5
Ethylbenzene	<0.01	<0.01	-	<0.01	<0.01	1	1
Total Xylenes	0.04	<0.04	-	<0.04	<0.04	0.1	5
Styrene	<0.03	<0.03	-	<0.03	<0.03	0.1	5
Methyl tert-butyl ether (MTBE)	<0.1	<0.1	-	<0.1	<0.1	320	320
VPH	<10	<10	-	<10	<10	200	200
Extractable Hydrocarbons (mg/kg)							
EPH ₁₀₋₁₉ ³	<100	-	-	<100	-	1,000 ⁴	1,000 ⁴
EPH ₁₉₋₃₂ ³	<100	-	-	<100	-	1,000 ⁵	1,000 ⁵
LEPH	-	-	-	<100	-	1,000	1,000
HEPH	-	-	-	<100	-	1,000	1,000

Notes:

"<" indicates less than the laboratory detection limit.

Bold - indicates result exceeds the CSR PL or AL standards.

"-" indicates not analyzed or no standards established or not calculable

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4, 5 and 10 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

² % RPD - Relative Percent Difference calculated as: $[\text{Absolute Value}((\text{Original Value}) - (\text{Dup. Value})) / ((\text{Original Value}) + (\text{Dup. Value})) * 200]$.

Value not calculable if less than the detection limit or within 5 times the detection limit (i.e., practical quantification limit)

³ Results uncorrected for PAHs.

⁴ Compared to the Schedule 4 LEPH Standard.

⁵ Compared to the Schedule 4 HEPH Standard.

Table 1 (cont): Summary of Soil Analytical Results - Hydrocarbons
Peace River Regional District
Peace Valley Look Out

Sample Location	BH11-5			BH11-6	BH11-7	CSR Standards ¹	
Sample ID	BH11-5-4	BH11-E	% RPD ²	BH11-6-2	BH11-7-1		
Depth (m)	1.98 - 2.13	1.98 - 2.13		0.15 - 0.3	0.0 - 0.125	AL	PL
Date Sampled	04-Mar-11	04-Mar-11		04-Mar-11	04-Mar-11		
Non-Halogenated Volatiles (mg/kg)							
Benzene	<0.005	<0.005	-	<0.005	<0.005	10	10
Toluene	<0.02	<0.02	-	<0.02	<0.02	1.5	1.5
Ethylbenzene	<0.01	<0.01	-	<0.01	<0.01	1	1
Total Xylenes	<0.04	<0.04	-	<0.04	<0.04	0.1	5
Styrene	<0.03	<0.03	-	<0.03	<0.03	0.1	5
Methyl tert-butyl ether (MTBE)	<0.1	<0.1	-	<0.1	<0.1	320	320
VPH	<10	<10	-	<10	<10	200	200
Extractable Hydrocarbons (mg/kg)							
EPH ₁₀₋₁₉ ³	<100	-	-	<100	<100	1,000 ⁴	1,000 ⁴
EPH ₁₉₋₃₂ ³	<100	-	-	<100	<100	1,000 ⁵	1,000 ⁵
LEPH	-	-	-	-	-	1,000	1,000
HEPH	-	-	-	-	-	1,000	1,000

Notes:

"<" indicates less than the laboratory detection limit.

Bold - indicates result exceeds the CSR PL or AL standards.

"-" indicates not analyzed or no standards established or not calculable

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4, 5 and 10 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

² % RPD - Relative Percent Difference calculated as: $[\text{Absolute Value}((\text{Original Value})-(\text{Dup. Value})) / ((\text{Original Value})+(\text{Dup. Value})) * 200]$.

Value not calculable if less than the detection limit or within 5 times the detection limit (i.e., practical quantification limit)

³ Results uncorrected for PAHs.

⁴ Compared to the Schedule 4 LEPH Standard.

⁵ Compared to the Schedule 4 HEPH Standard.

TABLE 2: Summary of Soil Analytical Results - PAH's

Peace River Regional District
Peace Valley Look Out

Sample Location	BH11-3	CSR Standards ¹	
Sample ID	BH11-3-3		
Depth (m)	1.22 - 1.37	AL	PL
Date Sampled	4-Mar-11		
Polycyclic Aromatic Hydrocarbons (mg/kg)			
Acenaphthene	<0.05	-	-
Acenaphthylene	<0.05	-	-
Anthracene	<0.05	-	-
Benzo(a)anthracene	<0.05	0.1	1
Benzo(a)pyrene	<0.05	0.1	1
Benzo(b&j)fluoranthene	<0.05	0.1 ²	1
Benzo(g,h,i)perylene	<0.05	-	-
Benzo(k)fluoranthene	<0.05	0.1	1
Chrysene	<0.05	-	-
Dibenz(a,h)anthracene	<0.05	0.1	1
Fluoranthene	<0.05	-	-
Fluorene	<0.05	-	-
Indeno(1,2,3-cd)pyrene	<0.05	0.1	1
Naphthalene	<0.05	0.1	5
Phenanthrene	<0.05	0.10	5
Pyrene	<0.05	0.1	10

Notes:

"<" indicates less than the laboratory detection limit.

"-" indicates not analyzed or no standards established

Bold - indicates result exceeds the CSR PL or AL standards.

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4 and 5 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

² Result compared to benzo(b)fluoranthene.

TABLE 3: SUMMARY OF SOIL ANALYTICAL RESULTS - VOCs

Peace River Regional District

Peace Valley Look Out

Sample Location	BH11-7	CSR Standards ¹	
Sample ID	BH11-7-1		
Depth (m)	0.0 - 0.13	AL	PL
Date Sampled	04-Mar-11		
Chlorobenzenes			
1,2-dichlorobenzene	<0.03	0.1	1
1,3-dichlorobenzene	<0.03	0.1	1
1,4-dichlorobenzene	<0.03	0.1	1
Chlorobenzene	<0.03	0.1	1
Volatiles			
1,1,1,2-tetrachloroethane	<0.03	32	32
1,1,1-trichloroethane	<0.03	0.1	9
1,1,2,2-tetrachloroethane	<0.03	4.1	4.1
1,1,2-trichloroethane	<0.03	0.1	5
1,1-dichloroethane	<0.03	0.1	5
1,1-dichloroethene	<0.03	0.1	5
1,2-dichloroethane	<0.03	0.1	5
1,2-dichloropropane	<0.03	0.1	5
Bromodichloromethane	<0.05	8.2	8.2
Bromoform	<0.05	320	620
Bromomethane	<0.3	3.9	3.9
Carbon tetrachloride	<0.03	0.1	5
Chlorodibromomethane	<0.05	11	11
Chloroethane	<0.1	30	30
Chloroform	<0.05	0.1	5
Chloromethane	<0.1	47	47
cis-1,2-dichloroethene	<0.03	0.1	5
cis-1,3-dichloropropene	<0.05	0.1	5
Dibromoethane	<0.03	0.32	0.32
Dichloromethane	<0.1	0.1	5
Tetrachloroethene	<0.03	0.1	5
trans-1,2-dichloroethene	<0.03	0.1	5
trans-1,3-dichloropropene	<0.05	0.1	5
Trichloroethene	<0.01	0.1	5
Trichlorofluoromethane	<0.2	390	390
Vinyl chloride	<0.06	0.79	0.79

Notes:

" < " indicates less than the laboratory detection limit.

Bold - indicates result exceeds the CSR PL or AL standards.

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4, 5 and 10 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

January 29, 2018

Table 4: Summary of Soil Analytical Results - Metals
Peace River Regional District
Peace Valley Look Out

Sample Location	BH11-1	BH11-2	BH11-3	CSR Standards ¹	
Sample ID	BH10-1-1	BH10-2-2	BH10-3-1		
Depth (m)	0.15 - 0.3	0.91 - 1.07	0.0 - 0.15	AL	PL
Date Sampled	04-Mar-11	4-Mar-11	04-Mar-11		
Physical Parameters					
pH	8.09	7.97	7.77	-	-
Total Metals (mg/kg)					
Aluminum	12,600	12,100	8,240	-	-
Antimony	0.6	0.5	0.7	20	20
Arsenic	8.1	12	7.4	15	20
Barium	121	167	266	400	1,000
Beryllium	0.8	0.7	0.6	4	4
Bismuth	0.2	0.2	0.1	-	-
Cadmium	0.48	0.38	0.44	3	3
Calcium	33,200	10,100	22,600	-	-
Chromium	22	21	17	50	60 ² , 65 ³
Cobalt	10.7	11.2	6.8	40	50
Copper	24.1	27.6	19.0	150	150
Iron	22,000	25,700	23,700	-	-
Lead	12.2	14.7	14.2	350	500
Lithium	21	20	11	1,600	1,600
Magnesium	7,650	5,600	6,050	-	-
Manganese	225	211	295	1,800	1,800
Mercury	0.05	0.07	<0.05	0.6	15
Molybdenum	1.5	1.4	1.5	5	10
Nickel	33	33.8	23.2	150	100
Phosphorus	581	643	695	-	-
Potassium	2000	1,850	1230	-	-
Selenium	1.1	0.7	0.8	2	3
Silver	0.18	0.19	3.91	20	20
Sodium	765	1220	256	-	-
Strontium	96.5	58	63.8	47,000	47,000
Thallium	0.17	0.18	0.12	2	-
Tin	0.6	0.6	1.1	50	50
Titanium	18	18	30	-	-
Uranium	1.68	1.89	0.85	16	16
Vanadium	43	37	30	200	200
Zinc	86	105	96	200	450
Zirconium	5.3	4.9	1.9	-	-

Notes:

"<" indicates less than the laboratory detection limit.

"-" indicates not analyzed or no standards established.

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4, 5 and 10 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

³ Standard is for Chromium VI.

⁴ Standard is for Chromium III.

January 29, 2018

Table 4 (cont): Summary of Soil Analytical Results - Metals
Peace River Regional District
Peace Valley Look Out

Sample Location	BH11-5	BH11-6	BH11-7	CSR Standards ¹	
Sample ID	BH10-5-1	BH10-6-3	BH10-7-1		
Depth (m)	0.05 - 0.15	0.91 - 1.07	0.0 - 1.25	AL	PL
Date Sampled	04-Mar-11	4-Mar-11	4-Mar-11		
Physical Parameters					
pH	7.97	8.17	7.9	-	-
Total Metals (mg/kg)					
Aluminum	12,100	11,800	10900	-	-
Antimony	0.6	0.8	0.8	20	20
Arsenic	10	8.5	8.1	15	20
Barium	179	296	290	400	1,000
Beryllium	0.8	0.6	0.7	4	4
Bismuth	0.2	0.2	0.2	-	-
Cadmium	0.44	0.81	0.47	3	3
Calcium	10,500	31,100	20000	-	-
Chromium	22	21	21	50	60 ² , 65 ³
Cobalt	12	11.6	8.9	40	50
Copper	27.9	25.3	23.9	150	150
Iron	24,800	24,800	25300	-	-
Lead	14.5	14.4	15.3	350	500
Lithium	20	21	15	1,600	1,600
Magnesium	7,510	10,000	6360	-	-
Manganese	297	456	331	1,800	1,800
Mercury	0.07	0.05	0.05	0.6	15
Molybdenum	1.5	1.6	1.8	5	10
Nickel	37	38.1	34.3	150	100
Phosphorus	653	787	616	-	-
Potassium	1,890	1,750	1420	-	-
Selenium	0.9	0.8	<0.5	2	3
Silver	0.2	0.2	0.33	20	20
Sodium	1,300	580	263	-	-
Strontium	65.5	90.5	64.4	47,000	47,000
Thallium	0.19	0.25	0.15	2	-
Tin	0.6	0.4	0.6	50	50
Titanium	21	46	22	-	-
Uranium	2.05	1.33	0.99	16	16
Vanadium	39	39	42	200	200
Zinc	96	102	87	200	450
Zirconium	4.8	3.7	2.9	-	-

Notes:

"<" indicates less than the laboratory detection limit.

"-" indicates not analyzed or no standards established.

¹ Environmental Management Act, Contaminated Site Regulation (CSR), BC Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01 (includes all amendments up to B.C. Reg. 286/2010, effective 2010/04/10), Schedule 4, 5 and 10 - Urban Park Land use (PL) and Agricultural Land use (AL) Standards.

³ Standard is for Chromium VI.

⁴ Standard is for Chromium III.

Appendix A

Photographs



Photo #1 – Looking north from the center of the Property.



Photo #2 – Bank on east side of the Property, looking towards the east.



Photo #3 – Looking south from the southwest corner of the Property.



Photo #4 – Looking west from the center of the Property.



Photo #5 – View of abandoned vehicles at the bottom of the bank on the east side of the Property (photo taken looking east).



Photo #6 – The Property (photo taken looking north from the south edge of the Property)



Photo #7 – View of abandoned vehicles on the south edge of the Property (photo taken looking south). Concrete blocks in drainage ditch on northeast corner of the



Photo #8 – View of concrete blocks in drainage ditch on northeast corner of the Property (photo taken looking east).

Appendix B

Aerial Photographs



Aerial photograph dated 1950

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 1

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1967

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 2

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1976

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 3

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1979

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 4

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1981

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 5

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1986

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 6

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 1996

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 7

20003.001
March 2011

FOCUS

January 29, 2018



Aerial photograph dated 2009

Peace River Regional District
Stage 1 and Limited Stage 2 Preliminary Site Investigations
Peace Valley Lookout

Aerial Photograph 8

20003.001
March 2011

FOCUS

January 29, 2018

Appendix C

Regional District Records

January 29, 2018

OFFICE OF: Development Services

Mar 4, 2011

EWD File No. 20003

EWD Consulting Corp.

10707 101 Avenue

Fort St. John, BC V1J 5J4

Emailed: ewd@ewdcorp.com

Re: N ½ of SW ¼ of 19-83-18?

Here is the information you requested regarding the above noted property:

1. There are no records of any environmental concerns or related information on file. The Regional District does not have jurisdiction over environmental issues and does not keep these kinds of records. Best to contact the Ministry of Environment.
2. There are no fire department records on file. The Regional District does not keep this information. Best to contact the Fort St. John Fire Department as the subject property is within their fire service area.
3. The subject property is zoned A-2 (Large Agricultural Holdings Zone) within Peace River Regional District Zoning By-law No. 1343, 2001.
4. The Regional District has no water or sewer infrastructure in this area.
5. There are no permits of any kind on file for the subject property.
6. There are no plans of any kind on file for the subject property.
7. There are no records of any fill, illegal dumping, or miscellaneous use of the property on file. Regarding the present use and development of the property, a site visit has not been conducted of the subject property, and information regarding the present use and siting has not been provided in sufficient detail to make a determination with respect to compliance. There are no outstanding enforcement files or work orders on file for this subject property, and the Regional District is not considering taking any enforcement action on this subject property, at this time.

It should be noted that the information provided in this letter has been limited to a review of our property records files, building inspection files and the applicable zoning bylaw.

