

MORRISSEY COURT DISCLOSURE STATEMENT

DEVELOPER: Montane Developments Ltd.

(the "Developer")

Address for Service: Box 490, Ste 202 – 502 Third Avenue

Fernie, BC, V0B 1M0

Business Address: 691 – 1st Avenue

Fernie, BC V0B 1M0

DEVELOPMENT: MORRISSEY COURT

(the "Development") as described herein

REAL ESTATE BROKER: The Developer intends to use its own employees to market the

lots, or real estate agents licensed in the Province of British Columbia. The Developer's employees are not licensed under the *Real Estate Services Act* of British Columbia and are not acting on

behalf of the purchaser.

DATE OF THIS DISCLOSURE STATEMENT: October 21, 2019

DISCLAIMER:

This Disclosure Statement has been filed with the Superintendent of Real Estate, but neither the Superintendent, nor any other authority of the government of the Province of British Columbia, has determined the merits of any statement contained in the Disclosure Statement, or whether the Disclosure Statement contains a misrepresentation or otherwise fails to comply with the requirements of the *Real Estate Development Marketing Act*. It is the responsibility of the Developer to disclose plainly all material facts, without misrepresentation.

This Disclosure Statement relates to a development property that is not yet completed. Please refer to section 7.2 for information on the purchase agreement. That information has been drawn to the attention of _______, who has confirmed that fact by initialling in the space provided here.

INITIAL HERE



RIGHTS OF RESCISSION

Under section 21 of the *Real Estate Development Marketing Act*, the purchaser or lessee of a development unit may rescind (cancel) the contract of purchase and sale or contract to lease by serving written notice on the developer or the developer's brokerage, within 7 days after the later of the date the contract was entered into or the date the purchaser or lessee received a copy of this Disclosure Statement.

The rescission notice may be served by delivering or sending by registered mail, a signed copy of the notice to

- (a) the developer at the address shown in the disclosure statement received by the purchaser,
- (b) the developer at the address shown in the purchaser's purchase agreement,
- (c) the developer's brokerage, if any, at the address shown in the disclosure statement received by the purchaser, or
- (d) the developer's brokerage, if any, at the address shown in the purchaser's purchase agreement.

The developer must promptly place purchaser's deposits with a brokerage, lawyer or notary public who must place the deposit in a trust account in a savings institution in British Columbia. If a purchaser rescinds their purchase agreement in accordance with the Act and regulations, the developer or the developer's trustee must promptly return the deposit to the purchaser.

Reference is made to the Agreement of Purchase and Sale contained as Exhibit J to this Disclosure Statement. Contained therein are provisions substantially in accordance with those set out above.



MURKISSET COSTA. DISCLOSURE STATEMENT October 21, 2019

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LIST OF EXHIBITS

EXHIBIT NO.	DESCRIPTION
Α	Plan of Subdivision
В	Title Searches
С	Proposed Encumbrance - Architectural Design Guidelines and Restrictive Covenant Terms (All Lots)
D	Proposed Encumbrance - Option to Purchase (All Lots)
Е	Proposed Encumbrance – Rentcharge (All Lots)
F	Proposed Encumbrance - Pre-Construction Geotechnical (All Lots)
G	Proposed Encumbrance - Non Disturbance Geotechnical (Lots 69-80)
Н	Proposed Encumbrance – Subsurface Drain (Lots 72-80)
I	Proposed Encumbrance – No Access (Lots 69 and 82-88)
J	Contract of Purchase and Sale



1 The Developer

1.1 Incorporation

The Developer was incorporated under the laws of British Columbia on March 29, 2012 under incorporation number BC0936724.

1.2 Incorporation purpose

The Developer was incorporated for the purpose of developing the Development and adjacent developments which are not the subject of this Disclosure Statement. The Developer has other assets aside from the Development property.

1.3 Registered and Records Office

The Developer's registered and records office in British Columbia is Suite 202, 502 Third Avenue, P.O. Box 490, Fernie, BC, V0B 1M0.

1.4 Name of Directors

The name of the director of the Developer required to sign this Disclosure Statement is Simon Howse.

1.5 Note: The information about the Director is provided by the Director.

(1) Nature and Extent of Developer's Experience

Simon Howse, President of the Developer. Mr. Howse, originally from Sydney, Australia, has an established entrepreneurial record in Canada with extensive experience in the development industry. As the owner and operator of many successful businesses in the Elk Valley, including hotels, apartments, restaurants and construction service. Simon Howse has been a general contractor of residential homes and commercial projects for more than 8 years. In that time Simon has built numerous residential homes and multi-family units including the restoration of the 1908 Fernie Schoolhouse. Simon developed and oversaw all areas including the Project Management, Sales and Marketing Team, along with a fully equipped trade team and began the construction of the large-scale development in the spring of 2006. Simon brings a wealth of knowledge and hands on experience to the Parastone Team of Companies. Simon oversees all aspects of the Montane community which is recognized as an ideal location for modern mountain living, close to Fernie's historic downtown.

(2) Statement Re: No Regulatory or other Sanction

"Neither the Developer nor any principal holder, director, or officer of the Developer or principal holder, within the ten years before the date of the Developer's declaration attached to this Disclosure Statement, has been



subject to any penalties or sanctions imposed by a court or regulatory authority relating to the sale, lease, promotion, or management of real estate or securities, or to lending money secured by a mortgage of land, or to arranging, administering or dealing with mortgages of land, or to theft or fraud whatsoever."

(3) Statement Re: No Bankruptcy or Insolvency

"Neither the Developer nor any principal holder of the Developer, or any director or officer of the Developer or principal holder, within the five years before the date of the Developer's declaration attached to this Disclosure Statement, was declared bankrupt or made a voluntary assignment in bankruptcy, made a proposal under any legislation relating to bankruptcy or insolvency or has been subject to or instituted any proceedings, arrangement, or compromise with creditors or had a receiver, receiver-manager or trustee appointed to hold the assets of that person."

- (4) "No director, officer or principal holder of the Developer, or any director or officer of the principal holder, within the five years prior to the date of the Developer's declaration attached to this Disclosure Statement, has been a director, officer or principal holder of any other developer that, while that person was acting in that capacity, that other developer:
 - (a) was subject to any penalties or sanctions imposed by a court or regulatory authority relating to the sale, lease, promotion, or management of real estate or securities, or to lending money secured by a mortgage of land, or to arranging, administering or dealing in mortgages of land, or to theft or fraud; or
 - (b) was declared bankrupt or made a voluntary assignment in bankruptcy, made a proposal under any legislation relating to bankruptcy or insolvency or been subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver-manager or trustee appointed to hold its assets."

1.6 Conflict Statement

"There are no existing or potential conflicts of interest among the Developer, manager, any directors, officers and principal holders of the Developer and manager, any directors and officers of the Principal Holders, and any person providing goods or services to the Developer, manager or holders of the development units in connection with the Development which could reasonably be expected to affect the Purchaser's purchase decision."

2 General Description

2.1 General Description of the Development



The Development consists of 19 fee-simple municipal building lots (the "Lots"), located in Fernie, British Columbia at the eastern end of Piedmont Drive near Coal Creek. The Lots vary in size from approximately 702 m² to 1760 m², as shown on the draft plan of the Development attached as Exhibit A.

By this Disclosure Statement, the Developer is marketing all of the Lots.

2.2 Permitted Use

The Development is zoned Detached Residential One (DR1) under the CD-1 Comprehensive Development Zone described in By-Law No. 1750 of the City of Fernie, adopted March 30, 1998, amended by By-Law No. 2252, adopted October 9, 2014.

DR1 Zoning is described below:

.1 Purpose

The purpose of the DR1 sub-area is to provide for single-detached residential units with or without an attached or detached secondary residential dwelling unit.

.2 Permitted Uses

- a) single family dwelling;
- b) secondary dwelling unit;
- c) uses permitted under Section 3.3 of this Bylaw; and
- d) golf course.

.3 Accessory Uses

- a) home occupation;
- b) bed and breakfast residential; and
- c) buildings and structures accessory to a permitted use.

The Lots may not be used for commercial purposes other than those which are ancillary to residential purposes.

Prospective purchasers may obtain further zoning information from the City of Fernie Planning Department, 501 Third Avenue, Fernie, BC, (tel 250 423 6817) or by visiting www.fernie.ca.

2.3 Building Construction

Purchasers of Lots shall be solely responsible for the construction of any



improvements on the Lots. Prior to commencement of construction, owners of Lots are required to obtain a building permit from the City of Fernie. No Statutory Building Scheme is intended to be registered against the Lots however purchasers shall be required to comply with the Architectural Design Guidelines attached as **Exhibit "C"**, which are intended to be registered as a Restrictive Covenant rather than as a Statutory Building Scheme.

3 Servicing Information

3.1 Utilities and Services

a) Water and Sewerage

Water will be supplied by the City of Fernie. Each Lot will be separately assessed. Payment of the City of Fernie hook-up fee and Development Cost Charge will be required at the time of issuance of a building permit (see "Other Material Facts" below).

b) Electricity

The Development will be serviced with electricity by the British Columbia Hydro and Power Authority or a competing provider. Each Lot will be metered individually.

c) Natural Gas

Natural Gas will be supplied by Fortis BC. Each Lot will be metered individually.

d) Fire Protection

Fire protections will be proved by the City of Fernie Fire department which is presently a combination of full time and volunteer members.

e) Telephone

Telephone service will be provided by Telus or Shaw Communications, or by other service providers;

f) Access

Access to the Development will be via Montane Parkway, which is a municipal roadway.

g) Snow Removal and Trail Maintenance

Maintenance of sidewalks and trails within the Development will be provided by the Developer and paid for by way of the Rentcharge described at Section 4.4 below.



4 Title and Legal Matters

4.1 Legal Description

The legal description of the real property comprising the Development is as follows:

PID: 007-576-391

Lot A District Lot 4589 Kootenay District Plan 9587 Except Plans NEP22339, NEP62291, NEP62407, NEP62408, NEP64706, NEP64864, NEP65351, NEP66828, NEP66830 AND EPP44900, EPP51119, EPP45555, EPP48838, EPP55349, EPP72587, EPP77751, EPP87188 and EPP90403 ("Lot A")

and

PID: 030-398-738

Lot 1 District Lot 4589 Kootenay District Plan EPP77696 Except Part in Plan EPP77751 and EPP87188 ("Lot 1")

The legal description of the Lots will, after subdivision, be Lots 69 - 88, District Lot 4589 Kootenay District Plan EPP96933.

The Purchasers are asked to note that according to Land Title & Survey Authority procedure, the Lots have received numbering sequential to that of adjacent Developments known as Montane Fernie 1, 2, 3 and 4, however no relationship between Lots 1 through 20, District Lot 4589 Kootenay District Plan EPP45555 (Montane Fernie 1), Lots 21 through 28, District Lot 4589 Kootenay District Plan EPP48838 (Montane Fernie 2), Lots 29 through 45, District Lot 4589 Kootenay District Plan EPP55349 (Montane Fernie 3), and Lots 46 through 68, Lot 1 District Lot 4589 Kootenay District Plan NEP92508 Except Plans EPP55349 and EPP72587 (Montane Fernie 4) and the Development is established as a result of this sequential numbering.

4.2 Ownership

The Developer is the owner of the property comprising the Development.

4.3 Existing Encumbrances and Legal Notations

Lot A is currently subject to the following legal notations / charges:

Legal Notations

- a) Restrictive Covenant CA4671604 over Lots 1 to 20 Plan EPP45555;
- b) Restrictive Covenant CA4714169 over Lots 21 to 28 Plan EPP48838:



- c) Restrictive Covenant CA5273282 over Lots 29 to 45 Plan EPP55349;
- d) Restrictive Covenant CA6082307 over Part Lot 43 Plan EPP55349 shown on Plan EPP67669:
- e) Restrictive Covenant CA7175231 over Lots 49 to 67 Plan EPP87188;
- f) A Permit under Part 14 of the Local Government Act, see CA7423959;
- g) Easement CA7634636 Strata Lots 1 to 4 Plan EPS5687;
- i) Easement KM98707 over Lot 1, DL 4589, Kootenay District Plan NEP62291:
- j) Easement KN89162 Over Lot A Plan NEP65351:
- k) A Permit under Part 26 of the Local Government Act, see KT50437;
- I) A Permit under Part 26 of the *Local Government Act*, see LB501978.

Other than the foregoing, Lot A is not currently subject to any legal notations.

The Restrictive Covenants described in a) through e) above and the Easements described in g) through j) above are not intended to be appurtenant to the Lots and will not be registered as legal notations on any of the Lots on subdivision.

Statutory Right of Way

m) CA5273262 - a Statutory Right of Way in favour of The Corporation of the City of Fernie;

This Statutory Right of Way will not encumber the Lots upon subdivision.

Covenants

- n) CA3648196 a covenant in favour of The Corporation of the City of Fernie which restricts usage of the Lands to golf course, golf clubhouse, public trails, public parks, and community gardens and agriculture. The Developer has agreed with the City of Fernie to have CA3648196 removed during the subdivision process when the Lots are created:
- o) CA4636432 a Covenant in favour of The Corporation of the City of Fernie:
- p) CA7634623 a Covenant in favour of The Corporation of the City of Fernie with priority CA7634624 over Mortgage CA6735072;

These Covenants will not encumber the Lots upon subdivision.

Restrictive Covenant

q) CA6139518 – a Restrictive Covenant in favour of Mathieu Millette-LaPointe and Sanne Charlotte de Groot. This Restrictive Covenant pertains to land other than the Lots and will not encumber any of the Lots once subdivided.



Easement

r) CA7634621 – an Easement appurtenant to Lot 68 Plan EPP90403 with priority CA7634622 over Mortgage CA6735072. This Easement will cease to exist on subdivision of the Lots.

Mortgage

s) CA6735072 – a Mortgage in favour of CBT Commercial Finance Corp.

Lot 1 is currently subject to the following legal notations / charges:

Legal Notations

- a) Restrictive Covenant CA6910470 over lots 46 to 48 Plan EPP77751;
- b) Restrictive Covenant CA7175231 over Lots 49 to 67 Plan EPP87188;
- c) Easement XF34360 over Parcel A (See 117879I) of Parcel 89 (See 85409I) District Lot 4589 Kootenay District as to Part Former Lot 1 Plan NEP82972;
- d) Easement XG34835 over Lot 1, District Lots 4588 and 4589 Kootenay District Plan NEP20648 Part Plan NEP20649 as to Part former Lot 1 Plan NEP92872;
- e) Clauses (E) & (F) Sec. 23(1) LTA See L18469 dated 25/08/1977;
- f) Re: Paragraphs (E), (F) and (K) of Section 23(1) of the *Land Title Act*. See V27504:
- g) A Permit under Part 26 of the Local Government Act, see LB353720;
- h) A Permit under Part 26 of the Local Government Act, see LB402825;
- i) As to Part Form Lot 1 Plan NEP82972
 - 1) Permit under Part 26 of the Local Government Act, see LB501978
 - 2) Permit under Part 26 of the Local Government Act, see LB501979
 - 3) Permit under Part 26 of the Local Government Act, see LB501979.

Other than the foregoing, Lot 1 is not currently subject to any legal notations.

Of the above Legal Notations, the benefit of the easements described in a) through d) above will not be transferred to the Lots once subdivided.

Undersurface Rights

- i) 17281D in favour of Cominco Ltd.;
- k) 17283D in favour of Cominco Ltd.;
- I) 17284D in favour of Cominco Ltd.;
- m) 17291D in favour of Cominco Ltd.;
- n) 17292D in favour of Cominco Ltd.;
- o) L6660 in favour of Her Majesty the Queen in Right of the Province of British Columbia:



- p) S142 in favour of Her Majesty the Queen in Right of the Province of British Columbia;
- q) S143 in favour of Her Majesty the Queen in Right of the Province of British Columbia;
- r) KP6315 in favour of the Crown in Right of British Columbia;
- s) KP6316 in favour of the Crown in Right of British Columbia;
- t) KP6317 in favour of the Crown in Right of British Columbia;

Statutory Right of Way

u) LB272269 in favour of British Columbia Hydro and Power Authority;

Covenants

- v) XK6069 in favour of The Crown in Right of British Columbia and Regional District of East Kootenay;
- w) KT71351 in favour of The Crown in Right of British Columbia and The Corporation of the City of Fernie;
- x) LB338137 in favour of The Corporation of the City of Fernie;
- v) CA3648199 in favour of The Corporation of the City of Fernie:
- z) CA3736448 in favour of The Corporation of the City of Fernie;
- aa) CA6080602 in favour of The Corporation of the City of Fernie;

It is anticipated that none of the above Covenants will encumber the Lots once subdivided.

Restrictive Covenants

- bb) LB8316 modified by CA253862 Appurtenant to the Remainder of Parcel 89 (See 85409I) DL 4589 Kootenay District Part Former Lot 1 Plan NEP82972;
- cc) LB8319 Appurtenant to the Remainder of Parcel 89 (See 85409I) DL 4589 Kootenay District Part Former Lot 1 Plan NEP82972;

It is anticipated that none of the above Restrictive Covenants will encumber the Lots once subdivided.

<u>Mortgage</u>

dd) Mortgage CA6735072 in favour of CBT Commercial Finance Corp.

As a condition of the completion of the purchase and sale of the Lots with each Purchaser, the Developer will arrange with the holder of the charge in Lot A referred to in item s) and Lot 1 referred to in item dd) above to grant a release of the charge in respect of any Lot concurrent with the completion of the purchase and sale of such Lot.

The Title Searches for Lot A and Lot 1 are included at Exhibit "B".



Prospective purchasers are advised to review thoroughly all of the above encumbrances with their legal advisor prior to the expiration of any rescission period.

4.4. Proposed Encumbrances

The Developer proposes to register against title of the Lots as set out below the following charges which shall remain on title following completion of the purchase and sale of the Lots:

- (i) Architectural Design Guidelines on title to all of th Lots by way of Restrictive Covenant, the terms of which are attached hereto in **Exhibit "C"** and which will impose certain restrictions on the use of the Lots;
- (ii) Statutory Rights of Way and/or Easements as may reasonably be required by public authorities, Crown agencies and/or public utilities in order to service and/or provide emergency access to the Lots as required;
- (iii) An Option to Purchase on title to all of th Lots as shown in **Exhibit "D"**:
- (iv) A Rentcharge on title to all Lots for the purpose of paying for the cost of snow removal and trail maintenance, to be administered by the Developer on the basis of cost recovery and a reasonable management fee, in substantially the form attached in **Exhibit "E"**:
- (v) A Pre Construction Geotechnical Covenant on title to all Lots in the form attached as **Exhibit** "F", requiring site specific geotechnical confirmations to be provided during foundation excavation;
- (vi) A Non-Disturbance Geotechnical Covenant on title to Lots 69 to 80 in the form attached as **Exhibit "G"**, requiring further site-specific investigative work to be conducted prior any construction in the area marked as "Proposed Geotechnical Covenant" on Lots 69 through 80 in Exhibit A;
- (vii) A Covenant on title to Lots 72 to 80 in favor of the City of Fernie in respect of an existing subsurface drain located along the south (upslope) side of Lots 72 to 80, in the form attached as **Exhibit "H"**:
- (viii) A Covenant on title to Lots 69 and 82 through 88 prohibiting vehicular access from such Lots to Montane Parkway, in the form attached as **Exhibit "I"**; and
- (ix) Any other charge required.



4.5 Outstanding or Contingent Litigation or Liabilities

There is no outstanding or contingent litigation and the Developer is aware of no liabilities in respect of the Development or against the Developer that may affect the Lots or the Lot owners.

4.6 Environmental Matters

The Developer is not aware of any dangers or building requirements imposed by any governmental authority with respect to flooding, the condition of soil and subsoil, or other environmental matters affecting the Development.

Purchasers are advised to conduct their own due diligence including, but not limited to, geotechnical and/or environmental matters in respect of the Lots and the Development, and the Developer makes no warranty, express or implied, as to environmental or geotechnical matters.

5 Construction and Warranties

5.1 Construction Dates

As of the date of this Disclosure Statement construction of the Development has commenced and is expected to be completed between October 1, 2020 and December 31, 2020.

Construction and servicing of future development lands surrounding the Development shall be completed at the discretion of the Developer having regard to economic feasibility, market demand, and technical considerations. **The Developer makes no representations or warranties with respect to any future development of lands beyond the Development whatsoever.**

5.2 Warranties

The Developer makes no warranties with respect to the Lots or the Development.

6 Approvals and Finances

6.1 Development Approval

The Developer has received Subdivision Layout Approval for the Development from the City of Fernie on October 7, 2019, being the equivalent of a Building Permit for subdivisions of bare land.

6.2 Construction Financing

The Developer has obtained mortgage financing for the construction of the Development. As a condition of the completion of the purchase and sale of the Lots



with each purchaser the Developer will arrange with such bank or other financial institution to grant a release of any such mortgage in respect of any Lot concurrent with the completion of the purchase and sale of such Lot.

7 Miscellaneous

7.1 Deposits

All Deposits and other monies received from the Purchaser will be held in trust by the Developer's solicitors, Rockies Law Corporation, Suite 202, 502 Third Avenue, Fernie, British Columbia V0B 1M0, in the manner required by the *Real Estate Development Marketing Act*.

7.2 Purchase Agreement

Form of Agreement

The Developer intends to use the form of purchase agreement attached as **Exhibit "J"**.

(a) Termination Provisions

The form of purchase agreement used by the Developer and included herewith as an exhibit may not be terminated except in the following circumstances:

- 1. It is not accepted by the Developer pursuant to section 1.13 thereof;
- 2. The Purchaser's conditions precedent described in Section 1.7 are not waived or declared fulfilled in writing:
- 3. It is rescinded in accordance with the Purchaser's statutory rescission rights; or
- 4. Upon the default of the Purchaser in completing the purchase and sale thereunder in a timely manner.

(b) Extension of Time

The purchase agreement provides that the Developer can extend the completion date from time to time until the later of the time that the Lot is ready to be occupied and the time that title to the Lot has been raised. This provision requires the Developer to use commercially reasonable efforts to obtain permission to legally occupy the Lot and to raise title to the Lot.

The purchase agreement also provides that the completion date is extended for a period equivalent to the amount of time lost in completion of construction of the Lot by reason of unforeseen circumstances including, without limitation, time lost from strikes, lockouts, climatic conditions, acts of Governmental Authorities, fire, explosion, Acts of God, or other circumstances beyond the exclusive control of the Vendor. There are no provisions permitting the Purchaser to unilaterally extend the contract. Any other extensions of the completion date may only be made with the mutual agreement of the Developer and Purchaser.



The Developer may continue to extend the completion date pursuant to the above until such time the Lot is actually capable of being legally occupied and title is raised to the Lot.

(c) Assignment

The purchase agreement provides that it cannot be assigned without the consent of the Developer, which consent may be arbitrarily withheld. This means that the Developer may refuse to allow an assignment or may require a fee in order to agree to an assignment in its discretion.

(d) Interest on Deposits

The purchase agreement provides that interest on deposits, if any, shall be credited to the Developer and the Developer's solicitors shall not be under any obligation to place any deposits in any interest bearing trust account.

(e) Time of the Essence

1. The Purchase Agreement provides as follows in respect of timely performance:

"Time shall be of the essence of this Agreement. Unless all payments on account of the Purchase Price together with the adjustments are provided and all other amounts payable by the Purchaser are paid when due, then the Vendor may terminate this Agreement and in addition to any other remedy available to the Vendor, the Deposit plus any interest accrued shall immediately and absolutely be forfeited to the Vendor on account of damages. The Purchaser acknowledges and agrees that in such case the Deposit represents earnest money, and is not in the nature of a penalty. The Purchaser hereby irrevocably authorizes and directs any solicitors or real estate agents holding any such Deposit to forthwith upon the request of the Vendor deliver such Deposit to the Vendor."

7.3 Developer's Commitments

A portion of the services required to be completed in connection with the Development, such as paving of roads and sidewalks, and installation of "shallow services" such as gas and electricity (taken together, the "Incomplete Works") may not be completed at the time of subdivision of the Lots. In such circumstances the Developer may elect to post a bond (the "Bond") with the City of Fernie (the "City") in the amount of 125% of the estimated cost of completion of the Incomplete Works in order to obtain the signature of the Municipal Approving Officer to the plan of subdivision of the Development. In such case purchasers will, in accordance with the terms of the purchase agreement, be required to complete the purchase and sale. In the event the Developer does not complete the Incomplete Works within 12 months of the date of subdivision, the City may, but is not required to, demand payment of the Bond and apply the proceeds thereof to completion of the Incomplete Works by its own contractors. In such event there can be no assurance that the Bond will be sufficient to ensure completion of the



Incomplete Works or that the City will complete the Incomplete Works at any particular time, or at all.

7.4 Other Material Facts

Pursuant to the City of Fernie's Development Cost Charge bylaw (the "DCC Bylaw") Development Cost Charges are assessed to the owner of a Lot at the time of issuance of a Building Permit for a residential dwelling. Development Cost Charges are intended to provide the City of Fernie with funding for future infrastructure projects necessitated by the growth of the community. At the time of filing this Disclosure Statement, Development Cost Charges are approximately \$12,500 per single-family residential dwelling. The amount of Development Cost Charges assessed at any particular time will vary based on the amount set for such purpose by the City of Fernie pursuant to the DCC Bylaw.

[Signatures appear on following page]



Signatures

Section 22 of the *Real Estate Development Marketing Act* provides that every Purchaser who is entitled to receive this Disclosure Statement is deemed to have relied on any false or misleading Statement of a material fact contained in this Disclosure Statement, if any, and any omission to state a material fact. The Developer, its directors and any person who has signed or authorized the filing of this Disclosure Statement are liable to compensate the Purchaser for any misrepresentation, subject to any defences available under Section 22 of the Act.

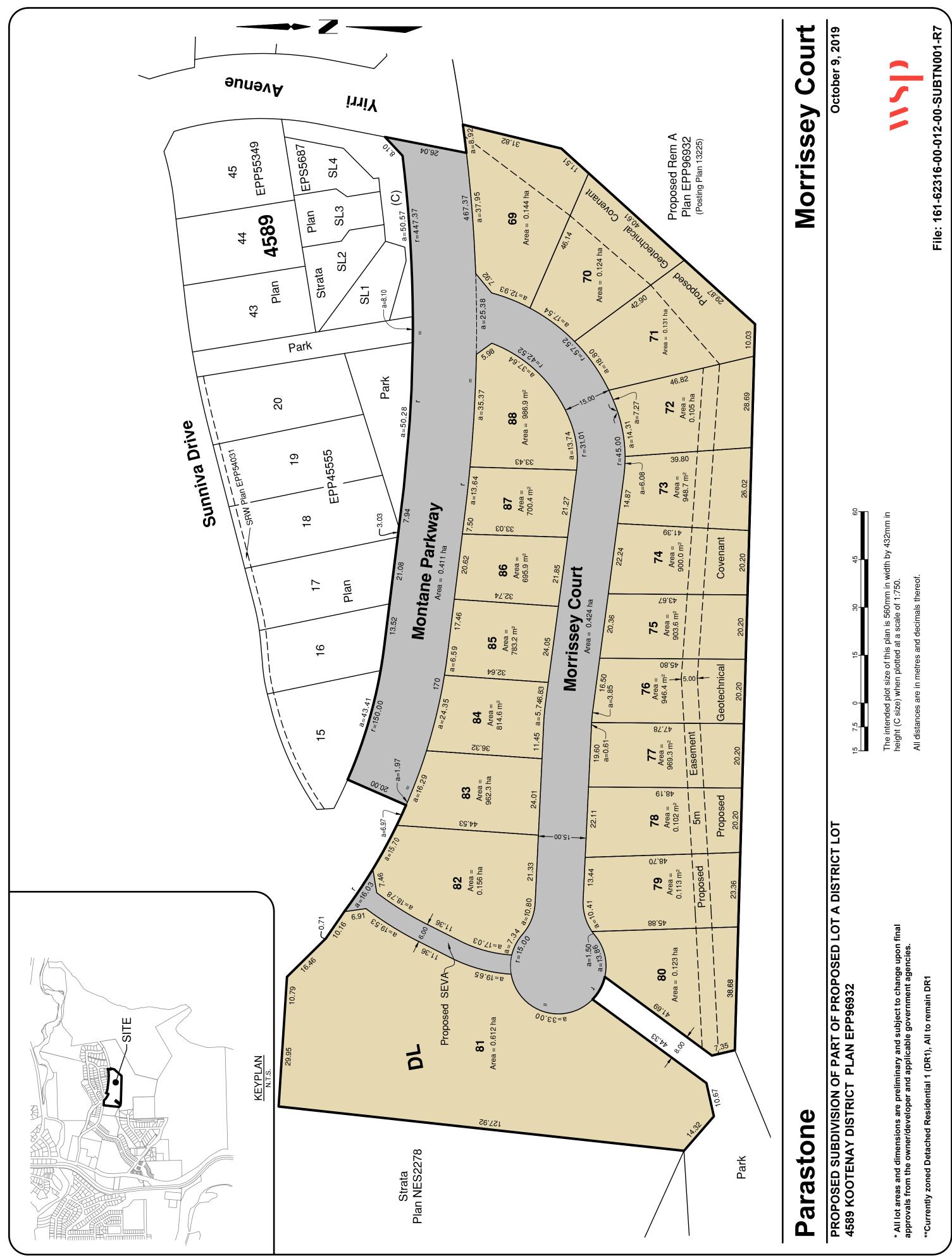
The foregoing statements disclose, without misrepresentation, all material facts relating to the Development referred to above, as required by the *Real Estate Development Marketing Act* of British Columbia, as of October 21, 2019.

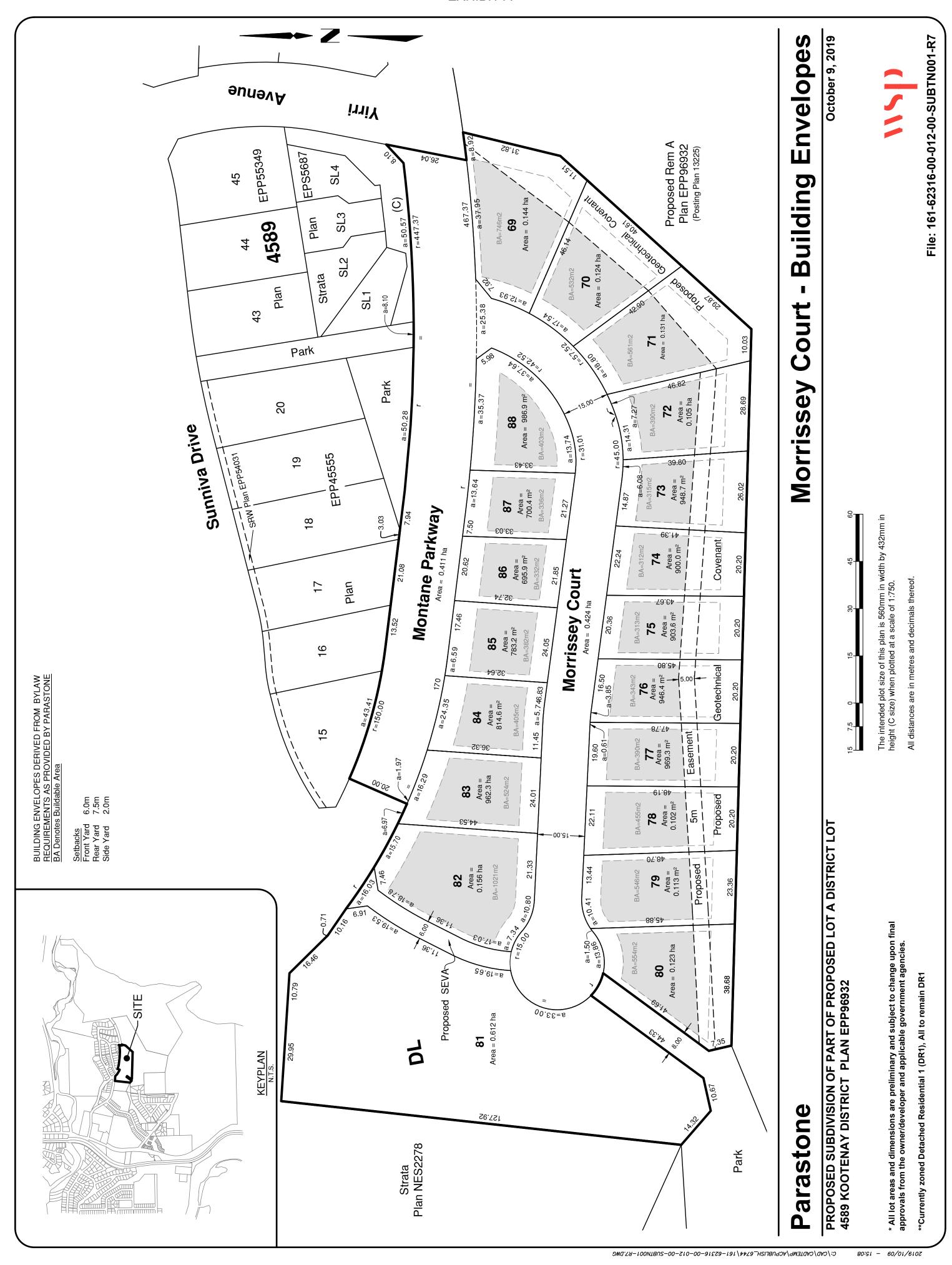
Montane Developments Ltd. By its Authorized Signatory:

Simon Howse President

Signed by the Director of Montane Developments Ltd.:

Simon Howse





TITLE SEARCH PRINT 2019-08-08, 15:20:45

File Reference: 135546 Requestor: Patricia Belcher-Bell

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Title Issued Under SECTION 189 LAND TITLE ACT

Land Title District NELSON
Land Title Office NELSON

Title NumberFrom Title Number
BB3053431

Application Received 2019-05-14

Application Entered 2019-05-21

Registered Owner in Fee Simple

Registered Owner/Mailing Address: MONTANE DEVELOPMENTS LTD., INC.NO. BC0936724

PO BOX 1900 402 HIGHWAY 3 FERNIE, BC V0B 1M0

Taxation Authority Fernie, The Corporation of the City of

Description of Land

Parcel Identifier: 007-576-391

Legal Description:

LOT A DISTRICT LOT 4589 KOOTENAY DISTRICT PLAN 9587 EXCEPT PLANS NEP22339, NEP62291, NEP62407, NEP62408, NEP64706, NEP64864, NEP65351, NEP66828, NEP66830, EPP44900, EPP51119, EPP45555, EPP48838, EPP55349, EPP72587, EPP77751, EPP87188 AND EPP90403

Legal Notations

HERETO IS ANNEXED RESTRICTIVE COVENANT CA4671604 OVER LOTS 1-20 PLAN EPP45555

HERETO IS ANNEXED RESTRICTIVE COVENANT CA4714169 OVER LOTS 21 TO 28 PLAN EPP48838

HERETO IS ANNEXED RESTRICTIVE COVENANT CA5273282 OVER LOTS 29 - 45 PLAN EPP55349

HERETO IS ANNEXED RESTRICTIVE COVENANT CA6082307 OVER PART LOT 43 PLAN EPP55349 SHOWN ON PLAN EPP67669

TITLE SEARCH PRINT 2019-08-08, 15:20:45

File Reference: 135546 Requestor: Patricia Belcher-Bell

HERETO IS ANNEXED RESTRICTIVE COVENANT CA6910470 OVER LOTS 46-48 PLAN EPP77751

HERETO IS ANNEXED RESTRICTIVE COVENANT CA7175231 OVER LOTS 49 TO 67 PLAN EPP87188

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 14 OF THE LOCAL GOVERNMENT ACT, SEE CA7423959

HERETO IS ANNEXED EASEMENT CA7634636 STRATA LOTS 1-4 PLAN EPS5687

HERETO IS ANNEXED EASEMENT KM98707 OVER LOT 1, DL 4589, KOOTENAY DISTRICT, PLAN NEP62291.