Sincerely,



Timothy Donegan

North Peace Land Use Planner

Timothy Donegan

Land Use Planner



Peace River Regional District

9505 100th Street

Fort St. John, BC V1J 4N4

Tel: 250-785-8084

Fax: 250-785-1125

tim.donegan@prrd.bc.ca

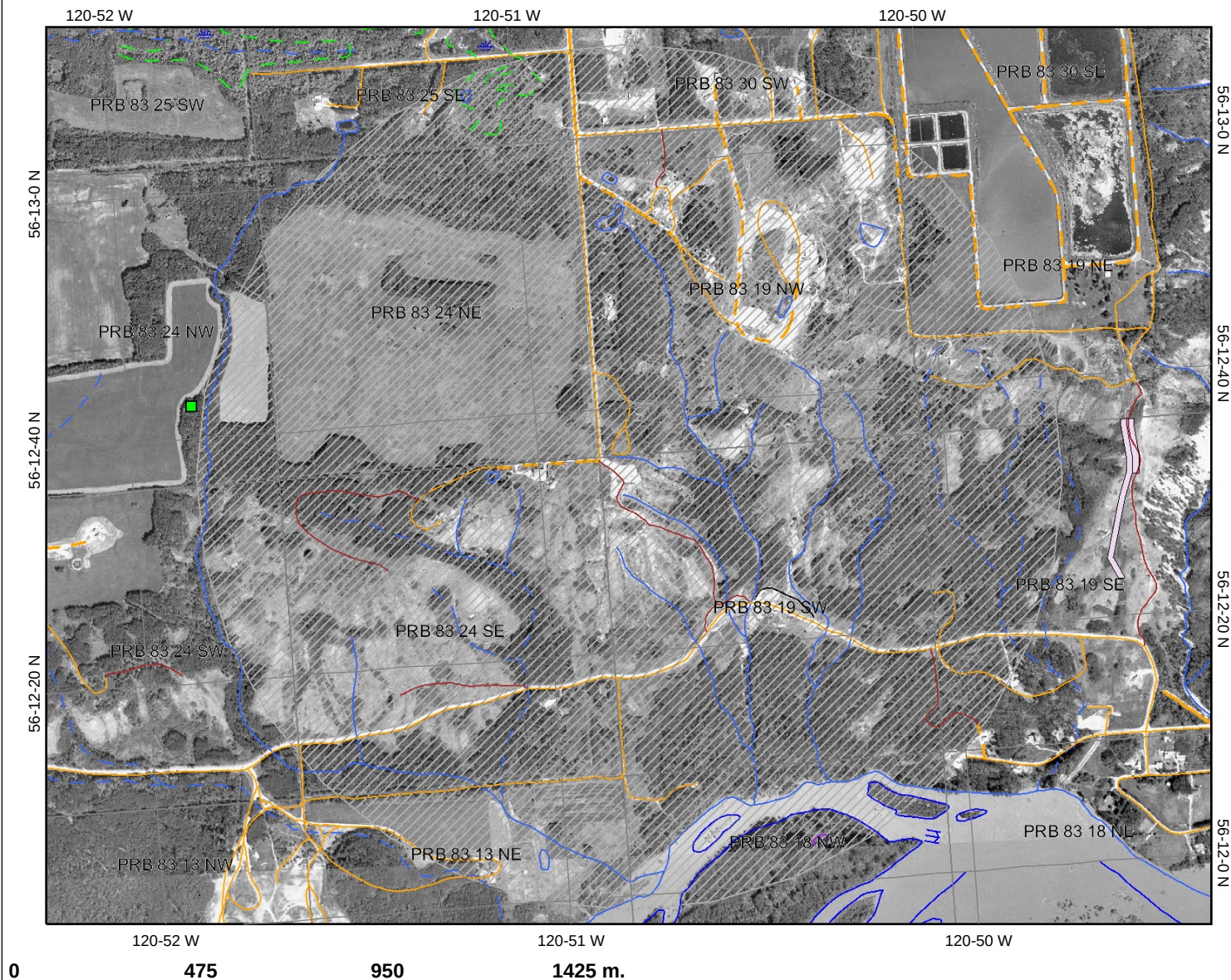
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Appendix D

Oil and Gas Search Results

Oil and Gas Search Result



Legend

- Well Sites
- Survey Parcel Right of Ways
- Transportation - Points (TRIM)
- Helipad
- Transportation - Lines (TRIM)
- Airfield
- Airport
- Airstrip
- Airport.Abandoned
- Ferry Route
- Road (Gravel Undivided) - 1 Lane
- Road (Gravel Undivided) - 2 Lanes
- Road (Gravel Undivided) - U/C - 1 Lane
- Road (Gravel Undivided) - U/C - 2 Lanes
- Road (Paved Divided) - Not Elevated - 1 Lane Each Way
- Road (Paved Divided) - Not Elevated - 2 Lanes Each Way
- Road (Paved Divided) - U/C - Not Elevated - 2 Lanes Each Way
- Road (Paved Undivided) - Not Elevated - 1 Lane
- Road (Paved Undivided) - Not Elevated - 2 Lanes
- Road (Paved Undivided) - Not Elevated - 4 Lanes
- Road (Paved Undivided) - U/C - Not Elevated - 4 Lanes
- Road (Unimproved)
- Cut (Roadway)
- Embankment/Fill (Roadway)
- Trail
- Bridge - Foot
- Bridge - Trestle
- Tunnel
- Bridge
- Rail Line (Double Track)



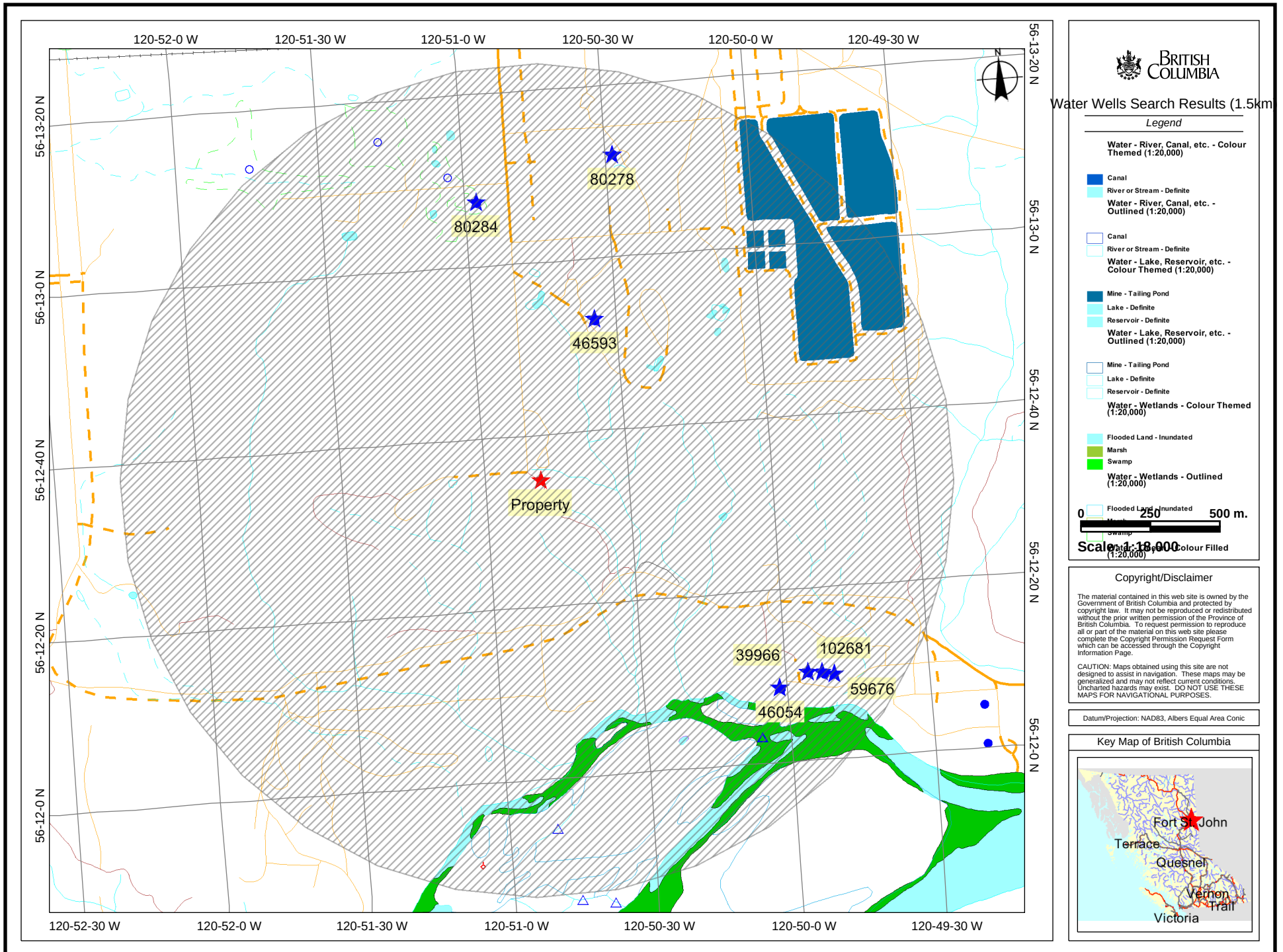
Scale: 1:15,970

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

January 29, 2018

Appendix E

Groundwater Well Search



January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 80284	Construction Date: 1999-10-30 00:00:00.0		
Owner: DARWIN KILBREATH	Driller: Jacob's Water Wells		
Address:	Well Identification Plate Number:		
Area:	Plate Attached By:		
WELL LOCATION:	Where Plate Attached:		
PEACE RIVER Land District	PRODUCTION DATA AT TIME OF DRILLING:		
District Lot: Plan: 32730 Lot: 1	Well Yield: .5 (Driller's Estimate) U.S. Gallons per Minute		
Township: 83 Section: 25 Range: 49	Development Method:		
Indian Reserve: Meridian: Block:	Pump Test Info Flag: N		
Quarter:	Artesian Flow:		
Island:	Artesian Pressure (ft):		
BCGS Number (NAD 27): 094A026223 Well: 2	Static Level: 67 feet		
Class of Well:	WATER QUALITY:		
Subclass of Well:	Character:		
Orientation of Well:	Colour:		
Status of Well: New	Odour:		
Well Use: Private Domestic	Well Disinfected: N		
Observation Well Number:	EMS ID:		
Observation Well Status:	Water Chemistry Info Flag:		
Construction Method:	Field Chemistry Info Flag:		
Diameter: 6 inches	Site Info (SEAM):		
Casing drive shoe:	Water Utility:		
Well Depth: 303 feet	Water Supply System Name:		
Elevation: 0 feet (ASL)	Water Supply System Well Name:		
Final Casing Stick Up: inches	SURFACE SEAL:		
Well Cap Type:	Flag: N		
Bedrock Depth: feet	Material:		
Lithology Info Flag: N	Method:		
File Info Flag: N	Depth (ft):		
Sieve Info Flag: N	Thickness (in):		
Screen Info Flag: Y	WELL CLOSURE INFORMATION:		
Site Info Details:	Reason For Closure:		
Other Info Flag:	Method of Closure:		
Other Info Details:	Closure Sealant Material:		
	Closure Backfill Material:		
	Details of Closure:		

Screen from	to feet	Type	Slot Size
81	101		20
281	301		20
0	0		0
0	0		0

Casing from	to feet	Diameter	Material	Drive Shoe
null	null	0	null	null

GENERAL REMARKS:
@ 82' WATER COME IN @ .5 GPM NO INCREASE TO 303,@ 288' PUMP DIDN'T GO FURTHER SE

LITHOLOGY INFORMATION:

From	To	Depth	Material
0	13	13 Ft.	GUMBO CLAY
13	51	51 Ft.	SOFT CLAY
51	54	54 Ft.	GRAVEL CLAY MIXTURE
54	60	60 Ft.	SOFT SANDSTONE
60	68	68 Ft.	GRAVEL CLAY MIXTURE
68	79	79 Ft.	SOFT CLAY
79	303	303 Ft.	SHALE

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January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 80278	Construction Date: 1999-06-29 00:00:00.0		
Owner: DAN CANTLON	Driller: Jacob's Water Wells		
Address:	Well Identification Plate Number:		
Area:	Plate Attached By:		
WELL LOCATION:	Where Plate Attached:		
PEACE RIVER Land District	PRODUCTION DATA AT TIME OF DRILLING:		
District Lot: Plan: 24738 Lot: 6	Well Yield: 11 (Driller's Estimate) U.S. Gallons per Minute		
Township: 83 Section: 30 Range: 18	Development Method:		
Indian Reserve: Meridian: Block:	Pump Test Info Flag: N		
Quarter:	Artesian Flow:		
Island:	Artesian Pressure (ft):		
BCGS Number (NAD 27): 094A026223 Well: 3	Static Level: 177 feet		
Class of Well:	WATER QUALITY:		
Subclass of Well:	Character:		
Orientation of Well:	Colour:		
Status of Well: New	Odour:		
Well Use: Private Domestic	Well Disinfected: N		
Observation Well Number:	EMS ID:		
Observation Well Status:	Water Chemistry Info Flag:		
Construction Method:	Field Chemistry Info Flag:		
Diameter: 6 inches	Site Info (SEAM):		
Casing drive shoe:	Water Utility:		
Well Depth: 323 feet	Water Supply System Name:		
Elevation: 0 feet (ASL)	Water Supply System Well Name:		
Final Casing Stick Up: inches	SURFACE SEAL:		
Well Cap Type:	Flag: N		
Bedrock Depth: feet	Material:		
Lithology Info Flag: N	Method:		
File Info Flag: N	Depth (ft):		
Sieve Info Flag: N	Thickness (in):		
Screen Info Flag: Y	WELL CLOSURE INFORMATION:		
Site Info Details:	Reason For Closure:		
Other Info Flag:	Method of Closure:		
Other Info Details:	Closure Sealant Material:		
	Closure Backfill Material:		
	Details of Closure:		

Screen from	to feet	Type	Slot Size
168	208		20
0	0		0
0	0		0

Casing from	to feet	Diameter	Material	Drive Shoe
null	null	0	null	null

GENERAL REMARKS:
TRICKLE OF WATER @ 48', SHALE FRACTURED @ 196' PRODUCING .5 GPM

LITHOLOGY INFORMATION:

From	0 to	13 Ft.	CLAY W 40% COARSE GRAVEL
From	13 to	105 Ft.	GRAVEL & SAND W 35% CLAY
From	105 to	113 Ft.	CLAY W SOME GRAVEL & SAND
From	113 to	184 Ft.	CLEAN GRAVEL
From	177 to	184 Ft.	WB GRAVEL
From	184 to	194 Ft.	SOFT CLAY OR SHALE
From	194 to	323 Ft.	SHALE

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Report 1 - Detailed Well Record

Well Tag Number: 59676 Owner: JOHN SCHOLTON Address: Area: FORT ST. JOHN WELL LOCATION: PEACE RIVER Land District District Lot: Plan: 14194 Lot: 3 Township: Section: Range: Indian Reserve: Meridian: Block: 1 Quarter: Island: BCGS Number (NAD 27): 094A026221 Well: 3 Class of Well: Subclass of Well: Orientation of Well: Status of Well: New Well Use: Private Domestic Observation Well Number: Observation Well Status: Construction Method: Drilled Diameter: 6.0 inches Casing drive shoe: Well Depth: 98 feet Elevation: 0 feet (ASL) Final Casing Stick Up: inches Well Cap Type: Bedrock Depth: feet Lithology Info Flag: File Info Flag: Sieve Info Flag: Screen Info Flag: Site Info Details: Other Info Flag: Other Info Details:	Construction Date: 1991-05-24 00:00:00.0 Driller: Anderson Air Drilling Well Identification Plate Number: Plate Attached By: Where Plate Attached: PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 15 (Driller's Estimate) Gallons per Minute (U.S./Imperial) Development Method: Pump Test Info Flag: Y Artesian Flow: Artesian Pressure (ft): Static Level: WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Field Chemistry Info Flag: Site Info (SEAM): Water Utility: Water Supply System Name: Water Supply System Well Name: SURFACE SEAL: Flag: Material: Method: Depth (ft): Thickness (in): WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:			
Screen from	to feet	Type	Slot Size	
Casing from	to feet	Diameter	Material	Drive Shoe
GENERAL REMARKS:				
LITHOLOGY INFORMATION: From 0 to 92 Ft. MED GREY CLAY-SOME ROCK From 92 to 94 Ft. SANDY GRAVEL From 94 to 98 Ft. GRAVEL				

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January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 46593 Owner: HARVEY BLAIR Address: Area: FORT ST JOHN WELL LOCATION: PEACE RIVER Land District District Lot: Plan: Lot: Township: 83 Section: 19 Range: 18 Indian Reserve: Meridian: Block: Quarter: NW Island: BCGS Number (NAD 27): 094A026223 Well: 1 Class of Well: Subclass of Well: Orientation of Well: Status of Well: New Well Use: Private Domestic Observation Well Number: Observation Well Status: Construction Method: Unknown Constr Diameter: 6.0 inches Casing drive shoe: Well Depth: 450 feet Elevation: 0 feet (ASL) Final Casing Stick Up: inches Well Cap Type: Bedrock Depth: 80 feet Lithology Info Flag: File Info Flag: Sieve Info Flag: Screen Info Flag: Site Info Details: Other Info Flag: Other Info Details:	Construction Date: 1980-11-11 00:00:00.0 Driller: H. & W. Aqua Drilling Well Identification Plate Number: Plate Attached By: Where Plate Attached: PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 0 (Driller's Estimate) Development Method: Pump Test Info Flag: Artesian Flow: Artesian Pressure (ft): Static Level: WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Field Chemistry Info Flag: Site Info (SEAM): Water Utility: Water Supply System Name: Water Supply System Well Name: SURFACE SEAL: Flag: Material: Method: Depth (ft): Thickness (in): WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:			
Screen from	to feet	Type	Slot Size	
Casing from	to feet	Diameter	Material	Drive Shoe
GENERAL REMARKS:				
LITHOLOGY INFORMATION: From 0 to 40 Ft. clay From 40 to 80 Ft. gravel From 80 to 450 Ft. bedrock shale				

January 29, 2018

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January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 46054 Owner: ART DENNISON (KRESS) Address: OLD FORT Area: FORT ST JOHN WELL LOCATION: PEACE RIVER Land District District Lot: Plan: 14194 Lot: 1 Township: 83 Section: 18 Range: 18 Indian Reserve: Meridian: Block: 2 Quarter: Island: BCGS Number (NAD 27): 094A026221 Well: 1 Class of Well: Subclass of Well: Orientation of Well: Status of Well: New Well Use: Unknown Well Use Observation Well Number: Observation Well Status: Construction Method: Unknown Constr Diameter: 6.0 inches Casing drive shoe: Well Depth: 110 feet Elevation: 0 feet (ASL) Final Casing Stick Up: inches Well Cap Type: Bedrock Depth: 110 feet Lithology Info Flag: File Info Flag: Sieve Info Flag: Screen Info Flag: Site Info Details: Other Info Flag: Other Info Details:	Construction Date: 1980-09-09 00:00:00.0 Driller: B. & W. Drilling Well Identification Plate Number: Plate Attached By: Where Plate Attached: PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 8 (Driller's Estimate) Gallons per Minute (U.S./Imperial) Development Method: Pump Test Info Flag: Artesian Flow: Artesian Pressure (ft): Static Level: 60 feet WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Field Chemistry Info Flag: Site Info (SEAM): Water Utility: Water Supply System Name: Water Supply System Well Name: SURFACE SEAL: Flag: Material: Method: Depth (ft): Thickness (in): WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:		
Screen from	to feet	Type	Slot Size
Casing from	to feet	Diameter	Material
Drive Shoe			
GENERAL REMARKS:			
LITHOLOGY INFORMATION: From 0 to 60 Ft. clay From 60 to 100 Ft. clay and gravel, tight From 100 to 110 Ft. gravel From 110 to 0 Ft. bedrock From 0 to 0 Ft. source of water: 12 GPM at 110'			

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January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 39966 Owner: RANDY MERK (GATTIN) Address: OLD FORT Area: FORT ST JOHN WELL LOCATION: PEACE RIVER Land District District Lot: Plan: 14194 Lot: 1 Township: 83 Section: 18 Range: 18 Indian Reserve: Meridian: Block: 1 Quarter: Island: BCGS Number (NAD 27): 094A026221 Well: 2 Class of Well: Subclass of Well: Orientation of Well: Status of Well: New Well Use: Unknown Well Use Observation Well Number: Observation Well Status: Construction Method: Drilled Diameter: 4.5 inches Casing drive shoe: Well Depth: 120 feet Elevation: 0 feet (ASL) Final Casing Stick Up: inches Well Cap Type: Bedrock Depth: feet Lithology Info Flag: File Info Flag: Sieve Info Flag: Screen Info Flag: Site Info Details: Other Info Flag: Other Info Details:	Construction Date: 1978-06-29 00:00:00.0 Driller: I . & M. Drilling Well Identification Plate Number: Plate Attached By: Where Plate Attached: PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 0 (Driller's Estimate) Development Method: Pump Test Info Flag: Artesian Flow: Artesian Pressure (ft): Static Level: WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Field Chemistry Info Flag: Site Info (SEAM): Water Utility: Water Supply System Name: Water Supply System Well Name: SURFACE SEAL: Flag: Material: Method: Depth (ft): Thickness (in): WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:			
Screen from	to feet	Type	Slot Size	
Casing from	to feet	Diameter	Material	Drive Shoe
GENERAL REMARKS: LOW IN IRON, MUD CLOGGED LITHOLOGY INFORMATION: From 0 to 26 Ft. brown clay and rock mix From 26 to 29 Ft. hard stringer From 29 to 70 Ft. rock				

January 29, 2018

From	70 to	78 Ft.	very hard stringer
From	78 to	120 Ft.	gravel and rock

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January 29, 2018



Report 1 - Detailed Well Record

Well Tag Number: 102681 Owner: SCHOLTEN Address: Area: WELL LOCATION: PEACE RIVER Land District District Lot: Plan: 14194 Lot: 2 & 3 Township: Section: Range: Indian Reserve: Meridian: Block: 4 Quarter: Island: BCGS Number (NAD 27): 094A026221 Well: Class of Well: Water supply Subclass of Well: Domestic Orientation of Well: Vertical Status of Well: New Well Use: Private Domestic Observation Well Number: Observation Well Status: Construction Method: Diameter: inches Casing drive shoe: Y Well Depth: 40 feet Elevation: feet (ASL) Final Casing Stick Up: 84 inches Well Cap Type: Bedrock Depth: feet Lithology Info Flag: Y File Info Flag: N Sieve Info Flag: N Screen Info Flag: N Site Info Details: Other Info Flag: Other Info Details:	Construction Date: 1993-07-15 00:00:00.0 Driller: Well Identification Plate Number: Plate Attached By: Where Plate Attached: PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 30 (Driller's Estimate) U.S. Gallons per Minute Development Method: Air lifting Pump Test Info Flag: N Artesian Flow: Artesian Pressure (ft): Static Level: 11 feet WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Y Field Chemistry Info Flag: Site Info (SEAM): Water Utility: Water Supply System Name: Water Supply System Well Name: SURFACE SEAL: Flag: N Material: Bentonite clay and steel casing Method: Depth (ft): Thickness (in): Liner from To: feet WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:
---	--

Screen from	to feet	Type	Slot Size
Casing from	to feet	Diameter	Material
0	40	6	Steel
			Drive Shoe
			Y

GENERAL REMARKS:
 MEASUREMENTS FROM GROUND LEVEL. PERFORATIONS: 18'-26' MILLS KNIFE BENTONITE PLUG ON BOTTOM OF SEAL. WATER ANALYSIS: IRON 7 MG/L CHLORIDE 1'

LITHOLOGY INFORMATION:
 From 0 to 8 Ft. overburden
 From 8 to 15 Ft. COARSE GRAVEL W/ CLAY
 From 15 to 17 Ft. COARSE GRAVEL W/ CLAY WET
 From 17 to 40 Ft. COARSE-EXTRA COARSE GRAVEL 30 Gallons per Minute (U.S./Imperial)

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Appendix F

BC Online Site Registry Search

As Of: FEB 20, 2011 BC Online: Site Registry 11/02/25
For: PE29908 EWD CONSULTING CORP 10:18:41
Folio: Page 1

Area Nil Search

As of FEB 20, 2011, no records from Site Registry
fall within 0.5 kilometers of coordinates
Latitude 56 degrees, 12 minutes, 34.5 seconds, and
Longitude 120 degrees, 50 minutes, 48.8 seconds.

You have been charged for this information.

Sites may be revealed by searching with alternate search methods. For example,
a site not revealed in an Area search may be revealed by searching with another
piece of information such as PID, PIN, address or Crown Lands File Number

January 29, 2018

Appendix G

Borehole Logs

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-1	
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001	
Fort St. John, BC					
SAMPLE TYPE		☒ DISTURBED	☐ NO RECOVERY	☒ SPT	☐ A-CASING
BACKFILL TYPE		☒ BENTONITE	☐ PEA GRAVEL	☐ SLOUGH	☐ GROUT
		☐ SHELBY TUBE	☐ CORE	☐ DRILL CUTTINGS	☐ SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	USC	SOIL SYMBOL	MOISTURE CONTENT	PLASTIC M.C. LIQUID		UNCONFINED (kPa)		POCKET PEN. (kPa)	Backfill	Depth (ft)
							20	40	60	80			
0	SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen, brown		1-1	FILL									0
	CLAY - silty, silt pockets, low plasticity, light brown		1-2	CL-CI									
1	- clay content increases		1-3	CL-CI									5
2	- becomes soft, mottling, moisture increases		1-4	CL-CI									
			1-5	CL-CI									
3	EOH @ 3.05 m No Well Installed Backfilled with Drill Cuttings												10
4													15
5													16



LOGGED BY: JF

REVIEWED BY: JG

DRAWING NO:

COMPLETION DEPTH: 3.05m

COMPLETE: 04/03/2011

Page 1 of 1

January 29, 2018

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-2	
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001	
Fort St. John, BC					
SAMPLE TYPE ☒ DISTURBED ☒ NO RECOVERY ☒ SPT ☐ A-CASING ☐ SHELBY TUBE ☐ CORE					
BACKFILL TYPE ☒ BENTONITE ☒ PEA GRAVEL ☐ SLOUGH ☐ GROUT ☐ DRILL CUTTINGS ☐ SAND					

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE SAMPLE NUMBER	USC	SOIL SYMBOL	MOISTURE CONTENT	PLASTIC M.C. LIQUID			UNCONFINED (kPa)		POCKET PEN. (kPa)	Backfill	Depth (ft)
						20	40	60	80	50			
0	SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen, grey to brown CLAY - silty, silt pockets, trace gravel, moist, brown	2-1 (2-1 Dup)	FILL										0
1		2-2	CL-CI										
	- increased clay, firm, medium plasticity	2-3	CL-CI										5
2		2-4	CL-CI										
	- trace gravel												
3	EOH @ 3.05 m No Well Installed Backfilled with Drill Cuttings												10
4													
5													15
													16



LOGGED BY: JF

REVIEWED BY: JG

DRAWING NO:

COMPLETION DEPTH: 3.05m

COMPLETE: 04/03/2011

Page 1 of 1

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-3		
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001		
Fort St. John, BC						
SAMPLE TYPE	☒ DISTURBED	☐ NO RECOVERY	☒ SPT	☐ A-CASING	☐ SHELBY TUBE	☐ CORE
BACKFILL TYPE	☒ BENTONITE	☐ PEA GRAVEL	☐ SLOUGH	☐ GROUT	☐ DRILL CUTTINGS	☐ SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	USC	SOIL SYMBOL	MOISTURE CONTENT	PLASTIC M.C. LIQUID		UNCONFINED (kPa)		POCKET PEN. (kPa)		Backfill	Depth (ft)
							20	40	60	80	50	100		
0	SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen, grey to brown		3-1	FILL										0
	CLAY - some silt, firm, medium plasticity, mottles, some gypsum crystals, frozen		3-2	CL-CI										
1	CLAY - silt pockets, sand pockets, trace organics, medium plasticity, oxidation, mottles, moist		3-3	CL-CI										5
2	- moisture increases		3-4	CL-CI										
3			3-5	CL-CI										10
	EOH @ 3.05 m NO Well Installed Backfilled with Drill Cuttings													
4														15
5														16



LOGGED BY: JF

REVIEWED BY: JG

DRAWING NO:

COMPLETION DEPTH: 3.05m

COMPLETE: 04/03/2011

Page 1 of 1

January 29, 2018

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-4	
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001	
Fort St. John, BC					

SAMPLE TYPE	☐ DISTURBED	☐ NO RECOVERY	☒ SPT	☐ A-CASING	☐ SHELBY TUBE	☐ CORE
BACKFILL TYPE	☐ BENTONITE	☐ PEA GRAVEL	☐ SLOUGH	☐ GROUT	☐ DRILL CUTTINGS	☐ SAND

Depth (m)

0

1

2

3

4

5

SOIL DESCRIPTION

SAMPLE TYPE

SAMPLE NUMBER

USC

SOIL SYMBOL

MOISTURE CONTENT

PLASTIC	M.C.	LIQUID	UNCONFINED (kPa)	POCKET PEN. (kPa)
20	40	60	50 100 150 200	100 200 300 400

Backfill

Depth (ft)

0

5

10

15

16

0 SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen and brown CLAY - trace silt, medium plasticity, firm, some mottling, frozen EOH @ 3.05 m No Well Installed Backfilled with Drill Cuttings	4-1 4-2 (C) 4-3 4-4 4-5	FILL CL-CI CL-CI CL-CI CL-CI							
---	--	---	---	--	--	--	--	--	--



LOGGED BY: JF	COMPLETION DEPTH: 3.05m
REVIEWED BY: JG	COMPLETE: 04/03/2011
DRAWING NO:	Page 1 of 1

January 29, 2018

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-6	
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001	
Fort St. John, BC					
SAMPLE TYPE		☒ DISTURBED	☐ NO RECOVERY	☒ SPT	☐ A-CASING
BACKFILL TYPE		☒ BENTONITE	☐ PEA GRAVEL	☐ SLOUGH	☐ GROUT
		☐ SHELBY TUBE	☐ CORE	☐ DRILL CUTTINGS	☐ SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	USC	SOIL SYMBOL	MOISTURE CONTENT	PLASTIC		M.C.	LIQUID		UNCONFINED (kPa)				POCKET PEN. (kPa)				Backfill	Depth (ft)
							20	40		60	80	50	100	150	200	100	200	300	400		
0	SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen, grey to brown		6-1	FILL	XXXX															0	
	SILT - loose and light brown		6-2	ML																	
1			6-3	ML																	
	CLAY - silty, medium plasticity, firm, gypsum crystals, moist, dark brown		6-4	CL-ML																5	
2	CLAY - some gravel, silt pockets, some silt, mottles		6-5 (D)	CL-CI																	
	Clay - silt pockets, brown		6-6	CL-CI																	
3	EOH @ 3.05 M NO Well Installed Backfilled with Drill Cuttings																			10	
4																				15	
5																				16	



LOGGED BY: JF

REVIEWED BY: JG

DRAWING NO:

COMPLETION DEPTH: 3.05m

COMPLETE: 04/03/2011

Page 1 of 1

January 29, 2018

Stage 1 and Limited Stage 2 PSI		Peace River Regional District		BOREHOLE NO: BH11-7	
Peace Valley Lookout Point		Solid Stem Auger		PROJECT NO: 20003.001	
Fort St. John, BC					
SAMPLE TYPE		☒ DISTURBED	☐ NO RECOVERY	☒ SPT	☐ A-CASING
BACKFILL TYPE		☐ BENTONITE	☐ PEA GRAVEL	☐ SLOUGH	☐ GROUT
		☐ DRILL CUTTINGS	☐ SAND	☐ SHELBLY TUBE	☐ CORE

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	USC	SOIL SYMBOL	MOISTURE CONTENT	PLASTIC M.C. LIQUID			UNCONFINED (kPa)				POCKET PEN. (kPa)				Depth (ft)
							20	40	60	80	50	100	150	200	100	200	300	
0	SAND AND GRAVEL (FILL) - Some silt, poor gradation, low plasticity, frozen, grey to brown		7-1	FILL														0
	Clay - silty, silt pockets, firm, mottles, frozen, dark brown		7-2	CL-CH														
1			7-3	CL-CH														5
	- clay content increases, high plasticity, soft, moisture content increases, brown		7-4 (B)	CL-CH														
2																		
	CLAY - silt pockets, trace gravel, high plasticity, firm, moist, brown		7-5	CL-CH														10
3																		
	EOH @ 3.05 m No Well Installed Backfilled with Drill Cuttings																	15
4																		
5																		16

	LOGGED BY: JF	COMPLETION DEPTH: 3.05m
	REVIEWED BY: JG	COMPLETE: 04/03/2011
	DRAWING NO:	Page 1 of 1

Appendix H

Laboratory Analytical Results

January 29, 2018

Your P.O. #: 20003.001
Your Project #: 20003.001
Your C.O.C. #: F109563, F129834, F109562, F129821

Attention: Jodi Fleming
EWD CONSULTING CORP.
10707 101 AVENUE
FORT ST. JOHN, BC
CANADA V1J 5J4

Report Date: 2011/03/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B117992
Received: 2011/03/08, 13:20