HERETO IS ANNEXED EASEMENT KN89162 OVER LOT A PLAN NEP65351

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE KT50437

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE LB501978

Charges, Liens and Interests

Nature: COVENANT Registration Number: CA3648196 Registration Date and Time: 2014-03-26 17:03

Registered Owner: THE CORPORATION OF THE CITY OF FERNIE

Remarks: PART SHOWN ON PLAN EPP38801

Nature: COVENANT
Registration Number: CA4636432
Registration Date and Time: 2015-08-27 15:06

Registered Owner: THE CORPORATION OF THE CITY OF FERNIE

Remarks: INTER ALIA

Nature: STATUTORY RIGHT OF WAY

Registration Number: CA5273262 Registration Date and Time: 2016-06-20 11:23

Registered Owner: THE CORPORATION OF THE CITY OF FERNIE

Remarks: INTER ALIA

PART IN PLAN EPP62560

TITLE SEARCH PRINT 2019-08-08, 15:20:45

File Reference: 135546 Requestor: Patricia Belcher-Bell

Nature: RESTRICTIVE COVENANT

Registration Number: CA6139518 Registration Date and Time: 2017-07-12 14:35

Registered Owner: MATHIEU MILLETTE-LAPOINTE

SANNE CHARLOTTE DE GROOT

AS JOINT TENANTS

Remarks: **INTER ALIA**

PART IN PLAN EPP67669

APPURTENANT TO LOT 43 PLAN EPP55349

Nature: **MORTGAGE** Registration Number: CA6735072

Registration Date and Time: 2018-04-13 10:51

Registered Owner: CBT COMMERCIAL FINANCE CORP.

INCORPORATION NO. BC0690650

Remarks: INTER ALIA

Nature: **EASEMENT** Registration Number: CA7634621

Registration Date and Time: 2019-07-22 08:34

Remarks: APPURTENANT TO LOT 68 PLAN EPP90403

Nature: PRIORITY AGREEMENT

Registration Number: CA7634622 Registration Date and Time: 2019-07-22 08:34

Remarks: GRANTING CA7634621 PRIORITY OVER CA6735072

Nature: **COVENANT** Registration Number: CA7634623

Registration Date and Time: 2019-07-22 08:34

Registered Owner: THE CORPORATION OF THE CITY OF FERNIE

Nature: PRIORITY AGREEMENT

Registration Number: CA7634624 Registration Date and Time: 2019-07-22 08:34

Remarks: GRANTING CA7634623 PRIORITY OVER CA6735072

Duplicate Indefeasible Title NONE OUTSTANDING

Transfers NONE

Pending Applications NONE

Title Number: LB567782 TITLE SEARCH PRINT Page 3 of 3

TITLE SEARCH PRINT

2019-08-09, 07:42:00

File Reference: 135546 Montane

Requestor: Patricia Belcher-Bell

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Title Issued Under

SECTION 189 LAND TITLE ACT

Land Title District

tle District NELSON

Land Title Office

NELSON

Title Number

BB3053430

From Title Number

FB518200

Application Received

2018-11-27

Application Entered

2018-11-27

Registered Owner in Fee Simple

Registered Owner/Mailing Address:

MONTANE DEVELOPMENTS LTD., INC.NO. BC0936724

PO BOX 1900, 402 HIGHWAY 3

FERNIE, BC V0B 1M0

Taxation Authority

Fernie, The Corporation of the City of

Description of Land

Parcel Identifier:

030-398-738

Legal Description:

LOT 1 DISTRICT LOT 4589 KOOTENAY DISTRICT PLAN EPP77696 EXCEPT PART IN PLAN EPP77751 AND EPP87188

Legal Notations

HERETO IS ANNEXED RESTRICTIVE COVENANT CA6910470 OVER LOTS 46-48 PLAN EPP77751

, HERETO IS ANNEXED RESTRICTIVE COVENANT CA7175231 OVER LOTS 49 TO 67 PLAN EPP87188

HERETO IS ANNEXED EASEMENT XF34360 OVER PARCEL A (SEE 117879I)
OF PARCEL 89 (SEE 85409I) DISTRICT LOT 4589 KOOTENAY DISTRICT
AS TO PART FORMER LOT 1 PLAN NEP82972

HERETO IS ANNEXED EASEMENT XG34835 OVER LOT 1, DISTRICT LOTS 4588 AND 4589, KOOTENAY DISTRICT, PLAN NEP20648, PART PLAN NEP20649
AS TO PART FORMER LOT 1 PLAN NEP82972

Title Number: BB3053430 TITLE SEARCH PRINT Page 1 of 6

TITLE SEARCH PRINT

2019-08-09, 07:42:00

Requestor: Patricia Belcher-Bell

∠ CLAUSES (E) & (F) SEC. 23(1) LTA SEE L18469 DATED 25/08/1977

ACT: SEE V27504

File Reference: 135546 Montane

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE LB353720

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE LB402825

AS TO PART FORMER LOT 1 PLAN NEP82972

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE LB501978

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE LB501979

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 29 OF THE MUNICIPAL ACT, SEE XK13207

Charges, Liens and Interests

Nature:

UNDERSURFACE RIGHTS

Registration Number:

17281D

Registration Date and Time:

1930-02-08 10:00 COMINCO LTD.

Registered Owner:

INTER ALIA

Remarks:

NIERALIA

ALL PHOSPHATE AND ALL STRATA CONTAINING PHOSPHATE IN OR UNDER LOTS 13875 AND 13876

MINERALS F TO C XB5375

Nature:

UNDERSURFACE RIGHTS

Registration Number:

17283D

Registration Date and Time:

1930-02-18 10:00

Registered Owner:

COMINCO LTD.

Remarks:

INTER ALIA

ALL PHOSPHATES AND ALL STRATA CONTAINING PHOSPHATE

IN OR UNDER LOT 13832

PHOSPHATE ONLY FORFEITED TO CROWN XK6505 ALL STRATA CONTAING PHOSPHATE IN OR UNDER

LOT 13832 KD TRANSFERRD TO KP6317

TITLE SEARCH PRINT 2019-08-09, 07:42:00

File Reference: 135546 Montane Requestor: Patricia Belcher-Bell

Nature: UNDERSURFACE RIGHTS

Registration Number: 4 17284D

Registration Date and Time: 1930-02-18 10:00
Registered Owner: COMINCO LTD.
Remarks: INTER ALIA

ALL PHOSPHATES AND ALL STRATA CONTAINING PHOSPHATE

IN OR UNDER LOTS 13830 AND 13831

PHOSPHATE ONLY FORFEITED TO CROWN XK6505

LOT 13830 TRANSFERRED TO KP6315 LOT 13831 TRANSFERRD TO KP6316

Nature: UNDERSURFACE RIGHTS

Registration Number: 1/7291D

Registration Date and Time: 1930-02-18 10:00
Registered Owner: COMINCO LTD.
Remarks: INTER ALIA

ALL PHOSPHATE AND ALL STRATA CONTAINING PHOSPHATE IN OR UNDER LOTS 13861 AND 13862

MINERALS F TO C XB5383

Nature: UNDERSURFACE RIGHTS

Registration Number: \(\dag{17292D}

Registration Date and Time: 1930-02-18 10:00
Registered Owner: COMINCO LTD.
Remarks: INTER ALIA

ALL PHOSPHATE AND ALL STRATA CONTAINING PHOSPHATE IN OR UNDER LOTS 13863 AND 13864

MINERALS F TO C XB5385

Nature: UNDERSURFACE RIGHTS

Registration Date and Time: 1977-04-06 12:55

Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF

BRITISH COLUMBIA

Remarks: INTER ALIA

MINERALS & MINERAL CLAIMS AS THEREIN SET OUT

PART

Nature: UNDERSURFACE RIGHTS

Registration Number: /S142

Registration Date and Time: 1983-01-05 10:35

Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF

BRITISH COLUMBIA

Remarks: INTER ALIA

MINERALS AND MINERAL CLAIMS AS THEREIN SET OUT

SEE L6660 PART

TITLE SEARCH PRINT

2019-08-09, 07:42:00

Requestor: Patricia Belcher-Bell

Nature:

File Reference: 135546 Montane

UNDERSURFACE RIGHTS

Registration Number:

Registration Date and Time:

1983-01-05 10:35

Registered Owner:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF

BRITISH COLUMBIA

Remarks:

MINES AND MINERALS AS THEREIN SET OUT

PART SEE L6660

INTER ALIA

√S143

Nature:

Registration Number:

Registration Date and Time:

Registered Owner:

COVENANT 1XK6069

1996-03-07 08:40

THE CROWN IN RIGHT OF BRITISH COLUMBIA

REGIONAL DISTRICT OF EAST KOOTENAY

Remarks:

INTER ALIA

SECTION 215 LTA

PARTS FORMER LOT 1 PLAN NEP71445 AND

PARCEL 89 (SEE 85409I) DL 4589 KOOTENAY DISTRICT

Nature:

ÚNDERSURFACE RIGHTS

Registration Number:

Registration Date and Time:

Registered Owner:

2000-01-24 09:06

THE CROWN IN RIGHT OF BRITISH COLUMBIA

Remarks:

INTER ALIA

KP6315

ALL STRATA CONTAINING PHOSPHATE UNDER LOT

13830 IN 17284D TRANSFER OF 17284D

Nature:

UNDERSURFACE RIGHTS

Registration Number:

\∕KP6316 Registration Date and Time:

Registered Owner:

2000-01-24 09:06

THE CROWN IN RIGHT OF BRITISH COLUMBIA

Remarks:

INTER ALIA

ALL STRATA CONTAINING PHOSPHATE IN OR UNDER

LOT 13831 OF 17284D TRANSFER OF 17284D

Nature:

Remarks:

UNDERSURFACE RIGHTS

Registration Number:

VKP6317

Registration Date and Time:

2000-01-24 09:06

Registered Owner:

THE CROWN IN RIGHT OF BRITISH COLUMBIA

INTER ALIA

ALL STRATA CONTAINING PHOSPHATE IN LOT 13832 KD

IN 17283D TRANSFER OF 17283D

TITLE SEARCH PRINT

2019-08-09, 07:42:00

Requestor: Patricia Belcher-Bell

Nature:

File Reference: 135546 Montane

COVENANT

Registration Number:

⊬KT71351

Registration Date and Time:

2002-07-02 12:31

Registered Owner:

THE CROWN IN RIGHT OF BRITISH COLUMBIA THE CORPORATION OF THE CITY OF FERNIE

INTER ALIA

PART ON PLAN NEP71446

PART FORMER LOT 1 PLAN NEP71445

Nature:

Remarks:

RESTRICTIVE COVENANT

Registration Number:

√LB8316

Registration Date and Time:

2007-01-22 14:35

Remarks:

INTER ALIA

APPURTENANT TO THE REMAINDER OF PARCEL 89

(SEE 85409I) DL 4589 KOOTENAY DISTRICT PART FORMER LOT 1 PLAN NEP82972

MODIFIED BY CA2538632

DOMINANT TENEMENT CANCELLED AS TO LOT 1, PLAN NEP84642 AND LOT A, PLAN NEP84640 SEE CA7139211

2018/10/19

Nature:

RESTRICTIVE COVENANT

Registration Number:

√B8319

Registration Date and Time:

2007-01-22 14:35

Remarks:

INTER ALIA
APPURTENANT TO THE REMAINDER OF PARCEL 89

(SEE 85409I) DL 4589 KOOTENAY DISTRICT PART FORMER LOT 1 PLAN NEP82972

Nature:

STATUTORY RIGHT OF WAY

Registration Number:

LB272269

Registration Date and Time:

2009-01-13 13:18

Registered Owner:

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Remarks: INTER ALIA

PART FORMER LOT 1 PLAN NEP82972

Nature:

COVENANT

Registration Number:

*⊍*LB338137

Registration Date and Time:

2009-09-15 10:28 CITY OF FERNIE

Registered Owner:

INTER ALIA

Remarks:

PART FORMER LOT 1 PLAN NEP22339

Nature:

MODIFICATION

Registration Number:

CA2538632

Registration Date and Time: Remarks:

2012-05-11 15:09

INTER ALIA

MODIFICATION OF LB8316

Title Number: BB3053430

TITLE SEARCH PRINT

Page 5 of 6

TITLE SEARCH PRINT

2019-08-09, 07:42:00

Requestor: Patricia Belcher-Bell

Nature:

Registration Number:

File Reference: 135546 Montane

Registration Date and Time:

Registered Owner:

Remarks:

COVENANT

LCA3648199

2014-03-26 17:03

THE CORPORATION OF THE CITY OF FERNIE

INTER ALIA

AS TO PART DESCRIBED THEREIN

Nature:

Registration Number:

Registration Date and Time:

Registered Owner:

Remarks:

COVENANT

√CA3736448

2014-05-22 14:49

THE CORPORATION OF THE CITY OF FERNIE

PART ON PLAN EPP40663

Nature:

Registration Number: Registration Date and Time:

Registered Owner:

Remarks:

COVENANT

CA6080602

2017-06-20 16:54

THE CORPORATION OF THE CITY OF FERNIE

INTER ALIA

Nature:

Registration Number:

Registration Date and Time:

Registered Owner:

Remarks:

MORTGAGE

√CA6735072

2018-04-13 10:51

CBT COMMERCIAL FINANCE CORP.

INCORPORATION NO. BC0690650

INTER ALIA

Duplicate Indefeasible Title

NONE OUTSTANDING

Transfers

NONE

Pending Applications

Title Number: BB3053430

NONE

TITLE SEARCH PRINT Page 6 of 6

EXHIBIT C

TERMS OF INSTRUMENT PART 2 NO BUILD RESTRICTIVE COVENANT AND DESIGN GUIDELINES MORRISSEY COURT

This Covenan	at granted as of theth day of, 2019.
BETWEEN:	
	MONTANE DEVELOPMENTS LTD. (Inc. No. BC0936724), a company incorporated in British Columbia and having a registered office at P.O. Box 490, 202-502 Third Avenue, Fernie, British Columbia, V0B 1M0
	(the "Transferor")
AND:	
	MONTANE DEVELOPMENTS LTD. (Inc. No. BC0936724), a company incorporated in British Columbia and having a registered office at Box 490, 202-502 Third Avenue, Fernie, British Columbia, V0B 1M0
	(the "Transferee")

WHEREAS:

A. The Transferor is the registered owner of those certain parcels or tracts of land lying in the City of Fernie, in the Province of British Columbia, and being more particularly described in Item 2 of Part 1 of the within Instrument (the "Servient Tenement")

EXHIBIT C

- B. The Transferee is the registered owner of those certain parcels or tracts of land lying in the City of Fernie, in the Province of British Columbia, and being more particularly described in Item 3 of Part 1 of the within Instrument (the "**Dominant Tenement**"); and
- C. The Transferee has requested of the Transferor and the Transferor has agreed to enter into a covenant on the terms and conditions hereinafter contained in order that the Transferee may better control the development of the Servient Tenement.

NOW THEREFORE WITNESSETH that in consideration of these presents and the sum of TEN (\$10.00) DOLLARS of lawful money of Canada paid by the Transferee to the Transferor, the receipt of which is hereby acknowledged, the Transferor does hereby grant, covenant and agree for the benefit of the Dominant Tenement, as follows:

- 1. No improvements shall be constructed on the Servient Tenement unless the plans for the same shall have been approved as to form and content by the Transferee herein, with such approval not to be unreasonably withheld.
- 2. It is agreed that the Transferee herein will not be unreasonably withholding its approval of the proposed plans of the Transferor herein if the same do not conform in all material respects with the design guidelines, a copy of which are attached hereto as Schedule "A", of the Transferee generally in effect within the development of which the Servient Tenement forms a part.
- 3. It is agreed that the Transferor shall require the approval of the Transferee to the contractor hired by the Transferor to construct improvements on the Servient Tenement.
- 4. It is agreed that the burden of this Restrictive Covenant shall run with the Servient Tenement, shall be binding upon the parties hereto and their respective successors and assigns for a term expiring 25 years from the date this Restrictive Covenant is filed in the Land Title Office, and that the said Restrictive Covenant shall be for the benefit of and be appurtenant to the Dominant Tenement.



MONTANE

Single-Family Residential Design Vision and Codes



October 9, 2014

Revised December 2014

Preface

MONTANE is a community set within a spectacular alpine setting with year-round recreational opportunities located within walking distance to the historic downtown of Fernie. The natural environment, including the diverse forest and magnificent views, along with the rich history surrounding the community and the City of Fernie provide the inspiration.

The Vision is intended to ensure that all designs minimize disruption to the site, enhance the overall alpine environment and are consistent with the design objectives of MONTANE. All improvements should comply with local and provincial guidelines.

The following sections set forth the ideas and guidelines for all new buildings, building additions, site work and sustainability measures related to each single family lot. The photos provided are intended to convey concepts, and not to depict specific plans for construction. Guidelines are made to be flexible. All aspects of home design must be approved by the Design Review Committee.

In summary, these guidelines are written to help protect your investment and provide guidance towards a creative uniquely familiar design vision within the MONTANE Community.

Enjoy!

Simon Howse

GM, Parastone Developments Ltd.

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Appendix A - Glossary of Defined Terms

Appendix B - Approved Plant List

Appendix C - Drawing Requirements

Appendix D – Photo Samples of Mountain Modern Homes

Schedule of Restrictions

1.0

The Vision

The Natural Landscape as the Organizing and Dominant Element



The MONTANE Mountain Environment

MONTANE is set within a unique mountain environment, which provides the basis from which the overall character of the landscape and buildings has been established. Our goal of the Vision is to preserve, repurpose and enhance the indigenous landscape pattern. Within this landscape the development of a Modern Mountain architecture is to be crafted. The dominant landscape framework will work with the architecture to build the MONTANE experience.

1.1 DESIGN THEME

The vision for the growth and development of MONTANE focuses on preserving and enhancing the natural resources of the community:

- 1. The landscape dominates the scene: The existing forest landscape is the primary 'form giver' for all improvements and design decisions on the site. The environmental setting, context and landscape are the driving forces behind the design of community elements, buildings, plant palettes and outdoor improvements. MONTANE then will grow into a 'place' nestled into the forest and have the qualities of a mountain settlement that connects with the great outdoors. This principle then provides for the flexibility of diverse solutions that are unified by the landscape.
- 2. **Emphasis on the use of natural and authentic materials:** The predominant use of native landscape plantings and 'modern mountain' construction materials reinforces the principles of maintaining authenticity and instilling a 'sense of place'. Plant materials are to be either native plants or plants well-suited to the climate, natural precipitation patterns and the regional conditions of Fernie.
- 3. **Utilizing informal and simplistic planting patterns:** Landscape planting designs are to replicate the simple but diverse vegetation patterns of the natural landscape.
- 4. **Designing "human scale" and understated structures that draw from modern architectural styles to create elements that form part of the forest environment:** Buildings, landscape structures and site amenities are to be constructed of natural building materials with modern elements using techniques and detailing that draw from Mountain Modern designs.
- 5. **The implementation of Sustainable Design concepts:** MONTANE is dedicated to establishing sustainable forestry, stormwater, development and building practices.

1.2 MONTANE

The incorporation of modern architectural variety and indoor-outdoor elements such as courtyards, outdoor terraces and covered porches are encouraged to help articulate building forms while allowing the home to better relate to the surrounding landscape.

Architectural forms are characterized by simple geometries, integration of inside and outside spaces, and a preference for robust and authentic building materials.

The siting of building and design of architectural forms throughout MONTANE will take advantage of the panoramic views with consideration to the community as a whole. Creativity is encouraged however the Design Review Committee (DRC) will reserve the right to reject designs that do not fit into the aesthetic goals of MONTANE.

2.0Site and LandscapeDesign Codes



The following chapter sets forth ideas and guidelines for all site work relating to each lot, including grading, planting, siting of structures, design of outdoor areas and preservation and enhancement of landscape and views.

2.1 SITE AND LANDSCAPE OBJECTIVES

The site and landscape are to be designed in concert with the architecture to continue to reinforce the MONTANE design theme and achieve the design objectives outlined below:

1. Forest Preservation:

Preserve, protect and enhance the existing diversity of the forest and natural environment so the landscape dominates the scene. Houses are to be sited to minimize tree removal. Any further tree removal must be approved by the DRC or fines may occur. A natural buffer is to be maintained between the house and street, neighbouring lots and other off-site areas.

2. Responsive Integrated Design:

Buildings and associated improvements are to be sited to minimize grading and stormwater impacts, step with the topography and maintain a low, subordinate profile against the backdrop of the surrounding forest.

3. Emphasis on the Outdoor Lifestyle:

Design courtyards, decks and outdoor space to emphasize the outdoor-oriented lifestyle. Natural and existing landscape features such as rock outcroppings, vegetation and topography are to be incorporated into landscape designs to create a gradual transition between the built and natural environments

4. Utilization of natural, modern, 'sustainable' materials:

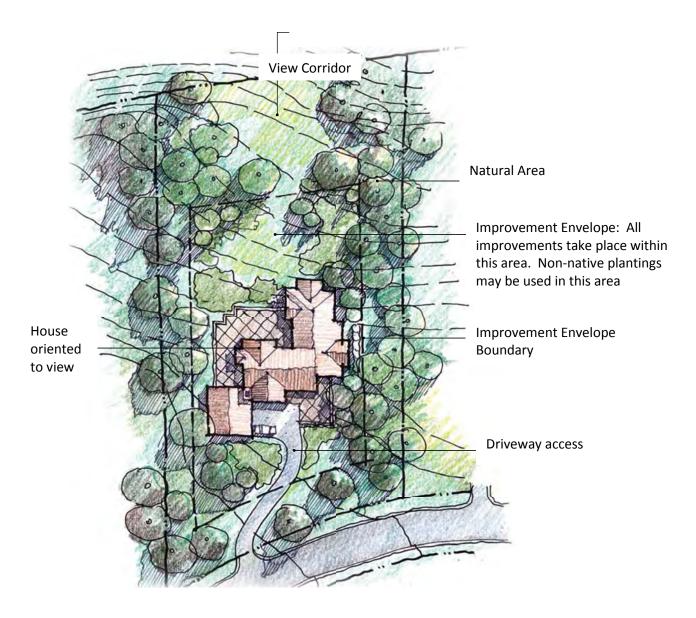
Use natural and sustainable materials for landscape structures, site walls and outdoor areas that complement Modern Mountain living.

2.2 LOT DIAGRAMS

Objectives:

- Minimize site disturbance and cleared areas.
- Minimize impervious areas.
- Preserve and protect natural resources (vegetation, water quality) to the greatest extent possible.

A Lot Diagram will be prepared for each lot. The Lot Diagram designates an Improvement Envelope, natural area, preferred driveway access, maximum building height, maximum gross floor area, maximum site coverage and other factors affecting the development of the lot.



2.2.1 IMPROVEMENT ENVELOPES

The Improvement Envelope is the area designated on the Lot Diagram within which all improvements and site disturbance, with the exception of utility connections, driveways, native landscape enhancements and any associated grading or site walls, are to occur. All non-native landscape plantings are to be kept within the Improvement Envelope. Refer to Section 2.11 Landscaping and Plant Materials.

2.2.2 NATURAL AREA

The Natural Area is the remaining area of the Lot outside of the Improvement Envelope, excluding the driveway. This area is to remain as much as possible in its natural condition. Proposed trees, shrubs and other plant materials within the Natural Area are to blend with the site's existing native landscape and create natural screens that lessen the visual impact of buildings on the site. Good forestry practices and clearing of fire hazards are permitted within the Natural Area, subject to committee approval to refer to Section 2.9 Wildfire Mitigation and Section 2.11.5 Planting Codes within the Natural Area.

2.2.3 MAXIMUM SITE COVERAGE

In order to minimize the extent of impervious surfaces on the Lot, maximum Site Coverage is indicated on each Lot Diagram. Site Coverage is defined as the total area covered on a Lot by impervious surfaces, including, but not limited to buildings, roof, overhangs, driveways, autocourts, porches and terraces.



2.3 SITING CONSIDERATIONS

Objectives:

- Integrate built improvements with natural landforms, vegetation and other landscape characteristics that are unique to the Lot.
- Minimize site disturbance to the greatest extent possible.
- Minimize the visual impact of buildings and related structures.

Guidelines

- 1. Where possible, the axes of the principle building masses are to be oriented parallel to existing contours to reduce grading impacts.
- 2. Outdoor living areas, such as terraces and lawns are to be contained within the Improvement Envelope with off-site visibility minimized.
- 3. All improvements, driveway turnarounds area, site disturbance and grading around the building are to be located within the Improvement Envelope.

2.4 GRADING

Objectives:

- Protect and preserve existing vegetation.
- Blend site improvements with the natural land form.
- Minimize disturbance to the site.

Guidelines:

- 1. Where necessary, a Professional Engineer and Landscape Architect are to prepare a full set of drawings including grading, drainage, utility locations, re-vegetation, and sedimentation and erosion control plans for all new construction.
- 2. Flat-pad grading is not permitted.
- 3. Grading designs are to protect and retain as many existing trees and related vegetation as possible.
- 4. Slopes are generally not to exceed 3:1. Slopes in excess of 3:1 may be considered provided the stabilization treatment and design is consistent with the overall guidelines of this section. Natural slopes are to be used instead of structures wherever feasible.
- 5. Grading may not extend outside of the Improvement Envelope with the exception of that associated with driveways, minor paths and utility improvements.
- 6. Cut and fill slopes are to be re-vegetated as soon as possible with plantings and re-vegetation mixes appropriate to the site. Refer to Approved Plant List, Appendix B.

2.5 DRAINAGE SYSTEMS AND STRUCTURES

Objectives

- Utilize fundamental stewardship concepts to preserve and/or mimic the natural hydrologic functions of the site.
- Minimize disturbance of the site to protect downstream water quality.
- Control stormwater at the source, to the greatest extent possible, by utilizing onsite detention and infiltration techniques.

Guidelines

- 1. Utilize the Lot Diagram to identify the optimum area for development. Identify and preserve all sensitive areas that affect hydrology, including drainages, wetlands, steep slopes and mature vegetation to minimize hydrologic impacts.
- 2. Natural drainage courses are to be protected and existing drainage patterns maintained.
- 3. New drainage courses are to appear and function like natural drainage ways.
- 4. Allow for distributed control of stormwater throughout the site at the source. Systems include a combination of infiltration, depression storage, vegetated swales and the utilization of gentle side slopes.



Drainages and/or bioswales are to appear and function like natural drainage ways while adding aesthetic value

- 5. Decrease the need for "structural" drainage systems, by utilizing materials such as native plants, soil, gravel and rock to create integrated drainage systems that mimic the natural hydrologic functions of the site while adding aesthetic value.
- 6. Headwalls, lined ditches, and similar drainage structures visible from off-site are to be built of, or lined with, an approved stone. If used, metal and concrete pipes are to be concealed.
- 7. Drainage plans are to locate snow storage and push zones where snow accumulation will not block drains and/or dam melt-water runoff. Drainage designs are to consider where melt-water will go and/or be retained on-site.
- 8. Drainage is to be directed away from the center of impervious surfaces to avoid ice buildup. Paved or impervious areas are to be sloped a minimum of 2% to increase water flow from surfaces.
- Owners are responsible for controlling and retaining drainage resulting from the development of their Lot.
 Drainage is not to be directed onto other lots or properties, unless located within a designated drainage easement.
- 10. Trenching for drainage lines should not encroach within the drip line of existing trees

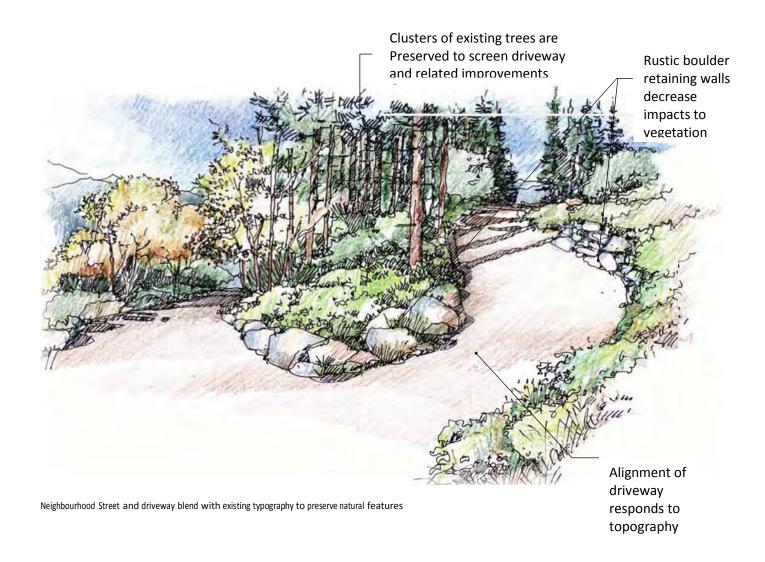
2.6 Driveway and Parking Requirements

Objectives:

- Minimize visibility of garages, paving and parking areas.
- Blend driveways with the existing topography.
- Preserve the natural features of the Lot.

Guidelines:

 Only one driveway entry is permitted per Lot. Preferred driveway access locations are indicated on the Lot Diagram. All driveways are to follow alignments that minimize grading, tree cutting, off-site visibility or other disruption to the Lot.



- 2. Driveways can be formulated by various materials asphalt, concrete, concrete pavers, natural pavers or pervious blocks but must be approved by the DRC.
- 3. Parking spaces are to be the minimum required to handle the Owner's parking needs. A minimum of one enclosed parking space is required on each Lot.

- 4 Guest parking spaces are to be screened from off-site views.
- 5. Driveways and parking designs are to consider snow removal and snow storage needs.
- 6 Driveway grades may not exceed a 12% gradient but may go up to 16% for short runs. Heated driveways are recommended for grades in excess of 11%. The first and last 20 feet (6 meters) of the driveway may not exceed a 6% gradient.

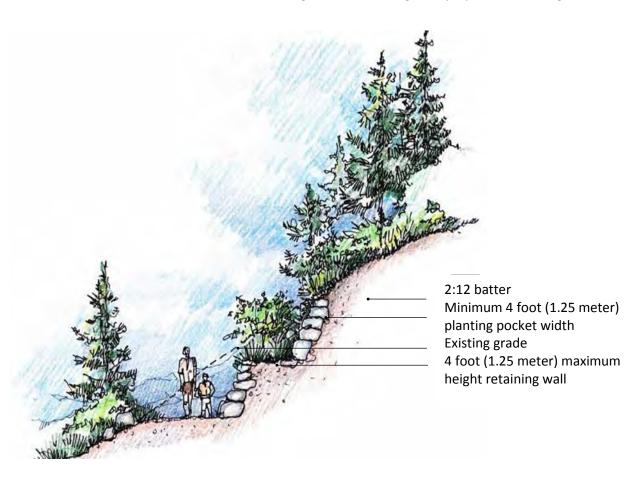
2.7 RETAINING AND SITE WALLS

Objectives:

- Minimize disturbance to the site by utilizing walls to preserve vegetation.
- Integrate retaining walls into the existing topography to reinforce the connection of the built environment with the landscape.
- Use authentic materials that appear to be local to the site and constructed with traditional dry stack, timber and/or boulder methods.

Guidelines:

- 1. Retaining walls are not to exceed 4 feet (1.25 meters) in height. Walls up to 6 feet (2 meters) in height may be considered on a case by case basis provided they are not visible from public viewpoints.
- 2. Walls in excess of 4 feet (1.25 meters) in height are to be designed by a professional engineer.





Rustic stone retaining wall reinforces the connection of the built environment with the landscape



Retaining wall minimizes site disturbance and transitions naturally into existing landforms



Authentic materials used with dry stack method to appear native to site



Planting integrates wall with landscape

- 3. Terraced wall structures with ample planting pockets (minimum 4 feet wide) are to be used where grade changes exceed 4 feet (1.25 meters).
- 4. Tops of walls are to blend with natural contours. End of walls are not to end abruptly, but are to transition naturally into existing landforms and vegetation.
- 5. Walls in excess of 2 feet (60 centimeters) in height are to be designed with a batter (minimum 2:12).
- 6. All retaining walls that are visible from off-site are to be stone or timber treatments that blend with the forest environment and complement the overall architecture aesthetic.

2.8 FENCES, GATES AND SITE WALLS

Objectives:

- Allow for privately fenced areas that maintain views and minimize off-site visibility.
- Minimize disturbance to the natural vegetation.

Guidelines:

- 1. In order to maintain the visual quality of an open and natural wooded landscape, fences and site walls are to be minimized and should be sited within the Improvement Envelope
- 2. Fences are not to exceed 5 feet (1.5 meters) in height with the exception of those used for pool enclosures, which are to comply with all safety standards as specified by local jurisdictions. Pool and spa fences may require additional detailing and landscape treatments, as specified by the Committee, to mitigate off-site visibility.
- 3. Fences used as pet enclosures may use wire mesh, finished to recede into the landscape, and added to a wood rail fence provided they are not visible from off-site.
- 4. Dog runs are allowed provided they are constructed of the materials noted above and are not visible from off-site.
- 5. All fences and gates are to extend the architecture of the residence and utilize Modern Mountain inspired designs.
- 6. Plant materials are to be woven in and around fences to help fences blend with the landscape.
- 7. All Fencing profiles are to be approved in writing prior to installation.