Sample Matrix: Soil
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE Soil LH, VH, F1 SIM/MS	4	2011/03/08	2011/03/09	BBY8-SOP-00010	EPA SW846 8260C
BTEX/MTBE Soil LH, VH, F1 SIM/MS	1	2011/03/08	2011/03/10	BBY8-SOP-00010	EPA SW846 8260C
BTEX/MTBE Soil LH, VH, F1 SIM/MS	1	2011/03/10	2011/03/10	BBY8-SOP-00010	EPA SW846 8260C
BTEX/MTBE Soil LH, VH, F1 SIM/MS	1	2011/03/11	2011/03/10	BBY8-SOP-00010	EPA SW846 8260C
Elements by ICPMS (total)	6	2011/03/09	2011/03/09	BBY7SOP-00004	Based on EPA 200.8
Moisture	7	N/A	2011/03/09	BBY8SOP-00017	Ont MOE -E 3139
Moisture	1	N/A	2011/03/11	BBY8SOP-00017	Ont MOE -E 3139
PAH in Soil by GC/MS (SIM)	1	2011/03/08	2011/03/11	BBY8SOP-00022	Based on EPA 8270D
Total LMW, HMW, Total PAH Calc	1	N/A	2011/03/11		PAHTOT-S
pH (2:1 DI Water Extract)	6	2011/03/09	2011/03/10	BBY6SOP-00028	Carter, SSMA 16.2
CSR VH C6-C10 in Soil by GC/FID	1	2011/03/09	2011/03/09	BBY8SOP-00011	Based on EPA SW8260C
EPH less PAH in Soil By GC/FID	1	N/A	2011/03/11		
BC Hydrocarbons in Soil by GC/FID	1	2011/03/08	2011/03/09	BBY8SOP-00029	Based BCCSR Method 3
BC Hydrocarbons in Soil by GC/FID	4	2011/03/08	2011/03/10	BBY8SOP-00029	Based BCCSR Method 3
VOCs in Soil by HS GC/MS	1	2011/03/08	2011/03/09	BBY8-SOP-0009/R18	Based on EPA 8260C
Volatile HC-BTEX	1	N/A	2011/03/09		
Volatile HC-BTEX	6	N/A	2011/03/10		
Volatile HC-BTEX	1	N/A	2011/03/11		

* Results relate only to the items tested.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Amanda Hart, Burnaby Customer Service
Email: AHart@maxxam.ca
Phone# (604) 639-2605

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

PHYSICAL TESTING (SOIL)

Maxxam ID		AC1986	AC1992	AC2025	AC2031	AC2037	AC2042	AC2051		AD0213		
Sampling Date		2011/03/04	2011/03/04	2011/03/04	2011/03/04	2011/03/04	2011/03/04	2011/03/04		2011/03/04		
	Units	BH11-2-1	BH11-3-3	BH11-4-3	BH11-5-4	BH11-6-2	BH11-7-1	BH11-E	QC Batch	BH11-2-1 DUP	RDL	QC Batch
Physical Properties												
Moisture	%	14	21	19	21	14	9.4	10	4689512	14	0.3	4698565

TOTAL PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		AC1986		AC2031		AC2037		AC2042		
Sampling Date		2011/03/04		2011/03/04		2011/03/04		2011/03/04		
	Units	BH11-2-1	QC Batch	BH11-5-4	QC Batch	BH11-6-2	QC Batch	BH11-7-1	RDL	QC Batch
Hydrocarbons										
EPH (C10-C19)	mg/kg	<100	4695161	<100	4697218	<100	4693661	<100	100	4693636
EPH (C19-C32)	mg/kg	<100	4695161	<100	4697218	<100	4693661	<100	100	4693636
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	82	4695161	88	4697218	95	4693661	90		4693636

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
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Sampler Initials: JF

BCCSR BTEX/VPH BY HS IN SOIL (SOIL)

Maxxam ID		AC1986	AC1992		AC2025	AC2031	AC2037	AC2051		AD0213		
Sampling Date		2011/03/04	2011/03/04		2011/03/04	2011/03/04	2011/03/04	2011/03/04		2011/03/04		
	Units	BH11-2-1	BH11-3-3	QC Batch	BH11-4-3	BH11-5-4	BH11-6-2	BH11-E	QC Batch	BH11-2-1 DUP	RDL	QC Batch
Volatiles												
VPH (VHW6 to 10 - BTEX)	mg/kg	<10	<10	4688721	<10	<10	<10	<10	4688721	<10	10	4699089
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	<0.1	4691510	<0.1	<0.1	<0.1	<0.1	4692489	<0.1	0.1	4691510
Benzene	mg/kg	<0.005	<0.005	4691510	<0.005	<0.005	<0.005	<0.005	4692489	<0.005	0.005	4691510
Toluene	mg/kg	0.02	<0.02	4691510	<0.02	<0.02	<0.02	<0.02	4692489	<0.02	0.02	4691510
Ethylbenzene	mg/kg	<0.01	<0.01	4691510	<0.01	<0.01	<0.01	<0.01	4692489	<0.01	0.01	4691510
m & p-Xylene	mg/kg	0.04	<0.04	4691510	<0.04	<0.04	<0.04	<0.04	4692489	<0.04	0.04	4691510
o-Xylene	mg/kg	<0.04	<0.04	4691510	<0.04	<0.04	<0.04	<0.04	4692489	<0.04	0.04	4691510
Styrene	mg/kg	<0.03	<0.03	4691510	<0.03	<0.03	<0.03	<0.03	4692489	<0.03	0.03	4691510
Xylenes (Total)	mg/kg	0.04	<0.04	4691510	<0.04	<0.04	<0.04	<0.04	4692489	<0.04	0.04	4691510
VH C6-C10	mg/kg	<10	<10	4691510	<10	<10	<10	<10	4692489	<10	10	4691510
Surrogate Recovery (%)												
4-BROMOFLUOROBENZENE (sur.)	%	83	81	4691510	100	101	99	101	4692489	81		4691510
D10-ETHYLBENZENE (sur.)	%	100	104	4691510	97	96	94	98	4692489	93		4691510
D4-1,2-DICHLOROETHANE (sur.)	%	114	113	4691510	108	107	107	107	4692489	103		4691510
D8-TOLUENE (sur.)	%	92	91	4691510	98	97	97	97	4692489	96		4691510

RDL = Reportable Detection Limit

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

LEPH & HEPH FOR CSR IN SOIL (SOIL)

Maxxam ID		AC1992		
Sampling Date		2011/03/04		
	Units	BH11-3-3	RDL	QC Batch
Polycyclic Aromatics				
Naphthalene	mg/kg	<0.05	0.05	4697373
2-Methylnaphthalene	mg/kg	<0.05	0.05	4697373
Acenaphthylene	mg/kg	<0.05	0.05	4697373
Acenaphthene	mg/kg	<0.05	0.05	4697373
Fluorene	mg/kg	<0.05	0.05	4697373
Phenanthrene	mg/kg	<0.05	0.05	4697373
Anthracene	mg/kg	<0.05	0.05	4697373
Fluoranthene	mg/kg	<0.05	0.05	4697373
Pyrene	mg/kg	<0.05	0.05	4697373
Benzo(a)anthracene	mg/kg	<0.05	0.05	4697373
Chrysene	mg/kg	<0.05	0.05	4697373
Benzo(b&j)fluoranthene	mg/kg	<0.05	0.05	4697373
Benzo(k)fluoranthene	mg/kg	<0.05	0.05	4697373
Benzo(a)pyrene	mg/kg	<0.05	0.05	4697373
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	0.05	4697373
Dibenz(a,h)anthracene	mg/kg	<0.05	0.05	4697373
Benzo(g,h,i)perylene	mg/kg	<0.05	0.05	4697373
Low Molecular Weight PAH's	mg/kg	<0.05	0.05	4688719
High Molecular Weight PAH's	mg/kg	<0.05	0.05	4688719
Total PAH	mg/kg	<0.05	0.05	4688719
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	86		4697373
D12-BENZO(A)PYRENE (sur.)	%	77		4697373
D8-ACENAPHTHYLENE (sur.)	%	88		4697373
D8-NAPHTHALENE (sur.)	%	89		4697373
TERPHENYL-D14 (sur.)	%	90		4697373
Calculated Parameters				
LEPH (C10-C19 less PAH)	mg/kg	<100	100	4688720
HEPH (C19-C32 less PAH)	mg/kg	<100	100	4688720
Hydrocarbons				
EPH (C10-C19)	mg/kg	<100	100	4697371
EPH (C19-C32)	mg/kg	<100	100	4697371
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	94		4697371

RDL = Reportable Detection Limit

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
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Your P.O. #: 20003.001
Sampler Initials: JF

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		AC1981	AC1987	AC1990	AC2028	AC2038	AC2042		
Sampling Date		2011/03/04	2011/03/04	2011/03/04	2011/03/04	2011/03/04	2011/03/04		
	Units	BH11-1-1	BH11-2-2	BH11-3-1	BH11-5-1	BH11-6-3	BH11-7-1	RDL	QC Batch
Physical Properties									
Soluble (2:1) pH	pH Units	8.09	7.97	7.77	7.97	8.17	7.92	0.01	4692434
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	12600	12100	8240	12100	11800	10900	100	4692425
Total Antimony (Sb)	mg/kg	0.6	0.5	0.7	0.6	0.8	0.8	0.1	4692425
Total Arsenic (As)	mg/kg	8.1	12.0	7.4	10.0	8.5	8.1	0.2	4692425
Total Barium (Ba)	mg/kg	121	167	266	179	296	290	0.1	4692425
Total Beryllium (Be)	mg/kg	0.8	0.7	0.6	0.8	0.6	0.7	0.1	4692425
Total Bismuth (Bi)	mg/kg	0.2	0.2	0.1	0.2	0.2	0.2	0.1	4692425
Total Cadmium (Cd)	mg/kg	0.48	0.38	0.44	0.44	0.81	0.47	0.05	4692425
Total Calcium (Ca)	mg/kg	33200	10100	22600	10500	31100	20000	100	4692425
Total Chromium (Cr)	mg/kg	22	21	17	22	21	21	1	4692425
Total Cobalt (Co)	mg/kg	10.7	11.2	6.8	12.0	11.6	8.9	0.3	4692425
Total Copper (Cu)	mg/kg	24.1	27.6	19.0	27.9	25.3	23.9	0.5	4692425
Total Iron (Fe)	mg/kg	22000	25700	23700	24800	24800	25300	100	4692425
Total Lead (Pb)	mg/kg	12.2	14.7	14.2	14.5	14.4	15.3	0.1	4692425
Total Lithium (Li)	mg/kg	21	20	11	20	21	15	5	4692425
Total Magnesium (Mg)	mg/kg	7650	5600	6050	7510	10000	6360	100	4692425
Total Manganese (Mn)	mg/kg	225	211	295	297	456	331	0.2	4692425
Total Mercury (Hg)	mg/kg	0.05	0.07	<0.05	0.07	0.05	0.05	0.05	4692425
Total Molybdenum (Mo)	mg/kg	1.5	1.4	1.5	1.5	1.6	1.8	0.1	4692425
Total Nickel (Ni)	mg/kg	33.0	33.8	23.2	37.0	38.1	34.3	0.8	4692425
Total Phosphorus (P)	mg/kg	581	643	695	653	787	616	10	4692425
Total Potassium (K)	mg/kg	2000	1850	1230	1890	1750	1420	100	4692425
Total Selenium (Se)	mg/kg	1.1	0.7	0.8	0.9	0.8	<0.5	0.5	4692425
Total Silver (Ag)	mg/kg	0.18	0.19	3.91	0.20	0.20	0.33	0.05	4692425
Total Sodium (Na)	mg/kg	765	1220	256	1300	580	263	100	4692425
Total Strontium (Sr)	mg/kg	96.5	58.0	63.8	65.5	90.5	64.4	0.1	4692425
Total Thallium (Tl)	mg/kg	0.17	0.18	0.12	0.19	0.25	0.15	0.05	4692425
Total Tin (Sn)	mg/kg	0.6	0.6	1.1	0.6	0.4	0.6	0.1	4692425
Total Titanium (Ti)	mg/kg	18	18	30	21	46	22	1	4692425
Total Uranium (U)	mg/kg	1.68	1.89	0.85	2.05	1.33	0.99	0.05	4692425
Total Vanadium (V)	mg/kg	43	37	30	39	39	42	2	4692425
Total Zinc (Zn)	mg/kg	86	105	96	96	102	87	1	4692425
Total Zirconium (Zr)	mg/kg	5.3	4.9	1.9	4.8	3.7	2.9	0.5	4692425

RDL = Reportable Detection Limit

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

CSR VOC + VPH IN SOIL (SOIL)

Maxxam ID		AC2042		
Sampling Date		2011/03/04		
	Units	BH11-7-1	RDL	QC Batch
Volatiles				
VPH (VHW6 to 10 - BTEX)	mg/kg	<10	10	4688721
Volatile Hydrocarbons				
CSR VH C6-C10	mg/kg	<10	10	4691466
Volatiles				
Chloromethane	mg/kg	<0.1	0.1	4691461
Vinyl chloride	mg/kg	<0.06	0.06	4691461
Bromomethane	mg/kg	<0.3	0.3	4691461
Chloroethane	mg/kg	<0.1	0.1	4691461
Trichlorofluoromethane	mg/kg	<0.2	0.2	4691461
1,1-dichloroethene	mg/kg	<0.03	0.03	4691461
Dichloromethane	mg/kg	<0.1	0.1	4691461
trans-1,2-dichloroethene	mg/kg	<0.03	0.03	4691461
1,1-dichloroethane	mg/kg	<0.03	0.03	4691461
cis-1,2-dichloroethene	mg/kg	<0.03	0.03	4691461
Chloroform	mg/kg	<0.05	0.05	4691461
1,1,1-trichloroethane	mg/kg	<0.03	0.03	4691461
1,2-dichloroethane	mg/kg	<0.03	0.03	4691461
Carbon tetrachloride	mg/kg	<0.03	0.03	4691461
Benzene	mg/kg	<0.005	0.005	4691461
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	0.1	4691461
1,2-dichloropropane	mg/kg	<0.03	0.03	4691461
Trichloroethene	mg/kg	<0.01	0.01	4691461
Bromodichloromethane	mg/kg	<0.05	0.05	4691461
cis-1,3-dichloropropene	mg/kg	<0.05	0.05	4691461
trans-1,3-dichloropropene	mg/kg	<0.05	0.05	4691461
1,1,2-trichloroethane	mg/kg	<0.03	0.03	4691461
Toluene	mg/kg	<0.02	0.02	4691461
Chlorodibromomethane	mg/kg	<0.05	0.05	4691461
Dibromoethane	mg/kg	<0.03	0.03	4691461
Tetrachloroethene	mg/kg	<0.03	0.03	4691461
Chlorobenzene	mg/kg	<0.03	0.03	4691461
1,1,1,2-tetrachloroethane	mg/kg	<0.03	0.03	4691461
Ethylbenzene	mg/kg	<0.01	0.01	4691461
m & p-Xylene	mg/kg	<0.04	0.04	4691461
Bromoform	mg/kg	<0.05	0.05	4691461

RDL = Reportable Detection Limit

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

CSR VOC + VPH IN SOIL (SOIL)

Maxxam ID		AC2042		
Sampling Date		2011/03/04		
	Units	BH11-7-1	RDL	QC Batch
Styrene	mg/kg	<0.03	0.03	4691461
o-Xylene	mg/kg	<0.04	0.04	4691461
Xylenes (Total)	mg/kg	<0.04	0.04	4691461
1,1,2,2-tetrachloroethane	mg/kg	<0.03	0.03	4691461
1,2-dichlorobenzene	mg/kg	<0.03	0.03	4691461
1,3-dichlorobenzene	mg/kg	<0.03	0.03	4691461
1,4-dichlorobenzene	mg/kg	<0.03	0.03	4691461
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	83		4691461
D10-ETHYLBENZENE (sur.)	%	76		4691461
D4-1,2-DICHLOROETHANE (sur.)	%	99		4691461
D8-TOLUENE (sur.)	%	93		4691461