2.9 WILDFIRE MITIGATION

Objectives:

- Minimize potential landscape fuels around the Residence.
- Maintain a fire-retardant landscape.

Guidelines:

General requirements of the Fuel Modification Plan are listed below. All wildfire prevention measures are to comply with the City of Fernie Community Wildfire Protection Plan. A minimum 30 feet (10 meters) of Defensible Space is to be maintained around the perimeter of all structures. Only fire retardant materials, which tend to be more open in structure, have thick stems and are more succulent, are to be planted with the Defensible Space. Within the Defensible Space, the following landscape management standards are to be implemented:

- 1. Eliminate ladder fuels and lower limbs of trees:
 - Remove lower branches up to least 1/3 of the tree height when understory vegetation and small trees are present.
 - When understory vegetation is not present, remove lower branches to a minimum of 6 to 8 feet (2 to 3 meters) above the ground.
 - The lower branches of shrubs are to be removed to provide for at least 12 inches (30 centimeters) of clearance from ground fuels.
- 2. Remove dead vegetation and piled debris (such as firewood) from the Defensible Space and break up the continuity of brush species.
- 3. Replace shrubs with low ground cover and maintain a height of 4 inches (10 centimeters).
- 4. Reduce continuous brush fields to individual plants or small clusters at least 15 feet (4.5 meters) apart.
- 5. Use driveways, paths, turf areas and trails to break up plant continuity.

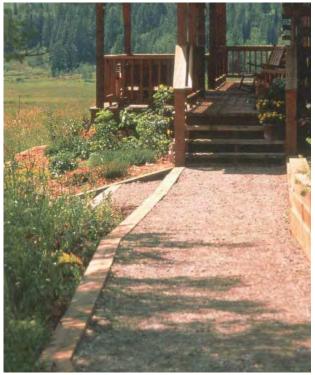
2.10 EXTERIOR HARDSCAPE DESIGN – PATHS, OUTDOOR STAIRS AND TERRACES

Objectives:

- Design outdoor terraces, rooms and spaces that are natural extensions of the indoors.
- Integrate outdoor site features with the natural topography and vegetation.
- Utilize materials that complement the architecture of the house.



Outdoor "room" is a natural extension of indoor area



Wood header is combined with pervious crushed rock surface to define path



Native stone pavers create natural path

Guidelines:

- Appropriate paving materials for exterior hardscape areas include:
 - Local stone
 - Brick (veneered, faux brick not permitted)
 - Faux stone that has the appearance of native stone
 - Coloured and/or patterned concrete
 - Pre-cast concrete pavers
 - Crushed compacted rock or similar pervious solutions
 - Chipped stone
- 2. Inappropriate paving materials include:
 - Clay tile
 - Non-coloured, untextured concrete
 - Asphaltic concrete
- 3. The spatial organization of the Residence and that of the outdoor rooms is to blur the line between indoors and outdoors.
- Paths, outdoor stairs and terraces are to follow the natural topography and respond to existing vegetation patterns.
- 5. Fire pits may be built in accordance with local fire and safety standards. All fire pits are to be attached to the patio hardscape. Site plans are to indicate fire pit location in relationship to tree drip lines.
- 6. On-grade terrace areas and outdoor living areas are to be designed with informal shapes, irregular edges and rustic materials to help in the gradual transition from the man-made environment to the natural landscape. Formal shapes are not appropriate.



A diverse forest dominates the site

2.11 LANDSCAPING AND PLANT MATERIALS

Objectives:

- Re-vegetate disturbed areas with native plant materials. Consult with local nurseries for advice.
- Preserve and enhance the diversity of the surrounding forest.
- Use plant materials and existing tree clusters to anchor buildings to the site.
- Protect tree stumps, snags and forest ground plane duff to preserve the unique character of the site.

2.11.1.General Planting Codes

1. The planting design of each Lot is to take its cue from the existing diverse plant palette surrounding the Lot. Group or cluster shrubs and trees in informal patterns that mimic the natural pattern found onsite.

- 2. Landscape improvements are to incorporate, rehabilitate and enhance the existing forest character by utilizing indigenous species and minimizing areas of intensive irrigation.
- 3. A list of approved planting materials and their applications are included in Appendix B. Approved revegetation seed mixes are also included in Appendix B.
- 4. Proposed plant materials that are not on the Approved Plant List are to be identified on all landscape submissions with a full description of the plant and the intent of its proposed use.
- Native plant materials are to be used for erosion control and are to establish rapid surface stabilization.
 The Committee may require additional stabilization measures, such as jute matting. Refer to Appendix B for approved seed mixes.
- 6. Sun intensity and penetration is to be considered when locating plant materials.



Careful trimming and/or limbing up of trees may be permitted to open selective views from homes

2.11.2 PLANTING MATERIAL REQUIREMENTS

1. At the time of installation, conifers are to be a minimum of 6 feet (2 meters) in height, single-trunk deciduous trees are to be a minimum caliper size of 2 inches (5 centimeters) and multi-trunk deciduous trees are to have a minimum caliper size of 3/4 inches (2 centimeters) at each trunk and are to have a minimum height of 6 feet (2 meters).

- 2. A minimum of 50% of the total shrub count is to be 5 gallons in size. The remaining 50% may be 1 gallon in size. Spacing is to ensure full massing in two growing seasons. Shrub planting as a single monoculture may not be spaced greater than 48 inches (1.25 meters) on centre; 24 to 36 inches (60 to 90 centimeters) on centre is encouraged.
- 3. Groundcover materials are to be representative of industry standards for container size (i.e. flats, liners, 4 inch (10 centimeters) pots, 1 gallon containers). Placement is to be triangular in pattern and spaced to achieve full coverage within two full growing seasons.
- 4. Seed mixes are to be applied according to accepted local practices for seeding rates. The optimal time for seeding is from September 15 to October 30 or April 1 to 30 (assuming adequate snowmelt). Hydroseeding between April 30 and September 15 will require temporary irrigation. Failure to achieve 30% vegetative cover after one growing season will require a re-application of the hydro seed mix.
- 5. The quantity of introduced tree and shrub plantings is to be sufficient to effectively blend buildings with the native forest canopy.







Tall Mahonia - Mahonia aquifolium



Creeping Penstemon - Penstemon casespitosus

2.11.3 PLANTING CODES WITHIN THE IMPROVEMENT ENVELOPE

- 1. In areas immediately adjacent to buildings and not visible from off-site, a greater variety of non-native plant material, as listed in the Approved Plant List, is permitted. The use of drought tolerant and/or native plant materials is strongly encouraged.
- 2. The landscape design on each Lot is to gradually transition from the Improvement Envelope to the natural area to blend with and enhance the existing native forest pattern.
- 3. New plantings are to be used to frame important view sheds, reduce the visual impact of Residence, and screen outdoor service areas and other improvements from adjacent lots and public viewpoints.



: Non-native plantings and minimized turfareas may be used within the Improvement Envelope

2.11.4 LAWN AREAS

Turf or native grass areas are to immediately adjoin outdoor use areas such as patios, and are to be minimized to the greatest extent possible.

2.11.5 PLANTING IDEAS WITHIN THE NATURAL AREA

The Natural Area is to be planted only with native plant materials, as listed in Appendix B. Planting patterns and density is to be similar to that of the adjoining natural forest.



Sticky Geranim Geranium viscosissimum



Lewis Mock Orange Philadephus lewisii



Shrubby Cinquefoil Potentilla fruticosa

2.12 IRRIGATION

Objectives:

- Minimize irrigation requirements by using native plant materials and those that are well-suited to the local climate.

Guidelines:

- 1. Group plant materials according to their water consumption needs.
- 2. Irrigation or supplemental watering, whether in the form of temporary irrigation, drip irrigation, or spray irrigation, is to minimize the impact upon the site and stormwater impacts, while providing enough moisture to ensure healthy plantings.
- 3. All shrub and groundcover plant material are to be drip-irrigated with a permanent automatic system. All non-native planting areas shall receive soil amendments within the root zone and a minimum 2 inches (5 centimeters) of mulch.
- 4. Conventional spray irrigation is limited to defined lawn areas. These systems are to be fully automatic and conform to all local regulations.
- 5. Low spray heads or low-water bubblers are allowed within the Improvement Envelope in close proximity to buildings.
- 6. Drip irrigation of tree and shrub plantings is permitted within the Improvement Envelope.
- 7. Soils are to be amended and surfaced with mulching to increase water retention.

2.13 VEGETATION PROTECTION, REMOVAL AND THINNING

Objectives:

- Remove vegetation as necessary for proper forest management, fuel modification and safety.
- Minimize cleared areas to reduce downstream water quality and erosion impacts.

Guidelines:

- Building improvements are to be designed around existing trees to the extent feasible.
- The removal of trees on Lots is not permitted except when approved by the DRC. Unauthorized removal or cutting of trees by the Owner or Consultant is subject to fines as established by the Committee.

2.14 EXTERIOR LIGHTING

Objectives:

- Maintain the dark night-time sky.
- Restrict light spill to within the Improvement Envelope and directly adjacent to the building.
- Light fixture designs are to be consistent and complement the Residence's architectural style.

2.14.1 LOCATION OF LIGHT FIXTURES

- 1. Light fixtures, with the exception of driveway and address marker lighting, are to be confined to the Improvement Envelope and designed to minimize light overspill on adjacent properties.
- 2. In order to minimize glare and exterior light spill, interior lighting is to be concentrated at activity areas and minimized adjacent to windows. Lighting adjacent to windows is to be directed towards the Residence's interior and baffled with architectural and decorative devices, such as deep roof overhangs and curtains.
- 3. Light fixtures at pathways, where required for safety, may be a maximum height of 48 inches (1.25 meters).

2.14.2 LIGHT EMISSION

- 1. Exterior night lighting is to be kept to an absolute minimum as required for safety and address identification at entrances, driveways and buildings. All light fixtures are to be active for short-term use only.
- 2. Light sources are to be a warm, soft colour that accurately renders true colour. Lights that emit harsh, glaring white light are not permitted.
- 3. Exterior lighting is to use downward facing, horizontal cut-off fixtures, which hide the light sources. Uplighting is not allowed unless light spill is confined by architectural elements.
- 4. Lanterns are to use low intensity (25 watt or less) light sources with translucent or frosted glass lenses. Clear glass may be acceptable with low voltage bulbs and clear glass bulbs, subject to the Committee review of visibility from off-site.
- 5. Guardrails and/or posts with reflectors may be used to help delineate the driveway.
- 6. Security lighting for emergency purposes may be permitted by the Committee, provided the sources are not visible from off-site, are fully shielded, and are set on a timer or motion detector.
- 7. Energy conserving bulbs are encouraged.



Fixture designs are downward facing with horizontal cut-offs to minimize light spill

2.15 EXTERIOR SERVICE AREAS AND UTILITIES

Objectives:

- Design exterior service areas to be consistent with and integrated into the building's architecture.
- Screen service areas from off-site views.

Guidelines:

- Trash disposal, outdoor work areas, utility meters and connections, transformers, air conditioning units,
 pool/spa equipment and similar above-ground devices are to be completely screened from off-site views
 by the use of architectural devices and/or plant materials. Where feasible, these areas are to be
 integrated into the building's architecture. Noise emission from such devices is to be contained.
- 2. Owners are responsible for providing utility services lines to their homes and service areas.
- 3. In order to minimize site disturbance, all utility lines are to be located underground, and when feasible, under or along driveways. Utility alignments are to minimize grading, clearing and tree removal.
- 4. Garbage and recycling is to be kept inside until the day of garbage collection.
- 5. Utility boxes, including meters, are to be attached to or incorporated into the building's architecture and screened from off-site views. All exposed metal related to utilities (meters, outlet covers, etc.) is to be painted to match adjacent natural and/or building materials.
- 6. All items above are to be shown on the site plan and submitted for consideration by the DRC.

2.16 ADDRESS MARKERS

Objectives:

- Install address markers consistent with community-wide design standards.

Guidelines:

Owner is to obtain the approved address marker design from the Committee. Address markers are to be installed and maintained in accordance with the design specifications and according to the following Codes:

- 1. The address marker is to be located within 20 feet (6 meters), but not closer than 6 feet (2 meters), of the intersection of the driveway and the road.
- 2. Lighting of address markers shall be in accordance with fire regulations and where applicable, is the responsibility of Owners.
- 3. Real estate signs are subject to design location restrictions.
- 4. Any maintenance work performed on address markers by the DRC will be billed to the Owner.

2.17 MISCELLANEOUS LANDSCAPE IMPROVEMENTS

Objective:

- Design miscellaneous landscape improvements to be consistent with the Residence's architecture and the landscape guidelines outlined in the Codes.

Guidelines:

- 1. The Committee will review in-ground pools and spas, water features, outdoor artwork and any other improvements not addressed above on a case-by-case basis.
- 2. Such improvements are to be located within the Improvement Envelope, completely screened from offsite and designed in keeping with the guidelines described throughout the Codes.

3.1.1 WALL MATERIALS

Objectives:

- To use modern, natural and environmentally friendly materials.
- To maintain the horizontal expression of building walls and volumes.
- To utilize contrasting texture and colours for different components of the building to bring a diversity and richness to exterior walls.

Guidelines:

Wall materials may include stone, varied wood, manufactured treatments and metal accents. The Committee may approve stucco as part of a wall system.

Where changes in wall material occur, there is to be a clear break in the surface plane. Materials are to be consistently applied to all building elevations.

Stone Foundation Walls

The use of stone is strongly encouraged, particularly on building foundations and to define full-height, three-dimensional elements, such as a completed wing of the house or an accessory structure. The foundation wall may extend up to the porch, deck railing height or window sill height. With the exception of chimneys, stone may not be used for individual elements, such as wall or decorative panels.

Stone surfaces are to have structural, dry-stack appearance. Walls are to incorporate a mix of sizes and shapes with larger stones predominantly at lower levels. Natural bedding planes are to be laid horizontally.



Wood

Appropriate wood wall treatments may include:

- Horizontal timbers with or without chinking
- Horizontal wood siding
- Vertical board and batten or board on board
- Rustic or coloured shingle siding
- Engineered lumber or composite wood products
- Reclaimed and/or salvaged wood

Various sizes and profiles of wood siding and engineered products may be used in horizontal or vertical patterns, subject to approval by the DRC.

Metal

Metal siding may be used to accent building forms. When used, metal materials, such as COR-TEN steel, copper and zinc, are to have a natural patina appearance that blends with the subtle earth tones of the site.

3.1.2 ROOF DESIGN

Guidelines:

Roofs are not to be a dominant element of the building. Bright coloured roofs will not be considered.

Clipped gables are discouraged. Hipped roofs may only be used on porches to wrap around the building.

Roof Pitches

In general, primary gable roofs are to have pitch however unique roof designs are encouraged and subject to approval by the DRC. Primary shed roofs are acceptable but will be subject to additional comments and in many instances – recommended changes from the Design Review Committee will occur.

Roofs are to have overhangs and/or eaves that offer protection at outdoor patios, decks, entrances and terraces and provide summer shade while still allowing for penetration of winter sunlight.

Roof Materials

Approved roof materials include:

- Synthetic materials which simulate wood shakes (per Committee approval)
- Standing seam or corrugated metal roofs, including copper, COR-TEN steel, Galvalume and zinc, with a natural patina
- Slate shingles
- Asphalt shingles

Inappropriate roofing materials include:

- Barrel clay tiles
- Wood shakes

Physical samples of all roofing maters are required for Committee review.

Dormers

Shed or gable roof forms may be utilized.

Chimneys, Flues and Roof Vents

Chimneys are to be finished with stone or an approved manufactured wood wall treatment to match elsewhere on the building. Masonry units and metal treatments will be considered by the Committee on a case by case basis.

Flues and vents are to be consolidated and enclosed within chimney-like enclosures.

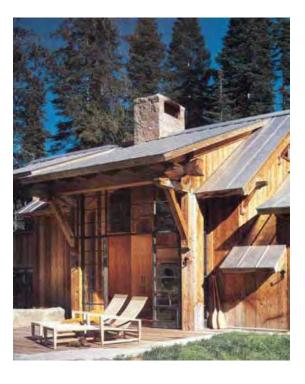
Chimneys, flues and roof vents are to be designed with stout upslope diverters to prevent show shed damage.

Gutters, Downspouts and Flashing

The overall design and strategic placement of roof forms is to be the primary method of managing water runoff and snow-shedding. However, gutters and downspouts may also be used to effectively divert water from entries and outdoor rooms toward surface drainage.

Where required, gutters, downspouts and flashings are to be constructed of durable metals, such as copper or dark metal, which will weather to colours that blend with roofs and walls.

Gutters, downspouts and rain chains draining water from roofs are to be designed to empty into natural drainage systems, such as crushed rock beds or grass-lined swales and away from foundations and paved surfaces.



Skylights, Satellite Dishes and Solar Panels

- Skylights and solar panels offer energy savings through natural daylight and solar heat gain. Layout,
 location, size and configuration of skylights and solar panels are to fit with the design and proportions of building and roof forms.
- Solar panels must lay flat against the roof.

Skylights are to comply with the following standards:

- Glass is to be clear, flat and non-reflective. Skylights are to be mounted on the same plane and angle as the associated roof. Domed and/or bubble skylights are not permitted.
- Interior light may not be pointed upwards or directly emitted through skylights. Skylights are to be located to minimize visibility from neighbouring homesites and adjacent streets.

Satellite dishes are not to exceed 24 inches in diameter. Satellite locations are to minimize off-site visibility.

Satellite dishes may be painted to match roofs and/or other adjacent building materials.

3.1.3 PORCHES, STOOPS AND BALCONIES

Objectives:

- To incorporate custom railing designs that draw upon the Mountain Modern concept.
- To design decks, porches and balconies as seamless extensions of the indoor areas.

Guidelines:

1. Balconies, decks and porches are to be constructed on a solid surface as appropriate to the house style and exterior finishes unless specifically approved by the DRC.



Semi-enclosed porch design provides transition to outdoor areas

- Custom column and railing designs should appear as natural extensions of the buildings. Detailing is to be consistent with that of the house, using simple, refined wood and metal forms or stone. Metal accents as railings may be appropriate provided they are treated for a dark, non-reflective, or patinaed appearance.
- 3. If visible from offsite or the street, the underside of porches, decks and balconies shall be finished to a level consistent with the exterior materials and trim of the residence and combined with an integrated planting scheme.

3.1.4 WINDOWS AND DOORS

- 1. Proportions of allowable front façade glazing are specific to each house style.
- 2. Casement, double hung and single hung are appropriate window types; opening and non-opening windows must match the profile and detail of the adjacent windows.
- 3. Windows shall be built of wood and are to be painted, stained or clad. Some vinyl window styles and colours may be permitted. No white vinyl is permitted.
- 4. Use of figured or frosted glass only with prior approval.
- 5. Tinted glazing is not permitted in windows facing the street.
- 6. Muntin bars are encouraged to be the same material and finish as the window sash and frame.
- 7. All window lites created by muntins are to be square or vertically rectangular in proportion, including transoms.
- 8. Feature windows may be used only once on the front elevation of each unit.
- 9. Metal sliding patio doors are discouraged on elevations visible from the street.
- 10. Screen doors shall be fully screened and not visible from front of house.
- 11. Garage doors shall be Modern Mountain in appearance
- 12. Garage doors shall not exceed 8 feet in height and 16 feet in width if facing the street.
- 13. Glass block may be used on side elevations of houses, not facing a street when fire code restrictions apply. The proportions of the glass block opening are to be vertically rectangular or square. No stepped patterns will be permitted.

3.1.5 COLUMNS

Columns shall be subject to the approval of the Committee.

3.1.6 BALUSTRADES

- 1. Where the porch is less than 2 feet above grade, balustrades should function as a sitting rail, 18" minimum to 24" maximum in height above the floor of the porch.
- 2. Sitting rails should be 6" minimum to 18" maximum in depth. Balusters should adjust to this required width.
- 3. Balustrades may be wood, painted steel, glass or beams, depending on the style of the house.
- 4. Balusters must be consistent in the design and materials with the architecture of the house.
- 5. Wood balustrades must have corner newel posts in a size that is appropriate to the design.
- 6. Intermediate newel posts are required in balustrade lengths greater than 8 feet.
- 7. Balusters shall be spaced to meet British Columbia Building Code minimum requirements.
- 8. May be solid shingled, sided or stone to handrail height to match the building base.

3.1.7 Soffits and Trim

- 1. Trim should be finished in stained wood or an approved manufactured product.
 - Trim should include:
 - Simple door and window surrounds
 - Cornices and sills
 - Corner boards and battens
 - Detailing
 - Bargeboard
 - Top trim plates on plinths
- 2. Fascia shall be of wood or an approved aluminum or manufactured product. Vinyl fascia is not permitted.
- 3. No stucco trim or raised stucco detailing of any kind will be permitted.
- 4. Eavestrough and downpipes are to be minimized on front elevations, are to be arranged symmetrically, and painted to match trim. Flashings are to be minimized on front elevations, and to be painted to match trim.
- 5. Trim and batten boards must be specified to the DRC on architectural drawings.

3.1.8 OUTBUILDINGS AND GARAGES

- 1. Outbuildings shall be consistent in design and materials with the main building. All elevations of the outbuilding must have the same level of detail as the main building.
- 2. Connection to the main building may only occur in the form of an open breezeway or enclosed link, the eave height of either not exceeding one story.
- 3. Where front drive garages are allowed on narrow lots:
 - The garage should be incorporated into the form of the house.
 - The wall of the garage door may not extend beyond the front wall, or porch, of the house.
 - Pared single door garages are encouraged.
 - Windows are recommended on at least one side of the garage; window details are to be consistent with the Design Guidelines for the main body of the house.

3.2 APPROVED COLOURS

Actual samples of exterior finishes are to be brought to the DRC for approval. Architectural drawings coloured appropriately to hard samples provided.

Owners are encouraged to contact the DRC representative via email with any questions they may have prior to meeting with their architect and/or building company.

Owners must use a registered architect and A Licensed building company.

4. CONSTRUCTION GUIDELINES

To assure the construction of any improvement within MONTANE occurs in a safe and timely manner without damaging the natural landscape and while minimizing disturbance to residents or guests, these Guidelines will be enforced during all construction activities. The Owner of a Homesite shall be responsible for violations of the Guidelines (including the construction regulations contained herein) by any contractor, subcontractor, agent, or employee performing any activities on behalf of the Owner within MONTANE, whether located on the Homesite or elsewhere within the community.

4.1. PRE-CONSTRUCTION CONFERENCE

The Pre-Construction Conference is to be held prior to beginning site clearing. All conditions of final design approval are to be met prior to scheduling the Pre-Construction Conference. During this meeting, the contractor meets with an authorized representative of the Committee to review the approved final plans, the Construction Guidelines, and to coordinate scheduling and construction activities with the Committee. Requirements to be completed before the Construction Conference are as follows:

The contractor is to bring to and/or complete the following items prior to the conference:

- 1. Compliance Deposit (See Section 4.4)
- 2. Construction Sign details (See Section 4.13)
- 3. Contractor Emergency Contact Information

4.2 SITE OBSERVATION

This observation includes review of staking of the Construction Area including all corners of proposed buildings, driveways and extent of grading. In addition, flagging of all areas to be protected will be reviewed.

4.3 FINAL OBSERVATION

Owners and/or their contractors are to schedule the Final Observation prior to applying for Certificate of Occupancy and after all improvements, with the exception of landscaping, have been completed.

During this observation, the Committee will verify that final construction has been completed in accordance with approved plans.

If approved, the Committee issues Compliance Certificate within 30 days. If not approved, the Committee issues a Notice to Comply within seven (7) days. In the event a Notice to Comply is issued, the Contractor is to rectify the discrepancies found and schedule an additional observation.

4.4 COMPLIANCE DEPOSIT

Prior to commencing any construction activity, a Compliance Deposit in the amount of \$10,000 is to be delivered to the Committee as security for the project's full and faithful performance during the construction process in accordance with Committee-approved final plans.

The amount of the Compliance Deposit may be revised by the Committee from time to time as necessary.

The Committee shall return the Compliance Deposit to the depositor within 30 days of issuance of the Compliance Certificate.

4.5 CONSTRUCTION PARKING AREAS

All vehicle and parking areas are to be managed in accordance with the following requirements:

- All vehicles are to be parked in approved parking areas, as shown on the approved Construction Management plan.
- Where parking on the shoulder occurs, all damage to the shoulder and landscape is to be repaired by the Contractor continually and not left for the end of construction. Vehicles may not be parked outside of the Construction Area.
- No vehicle repair is allowed on the Homesite except in the case of emergency or within a full enclosed garage.

4.6 DELIVERY AND STORAGE MATERIALS AND EQUIPMENT

Each Contractor is responsible for ensuring his/her subcontractors and suppliers obey all posted speed limits and traffic regulations. Fines will be imposed by local police and/or the Committee against the Contractor, Owner and/or Compliance Deposit for repeated violations. The following, additional Guidelines apply to all material delivery and storage.

All building materials, equipment and machinery are to be delivered to and remain within the Improvement Envelope or as otherwise approved by the Committee. This requirement includes all building materials, earthmoving equipment, trailers, generators, mixers, cranes and any other equipment or machinery that will remain on the Construction Site overnight.

Delivery vehicles may not drive across neighbouring properties to access a construction site.

4.7 HOURS OF CONSTRUCTION

Daily working hours are limited to Monday through Friday 7:00 a.m. – 6 p.m. Saturday hours are from 9:00 a.m. – 4:00 p.m. However, Saturday and Sunday construction on sites within 300 feet of an occupied residence is limited to indoor work. Noisy activity is prohibited on Sunday. Construction hours may be revised at the discretion of the Committee.

4.8 FIRE AND SAFETY PRECAUTIONS

Wildfire prevention is a serious concern at MONTANE. To mitigate this danger, all contractors are to refer to the fire safety guidelines provided by the local Fernie Fire Department. The following additional fire and safety precautions are to be adhered to at all construction sites:

All fires are to be reported even if it is thought to be contained, extinguished or already reported.

- One or more persons are to be appointed as the individual(s) responsible for reporting emergencies and/or phoning 911.
- Access for emergency vehicles is to be maintained at all times.
- Access to fire hydrants, emergency water tanks and emergency turnouts are not to be blocked at any time.
- Smoking materials are to be discarded in approved containers.

4.9 CONSTRUCTION TRAILERS AND/OR TEMPORARY STRUCTURES

Upon approval of the Construction Management Plan and receipt of the building permit as required, a temporary construction trailer or portable field office may be located on building site within the Improvement Envelope, subject to the following Guidelines:

- The type, size and colour of construction trailers are to be approved by the Committee during the Pre-Construction Conference.
- The field office may not be placed on site earlier than two weeks prior to the actual start of continuous construction activity.

4.10 SANITARY FACILITIES

Owners and their contractors are responsible for providing adequate sanitary facilities for construction workers. Portable toilets are to be located within the Improvement Envelope and in a discreet location, as approved on the Construction Management Plan. Sanitary facilities are not to be located within 50 feet of drainages and/or other sensitive resources

4.11 DEBRIS AND WASTE REMOVAL

The following debris and waste removal procedures are to be adhered to at all construction sites:

- Trash and debris are to be cleaned up at the end of each day. Trash and debris are to be removed from each construction site at least once a week and transported to an authorized disposal site.
- Dumping, burying and/or burning trash is not permitted anywhere within MONTANE.
- Heavy and large debris, such as broken stone and wood scraps, are to be removed from the site immediately upon completion of each work trade.

- Concrete washout, from both trucks and mixers, is to be contained within the Improvement Envelope and concealed by structure or covered with backfill. Concrete washout in road rights-of-way, setbacks or on neighbouring properties is strictly prohibited and will be fined.
- During the construction period, each construction site shall be kept neat and is to be properly policed
 to prevent it from becoming a public eyesore, nuisance or detriment to neighbouring properties.
 Owners are responsible for any clean-up costs incurred by the Committee in enforcing these
 requirements.
- Dirt, mud and/or other debris is to be promptly removed from public or private roads, open spaces, driveways and/or other portions of MONTANE.

4.12 EXCAVATION, GRADING AND EROSION CONTROL

During construction, erosion is to be minimized on exposed cut and/or fill slopes through proper soil stabilization, water control and re-vegetation.

All measures are to comply with the City of Fernie Fire Department.

4.13 CONSTRUCTION SIGNS

One temporary construction sign per Homesite is permitted during construction, subject to the following Guidelines:

- The sign is not to exceed 1 square meter.
- The design and information indicated on construction signs are to conform to examples provided by the developer.
- Emergency contact information is to be posted on the construction sign.

APPENDIX A

GLOSSARY OF DEFINED TERMS

Applicant

Owner and/or their representative responsible for the Design Codes Approval Processes described in Appendix C.

Area of Disturbance

The area surrounding construction activities that is impacted by such construction.

Building Height

The vertical distance from the highest point of a structure to the average of the highest and lowest points where exterior walls touch natural grade.

Commissioning Agent

A professional qualified to evaluate and certify a building is designed, constructed and functions in accordance with the Owner's specified operational requirements, such as energy conservation and indoor air quality.

Consultant

A person retained by an Owner to provide professional advice or services.

Contractor

A person or entity retained by an Owner for the purpose of constructing any improvements within MONTANE.

Design Codes (Codes)

The standards, guidelines, review procedures and construction regulations adopted and enforced by the Committee as set forth in this document and amended from time to time by the Committee.

Excavation

The digging and removal of earth from its natural position or the cavity resulting from such removal.

Fill

The material used to increase an existing grade.

Improvement

Any constructed element on a Lot and/or Parcel, including but not limited to: buildings, terraces, paths, utilities, driveways, walls, garages and the like.

Improvement Envelope

That portion of a Lot and/or Parcel, wherein all improvements may take place (as established by front, rear and side setbacks), including all buildings, terraces, autocourts and/or garages, with the exception of some native landscape planting, utilities, walls and driveways.

Landscape Architect

A person licensed to practice landscape architecture.

Lot

Private residential properties within MONTANE.

Lot Diagram

The individual site plan for each Lot and/or Parcel that describes the unique attributes of the particular site and indicates important design parameters such as topography, the Improvement Envelope, Natural Area, easements of record.

Natural Area

An area that is altered moderately so that it blends with all adjoining naturally landscaped areas and creates natural screens to obscure and soften built improvements from neighbouring areas. All plant materials introduced in these areas are to be native species as indicated in Appendix B – Approved Plant List.

Notice to Comply

Written notice issued to an Owner and/or Contractor of any changes and/or alterations not in compliance with Committee approved plans or the Codes, which are to be corrected as requested by the Committee.

Site Coverage

The maximum portion of a Lot and/or Parcel that may be covered by a building and/or any other impervious surface including, but not limited to porches, courtyards, terraces and driveways.

Subdivision Plan

The individual site plan, approved by the City of Fernie for each single/multi-family or commercial parcel.

Sustainable Design (Sustainable, Sustainability)

The implementation of environmentally sensitive and resource conserving techniques into the design of a building and associated landscape. Sustainable Design is intended to create buildings that are integrated with the local landscape and climate to create a healthier living environment for the building's inhabitants and neighbours.