RDL = Reportable Detection Limit

Package 1	6.7°C
Package 2	7.3°C
Package 3	6.0°C
Package 4	5.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4689512	Moisture	2011/03/09					<0.3	%	0.6	20		
4691461	4-BROMOFLUOROBENZENE (sur.)	2011/03/09	99	70 - 130	111	70 - 130	101	%				
4691461	D10-ETHYLBENZENE (sur.)	2011/03/09	84	50 - 130	93	50 - 130	103	%				
4691461	D4-1,2-DICHLOROETHANE (sur.)	2011/03/09	108	70 - 130	117	70 - 130	104	%				
4691461	D8-TOLUENE (sur.)	2011/03/09	102	70 - 130	102	70 - 130	104	%				
4691461	Chloromethane	2011/03/09	66	40 - 150	63	40 - 150	<0.1	mg/kg	NC	40		
4691461	Vinyl chloride	2011/03/09	66	40 - 150	71	40 - 150	<0.06	mg/kg	NC	40		
4691461	Bromomethane	2011/03/09	79	40 - 150	53	40 - 150	<0.3	mg/kg	NC	40		
4691461	Chloroethane	2011/03/09	78	40 - 150	93	40 - 150	<0.1	mg/kg	NC	40		
4691461	Trichlorofluoromethane	2011/03/09	78	40 - 150	81	40 - 150	<0.2	mg/kg	NC	40		
4691461	1,1-dichloroethene	2011/03/09	85	60 - 140	90	60 - 140	<0.03	mg/kg	NC	40		
4691461	Dichloromethane	2011/03/09	84	60 - 140	106	60 - 140	<0.1	mg/kg	NC	40		
4691461	trans-1,2-dichloroethene	2011/03/09	95	60 - 140	100	60 - 140	<0.03	mg/kg	NC	40		
4691461	1,1-dichloroethane	2011/03/09	92	60 - 140	97	60 - 140	<0.03	mg/kg	NC	40		
4691461	cis-1,2-dichloroethene	2011/03/09	83	60 - 140	90	60 - 140	<0.03	mg/kg	NC	40		
4691461	Chloroform	2011/03/09	80	60 - 140	98	60 - 140	<0.05	mg/kg	NC	40		
4691461	1,1,1-trichloroethane	2011/03/09	89	60 - 140	97	60 - 140	<0.03	mg/kg	NC	40		
4691461	1,2-dichloroethane	2011/03/09	106	60 - 140	114	60 - 140	<0.03	mg/kg	NC	40		
4691461	Carbon tetrachloride	2011/03/09	99	60 - 140	102	60 - 140	<0.03	mg/kg	NC	40		
4691461	Benzene	2011/03/09	99	60 - 140	106	60 - 140	<0.005	mg/kg	NC	40		
4691461	1,2-dichloropropane	2011/03/09	87	60 - 140	93	60 - 140	<0.03	mg/kg	NC	40		
4691461	Trichloroethene	2011/03/09	104	60 - 140	90	60 - 140	<0.01	mg/kg	NC	40		
4691461	Bromodichloromethane	2011/03/09	91	60 - 140	98	60 - 140	<0.05	mg/kg	NC	40		
4691461	cis-1,3-dichloropropene	2011/03/09	72	60 - 140	46 _(1, 2)	60 - 140	<0.05	mg/kg	NC	40		
4691461	trans-1,3-dichloropropene	2011/03/09	76	60 - 140	35 _(1, 2)	60 - 140	<0.05	mg/kg	NC	40		
4691461	1,1,2-trichloroethane	2011/03/09	98	60 - 140	103	60 - 140	<0.03	mg/kg	NC	40		
4691461	Toluene	2011/03/09	93	60 - 140	97	60 - 140	<0.02	mg/kg	NC	40		
4691461	Chlorodibromomethane	2011/03/09	88	60 - 140	95	60 - 140	<0.05	mg/kg	NC	40		
4691461	Dibromoethane	2011/03/09	90	60 - 140	96	60 - 140	<0.03	mg/kg	NC	40		
4691461	Tetrachloroethene	2011/03/09	118	60 - 140	99	60 - 140	<0.03	mg/kg	29.6	40		
4691461	Chlorobenzene	2011/03/09	93	60 - 140	98	60 - 140	<0.03	mg/kg	NC	40		
4691461	1,1,1,2-tetrachloroethane	2011/03/09	86	60 - 140	94	60 - 140	<0.03	mg/kg	NC	40		
4691461	Ethylbenzene	2011/03/09	99	60 - 140	100	60 - 140	<0.01	mg/kg	NC	40		
4691461	m & p-Xylene	2011/03/09	98	60 - 140	103	60 - 140	<0.04	mg/kg	NC	40		
4691461	Bromoform	2011/03/09	92	60 - 140	100	60 - 140	<0.05	mg/kg	NC	40		
4691461	Styrene	2011/03/09	98	60 - 140	105	60 - 140	<0.03	mg/kg	NC	40		
4691461	o-Xylene	2011/03/09	94	60 - 140	97	60 - 140	<0.04	mg/kg	NC	40		
4691461	1,1,2,2-tetrachloroethane	2011/03/09	86	60 - 140	93	60 - 140	<0.03	mg/kg	NC	40		
4691461	1,2-dichlorobenzene	2011/03/09	93	60 - 140	95	60 - 140	<0.03	mg/kg	NC	40		

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4691461	1,3-dichlorobenzene	2011/03/09	95	60 - 140	96	60 - 140	<0.03	mg/kg	NC	40		
4691461	1,4-dichlorobenzene	2011/03/09	93	60 - 140	96	60 - 140	<0.03	mg/kg	NC	40		
4691461	Methyl-tert-butylether(MTBE)	2011/03/09					<0.1	mg/kg	NC	40		
4691461	Xylenes (Total)	2011/03/09					<0.04	mg/kg	NC	40		
4691466	VH C6-C10	2011/03/09					<10	mg/kg	NC	50	75	60 - 140
4691510	4-BROMOFLUOROBENZENE (sur.)	2011/03/09	113	70 - 130	73	70 - 130	93	%			80	70 - 130
4691510	D10-ETHYLBENZENE (sur.)	2011/03/09	102	50 - 130	91	50 - 130	92	%			89	50 - 130
4691510	D4-1,2-DICHLOROETHANE (sur.)	2011/03/09	115	70 - 130	109	70 - 130	110	%			107	70 - 130
4691510	D8-TOLUENE (sur.)	2011/03/09	89	70 - 130	92	70 - 130	92	%			90	70 - 130
4691510	Benzene	2011/03/09	117	60 - 140	106	60 - 140	<0.005	mg/kg	NC	40		
4691510	Toluene	2011/03/09	96	60 - 140	90	60 - 140	<0.02	mg/kg	NC	40		
4691510	Ethylbenzene	2011/03/09	114	60 - 140	106	60 - 140	<0.01	mg/kg	NC	40		
4691510	m & p-Xylene	2011/03/09	112	60 - 140	109	60 - 140	<0.04	mg/kg	NC	40		
4691510	o-Xylene	2011/03/09	114	60 - 140	108	60 - 140	<0.04	mg/kg	NC	40		
4691510	VH C6-C10	2011/03/09					<10	mg/kg	NC	40	89	60 - 140
4691510	Methyl-tert-butylether(MTBE)	2011/03/09					<0.1	mg/kg	NC	40		
4691510	Styrene	2011/03/09					<0.03	mg/kg	NC	40		
4691510	Xylenes (Total)	2011/03/09					<0.04	mg/kg	NC	40		
4692425	Total Antimony (Sb)	2011/03/09	90	75 - 125	95	75 - 125	<0.1	mg/kg	NC	30	95	70 - 130
4692425	Total Arsenic (As)	2011/03/09	94	75 - 125	98	75 - 125	0.2, RDL=0.2	mg/kg	8.7	30	94	70 - 130
4692425	Total Barium (Ba)	2011/03/09	NC	75 - 125	96	75 - 125	<0.1	mg/kg	0.2	35	101	70 - 130
4692425	Total Beryllium (Be)	2011/03/09	94	75 - 125	94	75 - 125	<0.1	mg/kg	NC	30		
4692425	Total Cadmium (Cd)	2011/03/09	100	75 - 125	101	75 - 125	<0.05	mg/kg	NC	30	96	70 - 130
4692425	Total Chromium (Cr)	2011/03/09	NC	75 - 125	93	75 - 125	<1	mg/kg	0.4	30	97	70 - 130
4692425	Total Cobalt (Co)	2011/03/09	92	75 - 125	94	75 - 125	<0.3	mg/kg	1.6	30	90	70 - 130
4692425	Total Copper (Cu)	2011/03/09	NC	75 - 125	99	75 - 125	<0.5	mg/kg	1.5	30	85	70 - 130
4692425	Total Lead (Pb)	2011/03/09	96	75 - 125	96	75 - 125	<0.1	mg/kg	8.5	35	97	70 - 130
4692425	Total Lithium (Li)	2011/03/09	93	75 - 125	91	75 - 125	<5	mg/kg				
4692425	Total Manganese (Mn)	2011/03/09	NC	75 - 125	97	75 - 125	<0.2	mg/kg	0.6	30	99	70 - 130
4692425	Total Mercury (Hg)	2011/03/09	92	75 - 125	97	75 - 125	<0.05	mg/kg	NC	35		
4692425	Total Molybdenum (Mo)	2011/03/09	95	75 - 125	93	75 - 125	<0.1	mg/kg	6.6	35	102	70 - 130
4692425	Total Nickel (Ni)	2011/03/09	93	75 - 125	95	75 - 125	<0.8	mg/kg	0.9	30	92	70 - 130
4692425	Total Selenium (Se)	2011/03/09	95	75 - 125	101	75 - 125	<0.5	mg/kg	NC	30		
4692425	Total Silver (Ag)	2011/03/09	94	75 - 125	89	75 - 125	<0.05	mg/kg	NC	35		
4692425	Total Strontium (Sr)	2011/03/09	NC	75 - 125	93	75 - 125	<0.1	mg/kg	1.8	35	90	70 - 130
4692425	Total Thallium (Tl)	2011/03/09	96	75 - 125	96	75 - 125	<0.05	mg/kg	NC	30	89	70 - 130
4692425	Total Tin (Sn)	2011/03/09	99	75 - 125	92	75 - 125	<0.1	mg/kg	NC	35		
4692425	Total Titanium (Ti)	2011/03/09	NC	75 - 125	98	75 - 125	<1	mg/kg	0.9	35	98	70 - 130
4692425	Total Uranium (U)	2011/03/09	102	75 - 125	97	75 - 125	<0.05	mg/kg			88	70 - 130

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4692425	Total Vanadium (V)	2011/03/09	NC	75 - 125	98	75 - 125	<2	mg/kg	0.8	30	101	70 - 130
4692425	Total Zinc (Zn)	2011/03/09	NC	75 - 125	101	75 - 125	<1	mg/kg	0.3	30	85	70 - 130
4692425	Total Aluminum (Al)	2011/03/09					<100	mg/kg	1.1	35	99	70 - 130
4692425	Total Calcium (Ca)	2011/03/09					<100	mg/kg	0.6	30	91	70 - 130
4692425	Total Iron (Fe)	2011/03/09					<100	mg/kg	1.8	30	97	70 - 130
4692425	Total Magnesium (Mg)	2011/03/09					<100	mg/kg	5.1	30	92	70 - 130
4692425	Total Phosphorus (P)	2011/03/09					<10	mg/kg	8.0	30	91	70 - 130
4692425	Total Bismuth (Bi)	2011/03/09					<0.1	mg/kg	NC	30		
4692425	Total Potassium (K)	2011/03/09					<100	mg/kg	2.3	35		
4692425	Total Sodium (Na)	2011/03/09					<100	mg/kg	1.6	35		
4692425	Total Zirconium (Zr)	2011/03/09					<0.5	mg/kg	0.6	30		
4692434	Soluble (2:1) pH	2011/03/10			101	96 - 104			0.3	20		
4692489	4-BROMOFLUOROBENZENE (sur.)	2011/03/09	105	70 - 130	102	70 - 130	99	%			101	70 - 130
4692489	D10-ETHYLBENZENE (sur.)	2011/03/09	93	50 - 130	86	50 - 130	91	%			86	50 - 130
4692489	D4-1,2-DICHLOROETHANE (sur.)	2011/03/09	113	70 - 130	107	70 - 130	105	%			108	70 - 130
4692489	D8-TOLUENE (sur.)	2011/03/09	95	70 - 130	97	70 - 130	97	%			97	70 - 130
4692489	Benzene	2011/03/09	110	60 - 140	111	60 - 140	<0.005	mg/kg	NC	40		
4692489	Toluene	2011/03/09	101	60 - 140	105	60 - 140	<0.02	mg/kg	NC	40		
4692489	Ethylbenzene	2011/03/09	111	60 - 140	115	60 - 140	<0.01	mg/kg	NC	40		
4692489	m & p-Xylene	2011/03/09	113	60 - 140	118	60 - 140	<0.04	mg/kg	NC	40		
4692489	o-Xylene	2011/03/09	113	60 - 140	117	60 - 140	<0.04	mg/kg	NC	40		
4692489	VH C6-C10	2011/03/09					<10	mg/kg	NC	40	104	60 - 140
4692489	Methyl-tert-butylether(MTBE)	2011/03/09					<0.1	mg/kg				
4692489	Styrene	2011/03/09					<0.03	mg/kg	NC	40		
4692489	Xylenes (Total)	2011/03/09					<0.04	mg/kg	NC	40		
4693636	O-TERPHENYL (sur.)	2011/03/10	90	50 - 130	88	50 - 130	96	%				
4693636	EPH (C10-C19)	2011/03/10	91	50 - 130	90	50 - 130	<100	mg/kg	NC	40		
4693636	EPH (C19-C32)	2011/03/10	93	50 - 130	92	50 - 130	<100	mg/kg	NC	40		
4693661	O-TERPHENYL (sur.)	2011/03/09	95	50 - 130	97	50 - 130	99	%				
4693661	EPH (C10-C19)	2011/03/09	96	50 - 130	112	50 - 130	<100	mg/kg	NC	40		
4693661	EPH (C19-C32)	2011/03/09	103	50 - 130	110	50 - 130	<100	mg/kg	NC	40		
4695161	O-TERPHENYL (sur.)	2011/03/10	94	50 - 130	89	50 - 130	90	%				
4695161	EPH (C10-C19)	2011/03/10	88	50 - 130	94	50 - 130	<100	mg/kg	NC	40		
4695161	EPH (C19-C32)	2011/03/10	93	50 - 130	96	50 - 130	<100	mg/kg	NC	40		
4697218	O-TERPHENYL (sur.)	2011/03/10	86	50 - 130	91	50 - 130	96	%				
4697218	EPH (C10-C19)	2011/03/10	87	50 - 130	99	50 - 130	<100	mg/kg	NC	40		
4697218	EPH (C19-C32)	2011/03/10	85	50 - 130	95	50 - 130	<100	mg/kg	NC	40		
4697371	O-TERPHENYL (sur.)	2011/03/10	88	50 - 130	95	50 - 130	93	%				
4697371	EPH (C10-C19)	2011/03/10	90	50 - 130	97	50 - 130	<100	mg/kg	NC	40		

Maxxam Job #: B117992
Report Date: 2011/03/11

EWD CONSULTING CORP.
Client Project #: 20003.001

Your P.O. #: 20003.001
Sampler Initials: JF

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4697371	EPH (C19-C32)	2011/03/10	93	50 - 130	100	50 - 130	<100	mg/kg	NC	40		
4697373	D10-ANTHRACENE (sur.)	2011/03/10	93	60 - 130	90	60 - 130	108	%				
4697373	D12-BENZO(A)PYRENE (sur.)	2011/03/10	92	60 - 130	80	60 - 130	83	%				
4697373	D8-ACENAPHTHYLENE (sur.)	2011/03/10	95	50 - 130	94	50 - 130	108	%				
4697373	D8-NAPHTHALENE (sur.)	2011/03/10	93	50 - 130	90	50 - 130	105	%				
4697373	TERPHENYL-D14 (sur.)	2011/03/10	94	60 - 130	92	60 - 130	112	%				
4697373	Naphthalene	2011/03/11	94	50 - 130	91	50 - 130	<0.05	mg/kg	NC	50		
4697373	2-Methylnaphthalene	2011/03/11	95	50 - 130	92	50 - 130	<0.05	mg/kg	NC	50		
4697373	Acenaphthylene	2011/03/11	92	50 - 130	90	50 - 130	<0.05	mg/kg	NC	50		
4697373	Acenaphthene	2011/03/11	94	50 - 130	92	50 - 130	<0.05	mg/kg	NC	50		
4697373	Fluorene	2011/03/11	93	50 - 130	94	50 - 130	<0.05	mg/kg	NC	50		
4697373	Phenanthrene	2011/03/11	92	60 - 130	91	60 - 130	<0.05	mg/kg	NC	50		
4697373	Anthracene	2011/03/11	94	60 - 130	93	60 - 130	<0.05	mg/kg	NC	50		
4697373	Fluoranthene	2011/03/11	93	60 - 130	98	60 - 130	<0.05	mg/kg	NC	50		
4697373	Pyrene	2011/03/11	97	60 - 130	92	60 - 130	<0.05	mg/kg	NC	50		
4697373	Benzo(a)anthracene	2011/03/11	87	60 - 130	84	60 - 130	<0.05	mg/kg	NC	50		
4697373	Chrysene	2011/03/11	92	60 - 130	86	60 - 130	<0.05	mg/kg	NC	50		
4697373	Benzo(b&j)fluoranthene	2011/03/11	91	60 - 130	90	60 - 130	<0.05	mg/kg	NC	50		
4697373	Benzo(k)fluoranthene	2011/03/11	96	60 - 130	95	60 - 130	<0.05	mg/kg	NC	50		
4697373	Benzo(a)pyrene	2011/03/11	92	60 - 130	90	60 - 130	<0.05	mg/kg	NC	50		
4697373	Indeno(1,2,3-cd)pyrene	2011/03/11	98	60 - 130	98	60 - 130	<0.05	mg/kg	NC	50		
4697373	Dibenz(a,h)anthracene	2011/03/11	92	60 - 130	86	60 - 130	<0.05	mg/kg	NC	50		
4697373	Benzo(g,h,i)perylene	2011/03/11	95	60 - 130	90	60 - 130	<0.05	mg/kg	NC	50		
4698565	Moisture	2011/03/11					<0.3	%	4.0	20		