APPENDIX B

APPROVED PLANT LIST

Trees	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Abies lasiocarpa	Subalpine Fir			
	Abies amabilis	Amabilis Fir	х		
	Abies concolor	White Fir			х
	Acer ginnala	Amur Maple			х
	Alnus rubra	Red Alder	х	Х	
	Amelanchier alnifolia	Saskatoon Serviceberry	Х	Х	х
	Betula papyrifera	Paper Birch	х	х	
	Crataegus douglasii	Black Hawthorn	Х	Х	
	Juniperus scopulorum	Rocky Mountain Juniper		Х	
	Larix laricina	Tamarack		Х	
	Larix occidentalis	Western Larch	Х	Х	Х
	Picea engelmannii	Englemann Spruce	Х		
	Picea engelmannii x glauca	Hybrid Sitka and White	Х		
	Picea glauca	White Spruce	Х		Х
	Pinus ponderosa	Ponderosa Pine	Х	Х	
	Pinus contorta	Shore Pine	Х	Х	
	Pinus contorta subsp.	Lodgepole pine		Х	
	Pinus flexilis	Limber Pine			
	Pinus monticola	Western White Pine	Х		
	Pinus nigra	Austrian Pine			
	Pinus ponderosa	Ponderosa Pine		Х	Х
	Pinus sylvestris	Scotch Pine			
	Poplus basamifera	Black Cottonwood	Х		х
	Populus alba	White Poplar			Х
	Populus balsmifera subsp.	Northern Black Cottonwood		х	х
	Populus tremuloides	Quaking Aspen	Х	Х	Х
	Prunus emarginata	Bitter Cherry		Х	
	Prunus pensylvanica	Bird Cherry		Х	
	Prunus virginiana	Choke Cherry		Х	
	Pseudotsuga menziesii	Douglas Fir	Х	Х	Х
	Pseudotsuga menziesii	Douglas Fir - Coastal		х	
	Salix discolor	Pussy Willow		х	х
	Salix lasiandra	Pacific Willow	Х	х	х
	Salix spp.	Willow Sp.	Х		
	Thuja plicata	Western Red Cedar	Х	х	
	Tsuga heterophylla	Western Hemlock	Х	1	

Shrub, Vine, Ground Covers	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Acer douglasii	Douglas Maple	Х		
	Acer grandidentatum	Bigtooth Maple			Х
	Alnus sinuata	Sitka Alder	Χ	Х	Х
	Amelanchier alnifolia	Saskatoon Serviceberry	Χ	Х	
	Angelica arguta	Sharptooth Angelica	Χ		
	Antennaria racemosa	Racemose Everlasting	Х		
	Apocynum	Spreading dogbane	Х		
	Arabis glabra	Tower Mustard	Х		
	Arabis holboellii	Reflexed rock cress	Х		
	Artemesia cana	Sagebrush		Х	
	Berberis repens	Creeping mahonia	Х		
	Ceanothus sanguineus	Redstem ceanothus	Χ	Х	
	Ceanothus velutinus	Snowbrush		Х	
	Chrysothamnus nauseosus	Rabbitbrush	<u> </u>	X	
	Cornus sericea	Red-osier Dogwood	Χ	Х	Х
	Cornus sericea	Colorado Red Osier Dogwood	X		Х
	Cornus sericea	Yellow Twig Dogwood	Χ		Х
	Cornus stolonifera	Red-oiser Dogwood	X		
	-	-	X		
	Corylus cornuta	Beaked hazlenut			
	Crataegus douglassi	Black Hawthorn		Х	
	Elaegnus commuta	Silverberry			
	Erigonum heracleoides	Wild Buckwheat		Х	Х
	Fallugia paradoxa	Apache Plume		X	Х
	Holodiscus dumosus	Rock Spiraea			Х
	Lonicera involucrata	Black twinberry		X	Х
	Lonicera utahensis	Utah Honeysuckle	Х		
	Mahonia aquifolium	Tall Mahonia or Tall Oregon		Х	
	Myrica californica	Wax Myrtle		Х	
	Oplopanax horridus	Devils Club	Х		
	Pachistima myrsinites	Falsebox	Χ		
	Philadelphus lewisii	Mock Orange		Χ	Х
	Physocarpus mavaceus	Mallow-Leaf Ninebark		Х	Х
	Physocarpus sp.	Ninebark		Χ	Х
	Potentilla fruticosa	Shrubby Cinquefoil		Х	
	Prunus virginiana	Choke Cherry		Χ	Х
	Purshia tridentnata	Bitterbrush		X	Х
	Rhododendron albiflorum	White Rhododendron		Х	
	Rhododendron	Pacific Rhododendron		Х	
	Rhus glabra	Smooth Sumac		Х	
	Rhus spp.	Sumac		Х	Х
	Ribes aureum	Flowering yellow Currant			Х
	Ribes lacustre	Bristly black current	Х		
	Ribes sanguineum	Red-flowering Current		Х	
	Ribes uva-crispa	Gooseberry	Х		

Shrub, Vine, Ground Covers	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Rosa	Rose Spp.	х		
	Rosa acicularis	Prickly rose	х		
	Rosa glauca	Redleaf Shrub Rose			
	Rosa gymnocarpa	Baldhip Rose		х	Х
	Rosa nutkana	Nootka Rose		Х	
	Rosa pisocarpa	Clustered Wild Rose		Х	
	Rosa woodsii	Woods' Rose		х	
	Rubus idaeus	Raspberry	х		
	Rubus parviflorus	Thimbleberry	х	Х	
	Salix bebbiana	Bebb's Willow	х		
	Salix hookeriana	Hooker Willow		Х	Х
	Salix lasiandra	Pacific Willow			
	Salix scouleriana	Scouler Willow	Х	Х	Х
	Salix sp.	Willow	х		
	Sambucus cerulea	Blue-berry Elder		Х	
	Sambucus racemosa	Red-berry Elder	Х	Х	Х
	Shepherdia argentea	Silver Buffaloberry		Х	
	Shepherdia canadensis	Canadian Buffaloberry	Х	Х	
	Sorbus sitchensis	Sitka Mountain Ash	X	Х	
	Spiraea densiflora	Mountain Spirea		Х	
	Spiraea douglasii	Pacific Hardhack		Х	
	Spirea sp.	Spirea			
	Spireaea betulifolia	Flat-top Spirea	Х	х	
	Symphorcarpos albus	Common Snowberry	Х	Х	Х
	Vaccinium caespitosum	Dwarf huckleberry	х		
	Vaccinium membranaceum	Black Huckleberry	х		
	Vaccinium ovatum	Evergreen Huckleberry		х	
	Vaccinium parvifolium	Red Huckleberry	х		
	Vaccinium uliginosum	Bog Blueberry		х	Х
	Viburnum edule	Highbush Cranberry	х		

Forbs, Herbs & Perennials	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Achillea millefolium Actaea rubra	Yarrow Red Baneberry			
	Adiantum pedatum	Northern Maidenhair Fern			
	Allium cernuum	Nodding Onion			
	Anaphalis mararitacea	Pearly Everlasting			
	Aquilegia formosa	Western Columbine			
	Aquilegia sp.	Columbine			
	Aralia nudicaulis	Wild Sarsaparilla			

Forbs, Herbs & Perennials	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Arnica cordifolia	Heart-Leaved Arnica			
	Arctostaphylos uva-ursi	Kinnikinnick			
	Artemisia frigida	Fringed Sagebrush	Х	Х	
	Aster alpinus	Alpine Aster			Х
	Aster laevis	Smooth Aster	Х		
	Aster spectabilis	Showy Aster	х		
	Calochortus apiculatus	Mariposa Lily	х		
	Campanula rotundifolia	Harebell	х		
	Carex nicricans	Black Alpine Sedge		Х	Х
	Carex obnupta	Slough Sedge		х	Х
	Carex rostrata	Beaked Sedge	Х	х	х
	Castillejo miniata	Common paintbrush	x		
	Chimaphilia umbellata	Prince's Pine	х		
	Collinsia parviflora	Small-Flowered Blue-Eyed	x		
	Collomia linearis	Narrow Leaved Collomia	X		
	Clintonia uniflora	Queen's Cup	X		
	Cornus canadensis	Canada Bunchberry	X	х	
	Delphinium menziessi	Menzies' Larkspur		X	
	Delphinium spp.	Larkspur			Х
	Deschampsia caespitosa	Tufted Hair Grass		Х	
	Disporum hookeri	Oregon Fairy-Bell	Х	^	
	Dryopteris expansa	Spiny Wood Fern		Х	
	Echinacea purpurea	White Swan Cloneflower	х	^	
	Epilobium glaberrimum	Smooth Willow-Herb	x		
	Festuca idahoensis	Bluebunch Fescue		V	
	Fragaria virginiana	Wild Strawberry	X	X	
	Gallium aparine	Cleavers		X	
	Galium triflorum	Sweet Scented Bedstraw	X		
	Geum macrophyllum	Large-leaved Avens	X		
	Goodyera oblongifolia	Rattlesnake Plantain	X		
	Hedysarum sulphurescens	Yellow Hedysarum	X		
	Heracleum lanatum	Cow Parsnip	X		
	Hieracium albiflorum	White Hawkweed	X		
	Hieracium canadense	Canada Hawkweed	X		
	Gaultheria shallon	Salal	X		
	Lathyrus ochrolecus	Cream-Coloured Vetchling		Х	
	Linnaea borealis	Twinflower	X		
	Linum lewissii	Blue Flax	X		
	Listera cordata	Hart-Leaved Twayblade	X	1	
	Lupinus arcticus	Wild Lupine	X	Х	
	Lupinus sericeus	Flexile Lupine			
	Lupinus sericeus Lupinus polyphyllus	Large Leaf Lupine	Х	X	

Forbs, Herbs & Perennials	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas
	Mahonia nervosa	Oregon Grape or Longleaf		Х	
	Mahonia nervosa	Dull Oregon Grape	x		
	Mahonia repens	Creeping Oregon Grape		Х	
	Mimulus guttatus	Yellow Monkey-Flower		Х	
	Mimulus lewisii	Pink Monkey-Flower		Х	
	Meliotus alba	White Sweet-Clover	х		
	Meliotus officinalis	Yellow Sweet-Clover	х		
	Monarda didyma	Bee Balm			
	Moneses uniflora	Single Delight	х		
	Nothochelone nemorosa	Woodland Penstemon		Х	
	Orthilia secunda	One-sided Wintergreen	х		
	Osmorhiza chilensis	Bluntfruted Sweet Cicely	Х		
	Pedicularis bracteosa	Western Lousewort	x		
	Pedicularis racemosa	Leafy Sickletop Lousewort	x		
	Penstemon davidsonii	Davidson's Penstemon		х	
	Penstemon fruticosus	Shrubby Penstemon		Х	
	Penstemon ovatus	Broad Leaved Penstemon		Х	
	Penstemon procerus	Small-flowered Penstemon		Х	
	Philedelphus lewisii	Mock Orange		Х	х
	Plantago major	Common Plantain	х		
	Polygonum douglasii	Douglas Knotweed	x		
	Polystichum munitum	Sword Fern		X	
	Potentilla fruticosa	Shrubby Cinquefoil			х
	Potentilla pensylvanica	Prairie Cinquefoil	x		
	Prunella vulgaris	Selfheal	x		
	Pyrola asarifolia	Pink wintergreen	x		
	Ribes cereum	Wax Currant		X	х
	Rosa spp.	Rose			
	Scirpus spp., Carex spp.	Sedges	x		х
	Senecio sphaerocephalus	Black-Tipped Butterweed	x		
	Senecio triangularis	Arrow-leaved groundsel	Х		
	Scirpus microcarpus	Small-flowered Bulrush	,	X	х
	Silene douglasii	Douglas Silene	X	1	•
	Sisyrinchium angustifolium	Blue-eyed Grass	1	X	
	Solidago missouriensis	Low Goldenrod	Х		
	Stellaria umbellata	Umbellate Starwort	X		
	Steptopus amplexifolius	Clasping-Leaved Twisted-	X		
	Steptopus lanceolatus	RoæTwisted Stalk	X		
	Smilacina racemosa	Flase Solomon's Seal	X		
	Symphoricarpos mollis	Trailing Snowberry	 	X	

Forbs, Herbs, & Perennials	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Chrysanthemum x morifolium	Eldorado Garden Mum	х		
	Euthamia gramnifolia	Flat-top Goldentop	х		
	Rudbeckia laciniata	Tall Coneflower	х		
	Tiarella trifoliata	Foamflower	х		
	Trifolium hybridum	Alskie Clover	х		
	Trifolium pratense	Red Clover	х	Х	
	Trifolium species	Clover	х		х
	Typha latifolia	Cattail	х		х
	Veronica wormskjoldii	Apline Speedwell	х		
	Vicia americana	American Vetch	х		
	Viola adunca	Early Blue Violet	х		
	Viola canadensis	Canada Violet	х		
	Viola orbiculata	Round Leaved Violet	х		
	Viola Spp	Violet Spp	х	Х	

Ground Covers	Botanical Name	Common Name	Native	Natural Area	High Soil Moisture Areas Only
	Arctostaphylos uva-ursi	Kinnikinnick		Х	х
	Artemesia schmidtiana	Silver Mound Wormwood			
	Euonymus fortunei radicans	Wintercreeper euonymus			
	Juniperus communis	Rocky Mountian Juniper			
	Juniperus sabina	Savin Juniper			
	Juniperus sabina	Tamarax Juniper	х		
	Mahonia repens	Creeping Mahonia		Х	
	Penstemon caespitosus	Creeping Penstemon			
	Potentilla verna	Cinquefoil Potentilla			
	Parthenocissus quinquefolia	Virginia Creeper			

Vines	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Clematis sp	Clematis			Х
	Hydranea anomala sp	Climbing Hydrangea			Х

Grasses	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Agropyron caninum	Bearded Wheatgrass	х		
	Agrostis scabra	Rough Hair Grass	х		
	Calamagrostis canadensis	Bluejoint	х		х
	Calamagrostis rubescens	Pinegrass	х		х
	Carex rostrata	Beaked Sedge	х	Х	х
	Cinna latifolia	Woodreed	х		
	Deschampsia cespitosa	Tufted Hairgrass	х		
	Deschampsia englongata	Slender Hairgrass	х		
	Dryopteris expansa	Spiny Wood Fern	х		х
	Elymus trachycaulus	Slender Wheatgrass		Х	х
	Equisetum arvense	Common Horsetail	х		х
	Festuca idahoensis	Idaho Fescue	х	Х	х
	Festuca ovina 'Covar'	Sheep Fescue		Х	х
	Festuca scabrella	Rough Fescue		Х	х
	Gymnocarpium dryopteris	Oak Fern	х		х
	Koeleria cristata	Prairie Junegass		Х	х
	Phleum pratense	Timothy	х		
	Pseudoroegneria spicata	Bluebunch Wheatgrass		Х	х
	Pteridium aquilinum	Bracken Fern	х		Х
	Scripus acutus	Hardstem Bulrush		Х	Х
	Stipa comata	Needle-and-thread	х		

Ornamental Grasses	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Carex bebbii	Bebbs' Sedge			х
	Carex lanuginosa	Wooly Sedge			х
	Festuca sp.	Blue Fescue			х
	Helictotrichon sempervirens	Blue Oat Grass			х
	Panicum capillare	Switch Grass			х
	Schizachyrium scoparium	Little Bluestem			Х

Wildflowers	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Heterotheca villosa	Hairy Golden Aster		Х	х
	Linum lewissii	Blue Flax		Х	х
	Lupinus polyphyllus	Large Leaf Lupine		Х	х
	Lupinus sp.	Lupine		Х	х
	Penstemon sp.	Penstemon		Х	х

Ferns and Fern-allies	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Cystopteris fragilis	Bladderfern	х		
	Equisetum pratense	Horsetail	х		
	Dryopteris filix-mas	Sheildfern	х		

Mosses, Lichens and Liverworts	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Cladoina sp.	British Soldier	x		
	Dicranum sp.	British Soldier	х		
	Lycopodium clavatum	Club Moss	х		
	Marchantia sp.	British Soldier	х		
	Peltigera sp.	Lungwort	х		
	Pleurozium schreberi	Red-Stemmed Feathermoss	х		
	Polytrichum juniperinum	Lungwort	х		
	Ptilium crista-castrensis	Feather Moss	х		
	Rhytidiopsis robusta	Pipecleaner Moss	х		
	Sphagnum sp.	Sphagnum Moss	Х		

Recommendations – Seed Mixtures

Forb	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Aster chilensis	Creeping Aster			
	Heuchera parviflora	littleflower alumroot			
	Penstemon eriantherus	Fuzzy-Tongued Penstemon			
	Phacelia hastata	Silverleaf Phacelia			
	Potentilla hippiana	Woolly Cinquefoil			
	Sphaeralcea coccinea	Scarlet Globemallow			

Grass	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Carex paysonis	Payson's Edge			
	Deschampsia cespitosa	Tufted Hairgrass			
	Elymus trachycaulus	Sender Wheatgrass			
	Juncus balticus	Baltic Rush			
	Leymus cinereus	Basin Wildrye			
	Achnatherum hymenoides	Indian Ricegrass			
	Pascopyrum smithii	Western Wheatgrass			
	Poa alpina	Alpine Buegrass			
	Poa ampla	Big Bluegrass			
	Poa compressa	Canada Bluegrass			
	Poa spp.	Bluegrass Species			
	Pseudoroegneria spicata	Bluebunch Wheatgrass			

Shrub	Botanical Name	Common Name	Native	Natural Areas	High Soil Moisture Areas Only
	Juniperus horizontalis	Creeping Juniper			
	Purshia tridentata	Antelope Bitterbrush			
	Rosa woodsii	Wood's Rose			
	Shepherdia argentea	Silver Buffaloberry			
	Symphoricarpos albus	Common Snowberry			
	Symphoricarpos occidentalis	Western Snowberry			
	Ribes Species	Currant Species			

Notes for Seeding

- For all forb and woody species a pre-treatment would be required (acid or soaking) to break dormancy; or can be planted in the fall, pre-dormant.
- Control weeds in the first year through mowing (no lower than 6") or herbicide (only after germination of all species).
- Fall fertilize to initiate seed head development.
- See production begins in the second growing season.

APPENDIX C

DRAWING REQUIREMENTS

Architectural Approval Process

In addition to the review and approval requirements of the City of Fernie, the Design Review Committee (DRC) has established a design review process to ensure that the completed residence conforms to the MONTANE design vision. The architectural approval process must be completed prior to, and is required by the Committee for submission for a Building Permit. Every design proposal must be reviewed by the Committee or their representative, to determine the appropriateness of the submission for the given site. The submission of a proposal or significant architectural merit may minimize the necessity of adherence to specific items from these Codes.

Preliminary Design Review

It is recommended the Applicant submit a preliminary sketch of the proposed building, or modifications to an Approved Plan, as early in the process as possible. This is to ensure the submitted design conforms to the Codes, prior to completion of full working drawings.

Application for Architectural Approval

- 1. Before an Applicant can apply for a Building Permit, the applicant must receive Architectural Approval of the building(s) plans for conformance to the Codes. The following is to be submitted to the Committee for approval:
 - The Application for Architectural Approval completed entirely and signed by the Applicant
 - House site plan
 - House construction working drawings
 - Landscape plan
- 2. Drawings are required to have the information as outlined by the Committee.
- 3. It is preferred that all application materials are submitted electronically in pdf format.
- 4. Drawings are to be sent as complete sets only (even if revisions are made to a single drawing).
- 5. When multiple applications are made, each drawing set is to be sent as a separate email message.
- 6. The Committee shall review the application for conformance to the Codes. The Committee will issue an approval, rejection or conditional approval with a list of required amendments within 10 working days.
- 7. Approval: Houses which are approved shall require no further review and may proceed immediately to Building Permit.
- 8. Conditional Approval: Conditional approval generally applies to those house designs which have only minor conditions which are not consistent with the Architectural Codes. These changes are often simple to rectify, and require no further review by the Committee with the understanding that the Applicant will make the required changes. Two sets of marked-up plans and/or elevations shall be returned to the

Applicant with his/her signature certifying that he/she has understood and will comply with the prescribed changes pertaining to his/her approval.

- 9. Second Review Required: A second architectural review will be required when:
 - The First Review requires rejection from several conditions which do not conform to the Code.
 - The building does not conform to the intent of the Architectural Codes. A second review will be required after the prescribed changes have been completed by the Applicant.
- 10. The Committee and/or their representative are in no way responsible for the losses or delays incurred due to the requirements for a second design review, or for a design which has been rejected.
- 11. Samples and/or specification of materials and/or finishes which are proposed but not previously approved may be submitted for review and approval. One sample shall be provided for record/library purposes, a second shall be provided as the site inspection control sample.
- 12. Applications which do not provide adequate information for review may be returned as incomplete. Incomplete information shall be construes as:
 - Any missing component of the required information for Application; or
 - Drawings and/or specifications with insufficient notation and/or details to accurately describe all elevations and/or details, materials and colours of the elevation. Applications will not be advanced until all the required information has been completed.
- 13. The Codes shall be complied with in addition to all the requirements of all other regulations of the regulatory bodies having jurisdiction, including, but not limited to:
 - The City of Fernie Bylaws (most current issue)
 - The British Columbia Building Code (most current issue)
 - The MONTANE Design Code

The Committee and/or their representation are not responsible for reviewing drawings for conformance to regulatory codes other than those provided by the Committee.

- 14. Notwithstanding any statement or drawings in this document, the Committee reserves the right of final approval of the elevation design; colour and site work of all homes in MONTANE.
- 15. Notwithstanding any statement or drawing in this document, the Committee reserves the right to alter the architectural controls at any time if required.
- 16. Changes or alterations to any item previously approved is not permitted without written authorization from the Committee. Revisions are to be submitted as follows:
 - I. Application for Approval;
 - II. Letter describing requested revisions for approval (2 copies);
 - III. Completed drawings describing requested revisions for approval (4 copies); and
 - IV. Builder's fee.

Final Building Approval

Upon completion of the building and all required landscaping, the Applicant shall request final inspection by the Committee. The Committee shall issue a letter to the Applicant indicating that all conditions of the Architectural Code Approval have been met. The Purchaser/Builder will be required to submit this letter to the City of Fernie for final occupancy approval.

If all conditions have not been met, the purchaser will receive a list of deficiencies to be completed, after which the Purchaser/Builder shall apply for a second inspection.

NB: The Committee and/or their representative shall not be responsible for delays to unapproved revisions or deficiencies in the work.

Drawing Requirements

Information required on drawings to be submitted as part of the Application for Architectural Approval:

- 1. House Siting Plan, drawn at 1:100 (or 1/8" = 1'0") scale, including the following, but not limited to:
 - finished grade elevations at the midpoint of side property lines;
 - finished grade elevations at all house corners, garage corners, centre of the garage door and main entry to the house;
 - top of new footing elevations;
 - elevations of basement and garage floor slabs;
 - elevations of finished main floor;
 - elevations of porch finished floor;
 - all exterior dimensioning of the house and garage;
 - location of all setbacks from the property lines;
 - dimensions of all buildings from all property lines, and from all other buildings;
 - location and sizes of porches, decks, patios, stairs and ramps;
 - slope of driveway;
 - slope of finished grade, and;
 - surface drainage pattern, specifically the location, size and depth of swales, if required.
- 2. <u>House Construction (Working) Drawings,</u> drawn at a scale of 1:50 (or ¼" = 1'0"), including the following, but not limited to:
 - fully dimensioned and annotated plans of all floors;
 - fully dimensioned and annotated elevations of all sides of the building;
 - fully dimensioned and annotated longitudinal section of the building;
 - all materials and colours on all elevations are to be listed on elevational drawings, and/or in a finishing schedule, detailing:
 - a) wall cladding, grout, trim, corner boards, door and window surrounds
 - b) gable end wall cladding
 - c) bay cladding
 - d) roof materials
 - e) main roof: soffits, fascia, eavestrough
 - f) porch roof: soffits, fascia, eavestrough

- g) porch floors and stairs to the house/porch
- h) columns and column bases, balustrades
- existing finishes and/or materials are to be clearly annotated;
- elevations of all floors; and
- slopes of all roofs.
- 3. Landscape Plan, drawn at a scale of 1:100 (or 1/8" = 1'0"), including the following, but not limited to:
 - accurate locations of all proposed tree and shrub planting, and ornamental features;
 - schedule of all proposed tree and shrub planting;
 - accurate locations of all fencing; and
 - elevations of all fencing types.

APPENDIX D

PHOTO SAMPLES OF MOUNTAIN MODERN HOMES

























Schedule of Restrictions

- 1. All dwellings must be designed to conform to the Design Vision and receive approval by the Design Review Committee (DRC) prior to applying for a building permit.
- 2. No dwelling shall be occupied until after the exterior of the dwelling is completely finished.
- 3. No dwelling or other building shall be erected or maintained on any Lot until the plans and specifications therefore showing the nature, kind, size, height and location of such structure including a site or plot plan have been submitted to and approved in writing by the Declarant and the refusal or failure of the Declarant to give such approval shall not be actionable by any person under any circumstances, it being the sole discretion of the Declarant to give or withhold such approval but such approval shall not be unreasonably withheld.
- 4. It is recommended that prospective buyers and builders submit preliminary drawings to the Declarant for discussion purpose to avoid unnecessary expenses.
- 5. Landscaping of the front yard must be completed within one year of occupancy.
- 6. No wrecked or partially dismantled cars, salvage materials, or any other unsightly items or any unlicensed or abandoned vehicles or any equipment or trucks shall be parked on or adjacent to the Lot.
- 7. No motor vehicles shall be parked in the front yard of the Lot or adjacent to the Lot unless they are currently licensed with appropriate license plates and decals.
- 8. No condoning, excusing or waiver by any person of any default, breach or non-observance, or so as to defeat or affect in any way the rights of any person in respect of such continuing default, breach or non-observance, and no wavier shall be inferred or implied by anything done or omitted to be done by the person having such rights.
- 9. The restrictions and benefits imposed and conferred upon the Lots are hereby declared to be for the mutual benefit and advantage of all the Lots and the owners thereof from time to time, and any owner may commence, take or prosecute an action, suit or proceeding in any court of competent jurisdiction for the enforcement of any restriction or benefit imposed or conferred upon the Lots by this Building Scheme.
- 10. Nothing herein shall be or be deemed to be construed as an admission of responsibility or liability whatsoever on the part of the Declarant to or for the benefit of any third party whether an owner of lands or a Lot or Lots in the area of otherwise, to enforce, overs, maintain or otherwise control the activities of an owner of a Lot or Lots or any of them.
- 11. Should any part of this Building Scheme be declared or held invalid or unenforceable for any reason or reasons, such invalidity or unenforceability shall not affect the remainder of this Building Scheme which shall continue in full force and effect and be construed as if this Building Scheme had been declared

- without such invalid or unenforceable part.
- 12. No fifth-wheel trailer, travel trailer, motorhome or other recreational vehicle shall be used as a primary residence.
- 13. No storage of fifth-wheel trailer, travel trailer, motorhome or other recreational vehicle on the premises unless contained within the garage.
- 14. No billboards, placards, advertising or signs of any kind shall be erected or placed on the Lot, or in any window or door in any residence or building on the Lot with the exception of temporary signs indicating that the property is for sale or rent, signs such as "Block Parent" and signs displaying the owner's name and address, such signs to be an ornamental nature and not to exceed 12" x 24".
- 15. It is the responsibility of the Lot owner to ensure that his/her Lot is properly maintained to a reasonable level so as not to detract from the neighbourhood.
- 16. Save as herein provided, the Declarant as owner or owners for the time being of the part or parts of the said development remaining unsold shall have power, in its absolute discretion, from time to time by any deed or deeds or in writing under its hand to waive or vary or release any of the said stipulations in respect of the unsold lots and either subject or not subject to any different restrictions or stipulation.

GENERAL INSTRUMENT - PART 2

OPTION TO PURCHASE

WHEREAS:

- A. The Transferor is the registered owner in fee simple of the Land (as defined herein); and
- B. The Transferor has agreed to grant to the Transferee an option to purchase the Land on the terms and conditions of this option.

NOW THEREFORE this option witnesses that in consideration of the sum of \$10.00 now paid by the Transferee to the Transferor, the receipt of which is acknowledged, the parties agree as follows:

ARTICLE I	I	DEFINITIONS
1.01	In this option:	

"Land" means the land in the City of Fernie legally described as:

PID: _____ District Lot 4589 Kootenay District Plan EPP_____;

"Land Title Office" means the Kamloops/Nelson Land Title Office;

"Permitted Encumbrances" means those liens, charges and encumbrances listed in Schedule "A";

"Purchase Price" means EIGHTY PERCENT (80%) of the amount shown as "Consideration" in item 3 of the Transfer (as defined below), plus the cost of any improvements thereon, at cost;

"**Transfer**" means the Form A Freehold Transfer of an Estate in Fee Simple effecting transfer of title to the Land from the Transferee to the Transferor registered on the same or similar date as the date of registration of the within instrument.

ARTICLE II OPTION

- 2.01 The Transferor grants to the Transferee the full and exclusive first right and option, irrevocable within the time limited by this option, to purchase the Land for the Purchase Price, free and clear of all liens, charges and encumbrances, except for the Permitted Encumbrances.
- 2.02 It is agreed that the option to purchase granted hereby will only be exercisable by the Transferee if:
 - (a) the Transferor does not enter into an unconditional construction contract with a builder approved by the Transferee, acting reasonably, on or before the day which is 30 months following the registration of this Option on title to the Land;
 - (b) construction of a residential dwelling in accordance with the Architectural Design Guidelines applicable to the Property is not commenced by that date which is

36 months following the registration of this Option on title to the Land and substantially completed by that date which is 60 months following registration of this Option on title to the Land.

- 2.03 Upon the Transferee becoming entitled to exercise this option to purchase by reason of the failure of the Transferor to meet the conditions described in Article 2.02, this option to purchase may be exercised by the Transferee at any time within 30 days of the date that the Transferee becomes entitled to exercise the option as above, by notice in writing delivered by hand or by courier to the Transferor.
- Upon the satisfaction by the Transferor of the conditions described in Article 2.02 or if the Transferee fails to exercise the option to purchase as required herein (after becoming entitled to do so) then this option to purchase shall lapse and be of no further force and effect and the Transferor will be entitled to a release and discharge of this option to purchase from title to the Land.
- 2.05 The parties agree that if any act of God, accident, action of governmental or regulatory authority or other event beyond the Transferor's reasonable control renders it impossible or not reasonably feasible or economical to commence or complete construction within the periods governed by this clause the period for commencing or completing the construction under the Option to Purchase shall be extended for a period of time equal to the period of time during which it was impossible or not reasonably feasible or economical to commence or complete construction.

ARTICLE III

CONVEYANCE OF LAND ON EXERCISE OF OPTION

- 3.01 If this option is exercised a binding agreement for the purchase and sale of the Land will be constituted on the following terms and conditions:
 - (a) The completion date of the sale (the "**Completion Date**") will be the 30th day after the date upon which the notice to exercise this option is delivered to the Transferor, and on the Completion Date, the Transferee shall pay the Purchase Price to the Transferor;
 - (b) Payment of the Purchase Price may be effected by bank draft or solicitor's trust cheque, and shall be effected by courier or by hand;
 - (c) The Purchase Price may be delivered to the Transferor's solicitor on undertakings to discharge existing encumbrances, other than the Permitted Encumbrances;
 - (d) Prior to the Completion Date, the Transferor will execute and deliver to the Transferee's solicitor in trust, against an undertaking to pay the Purchase Price, all such documents as may be required to effect a transfer of the Land from the Transferor to the Transferee;
 - (e) The Transferee shall have possession of the Land on the Completion Date;
 - (f) Time shall be of the essence to the agreement of purchase and sale which arises from the exercise of this option to purchase.

ARTICLE IV COVENANTS OF THE TRANSFEROR

- 4.01 During the term of this option:
 - (a) the Transferor will pay all taxes, rates, levies and assessments that may be levied, charged or assessed in respect of the Land;
 - (b) the Transferor will not grant an option to purchase the Land to any person.

ARTICLE V MISCELLANEOUS

- 5.01 Time is of the essence of this option and any agreement of purchase and sale that may arise out of the exercise of this option.
- 5.02 If an agreement for the purchase and sale of the Land results from the exercise of this option, the Land will be at the risk of the Transferor until the Transferee has applied to the Land Title Office to register the Transfer.
- Any document or written notice to be served upon or given to either the Transferor or the Transferee pursuant to this agreement shall be sufficiently served and given if delivered, sent by facsimile transmission or mailed, prepaid and registered:
 - in case of the Transferee:
 Montane Developments Ltd.
 PO Box 1900
 691 1st Avenue
 Fernie, BC V0B 1M0
 - (b) in the case of the Transferor: at such address as may be shown on title to the Land as the Transferor's address as registered owner of the Land.
- 5.04 Either party may, by notice in writing to the other, specify another address for service of notices under this agreement, and where another address is specified under this section, notice shall be mailed to that address in accordance with this Article.
- This option enures to the benefit of and is binding upon the parties, their respective heirs and successors and permitted assigns.
- 5.06 The option may not be assigned by the Transferee.
- 5.07 For the purpose of Article 5.06, a change in the ownership of shares representing more than 50% of the issued voting shares in a corporate Purchaser is deemed to be an assignment, transfer or disposition of the rights of the Purchaser under this option.
- This option is governed by and shall be construed in accordance with the laws of the Province of British Columbia.

- 5.09 Wherever the singular or the masculine is used in this option it will be construed as the plural or feminine or neuter, as the case may be, and vice versa where the context or parties so require.
- 5.10 This Option shall constitute an interest in the Land and shall, in accordance with its terms, be binding on each and every parcel, lot, strata lot or air space parcel in which the Land may be subdivided.

SCHEDULE "A"

PERMITTED ENCUMBRANCES

"Permitted Encumbrances" means:

END OF DOCUMENT

EXHIBIT E

RENT CHARGE TERMS OF INSTRUMENT

PART 2

WHEREAS:

- A. The Transferor is the owner of the Lands set out at Item 2 of Part 1 of this Rentcharge (the "Lands") which are located within the development at Fernie, British Columbia known as "Montane Fernie" (the "Development").
- B. The Transferee intends to provide certain auxiliary services within and/or adjacent to the Development, such services to include but not necessarily be limited to:
 - (1) pathway and trail maintenance,
 - (2) snow removal from sidewalks,
 - (3) adventure park and playground maintenance, and
 - (4) sports field maintenance

(the "Services").

C. In order to provide the Transferee with funds to enable it to provide the Services, the owners of certain lands within the Development, including the Transferor, have agreed to grant to the Transferee a rentcharge on the basis herein described.

PART 1- DEFINITIONS AND INTERPRETATION

1.01 Definitions – In this Indenture, unless the context otherwise requires:

"Annual Amount" means, initially, the amount of \$895.00 per year, to be adjusted by the Developer on an annual basis not to be increased in an amount exceeding 10% of the Annual Amount in the immediately preceding year;

"Lands" means the following lands together with all the easements, rights, and appurtenances belonging thereto:

Lots 69-88 District Lot 4589 Kootenay District Plan EPP

"Rent Charge'	' means the rentcharge created	by this Indenture and	described in section	2.01;

"year" means a calendar year, commencing January 1 and terminating December 31;

- 1.02 <u>Headings</u> The headings herein are inserted for convenience of reference only and shall not affect the construction or interpretation of this indenture.
- 1.03 Governing Law This indenture shall be governed by, and construed in accordance with, the laws of the Province of British Columbia.

EXHIBIT E

- 1.04 <u>Submission to Jurisdiction</u> The Transferor and the Transferee submit to the jurisdiction of the Courts of the Province of British Columbia and agree to be bound by any suit, action or proceeding commencing in such courts and by an order or judgment resulting from such suit, action or proceeding, provided however that the foregoing shall in no way limit the rights of the Transferee to commence suits, actions or proceedings based on this indenture in any jurisdiction.
- 1.05 <u>Including Words</u> Wherever the singular or masculine is used herein the same shall be deemed to include the plural or the feminine or the body corporate where the context so requires.

PART 2 – THE RENT CHARGE

- 2.01 <u>The Rentcharge</u> The Transferor hereby conveys and grants unto the Transferee in fee simple a perpetual yearly sum equal to the Annual Amount, by way of rentcharge of the Lands.
- 2.02 <u>Invoicing and Payment</u> The Transferee shall invoice the Transferor (or its successor(s) in title) once in each year via regular mail or electronic mail for the Annual Amount; and the Annual Amount shall be paid to the Transferee within 30 days of invoicing.
- 2.03 <u>Place of Payment</u> The Rentcharge shall be paid to the Transferee at such place as the Transferee may advise the Transferor in writing, and failing such advice shall be paid at the registered office of the Transferee in effect from time to time.
- 2.04 <u>Charge</u> The Rentcharge shall be charged upon the Lands, shall charge the Lands, shall run with the Lands and shall be binding upon the owner for the time being of the Lands.
- 2.05 <u>Promise to Pay</u> The Transferor hereby covenants with the Transferee that the Transferor and all persons deriving title to the Lands or any portion thereof will at all times hereafter pay to the Transferee and persons deriving title from the Transferee the Rentcharge at the times and in the manner herein provided.
- 2.06 No Proration, etc. Notwithstanding the date of the execution of this Indenture, the first payment of the Rentcharge shall be payable on or before July 2 of the year in which this Indenture is submitted to the Land Title Office for registration and shall not be prorated or reduced by reason that the Rentcharge is only registered against the Lands for a portion of the first year.

PART 3 – REMEDIES

- 3.01 <u>Remedies</u> If the Rentcharge is more than 21 days in arrears the Transferee may have recourse to any one or more or all of the following remedies from time to time so as to recover and compel payment of the Rentcharge, including necessary costs and expenses:
 - (a) to sue the Transferor;
 - (b) to sue the owner for the time being of the Lands;
 - (c) to levy distress upon the Lands;
 - (d) to enter and take possession of the Lands and apply the income from the Lands against what is owing, to the Transferee and upon the Transferee recovering what is owing, to let the Transferor back into possession of the Lands;

EXHIBIT E

- (e) to lease the Lands to a trustee for a term not to exceed 21 years under the terms of such trust permit the trustee to sublease the Lands or any portion thereof and receive income therefrom and to apply such income to what is owing to the Transferee and to otherwise deal with the Lands as would a receiver and manager;
- (f) to seek appointment of a receiver for the Lands who may receive the income therefrom and apply such income to what is owing to the Transferee and to otherwise deal with the Lands as receiver;
- (g) to compel a sale of the lands;
- (h) to compel a mortgage of the Lands; and
- (i) to prove a claim upon a bankruptcy or winding-up.
- 3.02 <u>Entry and Forfeiture</u> If the Rentcharge is more than 4 years in arrears then in addition to the remedies in section 3.01, the Transferee may enter and take absolute possession of the Lands and upon such entry all right, title, interest and equity of the Transferor in and to the Lands shall be forfeited to the Transferee absolutely; PROVIDED HOWEVER this right of re-entry shall only be exercisable by the Transferee during the lives and life of the living descendants of Her Majesty the Queen Elizabeth the Second and the last survivor of them, and such further period thereafter, if any, as shall be consistent with the law against perpetuities.

PART 4 – GENERAL

- 4.01 <u>Subdivision</u> This Rentcharge shall apply to every lot into which the Lands are or may hereafter be subdivided and shall be read and construed in connection with such part of lot *mutatis mutandis*, provided that each individual lot (whether fee simple or strata) into which the Lands are hereinafter subdivided capable of having constructed on it one or more dwelling units may be charged with payment of a multiple of the Annual Amount equal to the number of dwelling units capable of being constructed on such lot times the Annual Amount.
- 4.02 <u>Enurement</u> This Indenture and all its provisions shall enure to the benefit of the Transferee and its successors and assigns and shall be binding upon the Transferor and its successors and assigns.

END OF DOCUMENT

TERMS OF INSTRUMENT PART 2 PRE-CONSTRUCTION GEOTECHNICAL COVENANT MORRISSEY COURT

This	Covenant	granted	as of	the	day	of	, 2019.

BETWEEN:

MONTANE DEVELOPMENTS LTD., a company incorporated in British Columbia under number 0936724, and having a registered office at Box 490, 202-502 Third Avenue, Fernie, British Columbia V0B 1M0

(the "Covenantor")

AND:

THE CORPORATION OF THE CITY OF FERNIE

City Hall P.O. Box 190, 501 Third Avenue Fernie, British Columbia V0B 1M0

(the "City" or "Covenantee")

WHEREAS:

- A. The Covenantor is the registered owner in fee-simple of that certain parcel or tract of land and premises, situate, lying and being in the City of Fernie, Province of British Columbia, and more particularly known and described in item 2 of the Form C comprising Part 1 of this instrument (the "Lands"):
- B. Section 219 of the *Land Title Act* R.S.B.C. 1996, C. 250 provides that the Covenantor may grant a covenant to the City of a negative or positive nature respecting the use of the Lands;
- C. The Lands have been created as a result of a recent residential subdivision of which the Covenantor was the proponent;
- D. The City has required that this Covenant be registered against the Lands as a condition of subdivision:
- E. The Covenantor desires to grant this Covenant to restrict the use of the Lands as required by the City;

NOW THEREFORE in consideration of the premises contained herein and the sum of One Dollar (\$1.00), now paid by the City to the Covenantor, the receipt and sufficiency whereof is hereby acknowledged,

THE COVENANTOR COVENANTS AND AGREES WITH THE CITY THAT:

- 1) Prior to construction of any foundation and foundation drainage, a site specific geotechnical evaluation report is to be obtained from a qualified professional geotechnical engineer by the Covenantor, and provided to the Covenantee, stipulating that either:
 - a) Assurance is provided that no remedial action is required; or
 - b) Remedial action is required for the lot accompanied by a BC Building Code (BCBC) Schedule B with respect to geotechnical remediation requirements and prior to the issuance of an occupancy permit, a BCBC Schedule C-B letter of assurance.
- 2) In consideration of the approvals given by the City, the Covenantor hereby:
 - a) agrees to indemnify and save harmless the City and its employees, servants and agents in relation to or arising from any injury, loss or damage, to persons or property, caused by, or relating to, any geotechnical matter on the Lands; and
 - b) does remise, release and forever discharge the City and its employees, servants and agents from all manner of actions, causes of action, suits, debts, accounts, covenants, contracts, claims and demands which the Covenantor or any of its heirs, executors, administrators, successors and assigns or any other person may have against the City or its employees, servants or agents for and by reason of any injury, loss or damage, to persons or property, caused by, or relating to, any geotechnical matter on the Lands, and including any matter arising out of any breach of a provision of this Covenant or any steps taken or not taken by the City to enforce this Covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach.
- 3) The restrictions and covenants herein contained are not cancellable without the written consent of the City. Notwithstanding the forgoing, the City shall, upon deliverance of an occupancy certificate, provide consent and take all necessary steps required to have this Covenant removed from the Lands.
- 4) This agreement will not be modified or discharged except in accordance with the provisions of Section 219(9) of the *Land Title Act* and/or clause 3 above.
- 5) (1) The Covenantor hereby releases, indemnifies and save the Covenantee harmless from and against any and all actions, causes of action, losses, damages, costs, claims, debts and demands whatsoever by any person, arising out of or in any way due to the granting or existence of this Covenant, including, but not limited to any matter arising out of any breach of a provision of this Covenant or any steps taken or not taken by

- the Covenantee to enforce this Covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach; and
- 6) The indemnity in Subsection a) includes, without limiting the generality of the foregoing, a claim for loss or injury to persons or to property due to the Covenantor's negligence or to the Covenantor's failure to comply with the Covenantee's bylaws or any one of them or with any provision of this Covenant.
- 7) No finding of negligence, whether joint or several, as against the Covenantee in favour of any third party in an action to which the Covenantor was not a party, shall operate to relieve or shall be deemed to relieve the Covenantor in any manner from any liability to the Covenantee, whether such liability arises under this Covenant, under the provisions of the *Local Government Act* or *Community Charter* as amended from time to time or otherwise.
- 8) Nothing in this Covenant affects the Covenantee's rights and powers in the exercise of its statutory functions under its statutes, bylaw, resolutions, orders and regulations, all of which may be fully exercised in relation to the Lands as if this Covenant had not been granted.
- 9) Nothing in this Covenant affects the City's rights and powers in the exercise of its statutory functions under its statutes, bylaws, resolutions, orders and regulations, all of which may be fully exercised in relation to the Lands as if this Covenant had not been granted.
- 10) Nothing in this Covenant shall obligate an owner of the Lands from time to prepare any geotechnical investigation report unless such owner proposes to develop the Lands.
- 11) The Covenantor shall, forthwith after execution hereof by it, do or cause to be done all acts or things reasonably necessary to give proper effect to the intentions of this Covenant and shall deliver to the City two copies of this covenant in a form that is acceptable for registration against title to the Lands in the Kamloops Land Title Office. All costs of registration shall be borne by the Covenantor.
- 12) Nothing in this Covenant shall be construed as a representation or warranty by either the Covenantor or the City that the Lands are suitable for development of any kind, in whole or in part, for any purpose whatsoever. The Covenantor hereby acknowledges and agrees the Covenantee is not warranting that the Lot is suitable for the construction of any improvement whatsoever and the Covenantor specifically acknowledges that it is solely responsible to assure the suitability of the Lot for any of the Covenantor's construction requirements.
- 13) This Covenant runs with the Lands and the covenants and each and. every provision hereof shall enure to the benefit of and be binding upon the parties hereto and their

- respective successors and assigns, NOTHWITHSTANDING any rule of law or equity to the contrary.
- 14) Whenever the singular or masculine is used herein, the same shall be construed as meaning the plural, feminine or body corporate or politic where the context or the parties so require.
- 15) Every reference to each party hereto shall be deemed to include the officers, employees, elected officials, agents, servants, successors and assigns of that party;
- 16) This Covenant and each and every provision hereof shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, as the case may be, NOTWITHSTANDING any rule of law or equity to the contrary; and if any section, subsection, clause or phrase of this Covenant is for any reason held to be invalid by the decision of a Court of competent jurisdiction the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder.

IN WITNESS WHEREOF the parties hereby acknowledge that this agreement has been duly executed and delivered by executing the Forms C and D attached hereto.

CONSENT TO PRIORITY

In consideration of the sum of ONE (\$1.00) DOLLAR now paid by the Transferee to CBT COMMERCIAL FINANCE CORP. (the "Lender"), the receipt and sufficiency whereof is hereby acknowledged, the Lender hereby grants to the Transferee priority over Mortgage CA6735072 respectively, registered in the Kamloops/Nelson Land Title Office on April 13, 2018, (the "Mortgage") and hereby covenants and agrees to subordinate and postpone all its right, title and interest in and to the Lands with the intent and with the effect that the interest of the Transferee herein shall rank ahead of the Mortgage as though this Covenant had been executed, delivered and registered in time prior to the registration of the Mortgage.

TERMS OF INSTRUMENT PART 2 PRE-CONSTRUCTION GEOTECHNICAL COVENANT MORRISSEY COURT – LOTS 69 - 80

This Covenant granted the day of , 2019.

BETWEEN:

MONTANE DEVELOPMENTS LTD., a company incorporated in British Columbia under number 0936724, and having a registered office at Box 490, 202-502 Third Avenue, Fernie, British Columbia V0B 1M0

(the "Covenantor")

AND:

THE CORPORATION OF THE CITY OF FERNIE

City Hall P.O. Box 190, 501 Third Avenue Fernie, British Columbia V0B 1M0 (the "City")

WHEREAS:

- A. The Covenantor is the registered owner in fee-simple of that certain parcel or tract of land and premises, situate, lying and being in the City of Fernie, Province of British Columbia, and more particularly known and described in item 2 of the Form C comprising Part 1 of this instrument (the "Lands"):
- B. Section 219 of the *Land Title Act* R.S.B.C. 1996, C. 250 provides that the Covenantor may grant a covenant to the City of a negative or positive nature respecting the use of the Lands;
- C. The Lands have been created as a result of a recent residential subdivision of which the Covenantor was the proponent;
- D. The City has required that this Covenant be registered against the Lands as a condition of subdivision:
- E. The Covenantor desires to grant this Covenant to restrict the use of the Lands as required by the City;

NOW THEREFORE in consideration of the premises contained herein and the sum of One Dollar (\$1.00), now paid by the City to the Covenantor, the receipt and sufficiency whereof is hereby acknowledged,

THE COVENANTOR COVENANTS AND AGREES WITH THE CITY THAT:

- 1) The Covenantor is aware of, and on behalf of itself and its heirs, executors, administrators, successors and assigns, hereby acknowledges that there is a potential geotechnical hazard on the Lands.
- 2) The Covenantor, on behalf of itself and its heirs, executors, administrators, successors and assigns, hereby covenants and agrees with the City, as a covenant in favour of the City pursuant to Section 219 of the *Land Title* Act, it being the intention and agreement of the Covenantor that the provisions hereof be annexed to and run with and be a charge upon the Lands, that from and after the date hereof;
 - a) the Covenantor shall not apply for a building permit for any building or structures to be constructed or proposed to be constructed on the Lands, nor shall the Covenantor construct any building or structures on the Lands, except:
 - i) in accordance with a site-specific drainage and geotechnical investigation report taking into account site conditions and proposed channel, drainage and infrastrucutre works on adjacent lands, to be prepared by a geotechnical engineer licensed to practice in the Province of British Columbia and confirming that the portion of the Lands proposed for development is suitable for the construction of a permanent habitable structure or structures as proposed, such report to be satisfactory in form and content to the City in its discretion; and
 - b) the Covenantor agrees that the Covenantee may withhold issuing a building permit for the Lot until such time as the Covenantor has complied with the requirements of Section 2 a) hereof. The Covenantor acknowledges and agrees that the Covenantee may withhold issuance of an occupancy permit for any building or structure until such time as a qualified geotechnical engineer provides a BCBC Schedule C-B at completion, certifying that the recommendations as may be specified in the site specific geotechnical evaluation required by Section 2 a) hereof have been complied with.
- 3) This Covenant is granted voluntarily by the Covenantor to the City pursuant to Section 219 of the *Land Title Act* of the Province of British Columbia. This covenant shall run with the Lands and the Covenantor's responsibilities under this covenant shall cease on transfer of the lands concerned to a purchaser.
- 4) In consideration of the approvals given by the City, the Covenantor hereby:
 - a) agrees to indemnify and save harmless the City and its employees, servants and agents in relation to or arising from any injury, loss or damage, to persons or property, caused by, or relating to, any geotechnical matter on the Lands; and

- b) does remise, release and forever discharge the City and its employees, servants and agents from all manner of actions, causes of action, suits, debts, accounts, covenants, contracts, claims and dmenads which the Covenantor or any of its heirs, executors, administrators, successors and assigns or any other person may have against the City or its employees, servants or agents for and by reason of any injury, loss or damage, to persons or property, caused by, or relating to, any geotechnical matter on the Lands, and including any matter arising out of any breach of a provision of this Covenant or any steps taken or not taken by the City to enforce this Covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach.
- 5) The restrictions and covenants herein contained are not cancellable without the written consent of the City.
- 6) This agreement will not be modified or discharged except in accordance with the provisions of Section 219(9) of the *Land Title Act*.
- 7) (1) The Covenantor hereby releases, indemnifies and save the Covenantee harmless from and against any and all actions, causes of action, losses, damages, costs, claims, debts and demands whatsoever by any person, arising out of or in any way due to the granting or existence of this Covenant, including, but not limited to any matter arising out of any breach of a provision of this Covenant or any steps taken or not taken by the Covenantee to enforce this Covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach; and
 - (2) The indemnity in Subsection a) includes, without limiting the generality of the foregoing, a claim for loss or injury to persons or to property due to the Covenantor's negligence or to the Covenantor's failure to comply with the Covenantee's bylaws or any one of them or with any provision of this Covenant.
- 8) No finding of negligence, whether joint or several, as against the Covenantee in favour of any third party in an action to which the Covenantor was not a party, shall operate to relieve or shall be deemed to relieve the Covenantor in any manner from any liability to the Covenantee, whether such liability arises under this Covenant, under the provisions of the *Local Government Act* or *Community Charter* as amended from time to time or otherwise.
- 9) Nothing in this Covenant affects the Covenantee's rights and powers in the exercise of its statutory functions under its statutes, bylaw, resolutions, orders and regulations, all of which may be fully exercised in relation to the Lands as if this Covenant had not been granted.
- 10) Nothing in this Covenant affects the City's rights and powers in the exercise of its statutory functions under its statutes, bylaws, resolutions, orders and regulations, all

- of which may be fully exercised in relation to the Lands as if this Covenant had not been granted.
- 11) Nothing in this Covenant shall obligate an owner of the Lands from time to prepare any geotechnical investigation report unless such owner proposes to develop the Lands.
- 12) The Covenantor shall, forthwith after execution hereof by it, do or cause to be done all acts or things reasonably necessary to give proper effect to the intentions of this Covenant and shall deliver to the City two copies of this covenant in a form that is acceptable for registration against title to the Lands in the Kamloops Land Title Office. All costs of registration shall be borne by the Covenantor.
- 13) Nothing in this Covenant shall be construed as a representation or warranty by either the Covenantor or the City that the Lands are suitable for development of any kind, in whole or in part, for any purpose whatsoever.
- 14) This Covenant runs with the Lands and the covenants and each and. every provision hereof shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, NOTHWITHSTANDING any rule of law or equity to the contrary.
- 15) Whenever the singular or masculine is used herein, the same shall be construed as meaning the plural, feminine or body corporate or politic where the context or the parties so require.
- 16) Every reference to each party hereto shall be deemed to include the officers, employees, elected officials, agents, servants, successors and assigns of that party;
- 17) This Covenant and each and every provision hereof shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, as the case may be, NOTWITHSTANDING any rule of law or equity to the contrary; and if any section, subsection, clause or phrase of this Covenant is for any reason held to be invalid by the decision of a Court of competent jurisdiction the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder.

IN WITNESS WHEREOF the parties hereby acknowledge that this agreement has been duly executed and delivered by executing the Forms C and D attached hereto.

CONSENT TO PRIORITY

In consideration of the sum of ONE (\$1.00) DOLLAR now paid by the Transferee to CBT COMMERCIAL FINANCE CORP. (the "Lender"), the receipt and sufficiency whereof is hereby acknowledged, the Lender hereby grants to the Transferee priority over Mortgage CA6735072 respectively, registered in the Kamloops/Nelson Land Title Office on April 13, 2018, (the "Mortgage") and hereby covenants and agrees to subordinate and postpone all its right, title and interest in and to the Lands with the intent and with the effect that the interest of the Transferee herein shall rank ahead of the Mortgage as though this Covenant had been executed, delivered and registered in time prior to the registration of the Mortgage.

Part 2 – TERMS OF INSTRUMENT S. 219 COVENANT

BETWEEN:

MONTANE DEVELOPMENTS LTD., Inc. No. BC0936724

PO Box 1900, 691 – 1st Avenue Fernie, B.C., V0B 1M0

(the "Covenantor")

AND:

THE CORPORATION OF THE CITY OF FERNIE

501 - 3rd Avenue, Box 190 Fernie, B.C., V0B 1M0

(the "Covenantee")

WHEREAS the Covenantor is the registered owner of the lands legally described in Item 2 of the Form C (*Land Title Act*) General Instrument to which this Agreement is attached and which forms part hereof (the "Land");

AND WHEREAS the Covenantee requires a covenant under section 219 of the *Land Title Act* as a condition to the consent to approval for the subdivision of the Land;

AND WHEREAS Section 219 of the *Land Title Act* provides that there may be registered as a charge against the title to any land a covenant in favour of the Covenantee that land is to be used and developed in a particular manner in accordance with the covenant.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the premises, the sum of One Dollar (\$1.00) of lawful money of Canada paid by the Covenantee to the Covenantor, and other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged by the Covenantor), the Covenantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, hereby covenants and agrees with the Covenantee, as a covenant in favour of the Covenantee pursuant to section 219 of the Land Title Act, it being the intention and agreement of the Covenantor that the provisions hereof be annexed and run with and be a charge upon the Land, that from and after the date hereof:

- 1. No improvements shall be constructed on the Land and no alterations or excavations made to the Land except in accordance with the **Geotechnical Site Investigation Report** prepared by **D.A. Clapp, P. Eng**, dated **June 15, 2017**, a copy of which is attached hereto as Schedule "A" which form an integral part of this covenant.
- 2. Without limiting the generality of the foregoing, the Covenantor acknowledges and agrees that at the time of registration of this Covenant, there is being constructed on the Land a subsurface drainage system (the "Subsurface Drainage System"). The Covenantor further

covenants and agrees that no alterations, demolition, or additions to any part of the Subsurface Drainage System shall be made or permitted by the Covenantor except in accordance with the Report or as recommended by a geotechnical engineer licensed in the Province of British Columbia.

- 3. The Covenantor further covenants and agrees not to do anything nor to permit any buildup of debris or sediment that would interfere with the free flow of collected water through the Subsurface Drainage System, and that the Covenantee shall have no responsibility, duty or liability for the maintenance or repair, or ensuring the proper functioning of the Subsurface Drainage System.
- 4. The Covenantor, on behalf of himself and his heirs, executors, administrators, successors and assigns, acknowledges that the Covenantee does not represent to the Covenantor, nor to any other person that any building, modular home, manufactured home or unit, improvement, retaining wall, chattel or other structure (including but not limited to the Subsurface Drainage System) including the contents of any of them, built, constructed or placed on the Lands will not be damaged by flooding, subsidence, land slippage, uneven or unpredictable settlement or erosion and the Covenantor, on behalf of himself and his heirs, executors, administrators, successors and assigns, with full knowledge of the potential flood, subsidence, land slippage, uneven or unpredictable settlement or erosion danger and in consideration of the approvals given by the Covenantee hereby:
- (a) agrees to indemnify and to save harmless the Covenantee and its employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims, and demands which the Covenantee or any of its employees, servants or agents may suffer or incur or be put to arising out of or in connection with any breach of any covenant or agreement on the part of the Covenantor or his or her heirs, executors, administrators, successors, and assigns contained in this Agreement or arising out of or in connection with any personal injury, death or loss or damage to the land, or to any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them built, constructed or placed on the land, caused by flooding, erosion or some such similar cause; and
- (b) does remise, release and forever discharge the Covenantee and its employees, servants and agents from all manner of actions, cause of actions, suits, debts, accounts, covenants, contracts, claims and demands which the Covenantor or any of his heirs, executors, administrators and assigns or any other person may have against the Covenantee or its employees, servants or agents for and by reason of any personal injury, death or loss or damage to the Lands, or to any building, modular manufactured home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them built, constructed or placed on the Lands, including existing buildings not constructed or located in compliance with this Agreement, caused by flooding, erosion or some such similar cause and including any matter arising out of any breach of a provision of this covenant or any steps taken or not taken by the Covenantee to enforce this covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach.

- 5. No finding of negligence, whether joint or several, as against the Covenantee in favour of any third party in an action to which the Covenantor was not a party, shall operate to relieve or shall be deemed to relieve the Covenantor in any manner from any liability to the Covenantee, whether such liability arises under this covenant, under the provisions of the *Local Government Act* as amended from time to time, the *Community Charter*, or otherwise.
- 6. Nothing in this covenant affects the Covenantee's rights and powers in the exercise of its statutory functions under its statutes, bylaws, resolutions, orders and regulations, all of which may be fully exercised in relation to the Lands as if this covenant had not been granted.
- 7. Subject to the provisions of section 219 of the *Land Title Act*, the Covenantor's covenants contained in this Agreement shall burden and run with the Lands and shall enure to the benefit and be binding upon the Covenantor, his heirs, executors, administrators, successors and assigns and the Covenantee and its assigns.
- 8. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the Covenantee in relation to the Covenantor, including his heirs, executors, administrators, successors and assigns, or the Lands under any law, bylaw, order or regulation or in equity all of which rights, powers and remedies may be fully and effectively exercised by the Covenantee as if this Agreement had not been made by the parties.
- 9. The Covenantor will do or cause to be done at his expense all acts reasonably necessary for the Covenantee to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Lands save and except those in favour of the Covenantee and those specifically approved in writing by the Covenantee.
- 10. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of section 219 of the *Land Title Act*.
- 11. The Covenantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of this Agreement.
- 12. (a) The Covenantor or any of his heirs, executors, administrators, successors and assigns, as the case may be, shall give written notice of this Agreement to any person to whom he proposes to dispose of the Lands, which notice shall be received by that person prior to such disposition.
 - (b) For the purposes of this paragraph the word "dispose" shall have the same meaning given to it under section 29 of the *Interpretation Act*, R.S.B.C. 1996, c. 238.
- 13. Wherever the singular or masculine or neuter is used herein, the same shall be construed as including the plural, feminine, body corporate or politic unless the context requires otherwise.
- 14. If any section or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and

the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.

- 15. This Agreement shall be interpreted according to the laws of the Province of British Columbia.
- 16. Where there is a reference to an enactment of the Province of British Columbia in this Agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.
- 17. This covenant is granted voluntarily by the Covenantor to the Covenantee pursuant to Section 219 of the *Land Title Act* of the Province of British Columbia. This covenant shall run with the Lands and the Covenantor's personal responsibilities under the Covenant shall cease on transfer of the Land concerned to a subsequent owner, who shall continue to be bound by the provisions hereof so long as he owns the Lands.
- 18. The Covenantor hereby releases, indemnifies and saves the Covenantee harmless from and against any and all actions, causes of action, losses, damages, costs, claims, debts and demands whatsoever by an person, arising out of or in any way due to the granting or existence of this covenant, including:
- (a) any matter arising out of any breach of a provision of this covenant or any steps taken or not taken by the Covenantee to enforce this covenant upon a breach by the Covenantor or any actions taken to obtain redress in respect of any such breach; and
- (b) any injury to persons, including bodily injury or death, or any damage to or arising from a loss of property on or about the Lands due to a breach of this covenant.
- 19. Every reference to the Covenantee in this Agreement shall include any person designated by the Covenantee to act for or on its behalf with respect to any of the provisions of this Agreement.

IN WITNESS WHEREOF the parties have executed this Agreement on the Form C and Form D to which this Agreement is attached and which form part of this Agreement.

CONSENT TO PRIORITY

In consideration of the sum of ONE (\$1.00) DOLLAR now paid by the Transferee to CBT COMMERCIAL FINANCE CORP., Inc. No. BC0690650 (the "Lender"), the receipt and sufficiency whereof is hereby acknowledged, the Lender hereby grants to the Transferee priority over Mortgage CA6735072, registered in the Kamloops/Nelson Land Title Office on April 13, 2018, (the "Mortgage") and hereby covenants and agrees to subordinate and postpone all its right, title and interest in and to the Lands with the intent and with the effect that the interest of the Transferee herein shall rank ahead of the Mortgage as though this Covenant had been executed, delivered and registered in time prior to the registration of the Mortgage.

End of Document

BOX 688 FERNIE, B.C., VOB 1MO Phone-250.423.4829 Fax-250.423.4819 groundtech@shaw.ca

Draft: June 16, 2017 Final: April 30, 2018 Revision: May 18, 2018

WSP Canada Inc. 303 - 535 Victoria Avenue N. Cranbrook, BC V1C 6S3

Attention: Ms. Jean Horton, P.Eng.

RE: GEOTECHNICAL SITE INVESTIGATION REPORT PROPOSED ROAD AND SERVICING PROJECT MONTANE PHASE 4 AND MORRISSEY COURT FERNIE, BC

Dear Jean Horton,

Please find enclosed two bound copies of the subject report as per your request.

If you have any questions or require additional information, please contact me any time at (250) 423-4829.

Yours truly,

AC

D.A. Clapp, P.Eng.

DAC/jah encl.

Douglas A. Clapp 2018.05.18 12:51:27 -06'00'

GEOTECHNICAL SITE INVESTIGATION REPORT PROPOSED ROAD AND SERVICING PROJECT MONTANE PHASE 4 AND MORRISSEY COURT FERNIE, BC

Prepared For: WSP Canada Inc. Cranbrook, BC

Groundtech Engineering Ltd. Box 688, Fernie, BC 250 423 4829

June 2017

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1.0 INTRODUCTION

This report provides the findings and recommendations of a geotechnical investigation completed for the proposed Montane Phase 4 and Morrissey Court residential developments located in Fernie, BC. Groundtech Engineering Ltd. (Groundtech) completed the site investigation at the request of Ms. Jean Horton, P.Eng., of WSP Canada Inc. (WSP), the municipal engineering firm working on the project. WSP is acting on behalf of the property owner, Montane Developments Ltd. For simplicity, the Phase 4 and Morrissey Court areas will be referred to as the project area. The purpose of the investigation was to complete a soil, terrain and groundwater investigation and to provide assessments and recommendations pertaining to:

- Terrain stability of the project, adjacent and upslope areas;
- Soil and groundwater conditions;
- Surface hydrology conditions including a channel assessment of Brewery Creek;
- Snow avalanche assessment of upslope areas;
- Assessment of suitability of the site for residential development;
- Geohazard mapping and delineation of safe building areas;
- Deep utilities construction, including an assessment of pipe bedding/pipe zone materials, trench backfill, re-use of in situ materials, and trench dewatering; and
- Flexible road structure.

WSP is the municipal engineering firm for the project and have prepared preliminary plans for the utility installation for the Phase 4 area. The City of Fernie (COF) is the approving authority for this project.

2.0 PROJECT LOCATION AND DESCRIPTION

The project area is located on the lower northwest-facing slopes of the Elk valley, near the confluence of the Elk River and Coal Creek, in the southwest portion of Fernie, BC (Figure 1). The project area has a northwest aspect and is level to gently sloping. The original vegetation has been cleared from some of the Phase 4 area and most of the Morrissey Court area. Site vegetation in the area includes spruce and cedar trees, both of which are wet site indicators. The project area has been subject to site grading; in excess of a 2 m thickness of soils has been removed from the northern portion of the Phase 4 area and there are piles of fill in other areas of Phase 4. Photos of the project and upslope areas, as well as Brewery Creek are found in Appendix II.

Brewery Creek flows just beyond the east and north boundaries of Phase 4. In addition, flows from an unnamed drainage that emanates from the northwest-facing mountain slope just south of the project area; flows are conveyed west via an existing open unlined ditch along the north boundary of Morrissey Court. Earlier construction within the project area included the placement of a cut-off drain at the toe of the slope bordering Morrissey Court.

The expansion of the Montane subdivision is to include new paved roads and services for 23 lots in Phase 4, that is located east of Phase 3, and 24 lots in Morrissey Court, that is situated south of Phases 1 and 3 (Figure 2). The project will involve the construction of underground infrastructure utilities including domestic water, sanitary and storm sewer services. Initial planning indicates the utilities will be constructed within proposed roadways and/or designated right-of-ways.

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3.0 REVIEW OF EXISTING INFORMATION

The following information was reviewed as part of the investigation:

- 1. Biophysical Resources of the East Kootenay Area: Soils, Wildlife Technical Monograph TM-1; BC Ministry of the Environment; March 1990.
- 2. Master Municipal Construction Document (MMCD), Volume II; Master Municipal Construction Document Association; 2000.
- 3. City of Fernie Subdivision and Development Bylaw 1727.
- 4. Fernie Urban Expansion Study; Ministry of Highways and Public Works (Highways) Geotechnical & Materials Branch, Victoria, BC; December 1978.
- 5. Geotechnical Assessment Report Revised, Proposed Montane Development, Stages 1 and 2 Part of District Lot 4589, Kootenay District.; McElhanney Consulting Services Ltd.; July 2015.
- 6. Geotechnical Assessment Report, Proposed Montane Development Stage 3 Part of District Lot 4589, Kootenay District; McElhanney Consulting Services Ltd.; May 2016.
- 7. Parastone Residential Development, Fernie, BC, Geotechnical Investigation; Golder Associates; March 2014.
- 8. Geotechnical Site Investigation Report Proposed West Fernie Servicing Project (Phase 2), Fernie BC; Groundtech Engineering Ltd.; November 30, 2015.

4.0 FIELD INVESTIGATION

Mr. Douglas Clapp, P.Eng., and Ms. Isabel Ferreira, E.I.T., of Groundtech, completed the field investigation from April 11 to May 11, 2017. Test pit and borehole programs were completed to assess soil and groundwater conditions. The site investigation also included a visual assessment of the terrain conditions in the vicinity of the project area. Terrain upslope of the area was assessed for instabilities, as well as snow avalanche hazard. A channel assessment was completed on Brewery Creek.

Twelve test pits (TP1 - TP5 and TP1MC - TP7MC) were excavated to depths ranging between 1.6 m and 5.2 m, using a tracked hydraulic excavator. The purpose of the test pit program was to investigate near-surface soils and groundwater conditions for a flexible road structure design, and to assess trench stability and potential for re-use of in situ materials as trench backfill and/or road sub-base materials.

Twelve boreholes (BH1 - BH7 and BH1MC - BH5MC) were drilled using a tracked drill rig to investigate soil and groundwater conditions to assess utility trench, road subgrade, building, and slope stability. All boreholes were drilled with a 200 mm diameter hollow stem auger. Borehole depths ranged from 6.1 m to 8.23 m. As indicated, the boreholes were drilled with the hollow stem due to sloughing of the hole. All boreholes, except BH2, were completed with slotted 25 mm PVC pipe to allow for follow-up groundwater measurements were completed April 14, May 2, May 16, and May 25, 2017. The test pit and borehole locations are shown on Figure 2.

The soils observed in the test pits, drilling returns, and samples were visually classified and the associated stratigraphy was logged. Representative samples of selected materials were collected from excavator bucket returns, drill cuttings and split spoons for future reference and/or laboratory testing. Test pits were assessed for wall sloughing and groundwater seepage. All test pits and boreholes were backfilled. The test pit and borehole logs are found in Appendix III. The lab test reports are found in Appendix IV.

Soil strength was assessed during drilling of the boreholes by means of Standard Penetration Tests (SPT). The blow count total for the lower 300 mm of the SPT interval is indicative of soil density for coarse grained soils (i.e., sand and gravelly sands) and consistency for fine-grained soils (i.e., silts and clays).

The SPT is intended for use in sand soils. When used in soils with significant gravel and/or cobble content, induced soil strength from SPT blow counts can be overestimated. Regardless, the blow count can be used to indicate approximate soil strength parameters. The blow counts noted in the report discussion (e.g., SPT 5) and on the logs are uncorrected values. A Dynamic Cone Penetrometer (DCP) was used to assess potential road structure subgrade soils.

A reconnaissance was completed to assess upslope and downslope geohazards. This included assessing slope angles, terrain features, seepage areas, and evidence of slope instability. Upslope terrain was also assessed for snow avalanche potential.

Channel characteristics of Brewery Creek was assessed at three representative cross-section locations. The channel assessment included documenting characteristics of the creek channel adjacent to, upstream and downstream of the site. Documented channel characteristics included:

- channel slope
- approximate channel width (full-bank)
- channel bed and bank substrate material
- presence of erosion
- side/mid channel bars
- channel confinement
- presence of large woody debris
- approximate water depth (full-bank)
- morphological characteristics (e.g., pools, riffles, glide, side channels, etc.)
- previously installed in-stream works, such as diking or armouring

Topographic data was acquired by Groundtech for three cross-sections (XS1 - XS3). In-channel and overbank areas were surveyed. The approximate cross-section locations are shown on Figure 3.

4.1 Terrain Conditions

Phase 4 Area

The Phase 4 area is, for the most part, a gently sloped terrace with a northwest aspect; vertical relief of the terrace approaches 8 m. There are steep descending slopes in the vicinity of the north and east boundaries; these slopes have angles and vertical relief that approach 38° and 10 m, respectively. The northern portion of the area has been disturbed due to recent tree and aggregate removal.

Morrissey Court Area

Similar to the Phase 4 area, most of the Morrissey Court area is level to very gently sloped with a northwest aspect. The southern edge of the area consists of the lower portion of a steep ascending hill slope. The hill slope extends further upslope, beyond the proposed development area, decreasing in slope angle to form a broad ridge.

Most of the trees have been removed from the site and there has been some site grading (i.e., leveling).