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) - LCS outside acceptance criteria (10% of analytes failure allowed)

COMPANY NAME: Ewd Consulting		PH. #: 250-785-0560 E-mail: jfleming@ewdcorp.com FAX #: 250-785-0565		ANALYSIS REQUEST F 109563							
COMPANY ADDRESS: 10707 101 Avenue Fort St. John, BC Canada V1J 5J4		CLIENT PROJECT ID: (R) 20003.001		LAB USE ONLY							
SAMPLER NAME (PRINT): Jodi Fleming		PROJECT MANAGER: Cal Faminow		LAB USE ONLY							
FIELD SAMPLE ID	MAXXAM LAB # (Lab Use Only)	MATRIX					SAMPLING			HEADSPACE VAPOUR	BTEXS / VPH / MTHF LEPH / HEPH PAHs Metals EPA VOC / VPH
		GROUND WATER	SURFACE WATER	SOIL	OTHER	# CONTAINERS	DATE DD/MM/YY	TIME			
1 BH11-1-1				X		2	04/03/11				
2 BH11-1-2				X		2	04/03/11				
3 BH11-1-3				X		2	04/03/11				
4 BH11-1-4				X		2	04/03/11				
5 BH11-1-5				X		2	04/03/11				
6 BH11-2-1				X		2	04/03/11			X	
7 BH11-2-2				X		2	04/03/11			X	
8 BH11-2-3				X		2	04/03/11			X	
9 BH11-2-4				X		2	04/03/11			X	
10 BH11-3-1				X		2	04/03/11			X	
11 BH11-3-2				X		2	04/03/11			X	
12 BH11-3-3				X		2	04/03/11			XX	


 B117992

TAT (Turnaround Time) <5 DAY TAT MUST HAVE PRIOR APPROVAL *some exceptions apply please contact lab		P.O. NUMBER / QUOTE NUMBER: 20003.001		SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:		LAB USE ONLY	
STANDARD 5 BUSINESS DAYS ☒ RUSH 3 BUSINESS DAYS ☐ RUSH 2 BUSINESS DAYS ☐ URGENT 1 BUSINESS DAY ☐		ACCOUNTING CONTACT:		SPECIAL REPORTING OR BILLING INSTRUCTIONS:		ARRIVAL TEMPERATURE °C: 767 877 557 576	
OTHER BUSINESS DAYS:		RELINQUISHED BY: Jodi Fleming		DATE: 7/03/11		RECEIVED BY: R. Shaw	
CUSTODY RECORD		RELINQUISHED BY:		DATE:		RECEIVED BY:	
		RELINQUISHED BY:		DATE:		RECEIVED BY LABORATORY: C. ROSEN	

F129834

YELLOW – CLIENT

ANALYSIS REQUEST F 109562

COMPANY NAME: **Ewo Consulting**

COMPANY ADDRESS: **10707 101 avenue
Fort St. John n, Bc Canada
V1J 5J4**

PH: **250-785-0660**
E-mail: **jfleming@ewocorp.com**
FAX #: **250-785-0565**

CLIENT PROJECT ID: (R) **20003.001**

SAMPLER NAME (PRINT): **Jodi Fleming**

PROJECT MANAGER: **Cal Faminow**

FIELD SAMPLE ID	MAXXAM LAB # (Lab Use Only)	MATRIX					# CONTAINERS	SAMPLING		
		GROUND WATER	SURFACE WATER	SOIL	OTHER			DATE DDMMYY	TIME	HEADSPACE VAPOUR
1 BH11-6-1				X			2	04/03/11		
2 BH11-6-2				X			2	04/03/11		
3 BH11-6-3				X			2	04/03/11		
4 BH11-6-4				X			2	04/03/11		
5 BH11-6-5				X			2	04/03/11		
6 BH11-6-6				X			2	04/03/11		
7 BH11-7-1				X			2	04/03/11		
8 BH11-7-2				X			2	04/03/11		
9 BH11-7-3				X			2	04/03/11		
10 BH11-7-4				X			2	04/03/11		
11 BH11-7-5				X			2	04/03/11		
12 BH11-A				X			2	04/03/11		

LAB USE ONLY									
BTEX/UPH/MTBE									
LEPH/HEPH									
PAHs									
Metals									
EPH									
VOC/UPH									



5117592

TAT (Turnaround Time)
**<5 DAY TAT MUST HAVE
PRIOR APPROVAL**

*some exceptions apply
please contact lab

STANDARD 5 BUSINESS DAYS ☒
RUSH 3 BUSINESS DAYS ☐
RUSH 2 BUSINESS DAYS ☐
URGENT 1 BUSINESS DAY ☐

P.O. NUMBER / QUOTE NUMBER:
20003.001

ACCOUNTING CONTACT:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

LAB USE ONLY

ARRIVAL TEMPERATURE °C: **767**

DUE DATE: **877 557**

LOG IN CHECK:

JARS USED: **576**

OTHER BUSINESS DAYS

**CUSTODY
RECORD**

RELINQUISHED BY SAMPLER:
Jodi Fleming

RELINQUISHED BY:

RELINQUISHED BY:

DATE: **7/03/11**

DATE: **7/03/11**

DATE: **7/03/11**

TIME: **1320**

TIME:

TIME:

RECEIVED BY: **D. Ray**

RECEIVED BY: **11 03 08 OTSO**

RECEIVED BY LABORATORY: **C. ROSEN**

MAXXAM JOB #

ANALYSIS REQUEST

F129821

COMPANY NAME: EWD Consulting		PH # 250-785-0660 E-mail: j.fleming@ewdcorp.com FAX # 250-785-0665		CLIENT PROJECT ID: (#) 20003.001		LAB USE ONLY	
COMPANY ADDRESS: 10707-101 avenue Fort St. John, BC Canada V1J5J4		PROJECT MANAGER: Jodi Fleming		PROJECT MANAGER: Cal Faminow			
FIELD SAMPLE ID	MAXXAM LAB # (Lab Use Only)	MATRIX GROUNDWATER SURFACE WATER SOIL DEBRIS OTHER	# CONTAINERS	SAMPLING DATE TIME	HEADSPACE VAPOUR	BTEX / LH ☒ BTEX / VPH ☒ MTBE ☒ VOCs / VPH ☒ EPH ☒ TEH ☐ PAH ☒ LEPA/HEPA ☒ CCME-PHC (FRACTIONS 1-4 PLUS BTEX) CCME-PHCS (FRACTIONS 2-4) CCME BTEX (FRACTION 1 PLUS BTEX) PHENOLS BY AAAP ☐ PHENOLS BY GC/MS ☐ TOTAL OAG ☐ MINERAL OAG ☐ Dissolved Metals ☐ Field Filtered? ☐ YES ☐ NO ☐ Field Preserved? ☐ YES ☐ NO ☐ Total Metals Field Preserved? ☐ YES ☐ NO ☐ NITRATE ☐ NITRITE ☐ AMMONIA ☐ CHLORIDE ☐ FLUORIDE ☐ SULPHATE ☐ TOTAL SUSPENDED SOLIDS (TSS) ☐ CYANIDE SAD ☐ WAD ☐ LEACHABLE LEAD (AA) ☐ (TCLP) ☐ LEACHABLE BTEX (AA) ☐ (TCLP) ☐ metals	
1 BH11-B				204/03/11			
2 BH11-C				204/03/11			
3 BH11-D				204/03/11			
4 BH11-E				104/03/11	X		
5							
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12							



B117992

TAT (Turnaround Time)

<5 DAY TAT MUST HAVE PRIOR APPROVAL

*some exceptions apply please contact lab

STANDARD: 5 BUSINESS DAYS ☒
RUSH: 3 BUSINESS DAYS ☐
RUSH: 2 BUSINESS DAYS ☐
URGENT: 1 BUSINESS DAY ☐

OTHER BUSINESS DAYS

CUSTODY RECORD

P.O. NUMBER / QUOTE NUMBER:

20003.001

ACCOUNTING CONTACT:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

☐ CCME
☐ CSR
☐ ALBERTA TIER 1
☐ OTHER

* SOIL JARS USED AND NOT SUBMITTED:

LAB USE ONLY

ARRIVAL TEMPERATURE °C: **767**
DUE DATE: **877**
576 **557**

LOG IN CHECK:

RELINQUISHED BY SAMPLER:

RELINQUISHED BY:

RELINQUISHED BY:

DATE: **7/03/11**

DATE: **7/03/11**

DATE: **7/03/11**

TIME: **1320**

TIME: **1320**

TIME: **1320**

RECEIVED BY:

RECEIVED BY:

RECEIVED BY LABORATORY:

May
110308
576

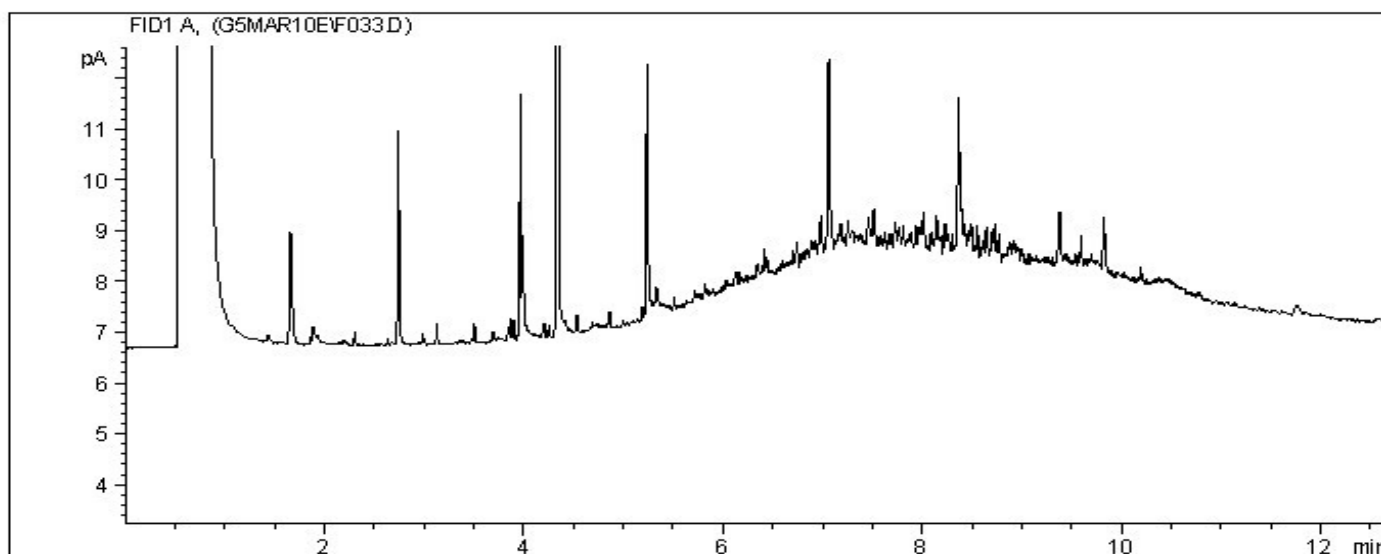
January 29, 2018

Report Date: 2011/03/11
Maxxam Job #: B117992
Maxxam Sample: AC2042

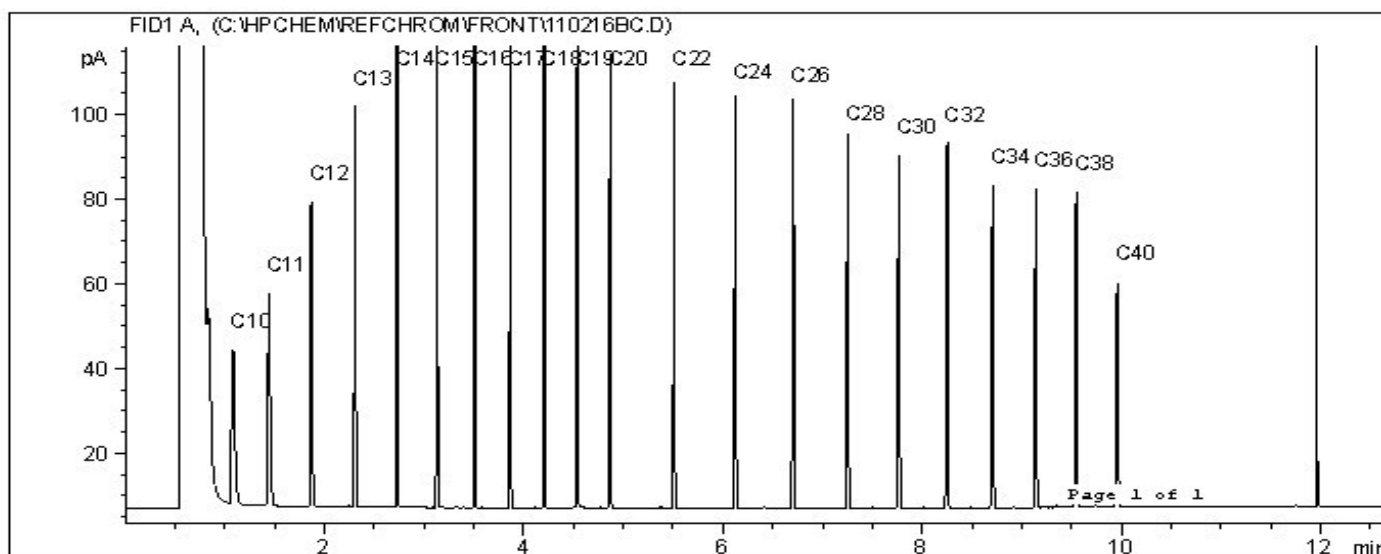
EWD CONSULTING CORP.
Client Project #: 20003.001

Client ID: BH11-7-1

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Appendix I

Environmental Report General Conditions

January 29, 2018

EWD Consulting Corp. (EWD)
ENVIRONMENTAL REPORT – GENERAL CONDITIONS

This report incorporates and is subject to these “General Conditions”

1.0 USE OF REPORT

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of EWD's client. EWD does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than EWD's client unless otherwise authorized in writing by EWD. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of EWD. Additional copies of the report, if required, may be obtained upon request.

2.0 LIMITATIONS OF REPORT

This report is based solely on the conditions which existed on site at the time of EWD's investigation. The client, and any other parties using this report with the express written consent of the client and EWD, acknowledge that conditions affecting the environmental assessment of the site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The client, and any other party using this report with the express written consent of the client and EWD, also acknowledge that the conclusions and recommendations set out in this report are based on limited observations and testing on the subject site and that conditions may vary across the site which, in turn, could affect the conclusions and recommendations made.

The client acknowledges that EWD is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the client.