Morrissey Court Upslope Area

The slope form of the upslope area is somewhat broken and benchy. The approximate relief is limited to an estimated 70 m to 80 m, with slope angles that approach 25°. There are some areas of recent logging

(i.e., within the last 20 years) and two haul roads transect the area. The short slope immediately upslope of Morrissey Court is transected by two old skid trails and a more current mountain bike trail.

The topography of the project area is shown on Figure 2, while the topography of both the project area and upslope areas is shown on Figure 3. Figure 4 is a Google image showing the terrain in the vicinity of project area.

Overview Terrain Stability Assessment

On behalf of Groundtech, Polar Geoscience Ltd. completed an Overview Terrain Stability Assessment of the terrain in the vicinity of the project area. Air photos were assessed and polygons with similar surficial material surface expression and geomorphic processes were identified (Appendix V). The polygons stability were also assigned as being stable (S), potentially unstable (PS) or unstable (U). Potentially unstable and unstable polygons were field checked by Groundtech. The purpose of this work was to assess upslope (or downslope) areas for the potential for landslides that could impact the project area.

The assessment indicated no unstable or potentially unstable areas directly upslope or downslope of the project area. The assessment of the Brewery Creek watershed indicates <u>most</u> of the area to be stable; only two polygons were identified as unstable. The unstable polygons were later field assessed by Groundtech and confirmed not to contain any unstable characteristics. These polygons were assessed as old slides surfaces; deposition was likely placed nearby at the toe of the slope, not being transported further downslope. No fan feature was identified for Brewery Creek; such a feature would suggest the creek has and/or does transport sediments from the upslope catchment area via geomorphic process that could include debris flows or torrents.

4.2 Soil Conditions

Phase 4 Area

Terrain mapping commissioned for this study indicated the Phase 4 area consists mostly of fluvial sediments.

BH1 and BH2 were completed at the north edge of the area to depths of 6.1 m and 7.32 m, respectively. Soils encountered were primarily compact mixtures of moist sand and gravel with a trace of silt. A SPT count of 33 was measured but the test value was likely high due to rock effects.

TP1, TP2 and BH3 were completed in the northern disturbed area of Phase 4. TP2 was only completed to a depth of 1.6 m, due to sloughing but encountered compact, wet mixtures of sand and gravel with some cobbles and a trace of silt. The stratigraphy presented in TP1 and BH3 contained some similar zones; near surface soils contained compact, moist mixtures of sand and gravel with a trace to some silt. Soils below depths of 0.6 m to 1.0 m were significantly weaker with sandy zones that included very loose to loose, wet sand with a trace to some silt. SPT values in BH3 tended to increase with depth with a SPT of 2 at 1.5 m and 9 at 7.6 m. Soils were generally wet below a depth of 0.6 m.

TP3, BH5 and BH7 were completed in the central undisturbed area of Phase 4. Soils in this area are variable in texture and stratified. TP3's near surface soils (i.e., to a depth of 1.5 m) consisted of compact, moist sand with some gravel and some silt. Underlying soils consisted of stiff, wet silt with some clay to a depth of 1.8 m underlain by loose, wet gravelly sandy silt. The lowermost zone, from depths of 2.6 m to 3.0 m, consisted of firm, wet silt and clay.

BH5 soil stratigraphy included interbedded upper zones that ranged from loose, moist sand with some silt and some gravel to very soft, wet clayey silt with some sand. A SPT value of 2 was obtained at a depth of 1.0 m. Soft (SPT 2-4), wet clayey silt with a trace of sand was encountered from depths between 1.22 m to 3.2 m. The lowermost zone consisted of compact (SPT 12-17), wet gravelly sand. BH5 was drilled to a depth of 6.4 m.

The upper soils, to a depth of 3.35 m, in BH7 consisted, for the most part, of compact (SPT 16-20) beds of moist to wet mixtures of sand, silt and gravel. Soils to a depth of 7.62 contained a layer of loose (SPT 4), wet sand with some gravel and silt underlain by loose (SPT 4), wet silty sand interbedded with layers of sand with some silt and silt with some clay. The lowermost zone (i.e., 7.62 m to 8.08 m) consisted of very loose (SPT 2), wet sand with some silt.

TP4, BH4 and BH6 were completed in the south end of Phase 4. Soils in this area are variable and stratified. TP4 presents a stratified sequence of soil layers to a depth of 1.1 m. Soils included compact to loose mixtures of silt and sand with minor amounts of gravel and clay. Below a depth of 1.1 m, soils remained stratified with beds that included loose, wet mixtures of sand and silt with minor amounts of gravel; this zone included interbeds of soft, wet, silt with some clay.

BH4 was drilled to a depth of 8.23 m. Upper soil layers consisted of loose (SPT 4), moist gravelly sandy silt with some clay. Middle soil layers included very soft (SPT 2) to firm (SPT 4-5), wet clayey silt with one interval containing an interbed of loose, wet sand with a trace of gravel. A compact (SPT 21), wet layer of sand and gravel with a trace of silt extended from depths of 6.4 m to 8.23 m.

BH6 encountered primarily coarse grained soils. Soils to a depth of 0.91 m were interbedded and included layers of loose sand with a trace of gravel, soft silt with some clay and soft, wet clayey silt. With the exception of a firm (SPT 5), moist layer of clayey silt from depths of 0.91 m to 1.52 m, the lower horizons ranged from compact (SPT 15), wet gravel with some sand and a trace of silt to very loose (SPT 2) to loose (SPT 5), mixtures of silt and sand.

Morrissey Court Area

Terrain mapping indicated similar sediments as Phase 4, but the area is bordered to the south by a slope covered with till.

Sediments in the northern portion the area were investigated with BH1MC, BH2MC and TP1MC. BH1MC's upper horizons (i.e., to a depth of 1.1 m) consisted of loose (SPT 4), moist to wet silty sand with trace amounts of clay and gravel. Underlying soils were weak consisting of very soft (SPT 0) to soft (SPT 4) silt with some clay. BH1MC was drilled to a depth of 6.4 m.

BH2MC was completed to a depth of 6.25 m, closer to the toe of the slope than BH1MC. Till described as compact (SPT 13 to 18), moist silty sand with some gravel was encountered at a depth of 2.9 m. Overlying soils were interbedded and weak including layers that ranged from loose (SPT 3-7), wet sandy gravel with a trace of silt to loose, wet silt with some sand and a trace of clay.

TP1MC was excavated to a depth of 3.0 m. The upper soil stratigraphy included a topsoil layer underlain by loose to compact, moist mixtures of sand and gravel with a trace of silt. Soil between depths of 1.9 m and 3.0 m included loose, wet silt with some clay and sand, underlain by loose, wet silt with some sand.

TP2MC was completed to a depth of 4.0 m, just above the toe of the slope. The soil profiles contained till consisting of compact, moist mixtures of sand, silt and gravel. Lower horizons below a depth of 1.1 m consisted of compact, wet gravel with some sand and silt, underlain by compact, moist sand and silt with a trace of gravel and clay.

TP3MC, TP4MC and BH3MC were completed in the central portion of the area. TP3MC was excavated to a depth of 4.0 m, at the west end of the area. Underlying the topsoil, the near surface soils consisted of primarily compact, moist silt with some sand and a trace to some clay. A thin layer of compact gravelly sand with some silt was found between depths of 0.5 m and 1.0 m. The lowermost zone consisted of compact to loose silt with a trace to some clay.

TP4MC was completed to a depth of 2.5 m. Near surface soils consisted of topsoil underlain to a depth of 0.7 m by stiff, moist silt with some sand and some clay. Lower soil horizons consisted of compact, wet gravelly sand with a trace of silt underlain at a depth of 2.0 m by loose, wet silt with some sand.

BH3MC was drilled to a depth of 7.0 m. Soils were highly stratified to a depth of 2.74 m. Upper horizons ranged from very loose (SPT 3), wet sand with some silt to soft (SPT 2), wet silt with some clay. The lowermost layers were loose (SPT 2), wet silt with some sand and a trace of clay, underlain at a depth of 4.6 m by very soft (SPT 1), wet silt with some clay.

BH4MC, BH5MC and TP7MC were completed on the south side of the area, near the toe of the slope. BH4MC was completed at the west end of the area and encountered loose, wet sand with a trace of clay, underlain by stiff (SPT 11), moist clayey silt to a depth of 0.91 m. The main zone in BH4MC extended to a depth of 4.72 m and consisted of soft (SPT 2 - 3), wet silt with some clay and some sand. A lower zone included very soft (SPT 2), wet silt with some clay between depths of 4.72 m and 5.49 m. Till was encountered below a depth of 5.49 m and consisted of compact (SPT 19) sandy silt with a trace of gravel and clay. BH4MC was drilled to a depth of 6.4 m.

BH5MC was completed at the east end of the area. Soils to a depth of 2.6 m consisted of interbeds of mixtures of moist silt and sand with trace amounts of clay. Underlying soils were similarly stratified but were very loose (SPT 2) and wet. A layer of soft, wet clayey silt was found between depths of 4.72 m and 5.18 m. Till was encountered below a depth of 5.18 m and consisted of dense, moist gravelly silty sand with some clay.

TPMC-7 encountered loose, moist silty sand with some gravel to a depth of 1.0 m, underlain by till described as dense, moist gravel with some sand, silt and clay and a trace of cobbles.

The soils were investigated on the ascending hill slope above the Morrissey Court area by excavating TP5MC and TP6MC. Soils in both test pits included a thin layer of loose silty sand with some gravel and a trace of clay overlying dense till that ranged from moist gravel with some sand, some silt and some clay to hard, moist silt and clay with some sand and gravel and a trace of cobbles.

Subgrade Soils for Flexible Road Structures and Utility Trenches

In areas where no utility fill will be placed, the native subgrade soils for the flexible road structure will vary in texture and density/consistency. Subgrade soils are expected to include compact mixtures of sand and gravel, firm to stiff mixtures of clay and silt and very loose to loose to compact mixtures of silt and sand.

Utility trench soils will also vary in texture and density/consistency. Trench soils may include compact mixtures of sand and gravel, soft to very soft mixtures of silt and clay, and very loose to loose mixtures of sand and silt.

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Frost Conditions

The frost penetration for the Fernie area has been estimated using the Modified Berggren Method. Climate normal data for Fernie was used in the estimation (i.e., Im = 739 degree-day freezing index (Celsius)). Design freezing Index (Id) was determined using the Method detailed in the Canadian Foundation Engineering Manual (4th edition). Silt/sand soil with a moisture content of 5 % was assumed in the calculations. The estimated frost depth is 1.55 m.

Earlier work completed by Golder Associates provided an estimated frost penetration depth of 1.5 m for Fernie. Discussions with local contractors and the COF Public works indicate that frost depths between 0.9 m and 1.8 m have been observed in Fernie, while completing winter excavations for utility work/repair.

Seismic Conditions

The NRC website http://earthquakecanada.nrcan.gc.ca was used to provide the spectral and peak ground acceleration values for the site for a 2 % probability of exceedance in a 50 year event. The values are listed below in Table 1.

Table 1								
Fernie Spectrum Acceleration and PGA Data								
Return Period Sa(0.2) Sa(0.5) Sa(1.0) Sa(2.0) PGA								
	Design S	pectrum For Sit	e C (Very Stiff) (Conditions				
1.2475	0.24	0.18	0.11	0.052	0.107			
1:2475 yr	Design	n Spectrum For	Site E (Soft) Con	ditions	0.107			
	0.49	0.37	0.22	0.11				

The soil investigation indicates the soils in some areas may be liquefiable.

4.3 Groundwater Conditions

Table 2 presents groundwater depth data, including recent and historic monitoring.

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Table 2 Groundwater Depth (m)/Elevation (m)							
Borehole / Test Pit	April 4	May 2	May 16	May 25	Comments		
PH4 BH1 1036.0 m	Dry	Dry	Dry	Dry			
PH4 BH3 1034.1 m	N/A	0.9/1033.2	1.6/1032.5	1.78/1032.32	Declining trend		
PH4 BH4 1042.4	2.95/1039.45	2.73/1039.6	4.1/1038.3	3.86/1038.54	Declining trend		
PH4 BH5 1040.0 m	4.7/1035.3	Dry	5.1/1034.9	5.09/1034.91	Declining trend		
PH4 BH6 1036.25 m	N/A	2.15/1034.1	3.3/1033.0	3.45/1032.8	Declining trend		
PH4 BH7 1036.0 m	N/A	2.75/1033.25	3.45/1032.6	3.69/1032.31	Declining trend		
MC BH1 1031.1 m	2.1/1029.0	1.8/1029.3	2.1/1031.1	2.25/1028.85	Declining trend		
MC BH2 1035.0 m	0 /1035.0	+0.15/1035.15	0 /1035.0	0 /1035.0	Groundwater level was measured at or above ground surface		
MC BH3 1033.3 m	1.7/1031.6	1.62/1031.68	1.9/1031.4	2.06/1031.24	Declining trend		
MC BH4 1034.6 m	2.4/1032.2	2.23/1032.37	2.5/1032.1	2.7/1031.9	Declining trend		
MC BH5 1038.0 m	0 /1038.0	0.3/1037.7	N/A	1.56/1036.44	Declining trend		
MC TP6 1063.4 m	N/A	N/A	0.5/1062.9	1.59/1061.81	Declining trend		
MC TP7 1063.0 m	N/A	N/A	2.2/1060.8	3.0/1060.0	Declining trend		

There is a mountain to river groundwater regime in the area. In general, groundwater levels will trend during the year with peak levels occurring during the spring in response to snowmelt. Following the peak of groundwater, levels present a declining trend for the remainder of the year. There can be isolated short-term spike increases in response to rainfall events.

Groundtech follow-up monitoring indicates groundwater levels are in decline for the period monitored; levels are expected to continue to decline, consistent with seasonal trends. It is likely groundwater will be encountered during deep service installations in many areas. However, groundwater levels will continue to decline through the remaining seasons to a depth at or below the base of utility trenches; this occurrence would lessen the need for dewatering of utility trenches.

4.4 Laboratory Testing

Washed gradation tests (ASTM C136 and C117) were completed on thirteen soil samples to determine gradational characteristics. Moisture content tests were also completed on the samples. The test results are summarized in Table 3.

	Table 3								
Sample	Gravel (%)	Sand (%)	Silt (%)	Moisture Content (%)	Description				
PH4 TP1/S1	6.5	74.3	19.2	21.2	Sand, some silt, trace gravel/possible trench backfill				
PH4 TP2/S1	49.2	43.1	7.7	10.8	Gravel and sand, trace silt/possible trench backfill or road subgrade				
PH4 TP3/S2	21.4	33.8	44.8	23.7	Gravelly sandy silt/possible trench backfill				
PH4 BH7/S3	48.4	40.3	11.4	11.7	Gravel and sand, some silt/possible trench backfill				
PH4 BH7/S5	0.3	37.4	62.3	23.2	Sand and silt, trace gravel/possible liquefiable soils				
MC TP1/S1	62.2	32.8	5.0	8.6	Sandy gravel, trace silt/possible trench backfill or road subgrade				
MC TP2/S1	34.5	28.8	36.6	14.6	Gravelly sandy silt/possible road subgrade				
MC TP2/S4	8.3	54.4	37.2	17.1	Sand and silt, trace gravel/possible trench backfill				
MC TP3/S1	25.5	59.2	15.4	12.0	Gravelly sand, some silt/possible road subgrade				
MC TP4/S2	25.7	65.2	9.0	14.2	Gravelly sand, trace silt/possible road subgrade or trench backfill				
MC BH2/S5	19.4	45.8	34.8	22.2	Silty sand, some gravel/till - possible pile bearing soils				
MC BH4/S5	28.4	37.2	34.5	14.2	Gravelly silty sand/till – possible pile bearing soils				
MC BH5/S4	4.7	67.5	27.8	31.1	Silty sand, trace gravel/possible liquefiable soils				

The above samples are native soils and have significant silt content, indicating moderate to high frost action potential. The moisture content for the samples identified as potential trench backfill are all generally above what would be considered optimum moisture content; thus these soils would require drying prior to placement in order to achieve suitable compaction.

The material could, however, be used as trench backfill above the pipe zone.

Washed gradation and hydrometer tests (ASTM C136, C117 and D422) were completed on six soil samples. The test results are summarized in Table 4.

Table 4								
Sample	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Moisture Content (%)	Description		
PH4 BH6/S4	10.1	42.1	45.6	2.1	31.4	Sand and silt, some gravel, trace clay		
MC TP5/S1	55.0	15.5	17.6	11.9	7.0	Gravel, some sand, silt and clay/till		
MC BH3/S3	4.0	10.4	78.1	7.4	25.2	Silt, some sand, trace clay and gravel		
MC BH3/S4	1.5	2.1	84.3	12.1	26.8	Silt, some clay, trace gravel and sand/possible liquefiable soils		
MC BH4/S3	0	10.8	78.1	11.0	25.2	Silt, some sand, some clay/possible liquefiable soils		
MC BH5/S3	12.3	38.1	27.4	22.2	27.1	Silty clayey sand, some gravel		

Atterberg Limits tests (ASTM D4318) were completed on nine fine-grained soil samples to determine plastic and liquid limits. The test results are summarized in Table 5.

Table 5							
Sample	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticit y Index (%)	MC (%)/LL (%)	Soil Classification as per Casagrande Chart	
PH4 TP3/S3	33.2	29	19	10	1.14	CL	
PH4 TP5/S1	26.8	36	21	15	0.74	CL	
PH4 BH4/S3	28.9	34	20	14	0.85	CL	
PH4 BH4/S4	20.8						
PH4 BH5/S2	25.8						
PH4 BH5/S3	23.0	34	18	16	0.68	CL	
PH4 BH6/S5	26.2	-	-	-		Non-plastic	
PH4 BH6/S6	27.9						
PH 4 BH7/S6	25.7						
MC TP3/S3	24.8	19	19	0		Non-plastic	
MC BH1/S3	29.8						
MC BH1/S4	28.3	21	20	1	1.33	ML	
MC BH1/S5	31.3						
MC BH3/S4	26.8	21	20	1	1.29	ML	
MC BH4/S4	25.0	21	17	4	1.19	ML	

For some samples the moisture content is close to or above the liquid limit, suggesting they would be subject to strength loss if disturbed. Several of the samples have moisture contents greater than liquid limits, suggesting the soils may be normally consolidated, which are soils that have experienced effective stresses no higher now than in the past. Several of the ML and CL samples are moderately susceptible or susceptible to liquefaction according to Bray et al (2004) criteria. The lab test reports are found in Appendix IV.

4.5 Field DCP Testing

Field DCP tests were completed to assess soil strength and estimate un-soaked California Bearing Ratio (CBR) values for subgrade soils. DCP testing was completed at estimated subgrade depths for the flexible road structure. Determined CBR values ranged from 2 % to 11 %. The lower values in the aforementioned range were completed in the weakest near surface soils that were encountered in the test pits. These soils were in a wet condition; as such, the values are likely representative of a soaked condition. Further, a CBR of 2 % correlates to an approximate Resilient Modulus (M_r) of 24 MPa, which will be used in the pavement design provided in Section 5.2 of this report.

4.6 Surface Hydrology Conditions

There are four surface hydrology features on or near the development site that warrant discussion: Brewery Creek, a seasonal stream, Morrissey Court slope skid trail drainage, and Phase 4 seepage.

Brewery Creek - Channel Assessment

Brewery Creek is a second order stream that has its origin on the mid to upper slopes of Morrissey Ridge and outfalls into Coal Creek near its confluence with the Elk River (Figure 3). The creek flows northwest just east of Phase 4, then turns west, below the Montane subdivision prior to flowing into Coal Creek. Descending from the upper watershed, the creek and its tributary, flows beneath two forestry roads via metal culverts.

The creek has a catchment area of approximately 1.31 km², a length of 2.38 km and a vertical relief of approximately 485 m. The topography of the catchment area is shown on Figure 3. The catchment area

contains two sub-basins. The basin slope of the upper watershed is approximately 34 %. The average channel slope, downstream of the basin, is 9 %. The form of the longitudinal profile is concave and somewhat benched as shown on Figure 5. There has been some tree harvesting in portions of the watershed.

Table 6 below presents some of the channel characteristics for Brewery Creek determined from three cross-sections completed on the channel. Photos taken at each cross-section are found in Appendix III.

	Table 6 Channel Conditions								
Cross- section	Full-bank (Q2*) Width (m)	Full-bank (Q ₂) Depth (m)	Slope (%)	Channel Substrate	Channel Channel Morphology	Disturbance Indicator	Stability (aggraded, stable, degraded)	Comments	
XS1	1.7	0.083	5.3	gravel	Step-pool	Stone lines intact. Banks vegetated and are stable (no erosion). No significant sediment accumulation.	Stable	Creek is well confined in a large gully. Some woody debris function. XS1 was just upstream of 1.2 m diameter culvert (fully open).	
XS2	1.3	0.18	7.5	gravel cobble	Step-pool	as above	Stable	Creek is well confined in a large gully. Some woody debris function. XS2 was just upstream of 0.6 m diameter culvert (fully open).	
XS3	2.4	0.17	3.6	gravel	Riffle-run and Step- Pool	Mature side channel bar. Stone lines intact. Banks vegetated and are stable (no erosion). No significant sediment accumulation.	Stable	Creek is well confined in a large gully. Some woody debris function. XS-3 was just east of Phase 4.	

^{*}Q2 is the mean annual flow rate, or 1 in 2 year flow event.

The channel assessment indicates the creek transports insignificant amounts of sediment. There is very little in the way of sediment accumulation within the channel and the banks are well vegetated. An unstable channel, that is one with sediment wedges, scoured eroded banks, elevated mid-channel bars, levees etc., would be indicative of a creek prone to debris floods/flows. The overview assessment and associated field checking suggests there is limited terrain upstream in the catchment that presents significant signs of instability (i.e., sediment sources). The longitudinal profile of the creek contains some benches, which are features that would limit the downstream flow of debris torrents. All things considered, Brewery Creek is considered stable. Further, the risk is low to the Montane subdivision being affected by debris flow/floods originating in the Brewery Creek watershed.

A hydrologic/hydraulic assessment was not completed because based on engineering judgement, Q_{200} (i.e., 1 in 200 year) flows would be contained within the gully that confines the creek. As such, there is low risk of Montane subdivision lands being affected by over-bank flood waters from Brewery Creek.

Un-Named Stream, Morrissey Court Slope Skid Trail Drainage and Phase IV Seepage Flows

An unnamed seasonal stream emanates from the mountain slope south of the Phase 4 area (i.e., upslope of

proposed Lot 68). The Q_2 flow width and depth are approximately 0.8 m and 0.1 m, respectively. Flows are captured and routed west via a ditch adjacent to a road/trail (i.e., Future Montane Parkway) to outfall into the existing storm water system. The ditch is unlined.

The slope immediately upslope of Morrissey Court is transected by two skid trails and a mountain bike trail. The cut slope ditch of these trails captures groundwater seepage, flows are conveyed downslope via the ditch and hand placed cross-trail PVC piping.

Excavations works in the northern portion of Phase 4 has allowed near surface groundwater to perch at surface. Interception ditching captures this flow and flow from a relic ditch and then conveys it via a 1.2 m diameter culvert to outfall on the bench north of the Phase 4 area, ultimately flowing into the east-west reach of Brewery Creek.

4.7 Snow Avalanche Conditions

An assessment of snow supply was completed. Climate data was reviewed using the BC Ministry of Environment data from the Fernie (2C02) weather station to determine if there is sufficient snow supply at this site to produce avalanches. This station is at a similar elevation, aspect and location in the valley bottom to the project area and very well represents the climate at this site. The Fernie station is located at 1070 m elevation slightly east of town, and has a 50 year record. The estimated 30-year maximum snowpack is 140 cm (water equivalent of 411 mm), while the estimated average annual maximum snowpack is 74 cm (210 mm). On average, a winter snowpack exceeding 105 cm (one standard deviation from the mean) can be expected approximately once every seven years. Wind loading of snow is not a concern, since the site is located near the valley bottom and there are no significant avalanche starting zones. Thus, it can be concluded that, on average, once every 30 years a maximum snowpack of 140 cm can be expected, which is only slightly more than is required to produce potentially destructive avalanches on terrain with normal surface roughness on the ground (e.g., rocks, stumps, trees and shrubs). However, smooth surfaces (e.g., rock slabs, grassy slopes, road cuts, etc.) may be capable of producing avalanches with this amount of snow.

Based on site reconnaissance, a review of air photos and topographic maps, there is no active avalanche terrain upslope of the project area capable of producing large and/or destructive enough avalanches that would affect the project area. There are no relevant, active large avalanche paths located upslope of the proposed development area. Even if the forest above was completely removed (e.g., fire), the terrain, for the most part, is sufficiently irregular and without distinct avalanche terrain features to preclude the formation of large avalanches. The upper catchment of Brewery Creek has terrain steep enough to create small to moderate sized avalanches, if the trees were removed, which is the condition assumed for land use planning. Avalanches do not typically runout past a plain projected downward at 10° from start zones; fortunately, the development area is beyond the 10° projection. Any avalanches initiated on these steep slopes would most likely stop near the toe of the associated slopes, on lower angle terrain.

The potential for small avalanches originating on the short steep slopes located immediately upslope (south) of the Morrissey Court area was assessed. No evidence of significant avalanches was observed on the air photos in this area. These short slopes have a maximum angle of approximately 25° and are considered insufficiently steep ($< 35^{\circ}$) to produce small avalanches.

5.0 GEOTECHNICAL ASSESSMENT – STRUCTURE INSTALLATIONS

5.1 Deep Utility Installation

Based on the results of the field investigation, the subsurface conditions in the project area are acceptable for deep utility installation. Soil and groundwater conditions are, however, challenging at the site. The use of standard underground utility construction procedures will likely be limited. The use of trench boxing will be required in much of the area, due to weak soils and high groundwater conditions. A good portion of the excavated material may not be suitable as trench backfill material; imported material will be required where the excavated material is not workable. Trench dewatering will be required in some areas subject to high groundwater levels.

The following sections provide discussions and geotechnical recommendations pertaining to utility installation.

Native Soil Stiffness

It is understood the sewer mains will be at an approximate depth of 3.0 m to 4.0 m. The soil stiffness of the base and trench walls at 2.0 m to 4.5 m was assessed by reviewing the drilling results and assessment of test pits. For the most part, the native soils that will form the trench walls and base at this depth interval should provide sufficient pipe support. The native soils will provide less than optimum stiffness or Modulus of Soil Reaction (E_n '), as they are primarily comprised of very loose/soft soils. Based on SPT blow counts, E_n ' values for the in situ soft/loose soils are in the range of 1.4 MPa to 4.8 MPa, soils are compact and should provide E_n ' values up to 34 MPa.

In general, the base of a trench can be considered strong enough for laying pipe if a person can walk on the surface without sinking or causing the soils to pump or quiver. If weak trench base soils are encountered, over excavation and placement of an additional thickness of bedding and/or structural material may be required. In areas of weak trench walls, at least 2 pipe diameters should separate the pipe from the trench wall. If weak soils at or about the pipe depth are encountered, an inspection by a geotechnical engineer should be completed to provide specific recommendations.

Trenches

Trench excavation will be completed, for the most part, in weak soils including mixtures of silt and sand, sand and gravel and soft clay. Some cobbles will be encountered, but large boulders are not anticipated. No bedrock is anticipated. Typical tracked excavators are suitable for trench excavation.

Due to the weak soils and expected high groundwater conditions, trench side slopes steeper the 1H:1V are not likely possible or recommended. Depending on groundwater inflow rates, slopes may require reduction to less than 2H:1V or a temporary buttress (e.g., sandbags) placed to stabilize the trench wall. Suitable trench boxes may be used where site conditions warrant; for example, to:

- limit construction disturbance to within right-of-ways;
- reduce excavation and backfill volumes;
- provide vehicle access;
- maintain safety for workers; and
- protect buildings or roads from structural damage.

It is expected the use of trench boxes will be significant.

It is recommended that trench excavation (and backfilling) for the sanitary/stormwater and water main be done separately; that is one large common trench for all deep utility placements is not recommended. Where the trench box is required, the trench length will generally be governed by the length of the trench box. Where no trench box is required, trench lengths should be limited to what can be backfilled on a given day. In good conditions, 40 m - 50 m of pipe can be placed and backfilled; however, the length of pipe placed will be governed by weather, soil, groundwater conditions and contractor experience. Once construction starts, the contractor will be able to gage how much pipe can be placed in a given day.

In addition to the above noted sloping requirements, WorkSafe BC and OHSR 20.78 Work Standards and requirements regarding excavation should be adhered to during construction.

Groundwater Levels and Dewatering

As previously discussed, groundwater levels at the site have seasonal trends with the highest levels in the spring followed by a declining trend for the summer through winter period. Groundtech's monitoring data indicates current groundwater levels are in decline.

Current groundwater levels are at or above typical trench bottom depths (i.e., 3 m - 4 m) in the area of BH3, BH4, BH6, BH1MC, BH2MC, BH3MC, BH4MC and BH5MC. Groundwater levels are higher in the Morrissey Court area versus the Phase 4 area. Groundwater levels are significantly lower near the north and east boundaries of Phase 4 because of the steep gradient in the piezometric surface due to the adjacent hill slope.

If construction is initiated relatively soon, dewatering would be required in most areas. Standard sump pumps would likely be insufficient to manage water levels in the trenches, based on utility installation work in 2016 for Phase 3. A dewatering well point system (maximum 2 m spacing, well depth 0.6 m below trench bottom) is recommended as the most efficient means to lower groundwater in utility trenches. Given the seasonal trend in groundwater levels, delaying construction until later in 2017 would result in less dewatering requirements.

Pipe Bedding and Pipe Zone Materials

It is understood that deep services for the project areas are to include mains for sanitary, water and subsurface drains. Residential service connections are also included in the planned utility works. The subsurface drains are, in part, required to provide outlets for footing drains for homes. The other benefit is to provide long-term dewatering. Preliminary WSP plans for Phase 4 indicate the aforementioned services are to be located within road areas, as well as right-of-ways (i.e., non road areas). As of this writing, no plans were available for the Morrissey Court area.

It is anticipated that pipe zones will be affected by groundwater for significant periods of the year, as such; pipe zone materials should have good permeability and be non-erodible. This being the case, 25 mm to 40 mm diameter clean (i.e.; < 5 % passing the U.S. #200 sieve) drain rock should be used for pipe bedding and pipe zone material to allow for drainage and guard against piping/erosion. Placement of all pipe bedding materials should be consistent with the MMCD/COF specifications for placement, compaction and material type. Pipe bedding should be placed to 150 mm below the pipe invert and pipe zone materials should be placed to 300 mm above the top of the pipe.

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Trench Backfill

It is anticipated that the in situ materials may not be workable as trench backfill for significant portions of the project area. Workability of in situ soils will largely be a function of moisture content of the material. Moisture conditioning may be required on some materials; materials excavated below groundwater may have to dry or drain before placement, as their moisture contents will well exceed optimum moisture content. Workability of the in situ soils will also be a function of soil texture; silt and/or clay soils will likely not be useable for trench backfill. Where in situ soils are not suitable for use as trench backfill, imported sand and gravel soils will be required. Imported materials should be approved by a geotechnical engineer prior to use.

The compaction of backfill should be consistent with MMCD/COF specifications, unless provided in this report. Trench backfill beneath or in adjacent areas that support the road structure should be compacted to 98 % of the material's Standard Proctor Maximum Dry Density (SPMDD). Adjacent areas that support the road structure means any trench backfill within a line projected downward at 1H:1V from the edge of the road structure. Trench backfill placed within right-of-ways, easements, etc. (i.e., in areas not supporting the road structure or other structures sensitive to settlement) should be compacted to 95 % of the material's SPMDD.

5.2 Flexible Pavement Structure Design

The recommended flexible pavement structure is presented in Table 7:

	Table 7							
Component	Minimum Thickness (mm)	Comments/Specifications						
Asphalt Concrete	75							
Granular Base Course	100	Construction materials and procedures should conform to the MMCD/COF specifications. Where differences occur in the specification the more						
Granular Sub-base Course	300	conservative specification should be used.						
Granular Subgrade Replacement	As required	Replacement of subgrade soils should occur where materials are considered unsuitable and/or where moisture conditioning is considered impractical/uneconomic and/or compaction of the subgrade is problematic (see sub-section below for further requirements for subgrade enhancement).						

The above flexible road structure design is based on the following:

- 1. Road classification of "local residential", as per the COF Subdivision Servicing Bylaw, with expected use by cars and light trucks with some use by moderately heavy trucks.
- 2. Design trafficking of 28,000 ESALs for a 20-year life, which is consistent with the COF specifications for a local residential road. The above design was assessed using Tensar's Spectrapave4 Pro Program (based on ASSHTO 1993 Method). The assessment confirmed at least a design life of 28,000 ESALs could be expected assuming a subgrade M_r value of 24 MPa. The design determination took into account the Asphalt Institute M-1 design method and the BC Ministry of Transportation, BC Supplement to TAC Geometric Design Guide (Chapter 1400).
- 3. The subgrade soils in some areas are frost-susceptible.
- 4. MMCD Design Guidelines 2014, Section 5.17.3 Pavement Alternatives.
- 5. NCHRP 01-37 AND 01-37A.
- 6. Guide for Mechanistic-Empherical Design of New and Rehabilitated Pavement Structures, Final Report, Part 2. Design Inputs.

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Subgrade Preparation

The upper 300 mm of the subgrade soils should be compacted to a minimum of 98 % of the material's SPMDD, using methods consistent with the COF specifications. A sheepsfoot roller is recommended for use where silty soils are encountered in the subgrade; otherwise a vibratory roller may be used.

Areas containing silty soils with moisture contents in excess of optimum may require scarification and aeration. Moisture conditioning may be required in some areas containing granular soils where in situ moisture contents are dry of optimum.

Proof rolling of the subgrade should be made using a loaded dual axle gravel truck and witnessed by a geotechnical engineer or designate.

Subgrade Replacement

As noted earlier, additional measures to improve the road structure subgrade may be required in some areas. Where soils are unsuitable and/or it is impractical to scarify and aerate, subgrade replacement may be required. The material should consist of clean (i.e., < 5 % passing the 0.075 mm ASTM sieve size), 150 mm minus, well-graded granular material consisting of durable stone, free of organics and soft materials. Lifts should not exceed 200 mm and each lift should be compacted to a minimum of 98 % of the material's SPMDD.