2.1 Information Provided to EWD by Others

During the performance of the work and the preparation of this report, EWD may have relied on information provided by persons other than the client. While EWD endeavors to verify the accuracy of such information when instructed to do so by the client, EWD accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

3.0 LIMITATION OF LIABILITY

The client recognizes that property containing contaminants and hazardous wastes creates a high risk of claims brought by third parties arising out of the presence of those materials. In consideration of these risks, and in consideration of EWD providing the services requested, the client agrees that EWD's liability to the client, with respect to any issues relating to contaminants or other hazardous wastes located on the subject site shall be limited as follows:

- (1) With respect to any claims brought against EWD by the client arising out of the provision or failure to provide services hereunder shall be limited to the amount of five times of fees paid by the client to EWD under this Agreement, whether the action is based on breach of contract or tort;
- (2) With respect to claims brought by third parties arising out of the presence of contaminants or hazardous wastes on the subject site, the client agrees to indemnify, defend and hold harmless EWD from and against any and all claim or claims, action or actions, demands, damages, penalties, fines, losses, costs and expenses of every nature and kind whatsoever, including solicitor-client costs, arising or alleged to arise either in whole or part out of services provided by EWD, whether the claim be brought against EWD for breach of contract or tort.

EWD Consulting Corp. (EWD)
ENVIRONMENTAL REPORT – GENERAL CONDITIONS

4.0 JOB SITE SAFETY

EWD is only responsible for the activities of its employees on the job site and is not responsible for the supervision of any other persons whatsoever. The presence of EWD personnel on site shall not be construed in any way to relieve the client or any other persons on site from their responsibility for job site safety.

5.0 DISCLOSURE OF INFORMATION BY CLIENT

The client agrees to fully cooperate with EWD with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The client acknowledges that in order for EWD to properly provide the service, EWD is relying upon the full disclosure and accuracy of any such information.

6.0 STANDARD OF CARE

Services performed by EWD for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Engineering judgement has been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

7.0 EMERGENCY PROCEDURES

The client undertakes to inform EWD of all hazardous conditions, or possible hazardous conditions which are known to it. The client recognizes that the activities of EWD may uncover previously unknown hazardous materials or conditions and that such discovery may result in the necessity to undertake emergency procedures to protect EWD employees, other persons and the environment. These procedures may involve additional costs outside of any budgets previously agreed upon. The client agrees to pay EWD for any expenses incurred as a result of such discoveries and to compensate EWD through payment of additional fees and expenses for time spent by EWD to deal with the consequences of such discoveries.

8.0 NOTIFICATION OF AUTHORITIES

The client acknowledges that in certain instances the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by EWD in its reasonably exercised discretion.

9.0 OWNERSHIP OF INSTRUMENTS OF SERVICE

The client acknowledges that all reports, plans, and data generated by EWD during the performance of the work and other documents prepared by EWD are considered its professional work product and shall remain the copyright property of EWD.

10.0 ALTERNATE REPORT FORMAT

Where EWD submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EWD's instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by EWD shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancies, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by EWD shall be deemed to be the overall original for the Project.

The Client agrees that both electronic file and hard copy versions of EWD's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EWD. The Client warrants that EWD's instruments of professional service will be used only and exactly as submitted by EWD.

The Client recognizes and agrees that electronic files submitted by EWD have been prepared and submitted using specific software and hardware systems. EWD makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

September 25, 2012

Northern Geo File No: NG820

Focus Surveys
10716 100TH Avenue
Fort St. John, BC
V1J 1Z3



Attention: Mr. Graham McCoubrey,

Re: Preliminary Desktop Geotechnical Assessment for Proposed Lookout Upgrade
Peace River Valley
Approximately LSD SW 1/4-19-083-18 W6M
100th Street, Fort St. John, BC

1.0 INTRODUCTION

Northern Geo Testing & Engineering Ltd. (Northern Geo) presents herein the results of our preliminary desktop geotechnical engineering study for the proposed developments at the Peace River Lookout, located approximately at LSD SW 1/4-19-083-18 W6M in Fort St. John, BC. This report provides a summary of the geotechnical conditions based upon review of available literature and based upon observations made during our ground-based visual assessment, and provides a summary of our comments and recommendations related to the proposed developments. Attachments to this report include a regional map and four ground-based photos. This report has been prepared for use by the Peace River Regional District (PRRD), and any third party decisions based upon this report are the responsibility of that third party.

1.1 General

At the request of Mr. Graham McCoubrey of Focus Corporation (Focus), Northern Geo has undertaken a preliminary desktop geotechnical assessment to evaluate the overall stability of the existing lookout in light of the new developments and upgrades proposed by the PRRD. The general location of the existing lookout is south of the southernmost end of 100th Street, south of the Fort St. John, BC city limit at the crest of the Peace River valley slope. Road access to the existing lookout is south from the Alaska Highway via 100th Street from Fort St. John, to the crest of the valley slope at the end of the existing gravel road. The area that was assessed and which is discussed below is shown on Figure 1 and Photos 1 and 4 (all attached at the end of this report).

The preliminary desktop geotechnical assessment consisted of visual observation of the terrain from the ground, a literature and map search of available geological and geotechnical information, a review of survey monitoring data provided by Focus, and a review of historical aerial photography of the area. Other investigations, including geotechnical drilling, reviews of other parts of the proposed developments,

Northern Geo File No.: NG820
Preliminary Desktop Geotechnical Assessment for Peace
River Lookout.
Fort St. John, BC
September 25, 2012



soil sampling and stability modelling were not undertaken and were outside of the scope of the current geotechnical assessment.

The purposes of the preliminary desktop geotechnical assessment of the existing Peace River lookout were to provide geotechnical discussion and input into the following:

1. Evaluation of slope stability conditions based upon a visual assessment conducted on-site and upon available geological and geotechnical information.
2. The overall geotechnical feasibility of undertaking improvements and developments at the above noted location.
3. Identification of potential geotechnical and/or geological concerns in the above noted area that might preclude the construction of the proposed site developments.
4. Further geotechnical investigations if required.

1.2 Background & Methodology

On August 16, 2011, a preliminary ground-based visual geotechnical assessment of the existing lookout area was conducted on site to determine the general geotechnical conditions at the site, to determine the locations for an array of survey monitoring points, and to assess prior land use and previous earthworks/other improvements that have been ongoing at the site. A follow-up field visit to the site was undertaken on August 9, 2012 to review some of the improvements that had been undertaken during the spring and summer of 2012, and to assess changes in the stability conditions of several slide areas around the perimeter of the lookout area.

A review of available mapping and published regional geological information was also undertaken following the field work to supplement the field observations. Further historical data was obtained by reviewing stereographical aerial photographs in the archives at Front Counter BC in Fort St. John (photography from 1976, 1990 and 2005). A historical geotechnical report written in 1986 by Aquaterre Consultants Inc. was also reviewed to help determine the extent of previous geotechnical work in the area.

Additionally, a review of survey data provided by Focus was also undertaken to assess the observed movements at specific locations around the perimeter of the existing lookout. Many of the survey points were destroyed during fall and/or winter of 2011/2012 due to other activities being undertaken on the site (including but not limited to dumping of loose soil and fill into the slide areas, snow clearing operations, installation of new fences and site grading), and therefore there are some gaps in the available survey information.

January 29, 2018

Northern Geo File No.: NG820
Preliminary Desktop Geotechnical Assessment for Peace
River Lookout.
Fort St. John, BC
September 25, 2012



2.0 SITE CONDITIONS

2.1 Location and Topography

The proposed developments at the Peace River lookout are located south of the city of Fort St. John, and the lookout at the crest of the valley slope is situated on the south edge of a nearly flat to gently sloping upland plateau approximately 220m above the Peace River channel elevation. Figure 1 shows the existing lookout and Photos 1 and 4 show selected terrain features.

2.2 Geology

2.2.1 Bedrock Geology

Published regional geological information¹ indicates that the study area along the Peace River at the lookout area is underlain by shales of the Shaftesbury Formation. Also known as the Sully Formation, the bedrock consists of dark grey, sideritic (iron-rich) marine shales. The Sully Formation shales tend to weather recessively and are generally low strength, with interbedded high plastic and bentonitic clay layers. The high plastic clay layers form sliding surfaces for numerous very large deep-seated slides in many areas of northeastern British Columbia, particularly along the Peace River and its tributaries. The clay layers are typically located approximately 200 meters below the bottom of the overlying Dunvegan Formation. This depth interval is typical of the depth of the Peace River valley in the study area, and numerous large deep-seated slides have been documented in the area.

The Sully Formation shales are present under the lower to middle valley slopes and valley bottom areas along the Peace River near the existing lookout. Sully Formation shale typically weathers recessively and is, therefore, often not exposed. However, it can be observed in the deeply incised draws to the east of the lookout. Based upon the available stereographical aerial photographs, survey monitoring, and field observations, deep-seated movement related to the bedrock does not appear to have retrogressed to the existing lookout. However, deep-seated movement has occurred in many areas around and adjacent to the lookout, and therefore it is still considered to be a significant factor with respect to the terrain stability at the site. Further discussion of the stability conditions at the site is presented below.

¹ Stott, D.F., 1982. *Lower Cretaceous Fort St. John Group and Upper Cretaceous Dunvegan Formation of the Foothills and Plains of Alberta, British Columbia, District of Mackenzie and Yukon Territory*. Geological Survey of Canada, Bulletin 328.

Northern Geo File No.: NG820
 Preliminary Desktop Geotechnical Assessment for Peace
 River Lookout.
 Fort St. John, BC
 September 25, 2012



2.2.2 Surficial Geology

The following descriptions of the surficial soils are based upon literature review, and upon the visual geotechnical assessment which included the following:

1. Visual reconnaissance of soil exposures in the area including small road cuts and eroded river/creek banks.
2. Previous work done in the surrounding area.
3. Published geological mapping².

The surficial soil deposits observed at the lookout area include the following (from youngest to oldest):

Glaciolacustrine sediments: in this area consisting of clay with some thin silt varves and layers, these materials were deposited in the standing water of a glacial lake that was present during and/or following the last glaciation in the area. These soils tend to be layered, and consist mainly of medium to high plastic, silty clay. In previous geotechnical drilling investigations along the Peace River several kilometers further downstream, and to the north in the City of Fort St. John, the glaciolacustrine materials have been found to extend for up to several tens of metres. The glaciolacustrine soils overlie and/or contain pockets of glacial till and/or boulders that have been dropped into the glaciolacustrine deposit from floating ice.

Glacial Till: consisting of a medium plastic clay matrix with variable quantities of sand, gravel and occasional boulders, the clay till occurs in the upland areas beneath or within the glaciolacustrine sediments. The clay till is typically denser than the glaciolacustrine sediments and contains larger quantities of gravel, cobbles and boulders.

Interglacial sands and gravels: deposited by flowing meltwater between episodes of glaciation, these include the sand and gravel accumulations observed at the ground surface to the east of the lookout where sand and gravel extraction has occurred in the past. These deposits generally underlie the glaciolacustrine deposits and tills, but further upstream along the Peace River, these deposits have been observed within the till deposits.

2.2.3 Geological Setting

The Peace River lookout is within the preglacial valley of the Peace River which, in some areas, was much broader than the present-day valley. In northeastern BC overall, the valleys of the Peace River and its tributaries (including the Moberly River, the Beatton River, the Pine River and others), appear to have undergone extensive erosion prior to the last glaciation, which left the valleys deeper but also wider than the current valleys. During the multiple ice advances and retreats of the last glaciation, these valleys have been partially backfilled by a combination of glacial till, glaciofluvial and glaciolacustrine sediments. The glacial till and other sediments have, in places, buried the bedrock surface and any preglacial and interglacial sediments under a significant thickness of overburden.

² Mathews, W.H, 1978. *Surficial Geology, Charlie Lake, Peace River District, British Columbia*; Geological Survey of Canada, Map 1460A.

Northern Geo File No.: NG820
Preliminary Desktop Geotechnical Assessment for Peace
River Lookout.
Fort St. John, BC
September 25, 2012



During and following the final deglaciation in the area, fluvial erosion by the Peace River and its tributaries has removed part of the valley fill and locally exposed the bedrock at the edges of the preglacial valley. However, in many areas along the Peace River, the preglacial valley remains infilled with a substantial thickness of clay till and glaciolacustrine sediments with relatively thin deposits of modern alluvial sediments (sands and gravels) in the present-day valley bottom. Erosion of the valley fill materials, and in some cases the underlying shale bedrock by the Peace River, has caused widespread landslide activity along much of the Peace River valley.

3.0 GEOTECHNICAL OBSERVATIONS, DISCUSSION AND RECOMMENDATIONS

3.1 General

Figure 1 and Photos 1 and 4 show the location of the Peace River lookout that was observed in the field and reviewed in the available literature and aerial photography.

3.2 Stability

There were numerous locations around the perimeter of the existing lookout and at locations along the Peace River visible from the lookout where slope movements were taking place. In general, three types of slope failures were observed to be occurring, or have been documented in the area:

1. Very large, deep-seated, slow moving translational slides in the weak shale of the Sully Formation.
2. Shallow to moderately-deep translational slides in silty clay soils.
3. Earthflows.

The various types of slides and the geotechnical implications with respect to current and future improvements at the lookout are discussed in the following sections.

3.2.1 Deep Seated Instability

Large natural deep-seated translational slides in the bedrock of the Sully Formation are present in many of the valleys in the Fort St. John area. Similar post-glacial slides are common in northeastern British Columbia and are typically hundreds to thousands of years old. The slides are several hundreds of meters to a few kilometers long and extend from the valley bottom to the upland areas.

Based upon past investigation of deep-seated slides elsewhere along the Peace River which included the use of installed instrumentation, the near-horizontal high plastic clay beds sometimes found within the Sully Formation may form the basal failure surface. The slides typically retrogress back into the overlying sandstones and/or overburden sediments, producing tension cracks.

Northern Geo File No.: NG820
 Preliminary Desktop Geotechnical Assessment for Peace
 River Lookout.
 Fort St. John, BC
 September 25, 2012



The deep-seated slides previously investigated in the area typically exhibited the following characteristics:

1. The slides were relatively deep-seated with maximum depths below the upper valley slopes of up to 200m or more. The toes and lower parts of the slides appeared to be close to or below the valley bottom or river elevation.
2. The slide crests usually extended a short distance back into the upland area. Tension cracks along the crests of the valley slopes indicated the approximate upper extent of the slides.
3. Within the slide masses, there were numerous features related to sliding activity including grabens (downdropped blocks), tension areas and side scarps, as well as smaller and shallower secondary slides. Many of the blocks within the deep-seated slides were very large and relatively intact, although they had been subject to appreciable translational movement.
4. The slides typically moved at slow rates (few to several mm/year to less than 1 m/year). However, during extended periods of unfavorable precipitation and/or rapid snow melt, similar deep-seated slides have been known to move up to several tens of meters in one day.

3.2.2 Shallow Translational Slides & Earthflows

Shallow to moderately deep-seated slope failures (shallow in comparison to the deep-seated slides) are also common along the Peace River, and active examples were visible extending up to the south edge of the lookout. These are typically translational slides with depths ranging from a few meters to perhaps 10 to 20 m, lateral extents of 20 to 100 m, and lengths of 50 to 100 m or more. The smaller translational slides typically move more rapidly than the larger deep-seated slides and movements in excess of 1 to 3 meters per year may occur, particularly during years of unfavorable precipitation. In extreme cases, some of the smaller translational slides may move several meters in a day.

Many of the shallow to moderately deep-seated slides occur as secondary slides within the deep-seated slide areas. Weakening of the soils due to the movement of the larger slides and appreciable groundwater seepage along the boundaries of the deep-seated slide blocks may be factors in the development of many of the smaller slides.

Earthflows are similar to the shallow translational slides except that more or less complete disruption of the overall soil fabric has occurred, resulting in a flowing soil mass, rather than slide blocks. Earthflows typically occur in wet soils containing considerable proportions of silt, clay and/or organic material. They generally tend to occur in areas where seepage has been significant or where surface water has been redirected to flow into areas of loose or disrupted soils. Evidence of recent earthflows was observed along the south, east and southeast sides of the lookout where it appeared that loose soils had been dumped into previous slide areas an uncontrolled manner. The dumped material had subsequently become weakened by rainfall runoff, and slid down the valley slope. The movement rates may be in the range of a few meters per week to several meters per day, depending upon rainfall amounts.

January 29, 2018

Northern Geo File No.: NG820
 Preliminary Desktop Geotechnical Assessment for Peace
 River Lookout.
 Fort St. John, BC
 September 25, 2012



3.3 General Implications of Slides Relative to Lookout Improvements

As discussed in the foregoing, there are three types of sliding that are occurring, or have occurred, near or adjacent to the existing Peace River lookout. All three of these types of slides appear to have the potential to negatively impact the existing lookout area; however, from visual review of the site on the ground during the summers of 2011 and 2012, the slides appear to have affected only the perimeter of the site. Review of historical stereographical aerial photography³ indicates that human activity has caused changes in the stability conditions around the south, east and southeast perimeters of the site due to uncontrolled dumping of loose/high moisture level soils and other debris, and changes have been made to the surface drainage conditions by ditching and road surface upgrades. This soil dumping and additional surface drainage appear to have caused accelerations in the movement and retrogression rates of the shallow to moderately deep slides and earthflow slides, as evidenced by open tension cracks and recent earthflows (see Photos 1 to 4), and the need to reconstruct the new chain-link fencing with an additional setback from the crest of the slope after slide activity had removed support from the fence foundations.

While a geotechnical report by others⁴ has indicated that deep seated slides may have affected parts of the Old Fort Subdivision (located downslope from the existing lookout), and that this sliding could retrogress further upslope in future, at the time of this writing, the deep-seated sliding does not appear to have retrogressed upslope to the lookout area, based solely upon visual review of the site. Survey monitoring by Focus suggests that there has been some soil movement in the area between August 2011 and July of 2012; however, no clear conclusion can be drawn from the data to clearly indicate or preclude the occurrence of deep-seated movement during the time period that the survey monitoring was undertaken.

There is evidence of active shallow to moderately deep sliding and earthflows occurring around the perimeter of the site as shown in Photos 1 to 4. Survey monitoring by Focus appears to indicate that there are small movements occurring around the perimeter of the lookout, although the movements were only in the 1 to 2mm range. Therefore it is considered that while survey monitoring has probably detected the shallower movements, the dataset appears too small to draw definite conclusions, and hence surveying over a longer period of time may be necessary.

Based upon visual assessment, the active shallow to moderately deep-seated slides could, over time, retrogress further upslope and into the site if drainage conditions were subject to change, slope geometry were to change (due to dumping of more fill into the slides), or particularly if additional drainage were to be directed into the active slides. The deep seated sliding occurring regionally along the Peace River could, in theory, also retrogress onto the site in response to changes in the Peace River channel or in response to extreme weather events.

³ Front Counter British Columbia; 1976 - BC7836 Photo # 300/301; 1990 - 15BCB90002 Photo #66/67; 2005 - 15BCC05129 Photo # 50/51.

⁴ Aquaterre Consultants Inc., 1986, *Hazard Assessment Report Old Fort Subdivision South of Fort St. John, British Columbia*; Peace River-Liard Regional District, File Number 85072.

Northern Geo File No.: NG820
Preliminary Desktop Geotechnical Assessment for Peace
River Lookout.
Fort St. John, BC
September 25, 2012



In summary, there is the potential for slide movements to affect the site at some time in the future given its very close proximity to active sliding. Since slide activity usually occurs slowly, and since there are often signs of movement initiation in the form of changes in ground surface topography and/or tension cracks, the risk of slide activity at the lookout which could cause danger to the public is considered to be low, but it is definitely not zero. Therefore it is critical that PRRD must recognize that there is some inherent risk in further developing the lookout area, and by inviting additional people to visit the site.

In the interests of helping to improve public safety and for “due diligence” purposes, it is recommended that PRRD should continue some form of annual monitoring of the site, and appropriate signage should be posted along the access route and on the existing fences warning the public of the potential for slides at the site. As well, the fences should be maintained and set back as necessary if additional shallow slides occur which threaten to reduce that stability of the fence.

It is considered that the most effective and cost efficient type of monitoring for the site would be have experienced PRRD personnel visually monitor the site on a monthly basis, and to seek geotechnical advice if changes are noted. Additionally, PRRD may wish to consider the installation of permanent survey monitoring points that could be monitored annually to check for changes in the ground surface over the whole area of the site. Should annual survey monitoring show significant changes, then additional monitoring could be undertaken at shorter intervals, and/or ground investigations, possibly including geotechnical drilling and Slope Indicator installations could be considered. As discussed in previous correspondences, Slope Indicators are costly to install and monitor, and while they give very detailed movement data to significant depths, they only provide that data for a localized location, whereas survey monitoring can return data over a larger area at a reasonable cost. Further, Slope Indicator installations would be difficult to protect from damage and vandalism, which appears to be a consideration at this site. Should future survey monitoring show that movements in the lookout area are changing or increasing, or if additional developments are proposed for the site in the future, PRRD may wish to obtain additional geotechnical advice and possibly install Slope Indicators at specific locations.

January 29, 2018

Northern Geo File No.: NG820
 Preliminary Desktop Geotechnical Assessment for Peace
 River Lookout.
 Fort St. John, BC
 September 25, 2012



4.0 CONCLUSION

The recommendations presented in the foregoing geotechnical report are based upon a geotechnical evaluation of the conditions observed during the site investigations noted, and which were undertaken at the request of Focus Surveys. If geotechnical conditions other than those described above are encountered during subsequent phases of the project, Northern Geo Testing and Engineering Ltd. should be notified and be given the opportunity to review the current recommendations and make revisions where necessary.

This geotechnical report has been prepared for the exclusive use of Focus Surveys, the Peace River Regional District and its representatives for specific application to the above-described study area. Any use of this report by others, or any reliance on or decisions made based upon it, are the responsibility of such third parties. Northern Geo Testing and Engineering Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based upon this geotechnical report. It has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made.

Respectfully submitted,

Northern Geo Testing and Engineering Ltd.



Per:
 Dustin McDonald, P.Eng.
 Geotechnical Engineer

Darryl Grandberg, P.Eng.
 Senior Geotechnical Engineer

Attachments: Figure 1
 Photos 1 and 4

January 29, 2018

PEACE VALLEY LOOKOUT

REMEDIAL OPTIONS REPORT: A SUMMARY OF COMPLETED WORK AND SUGGESTED NEXT STEPS

Project number 060300016



Submitted to:
Peace River Regional District
PO Box 810
1981 Alaska Avenue
Dawson Creek, BC
V1G 4H8

Prepared by:
Focus Corporation
10716 100 Avenue
Fort St. John, BC
V1J 1Z3

October 2012

January 29, 2018

FOCUS

1.0 INTRODUCTION

Focus Corporation (FOCUS) has prepared this report for the Peace River Regional District (PRRD) as part of the proposal signed in September 2011. The information found in this report has been collected and summarized from the recently completed environmental and geotechnical studies. The report also provides cost estimates and next steps for remediation at the property. The cost estimates and recommendations in this report are to be used by the PRRD to determine if they will purchase the parcel of land and convert it to a regional park.

2.0 BACKGROUND

The PRRD is considering the purchase of a parcel of crown land where the Peace Valley Lookout is currently located (Slide 2.1). The intention is that the parcel be converted into a regional park. In considering the purchase, the PRRD is evaluating the property's potential for development and determining the possible costs to remediate any negative site issues. The following issues have been identified as part of this process:

- Is it feasible to convert the lookout into a regional park?
- Are there significant potential environmental issues?
- If a significant environmental issue does exist, what are the estimated costs to remediate it?
- Are there any significant geotechnical issues with slope stability?
- If a significant geotechnical issue does exist, what are the estimated costs to remediate it?
- Pending the results of the environment and geotechnical investigations, is the development of the site as a park financially viable?



Slide 2.1: The current Peace Valley Lookout

To help answer these questions, the PRRD commissioned the following studies:

- 1) **Feasibility Study:** Focus completed a feasibility study in March 2010. Focus was awarded the project after the initial Request for Proposal from the PRRD that closed October 8, 2009.
- 2) **Stage One Preliminary Site Investigation (PSI) and Limited Stage Two PSI Studies.** Completed by Focus in March 2011 as part of the Preliminary Site Investigation Proposal that was dated February 28, 2011.
- 3) **Preliminary Desktop Geotechnical Assessment:** Completed in September of 2012 by Northern Geo Testing and Engineering Ltd.

The Feasibility Study was the first assignment completed. The study recommended that a geotechnical study, environmental assessment, and a drainage and runoff study be completed before the PRRD moves ahead with plans to purchase the parcel. Next, the Phase One and Limited Phase Two Preliminary Site Investigations (PSIs) were completed and a report was submitted to the PRRD. Lastly, Northern Geo Testing and Engineering Ltd. (Northern Geo) completed their Geotechnical investigation and finalized the report in September of 2012.

In addition to these studies, there has been work done by others at the site. In the fall of 2011, the Ministry of Transportation and Infrastructure (MoTI) did a significant amount of work on the site. They removed the existing household garbage, car hulks (old vehicles) and appliances that had been dumped at the site. MoTI also placed fill in some areas, installed rip rap, and hydro-seeded to help prevent further erosion (Slide 2.2a and 2.2b). (It is not known if these measures were engineered.) Finally, MoTI installed fencing near the edge of the bank, picnic tables, and a sign.



Slide 2.2a: MOTI has made some improvements to the site such as placing fill and rip rap.



Slide 2.2b: Rip rap installed in the drainage ditch to the left of the viewing area

The PRRD will use the summary and costs contained in this report to determine if the development of the park is financially viable.

3.0 REPORT OBJECTIVES:

The purpose of this report is to outline a remedial options action plan and the estimated costs for the site based on the results from the investigations. For the purposes of this report, we will focus on the preliminary site investigations, geotechnical study and results from site visits carried out since the PSIs were completed.

4.0 SUMMARIZED STUDY RESULTS:

This section summarizes the results of the studies completed on the site.

Since the parcel had been used as a landfill in the past, the soils, groundwater and surface water were assessed for contamination. The following identifies the testing results of the Preliminary Site Investigations:

- o Property has been used for dumping of municipal waste and abandoned vehicles for years. The potential for environmental impairment to the property from illegal dumping is to be considered moderate.
- o In British Columbia, contamination limits are based on the type of land use. There are six different land use categories identified in the British Columbia Contaminated Sites Regulation. FOCUS considers Agricultural Land Use (AL) and Parks Land Use (PL) to be applicable to the property based on existing and proposed land use. Standards based on this land use designation were used in the environmental assessment.
- o All concentrations of BTEXS, VPH, VOCs, EPHs, PAHs, LEPH and HEPH and/or metals from the twelve soil samples were found to be below the acceptable CSR AL and PL Standards.
Therefore, it was determined that the buried landfill waste, cars, and appliances did not have a significant negative impact on the soils, ground water, or surface water.

In addition to the soils and groundwater testing that was conducted, two site visits were completed in May of 2012. The site visit conducted on May 18, 2012 noted that there was some erosion along the south-east bank at the existing fence line (Slide 3.1). The May 31st follow-up visit noted that this same location had continued to slump. Enough soil movement had occurred that two fence posts were hanging in the air as the bank was no longer there to support them. In that area, the bank looked very unstable, and with more precipitation, the bank will continue to slump, leaving more of the fence unsupported. The fence has since been repaired and moved back into a stable ground area.



Slide 3.1: Bank erosion had left two fence posts unsupported

Along other areas of the bank, there is evidence of significant surface erosion where surface water has created concentrated flow paths along the bank. Although MoTI has hydro-seeded and installed rip rap, it is too early to tell if these measures will be effective enough to prevent further erosion and slumping.

It was also noted during these two site visits that while the visible surface garbage had been cleaned up, there are still some vehicles and appliances at the bottom of the slope, adjacent to the river, although not visible from the top of the lookout (Slide 3.2). This may not be the case in the fall when the leaves are gone, and the sight-lines are opened up.



Slide 3.2: Car hulks and old appliances can be found at the bottom of the slope.

Northern Geo completed their investigation of the site in September. Focus worked with the consultant to establish a survey grid for the set-up of their slope monitoring study. Once a month, Focus surveyed these points and provided the results to Northern Geo for their investigation. Northern Geo's report identified a low risk of danger to public due to a slide. They also reported that the recent earthflow and movement observed was mostly likely due to erosion of loose soil dumped in an uncontrolled manner. The extent of the movement is likely only shallow to moderately deep.

5.0 CONCLUSIONS:

Based on these results, FOCUS recommends the following actions to improve the site:

a. Clean-up and Disposal of Car Hulks and Appliances:

MoTI has removed the vehicles and appliances within visible sight lines. There are still some existing vehicles and appliances at the base of the bank, but they are not visible from behind the fence at the lookout. At this time, it is not deemed essential to remove this surface garbage on account of aesthetics or environmental reasons. (A fence and rip rap have been installed which will likely prevent further dumping

of waste off the lookout as vehicles can no longer access the bank.) It would be at the PRRD discretion as to whether they wish to remove the large items or not. Estimated costs to undertake this optional action can be found in Table 5.1.

b. Clean-up of Surface Garbage (litter):

The only visible garbage on the site is litter that has been deposited since MoTI completed their work. FOCUS recommends cleaning up the litter that has been left on the site since MoTI complete their work. (i.e.: fast food and beverage containers). This could be completed as part of a scheduled maintenance plan including maintenance of picnic tables, signs, and the clean-up for garbage that accumulates on site. A clean, well-respected site helps to deter others from littering or vandalizing. Costs to undertake the clean-up and disposal of garbage, maintain picnic tables, and signs can be found in Table 5.1.

c. Installation of Garbage Bins:

It is recommended that the PRRD install garbage receptacles at the site. Costs to install garbage receptacles can be found in Table 5.1.

d. Preventative Plan

FOCUS recommends that monitoring of the site take place. If the garbage issue persists, a further measure that could be taken involves installing one or two fake cameras around the site and assign stating the area is being monitored by a surveillance camera. This has been known to encourage people to clean-up after themselves. It will also help to limit the amount of vandalism that could occur on site. Costs to undertake a long term monitoring program consisting of monthly site visits can be found in Table 5.1.

e. Drainage Study to Prevent Further Surface Erosion

The major geotechnical concern for this site is drainage and surface erosion. It is our recommendation that the PRRD completes a surface erosion and drainage study and report. From this a storm water management plan should be implemented so that runoff does not continue to flow over the banks causing erosion and

further slumping. An estimate of the cost to complete a storm water drainage study and management plan can be found in Table 5.1.

f. Geotechnical Recommendations:

Due to the potential for slide movement to occur, it is recommended that annual monitoring of slope movement be implemented. As per Northern Geo's report, it is recommended that staff from PRRD monitor the slope (take photographs) monthly for visual changes. If changes are noted, it is recommended to seek Geotechnical advice. This task could be incorporated into the monthly maintenance plan.

To ensure public safety, it is recommended that the current fence be maintained and signs be installed warning the public of the potential for slides to occur. If additional shallow slides occur, a setback of the fence should be provided to maintain the stability of the fence.

Table 5.1

Item Description	Cost
a. Removal of remaining car hulks and appliances at bottom of slope (optional)	\$25,000
b. Site maintenance program (including clean-up of litter, maintenance of tables, and signs)	\$8,000 (annually)
c. Installation of bins	\$5,000
d. Monthly monitoring for litter and vandalism prevention	\$6,000 (annually)
e. Drainage study	\$7,000
f. Geotechnical monitoring	\$3,000 (annually unless combined with maintenance visits)

6.0 NEXT STEPS

After reviewing the results of the site Investigations and geotechnical reports, Focus does not see any significant issues at the lookout location. There is, however, one last action that should be undertaken prior to concluding the feasibility review of the parcel:

1. Focus recommends completing the drainage study before the purchase of the land. By completing this study, the PRRD will have estimated costs to mitigate the surface runoff issues that are still affecting the slope.

7.0 Closing

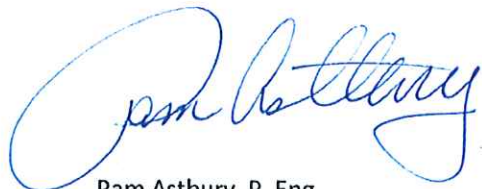
We trust this short report has summarized the results of work completed for the site and provides relevant information regarding the potential purchase of the lookout. We are more than happy to discuss these results in further detail with you at any time and expand on the remediation suggestions, estimated costs and next steps.

Sincerely,

FOCUS CORPORATION



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FOCUS