In areas that have been sub-cut, it may be necessary to overlay the excavated subgrade with geotextile (Geotex 250ST or approved equivalent) prior to placing subgrade placement materials to provide reinforcement and long-term separation of silty underlying subgrade soils from overlying sub-base or subgrade replacement materials. The use of geotextile should be based on the recommendations of a geotechnical engineer made at the time of the subgrade inspection and/or witnessing of proof rolling. Sub-cut side slopes should be sloped at 2H:1V to limit differential frost movement.

Proof rolling of the completed subgrade surface, where subgrade replacement has been completed, should be completed using a loaded dual axle gravel truck and witnessed by a geotechnical engineer or designate.

Crossfall

Where road surfaces are out-sloped or in-sloped, subgrades and all layers of the flexible pavement structure should be prepared to provide a 3 % crossfall and consistent with WSP drawings. Where roads are to be crowned, road subgrades and all layers of the flexible pavement structure should be prepared to provide a 2 % crossfall.

Testing and Inspection

All engineering design recommendations presented herein are based on the assumption that a qualified contractor will be retained to carry out the work and that an adequate level of inspections and testing will be provided during construction. Weekly spot inspections should be completed by Groundtech (or designate). Groundtech should inspect the prepared subgrade and witness proof rolls, which should utilize a fully loaded dual axle gravel truck. Materials testing should be carried out by a qualified materials testing firm, to a satisfactory degree and/or defined by the COF and/or MMCD specifications.

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5.3 Building Construction Conditions

The development site is considered suitable for typical residential structures. The presence of weak soils and/or soils that are susceptible to settlement are expected in significant portions of the project area. Significant portions of the project area will be affected by high groundwater levels during some or significant portions the year. Soils in some areas may be prone to liquefaction. Loads imposed on the underlying soils by building foundations can vary depending of individual house designs. Foundation types that could have application include both shallow (with and without subgrade improvement) and deep foundations (i.e., piles). All things considered, lot specific geotechnical investigations are recommended to ensure building designs properly address soil and groundwater conditions.

6.0 GEOHAZARD ASSESSMENT AND RECOMMENDATIONS

6.1 Geohazards

New residential developments require assessment of geohazards that may affect proposed development lands. Output of geohazard assessments include delineation of safe building areas with respect to geohazards. The following geohazards were identified, prior to the assessment, which could potentially affect the site:

- overbank flooding from Brewery Creek
- debris flow/floods (torrents) associated with Brewery Creek or its associated watershed.
- steep slopes/landslides
- snow avalanches

Geohazards identified during this investigation were taken into account in the mapping of Geohazard zone boundaries; the associated mapping identifies portion(s) of the property considered suitable and unsuitable for residential structures. The Geohazard Zone Map is shown on Figure 6.

6.2 Natural Hazard Event Type and Threshold Levels of Safety

The BC Ministry of Transportation and Infrastructure (MOTI) provides some guidance with respect to acceptable threshold levels of safety with respect to landslides (i.e., debris torrents, un-confined landslides, etc.). Threshold levels of safety are as follows:

- For a building site, unless otherwise specified, an annual probability of occurrence of a damaging landslide of 1/475 (10 % probability in 50 years; that is P(H) 475);
- For a building site or large-scale development, with the annual probability of occurrence of a life-threatening or catastrophic landslide being 1/10,000 (i.e., 1 in 10,000 year event);
- Pertaining to flood hazard, the typical standard of safety is probabilistic, with the annual probability of occurrence being 1/200 (1 in 200 year event); and
- Pertaining to snow avalanches, the typical standard of safety is probabilistic where the avalanche return period of greater than 300 years, or impact pressures less than 1 kPa and a return period greater than 30 years.

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When considering lands for subdivision, MOTI requires that the type of landslide event that could occur on and/or impact the site be classified as either damaging or life threatening. In this case, the event type is assessed as "damaging", not life threatening. It is recognized that MOTI is not the approving authority for this project, never the less, the classification has been provided consistent with MOTI requirements.

6.3 Overbank Flooding – Brewery Creek

The field portion of the project included a visual assessment of hydraulic capacity of both the channel and the gully in which the channel is confined. As noted previously, no hydraulic modelling was completed but based on engineering judgement, flows from a 1:200 year flood event should be contained within the gully that confines Brewery Creek. As such, the Phase 4 and Morrissey Court areas are considered safe from said flood waters associated with a 1:200 year flood event. With respect to overbank flood hazard, the project area is considered safe for the intended use.

6.4 Debris Torrents – Brewery Creek

The potential of debris torrents that could affect the Phase 4 and Morrissey Court areas was assessed by means of an overview assessment, field investigation of upslope terrain within the catchment area and a channel assessment of Brewery Creek. The study indicates the aforementioned areas proposed for development are safe from a debris torrent event associated with Brewery Creek. There is less than a 10 % chance in 50 years of the project area being affected by a debris torrent. The project area is considered safe for the intended use with respect to debris torrents.

6.5 Steep Slope Hazards – Slope Stability Analysis

An assessment of stability of steep slopes adjacent to Phase 4 and Morrissey Court was carried out to help delineate geohazard area boundaries (i.e., safe building areas). The steep slopes were assessed for landslide hazard.

It is engineering practise to require terrain considered for residential development have at least a threshold acceptance Factor of Safety (FOS) of 1.5 (static) and 1.0 (seismic) against landslides. In geotechnical engineering practise, the degree of stability of a site is measured by the FOS parameter, where the FOS is the ratio of the resisting forces to the driving forces for a given slope profile and failure surface. A FOS of close to one or less than one would represent an unstable slope. FOSs at increasing values above one lend increasing confidence in the stability of the slope. Seismic analysis was not completed for this site as static FOSs typically govern.

As noted above, slope stability analysis was completed to assess stability of the site under static loading and help delineate safe building area(s). Seven slope profiles (i.e., SP1 – SP6) were assessed using Rocscience's Slide V 6.0 software using the GLE/Morenstern-Price Method (i.e., circular failure surface). The profile locations are shown on Figure 2. The profiles were determined from contour mapping provided by WSP. The soil stratigraphy assumed in the slope stability analysis is based on conditions encountered in the boreholes and test pits, and observed in surface exposures. Representative estimates of soil, groundwater and bedrock conditions for each profile were incorporated in the stability analysis. The soil strength parameters (i.e., effective friction angle \acute{O}) is based on published values for a given soil type and/or lab testing coordinated by Groundtech on similar soils in the Fernie area. The soil parameters used in the analysis are shown on the stability plots (Appendix VI).

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6.6 Snow Avalanche

The assessment indicates the project area should not be affected by avalanches with a return period of greater than 300 years, or impact pressures less than 1 kPa and a return period greater than 30 years. The project area is considered safe for the intended use with respect to snow avalanches.

6.7 Residential Development Potential – Geohazard Mapping

An assessment of the property was required to identify area(s) that are considered suitable for residential development with respect to geohazards. Geohazard zones were mapped and are shown on Figure 6 to identify which portions of the property are considered suitable and unsuitable for residential structures.

Geohazard zone definitions and requirements are detailed in Table 8.

	Table 8
Classification	Geohazard Zone Classifications
Classification	Definitions and Requirements
Zone 1	 Terrain is considered suitable for development with residential structures; Terrain has a FOS against landslides of at least 1.5 (static) and 1.0 (seismic); The terrain has less than a 10 % chance in 50 years of being affected by a natural slope hazard with the associated return period of 1 in 475 years for a single event; The terrain should not be affected by a flood event with a return period of 1 in 200 years (or less); The terrain should not be affected by a snow avalanche event with a return period of 1 in 300
	 years (or less) or impact pressures less than 1 kPa and a return period greater than 30 years (or less; Terrain is considered safe for the intended use.
Zone 2	 Terrain is beyond the area that was investigated; or Terrain is not considered suitable for development with residential structures; or Terrain has a FOS against landslides of less than 1.5 (static) and/or 1.0 (seismic); or The terrain has greater than a 10 % chance in 50 years of being affected by a natural slope hazard; the associated return period for such an event is 1 in 475 years; or The terrain could be affected by a flood event with a return period of 1 in 200 years (or less); The terrain could be affected by a snow avalanche event with a return period of 1 in 300 years (or less) or impact pressures less than 1 kPa and a return period greater than 30 years (or less), or Terrain is not considered suitable for development with residential structures; the terrain is not considered safe for the intended use; Residential construction on the site may be possible; however, due to terrain, soil, groundwater, flood/debris torrent and/or bedrock conditions, a site specific geotechnical investigation is required to confirm hazard conditions at the building site(s) and to ensure these conditions are taken into account during the design and construction of the building. The site may require special foundation types, slope modification, and/or flood/debris torrent protection using recognized remedial procedures to ensure the building site meets FOS and probabilistic safety standards and will be safe for the intended use.

The location of geohazard zone boundaries is based on the engineering analysis, field observations and engineering judgement. Geohazard zone boundaries should be established as covenant areas. A geotechnical engineer should check the covenant field staking to ensure it is consistent with the mapping.

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6.8 Change in Conditions

In general, changes in catchment area conditions can sometimes alter flow rates and/or sediment delivery to a given creek. It is probable that some form of logging and associated road building will continue in the catchment area in the future. Such changes are not expected to significantly change creek conditions or hazards to the project area.

6.9 Flood Hazard and Landslide Assessment Assurance Statements

The completed Flood Hazard and Landslide Assessment Assurance Statements is attached in Appendix VII.

7.0 CLOSURE

This report has been prepared for the exclusive use of WSP Canada Inc., Montane Developments Ltd. and the City of Fernie for this project.

This report is based on subsurface information obtained during the site investigation, which was conducted with accepted geotechnical and hydrotechnical engineering principles and practices. It should be noted that natural soil and groundwater conditions can be variable. No other warranty, expressed or implied, is made. Groundtech should be contacted if subsurface conditions encountered during construction differ from those anticipated and/or interpreted from the site investigation.

Individual recommendations presented in this report should not be used out of context with the entire report. Interpretation of any part of this report should be made in consultation with Groundtech. Any use or reliance of this report by a third party is the responsibility of said party and Groundtech accepts no responsibility for any damages suffered by said party as a result of decisions made or actions taken based on this report.

The snow avalanche assessment was completed by Mr. Douglas Clapp, P. Eng., who has attained a Canadian Avalanche Association Level I Certificate and is working as a Professional Engineer registered with A.P.E.G.B.C. Mr. Clapp is recognized by the Ministry of Forest (Columbia Forest District) as being qualified to carry out avalanche assessments with respect to forestry cut block planning and layout.

If there are any questions or concerns regarding the foregoing information please call Douglas Clapp, P. Eng., at (250) 423-4829.

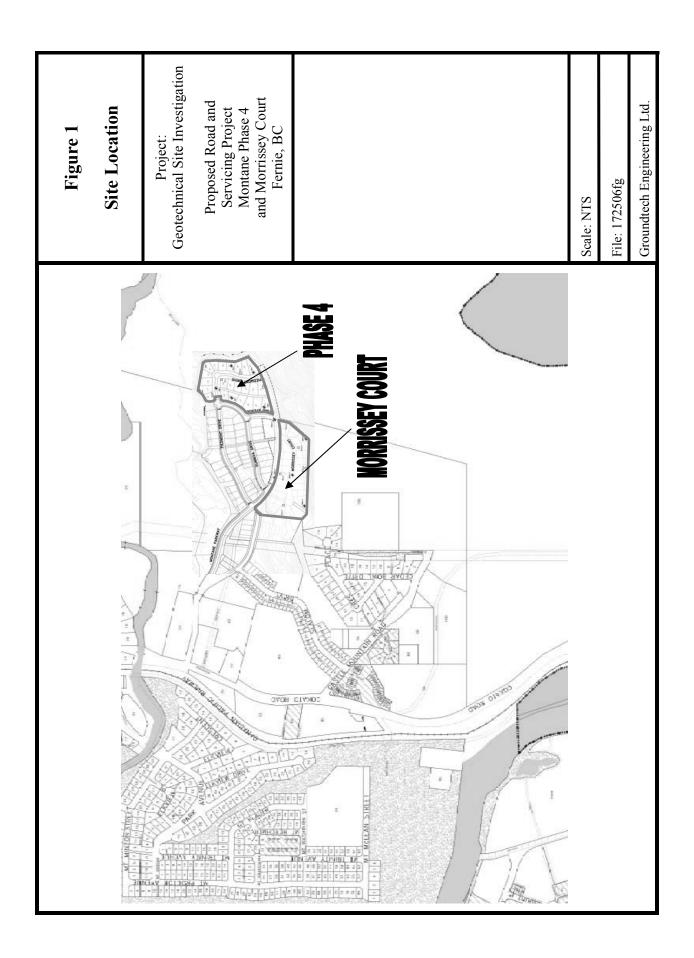
Respectfully submitted,

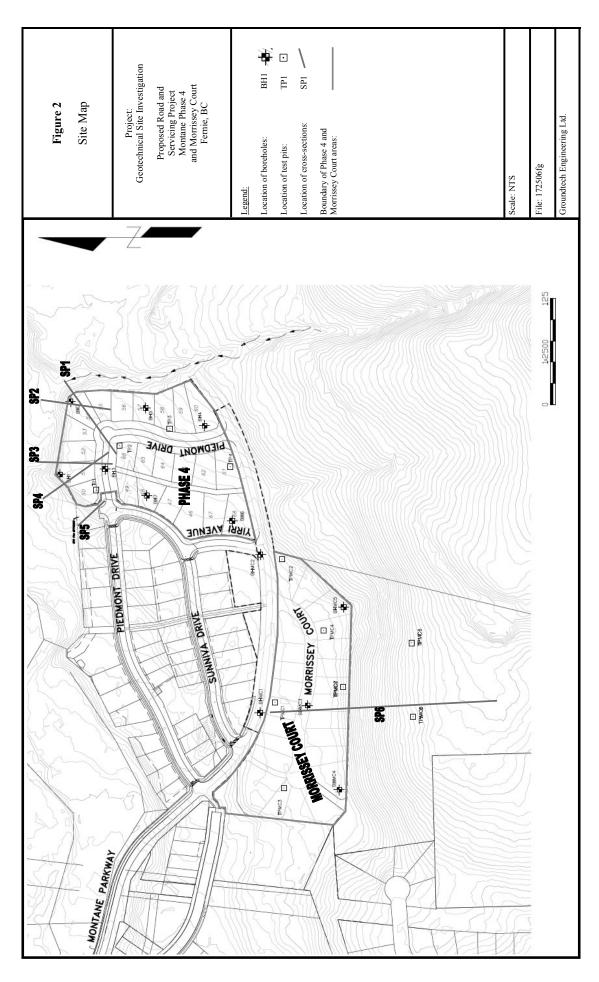
Douglas A. Clapp, P. Eng. DAC



APPENDIX I

Figures





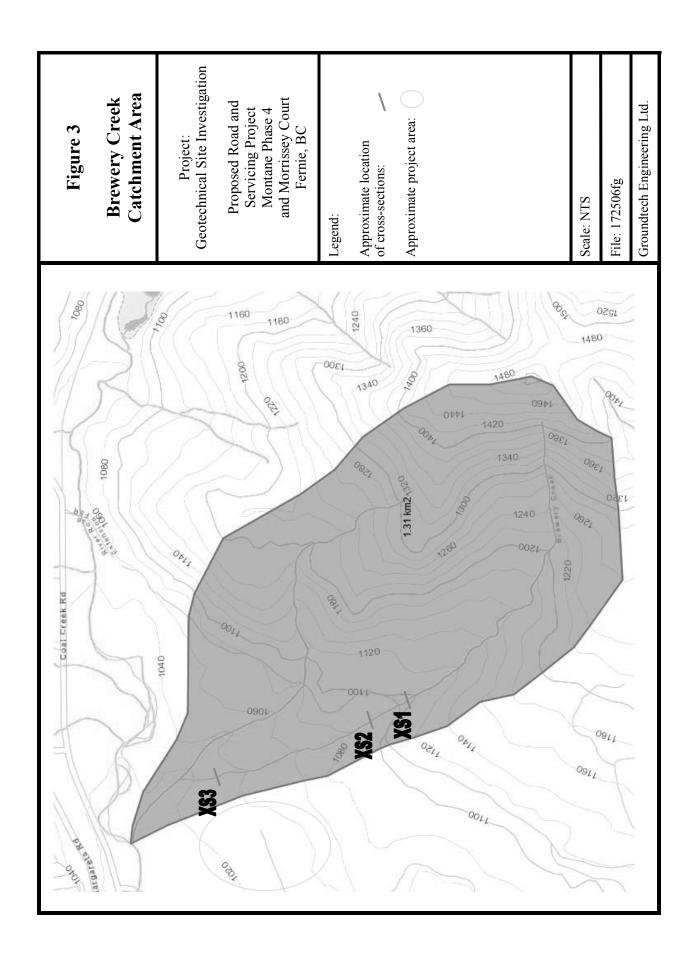


Figure 4

Google Image Project Areas

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 and Morrissey Court Fernie, BC

Legend:

Approximate boundary of project areas:

Scale: NTS

File: 172506fg



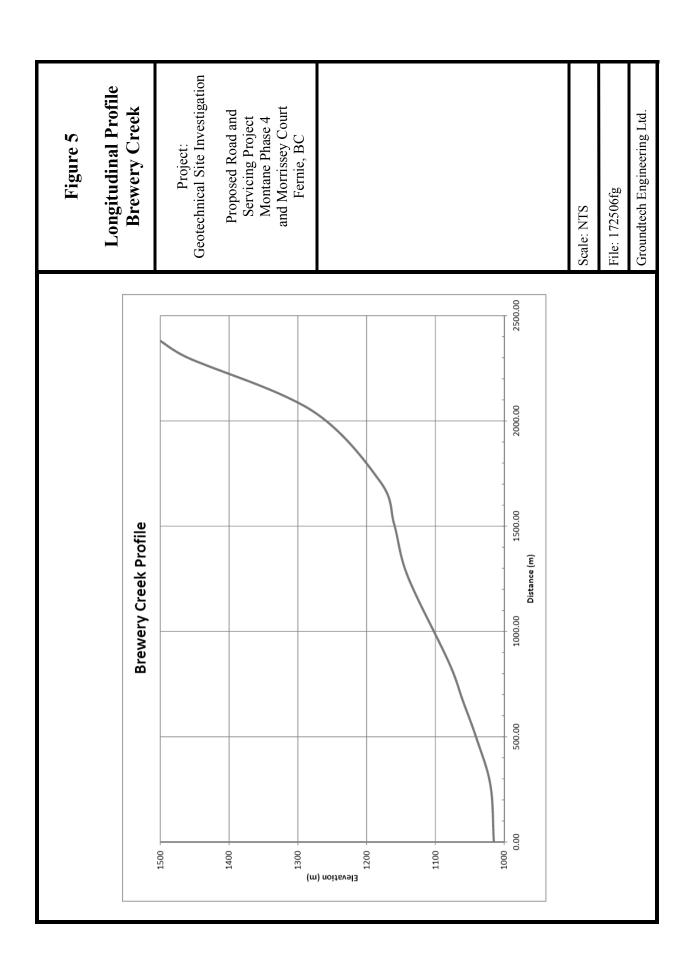


EXHIBIT H Montane Phase 4 and Morrissey Court Proposed Road and Servicing Project GROUNDTECH ENGINEERING Ltd. Geotechnical Site Investigation Geohazard Zone Map Fernie, BC FIGURE 6 SCALE: 1:2000 FILE: 172506fg PROJECT: LEGEND: MORRISSEYCOURT

APPENDIX II

Photos

Photo 1

Phase 4 Area Disturbed Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

Groundtech Engineering Ltd.

File: 172509ph4mc

Photo 2

Phase 4 Area Disturbed Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

Groundtech Engineering Ltd.

File: 172509ph4mc

Photo 3

Phase 4 Area Undisturbed Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 4

Phase 4 Area Seepage

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 5

Hill Slope Below Phase 4 Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

Groundtech Engineering Ltd.

File: 172509ph4mc

Photo 6

Drainage Ditch Upslope of Phase 4 Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 7

Un-Name Stream South of Phase 4 Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 8

Un-Name Stream South of Phase 4 Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 9

Morrissey Court Hill Slope

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc



Photo 10

Morrissey Court Area

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc



Photo 11

Brewery Creek Upper Watershed

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 12

Brewery Creek Upper Watershed Logging

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 13

Steep Slopes Upper Brewery Creek Watershed

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 14

XS1 Downstream View

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc



Photo 15

XS1 Upstream View

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc



Photo 16

XS2 Upstream View

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 17

XS2 Downstream View Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc



Photo 18

XS3 Upstream View

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

File: 172509ph4mc

Photo 19

XS3 Downstream View

Project: Geotechnical Site Investigation

Proposed Road and Servicing Project Montane Phase 4 And Morrissey Court Fernie, BC

Scale: NTS

Groundtech Engineering Ltd.

File: 172509ph4mc

APPENDIX III

Borehole and Test Pit Logs

Project No: 172506

Project: Montant Ph IV

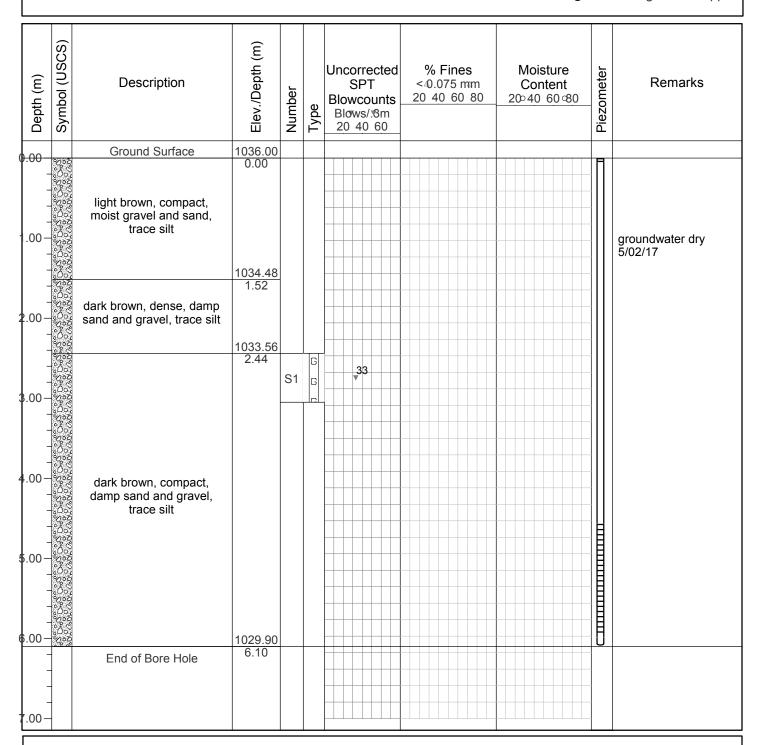
Bore Hole: BH1

Client: WSP Canada Inc.

Date: April 18, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0

Logged By: DAC

Sheet: 1 of 1

Datum:

Project No: 172506

Project: Montant Ph IV

Bore Hole: BH2

Client: WSP Canada Inc. Date: April 18, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Elev./Depth (m)	Number	Туре	Uncorrected SPT Blowcounts Blows/:8m 20 40 60	% Fines <40.075 mm 20 40 60 80	Moisture Content 20⊳40 60 80	Piezometer	Remarks
0.00		Ground Surface	1037.40 0.00							
- - -	No.8	light brown, loose, moist silty sand, some gravel	0.00 1036.79 0.61							
1.00-										
2.00-				S1	G					
3.00 -	\$ 0.50 0.50 \$0.50 0.50 \$0.50 0.50			01						
4.00 – - - -	0.000 0.000	brown-grey, compact, moist sand and gravel, trace silt								
5.00-										
6.00-		#800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##800 ##8								
7.00-	%.S		4000.00							
-	2000	End of Bore Hole	1030.08 7.32							
- 8.00-										

Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: 8" Hollow Stem Fernie, B.C., V0B 1M0

Datum:

Logged By: DAC

Project No: 172506

Project: Montant Ph IV

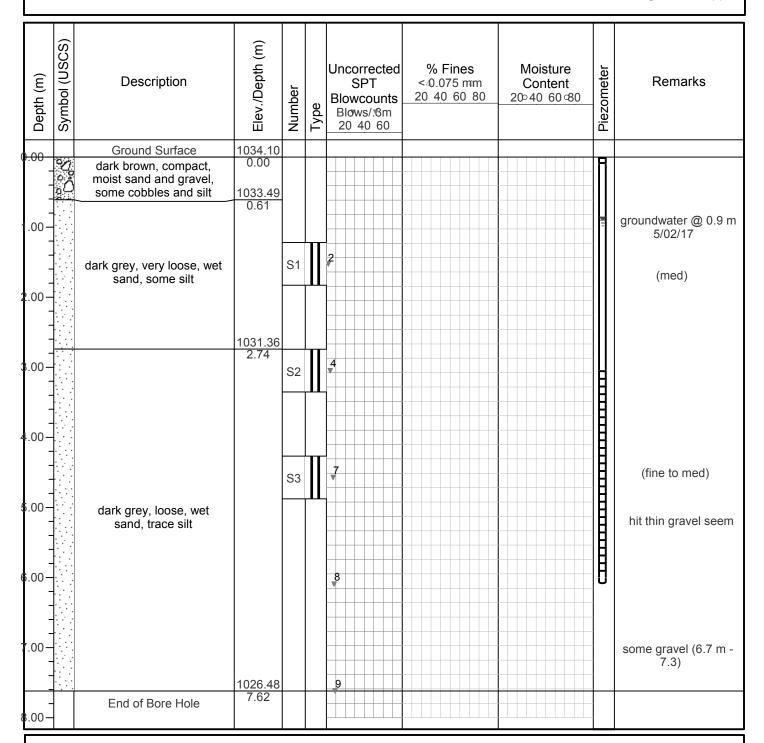
Bore Hole: BH3

Client: WSP Canada Inc.

Date: April 18, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Equipment: 6" Hollow Stem

Datum:

Logged By: DAC

Project No: 172506

Project: Montant Ph IV

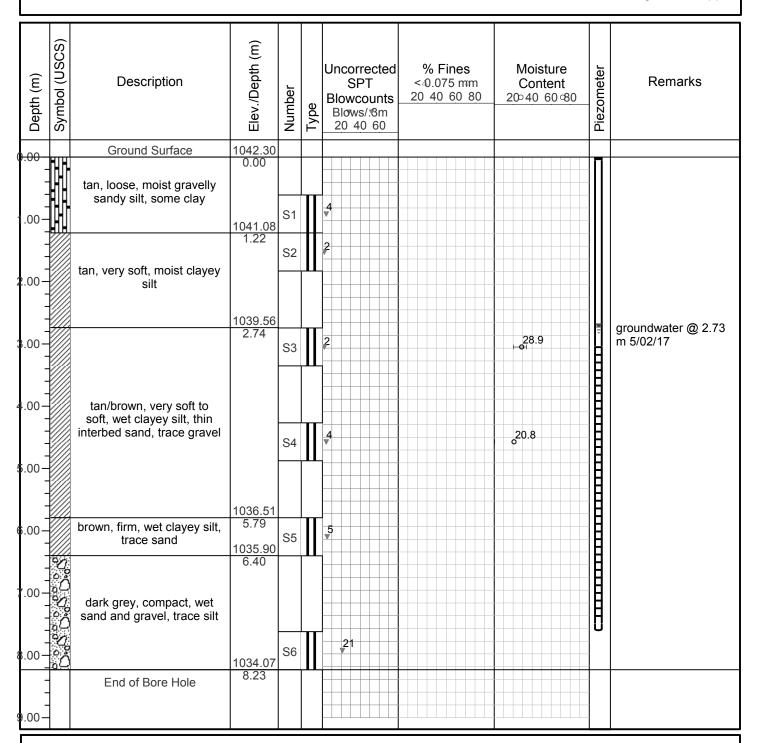
Bore Hole: BH4

Client: WSP Canada Inc.

Date: April 19, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: Hollow Stem

Fernie, B.C., V0B 1M0

Sheet: 1 of 1

Datum:

Logged By: IF

Project No: 172506

Project: Montant Ph IV

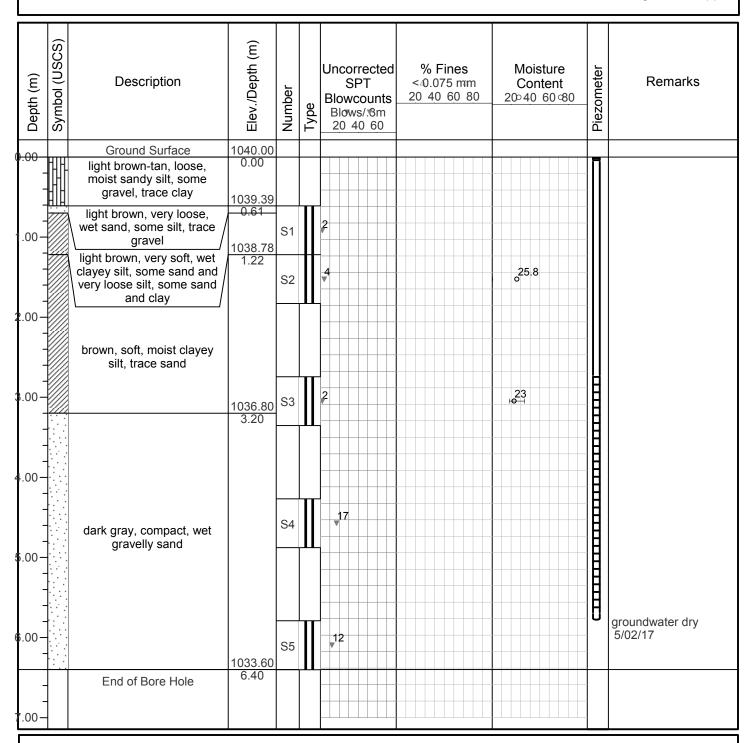
Bore Hole: BH5

Client: WSP Canada Inc.

Date: April 19, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0 Datum:

Logged By: IF

Project No: 172506

Project: Montant Ph IV

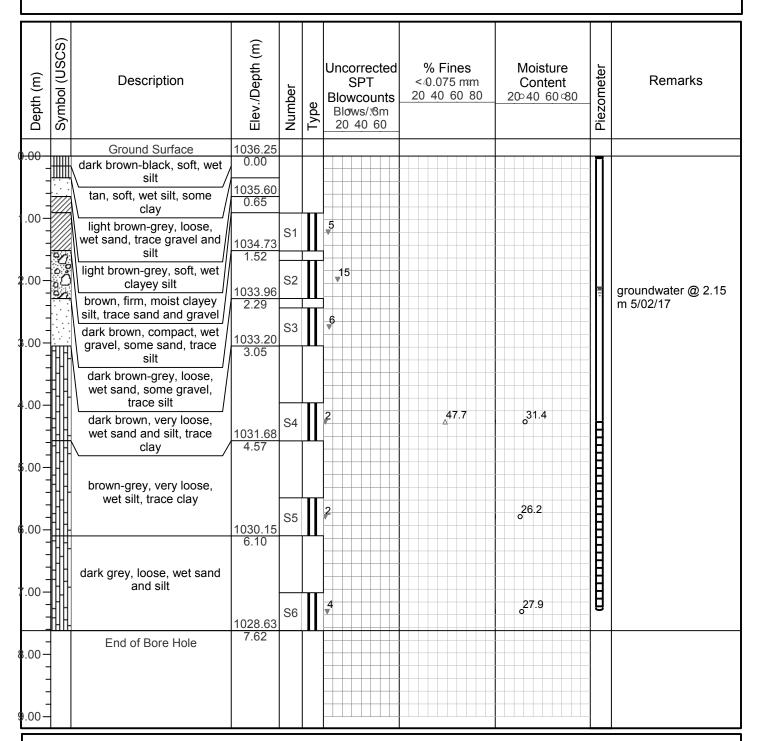
Bore Hole: BH6

Client: WSP Canada Inc.

Date: April 19, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0 Datum:

Logged By: IF/DAC

Project No: 172506

Project: Montant Ph IV

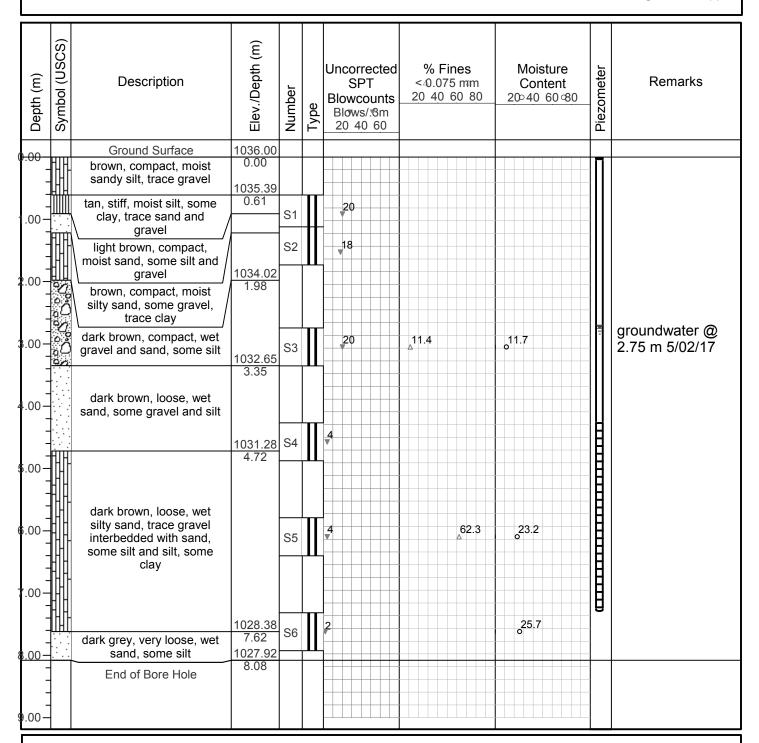
Bore Hole: BH7

Client: WSP Canada Inc.

Date: April 22, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Equipment: 8" Hollow Stem

Groundtech Engineering Ltd. Box 688

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Fernie, B.C., V0B 1M0

Logged By: IF/DAC

Datum:

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 11, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	2000 2000 2000 2000 2000 2000 2000 200	Ground Surface brown, compact, moist gravelly sand, trace silt	0.00					
1.00-	0.50 C. 0.50 C	grey, compact, moist sand and gravel, trace silt						DCP @ 0.6 m
1.00		brown, loose, moist sand, trace silt and gravel light brown, loose, wet silty sand	1.00					DCP @ 1.3 m groundwater @ 1.3 m
2.00-		brown, very loose, moist sand, some silt, trace gravel						sloughing/seepage below 1.3 m
				S1	G	19.2	21.2	
3.00	Karteri	End of Test Pit	3.00					

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Equipment: Tracked Excavator

Fernie, B.C., V0B 1M0 Datum:

Logged By: DAC

Sheet: 1 of 1

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 11, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	96/3/04	Ground Surface	0.00					
1,00		brown, compact, wet gravel and sand, some cobbles, trace silt	0.00	S1	<u> </u>	<u>7.7</u>	10.8	DCP @ 0.65 m
2.00	-	End of Test Pit	1.60					groundwater @ 1.6 m

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: DAC

Sheet: 1 of 1

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 11, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines <40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00		Ground Surface						
	-	light brown, compact, moist sand, some gravel and silt	0.00					
1,00	-	brown-grey, compact, moist sand, some gravel and silt	0.60					DCP @ 0.65 m
	-	grey, stiff, wet silt, some clay	1.50	S1				sloughing groundwater @ 1.6 m
2.00		brown-grey, loose, wet gravelly sandy silt	1.80	S2	G	44.8	23.7	
3.00	-	grey, firm, wet silt and clay	2.60	S3			33.2	
	-	End of Test Pit	3.00					

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Equipment: Tracked Excavator

Fernie, B.C., V0B 1M0 Datum:

Logged By: DAC

Sheet: 1 of 1

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 24, 2017

Location: Engineer: Douglas A. Clapp

Denth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines <40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00		Ground Surface light grey, compact, moist silty sand, some gravel, trace clay light brown, compact, moist silt	0.00					roots
1,00		and sand, trace gravel and clay light brown, loose, moist sand, some gravel and silt light brown, loose, moist sand and gravel, some silt and some clay light brown, very soft, moist silt, some clay, trace sand and gravel	0.70 1.10	S1 S2 S3				DCP 0.8 m PP = 20 kPa (Su)
2.00		light brown, loose, wet sand, some silt and gravel, trace clay						
3.00	- -	brown, soft, wet silt, some clay	2.30	S4	G			
3,00	-	light brown, loose, wet gravelly sand, trace clay and silt	3.00	S5	G			PP = 20 kPa (Su)
4.00	- -	light brown, soft, wet silt, some clay	3.60	S6 S7				
	-	End of Test Pit	4.40					

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Equipment: Tracked Excavator

Fernie, B.C., V0B 1M0

Logged By: IF

Sheet: 1 of 1

Datum:

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 13, 2017

Location: AT BH6 Location **Engineer:** Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	-	Ground Surface	0.00					
		dark brown-black, silt						
		tan, loose, wet silt, some clay	0.16					
		light brown-grey, compact, wet sand, trace gravel and silt	0.35					
1.00	-	ligth brown-grey, soft, wet clay, trace silt	0.65	S2 S1	G		26.8	DCP @ 0.66 m PP = 50 kPa - 90 kPa (Su)
	-	brown, loose, wet sand, some gravel, silt and cobbles	1.10					sloughing
2.00		dark brown, loose, wet sand and gravel	1.50	S3 S4	<u> </u>			sloughing
3,00		End of Test Pit	3.20					

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: DAC

Sheet: 1 of 1

Project No: 172506

Project: Montant Ph IV

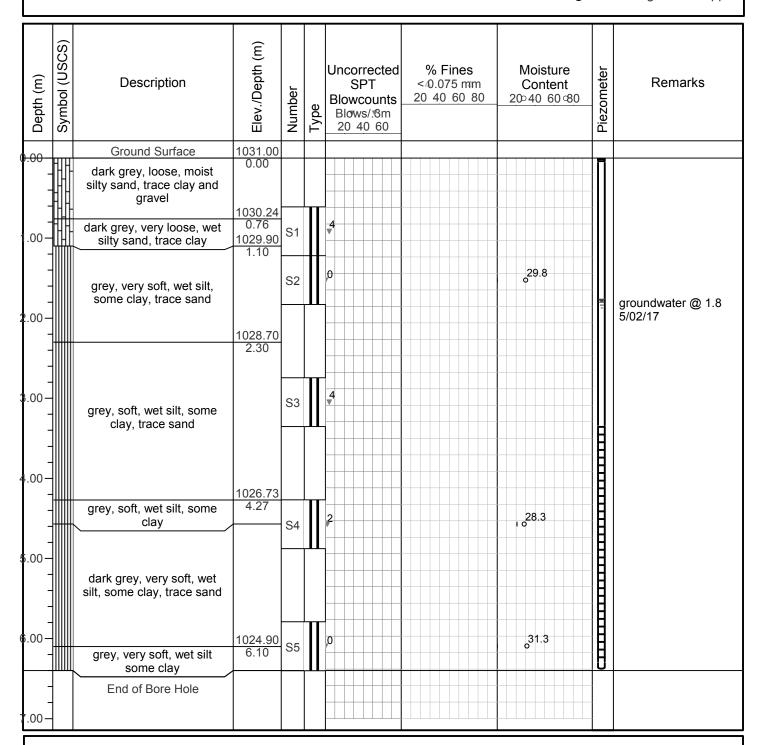
Bore Hole: BH1-MC

Client: WSP Canada Inc.

Date: April 21, 2017

Location:

Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Groundtech Engineering Ltd. Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0

Sheet: 1 of 1

Datum:

Logged By: IF

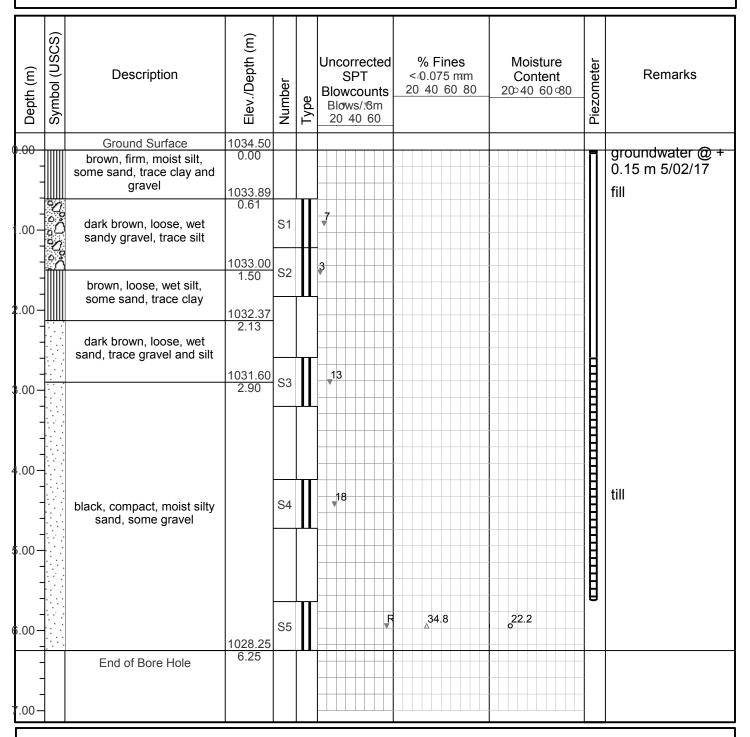
Project No: 172506

Project: Montant Ph IV

Bore Hole: BH2-MC

Client: WSP Canada Inc. Date: April 20, 2017

Location: Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Equipment: 8" Hollow Stem

Logged By: IF

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Sheet: 1 of 1

Datum:

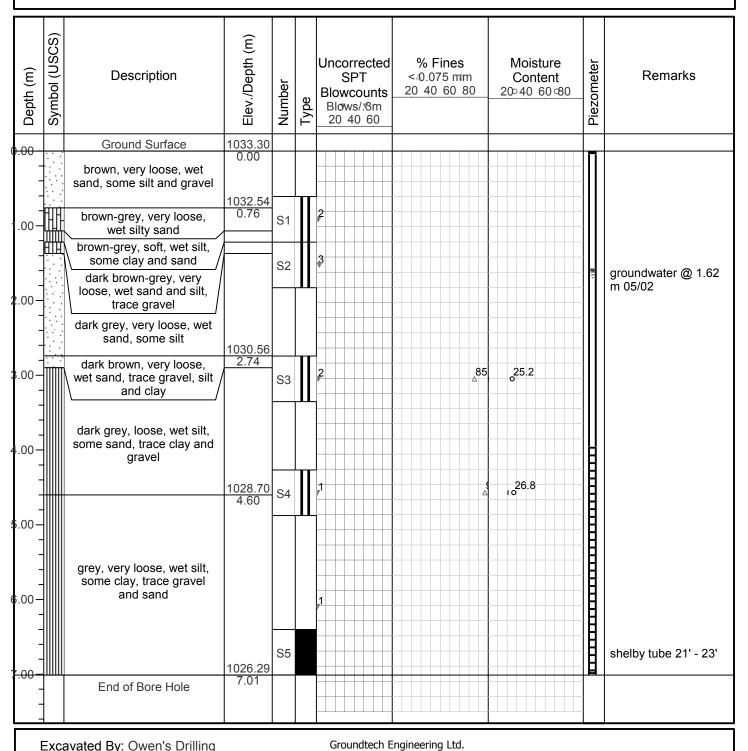
Project No: 172506

Project: Montant Ph IV

Bore Hole: BH3-MC

Client: WSP Canada Inc. Date: April 20, 2017

Location: Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0

Logged By: IF

Datum:

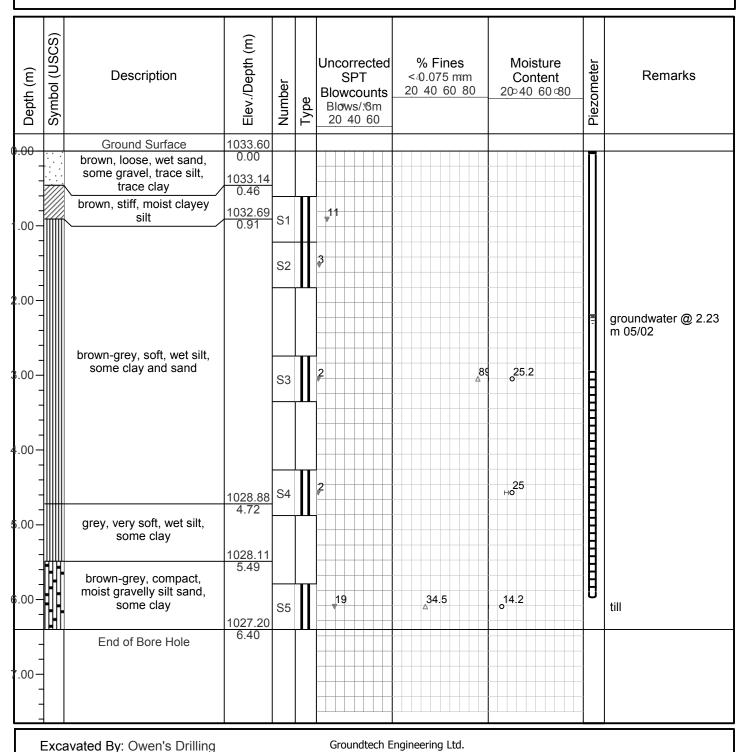
Project No: 172506

Project: Montant Ph IV

Bore Hole: BH4-MC

Client: WSP Canada Inc. Date: April 21, 2017

Location: Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Box 688

Equipment: 8" Hollow Stem

Fernie, B.C., V0B 1M0

Sheet: 1 of 1

Datum:

Logged By: IF

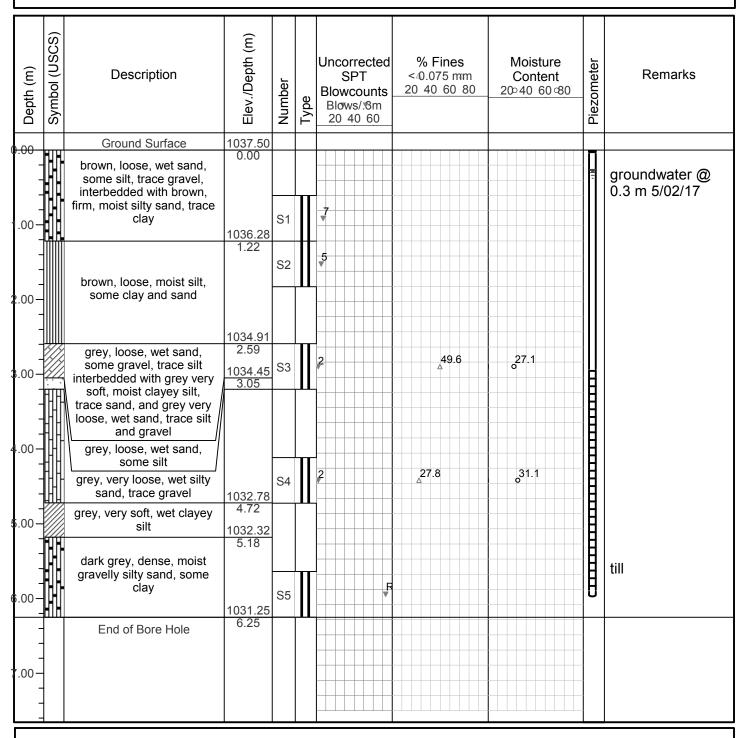
Project No: 172506

Project: Montant Ph IV

Bore Hole: BH5-MC

Client: WSP Canada Inc. Date: April 20, 2017

Location: Engineer: Douglas A. Clapp



Excavated By: Owen's Drilling

Equipment: 8" Hollow Stem

Logged By: IF

Groundtech Engineering Ltd.

Box 688

Fernie, B.C., V0B 1M0

Datum:

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: Engineer: Douglas A. Clapp

Denth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре		< 40.0	es mm 0 80	Co	oisture onten	t	Remarks
0.00		Ground Surface	0.00									
		black, loose, moist silt brown, loose, moist silty sand, trace gravel										organics
1.00		brown, loose, wet sandy gravel, trace silt	0.30	S1	G	5			8.6			DCP @ 0.7 m
		dark grey, loose, wet gravelly sand, trace silt	1.10									Sloughing
2.00	-	brown-grey, loose, wet silt, some sand, some clay	1.90	S2	G							
200	-	grey, loose, wet silt, some sand	2.40	S3	G							groundwater/ seepage flowing
3.00	_	End of Test Pit	3.00									

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Equipment: Tracked Excavator

Fernie, B.C., V0B 1M0 Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP1MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 0.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00		Ground Surface red, loose, moist silt, some sand	0.00			•		
		and cobbles, trace gravel						roots
		grey, compact, moist gravelly sandy silt, some boulders		S1	G	36.6	14.6	S1 Bucket sample,
1.00	- 	grey, loose, wet gravelly sand, some silt, trace clay	0.75	S2				sloughing, DCP
	S.O.S.	brown compact wat gravel	1.10	S3				shale NE corner, DCP groundwater
2.00	- 20 - 20 -	brown, compact, wet gravel, some sand and silt						trace shale
	-		2.10	S4	G	37.2	.17.1	S4 Bucket sample
3,00		dark brown-black, compact, moist sand and silt, trace gravel, trace clay						till
4.00		Find of Took Dit	4.00					
		End of Test Pit						

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP2MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	-	Ground Surface grey, loose, wet silt, some sand, trace cobbles dark grey, compact, moist silt, some sand and gravel dark grey, compact, moist silt,	0.00					trace roots water @ 0.35 m trace roots and burnt debris S1 bucket sample
1.00	-	some sand, trace gravel brown-grey, compact, moist gravelly sand, some silt light brown-grey, compact, moist	1.00	S1	G	15.4	o ¹²	DCP @ 0.7 m
2.00	- - - -	silt, trace to some clay	1.50					DCP @ 1.45 m
3.00	- - - -	silt, trace to some clay		S2			24.8	
4.00	- - -	End of Test Pit	4.00	S3			24.8	

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP3MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: Engineer: Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре		75	es mam 0 80		Moisture Content 10 20 30 40		nt	Remarks -
0.00		Ground Surface	0.00										
		light grey, loose, wet sand, some silt, trace cobbles and gravel	0.00										trace roots
			0.30	S1	G								
	_	tan-grey, stiff, moist silt, some sand and some clay		S3									S3 Bucket sample, DCP
	920		0.70	33	G	-							PP = 70 kPa - 90 kPa
1.00					G								(Su) groundwater
		brown-grey, compact, wet gravelly sand, trace silt		S2	G	9				14	2		_
2.00	\$0.50.5 \$0.50.5				G								_
2,000	-	brown-grey, loose, wet silt, some sand	2.00										
3.00	1 1	End of Test Pit	2.50										sloughing

Excavated By: Loren's Ins.

Box 688 Fernie, B.C., V0B 1M0

Groundtech Engineering Ltd.

Equipment: Tracked Excavator

Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP4MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: on hill slope **Engineer:** Douglas A. Clapp

Depth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines < 40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	-	Ground Surface light brown, loose, moist sand, some silt and gravel, trace cobbles	0.00					trace roots
1,00	- 33 - 33 - 33 - 33 - 33 - 33 - 33 - 33		0.40					PP = > 450 kPa
2.00	-200 -200 -200 -200 -200	grey, dense, moist gravel, some		S1		29.5	7	DCP @ 2 m
3.00	-33 -33 -33 -33 -33	sand, some silt, some clay, trace cobbles						
4.00								
5. 00	-	End of Test Pit	5.00					

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688

Equipment: Tracked Excavator

Fernie, B.C., V0B 1M0 Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP5MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: on hill slope **Engineer:** Douglas A. Clapp

Denth (m)	Symbol (USCS)	Description	Depth/Elev. (m)	Number	Туре	% Fines <40.075 mm 20 40 60 80	Moisture Content 10 20 30 40	Remarks
0.00	<u> </u>	Ground Surface						
		light brown, loose, wet silty sand, some gravel, trace clay	0.00					trace roots
1.00	- - - -		0.60					groundwater 1.59 m 5/25/17
2.00	-	grey, hard, moist clay and silt,						
3.00	-	some sand and gravel, trace cobbles						DCP @ 3.3 m
4.00	-							
5,00	- -	End of Test Pit	5.20	S1	 			piezo installed

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688 Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP6MC

Project No: 172506

Project: Montane Phase IV

Client: WSP Canada Inc. Date: April 14, 2017

Location: toe of slope **Engineer:** Douglas A. Clapp

Denth (m)		Symbol (USCS)	Description (a) Number (b) Yungaper (c) Number (c) Numb		Content	Remarks		
0.00	Д.		Ground Surface					
			brown (black patches), loose, moist silty sand, some gravel	0.00				trace roots
2.000	7 00 2 00 2		grey, hard, moist gravel, some silt and clay, trace cobbles	1.00				
3.00								groundwater @ 3 m 5/25/17 seepage
4.00	-		End of Test Pit	3.70				PP = > 180 kPa (Su), piezo installed

Excavated By: Loren's Ins.

Groundtech Engineering Ltd. Box 688 Fernie, B.C., V0B 1M0

Equipment: Tracked Excavator

Datum:

Logged By: IF & MS

Sheet: 1 of 1

Test Pit: TP7MC

APPENDIX IV

Lab Test Reports



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Montane Phase 4

S17104

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 12, 2017

CC:

Sample Description: SAND, some silt/clay, trace gravel

Sample Date: Sample ID: **TP1 S1 Sample Time:**

Sample Source: Geotechnical Investigation Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:

					,			
Sie	eve Analys	sis	100		-		Specification lim	ita
Sieve Size (mm)	% Passing	Specification limits	90				Specification initi	its
100.0			80 %					
75.0								
37.5	100.0		70 p					
19.5	98.1		a 60					
12.5	96.8		s				$_{1}$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
9.5	96.0		s ⁵⁰					
4.75	93.5		i 40					
2.00	89.6		n 40					
1.18	87.1		g ₃₀					
0.600	81.1						$_{\perp}$ $_{\parallel}$ $_{\parallel}$	
0.425	76.3		20					
0.300	63.1		10					
0.150	37.2							
0.075	19.2		0					
			_	100	10	1 Particle Size (mm)	0.1	0.0
_						raiticle size (IIIIII)		

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 6.5 % Sand: < 4.75mm and > 0.075mm 74.3 % 19.2 % Silt/Clay: < 0.075mm

Moisture Content: 21.2%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Reviewed By: Report Date:**



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Montane Phase 4

S17105

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 12, 2017

CC:

Sample Description: GRAVEL and SAND, trace silt/clay **Sample Date:**

Sample ID: **TP2 S1 Sample Time:**

Sample Source: **Geotechnical Investigation** Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:

						,	0 1 733			CLL JIL					
Sie	eve Analys	sis	100												
Sieve Size (mm)	% Passing	Specification limits	90									Spec	ificat	ion li	mits
100.0			80 %		\rightarrow							+++	HH	+	+
75.0	100.0		70												
37.5	84.3		p 70												
19.5	74.1		a 60									$+\!\!+\!\!+\!\!+$	\square	\perp	_
12.5	66.8		S												
9.5	62.2		s ⁵⁰									++++			+
4.75	50.8		i 40									Ш	Ш		
2.00	39.4		n 'o												
1.18	34.0		g ₃₀						\mathbb{H}			++++	H	+	-
0.600	25.9														
0.425	21.7		20									+++	Ш	\top	\top
0.300	16.3		10								\	\coprod	Ш	_	_
0.150	10.4														
0.075	7.7		0	100											
				100		10	1	Particle :	1 Size (m	m)	(0.1			
_								. a. cicic s	J. L C (111	,					

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 49.2 % Sand: < 4.75mm and > 0.075mm 43.1 % 7.7 % Silt/Clay: < 0.075mm

Moisture Content: 10.8%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Reviewed By: Report Date:**

Bryan Morrison, BSc.

0.01



MATERIALS TESTING AND INSPECTION SERVICES 229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Montane Phase 4

S17106

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 12, 2017

CC: -

Sample Description:Gravelly, sandy SILT/CLAYSample Date:-Sample ID:TP3 S2 (1.8m-2.0m)Sample Time:-Sample Source:Geotechnical InvestigationSampled By:Client

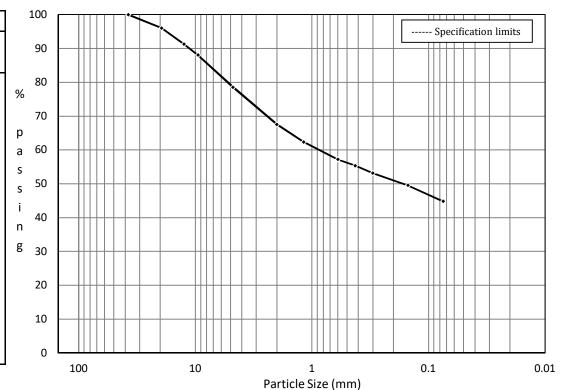
Specification: NA

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:

Sie	eve Analys	is
Sieve Size (mm)	% Passing	Specification limits
100.0		
75.0		
37.5	100.0	
19.5	96.0	
12.5	91.2	
9.5	88.0	
4.75	78.6	
2.00	67.6	
1.18	62.4	
0.600	57.2	
0.425	55.4	
0.300	53.1	
0.150	49.5	
0.075	44.8	



Summary

 Cobble :
 >75mm
 %

 Gravel :
 <75mm and > 4.75mm
 21.4 %

 Sand :
 < 4.75mm and > 0.075mm
 33.8 %

 Silt/Clay :
 < 0.075mm</td>
 44.8 %

Moisture Content: 23.7%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

Report Date: April 26, 2017 Reviewed By:



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Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Montane Phasae 4

S17173

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 29, 2017

CC:

Sample Description: GRAVEL and SAND, some silt/clay

Sample Date: Sample ID: BH7 S3 @ 9' **Sample Time:**

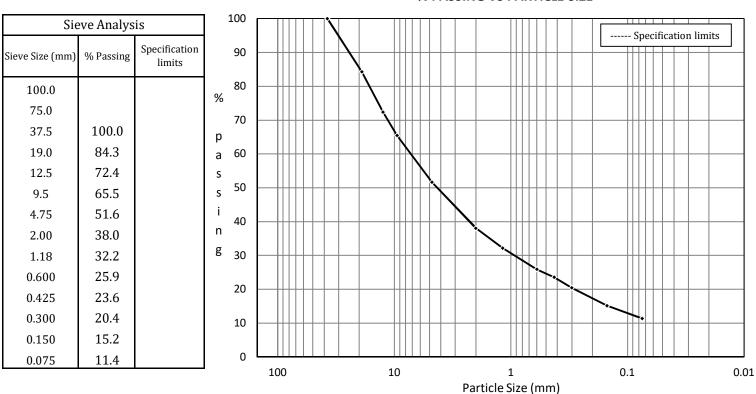
Geotechnical Investigation Sample Source: Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:



Summary

Cobble: % >75mm Gravel: < 75mm and > 4.75mm 48.4 % Sand: < 4.75mm and > 0.075mm 40.3 % 11.4 % Silt/Clay: < 0.075mm

Moisture Content: 11.7%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

May 12, 2017 **Reviewed By: Report Date:**



229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667;

Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Montane Phasae 4

S17174

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 29, 2017

CC:

Sample Description: SAND and SILT/CLAY, trace gravel

Sample Date: Sample ID: BH7 S5 @ 19' **Sample Time:**

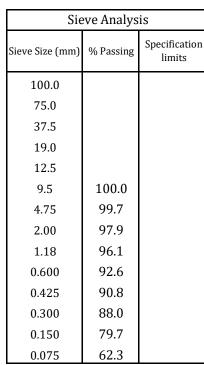
Geotechnical Investigation Sample Source: Sampled By: Client

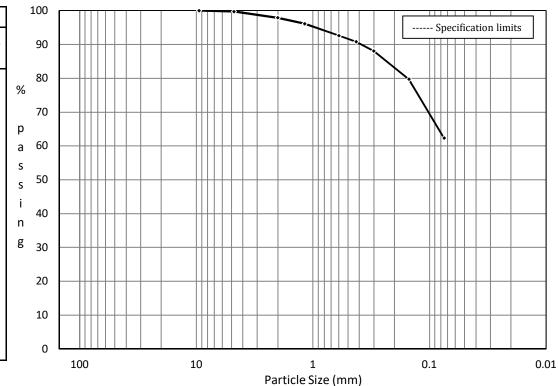
Specification: NA

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:





Summary

Cobble: >75mm % Gravel: < 75mm and > 4.75mm 0.3 % Sand: < 4.75mm and > 0.075mm 37.4 % 62.3 % Silt/Clay: < 0.075mm

Moisture Content: 23.2%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

May 12, 2017 **Reviewed By: Report Date:**



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

S17087

M.C.

Project No: 17.0008.AR

Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Project:

Sample Description: Sandy GRAVEL, trace silt/clay

Sample ID: TP1 S1 (0.6m)

Sample Source: Geotechnical Investigation Date Received: April 17, 2017

Client Project:

Lab ID:

Sample Date:

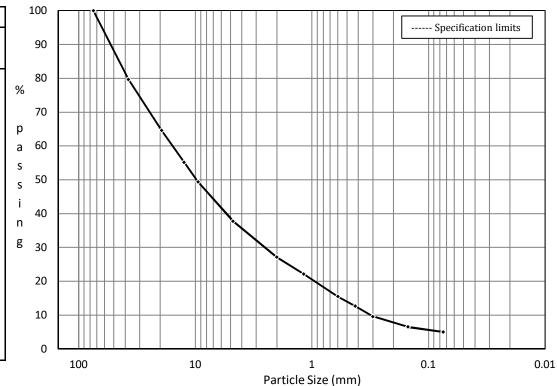
Sample Time:

Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sie	Sieve Analysis									
Sieve Size (mm)	% Passing	Specification limits								
100.0										
75.0	100.0									
37.5	79.7									
19.5	64.6									
12.5	55.2									
9.5	49.4									
4.75	37.8									
2.00	27.1									
1.18	22.2									
0.600	15.5									
0.425	12.7									
0.300	9.6									
0.150	6.5									
0.075	5.0									



Summary

Cobble: 0.0 % >75mm Gravel: < 75mm and > 4.75mm 62.2 % Sand: < 4.75mm and > 0.075mm 32.8 % 5.0 % Silt/Clay: < 0.075mm

Moisture Content: 8.6%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Reviewed By: Report Date:**



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

S17088

M.C.

Date Received: April 17, 2017

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Sample Description: Gravelly, sandy SILT/CLAY

Sample ID: TP2 S1 (0.6m)

Sample Source: Geotechnical Investigation **Sample Date:**

Client Project:

Lab ID:

Sample Time:

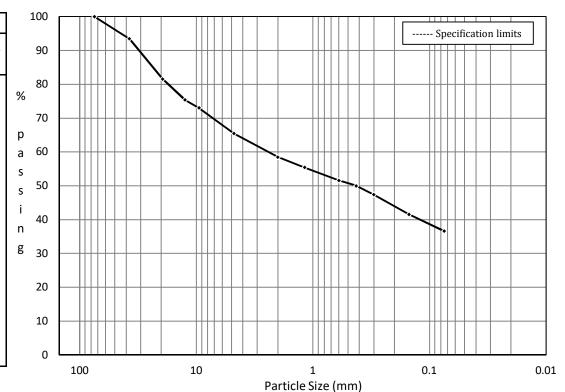
Sampled By:

Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sie	eve Analys	is
Sieve Size (mm)	% Passing	Specification limits
100.0		
75.0	100.0	
37.5	93.4	
19.5	81.6	
12.5	75.3	
9.5	73.0	
4.75	65.5	
2.00	58.5	
1.18	55.4	
0.600	51.6	
0.425	50.0	
0.300	47.4	
0.150	41.5	
0.075	36.6	



Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 34.5 % Sand: < 4.75mm and > 0.075mm 28.8 % 36.6 % Silt/Clay: < 0.075mm

Moisture Content: 14.6%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Report Date:**

Reviewed By:



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Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

S17089

M.C.

Date Received: April 17, 2017

Project No: 17.0008.AR

Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Project:

Sample Description: SAND and SILT/CLAY, trace gravel

Sample ID: TP2 S4 (2.1m)

Geotechnical Investigation Sample Source:

Sample Date:

Client Project:

Lab ID:

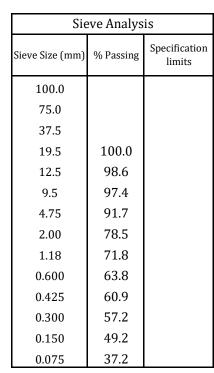
Sample Time:

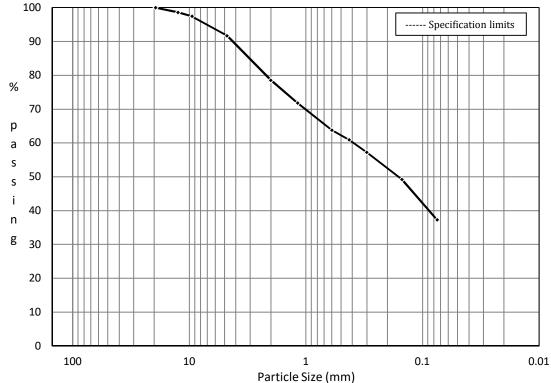
Sampled By: Client

Specification:

NA

% PASSING VS PARTICLE SIZE





Summary

Cobble: % >75mm Gravel: < 75mm and > 4.75mm 8.3 % Sand: < 4.75mm and > 0.075mm 54.4 % 37.2 % Silt/Clay: < 0.075mm

17.1% (Sample partially dried prior to processing) **Moisture Content:**

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Report Date:**

Reviewed By:



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PARTICLE SIZE ANALYSIS

S17090

M.C.

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp Date Received: April 17, 2017

CC:

Sample Description: Gravelly SAND, some silt/clay **Sample Date:** Sample ID: TP3 S1 (0.5m - 1.0m) **Sample Time:**

Sample Source: Geotechnical Investigation Sampled By: Client

NA **Specification:**

% PASSING VS PARTICLE SIZE

Lab ID:

Client Project:

					,	
Sie	ve Analys	is	100			
Sieve Size (mm)	% Passing	Specification limits	90			Specification limits
100.0			80 %			
75.0	100.0					
37.5	98.5		70 p			
19.5	90.4		a 60			
12.5	86.5		s			
9.5	84.1		s ⁵⁰			
4.75	74.5		i 40			
2.00	63.1		n To		 	<u> </u>
1.18	57.0		g ₃₀			
0.600	48.2					
0.425	43.5		20			
0.300	33.9		10			
0.150	19.6					
0.075	15.4		0	100		
				100 10	1 Particle Size (mm)	0.1 0

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 25.5 % Sand: < 4.75mm and > 0.075mm 59.2 % 15.4 % Silt/Clay: < 0.075mm

Moisture Content: 12.0%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Reviewed By: Report Date:**



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Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Sample Description: Gravelly SAND, trace silt/clay

Sample ID: TP4 S2 (0.7m - 2.0m)

Sample Source: Geotechnical Investigation Lab ID: S17091

Client Project: M.C.

Date Received: April 17, 2017

Sample Date:

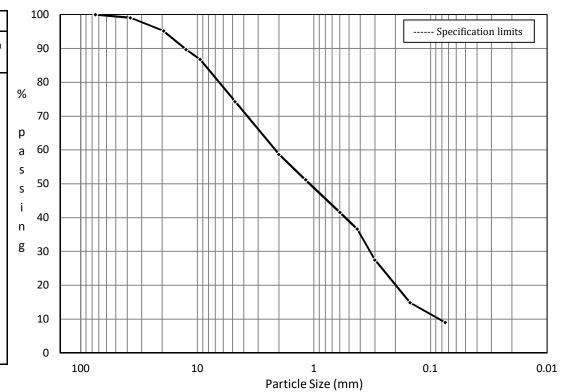
Sample Time:

Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sie	Sieve Analysis									
Sieve Size (mm)	% Passing	Specification limits								
100.0										
75.0	100.0									
37.5	99.1									
19.5	95.2									
12.5	89.7									
9.5	86.7									
4.75	74.3									
2.00	58.7									
1.18	51.2									
0.600	41.5									
0.425	36.6									
0.300	27.5									
0.150	14.9									
0.075	9.0									



Summary

Cobble: 0.0 % >75mm Gravel: < 75mm and > 4.75mm 25.7 % Sand: < 4.75mm and > 0.075mm 65.2 % 9.0 % Silt/Clay: < 0.075mm

Moisture Content: 14.2% (Sample partially dried prior to processing)

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

April 26, 2017 **Report Date:**

Reviewed By:



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PARTICLE SIZE ANALYSIS

S17161

M.C.

Date Received: April 29, 2017

Project No: 17.0008.AR

Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Project:

Sample Description: Silty/clayey SAND, some gravel

Sample ID: BH2 S5 @ 18.5'

Geotechnical Investigation Sample Source:

Sample Date:

Client Project:

Lab ID:

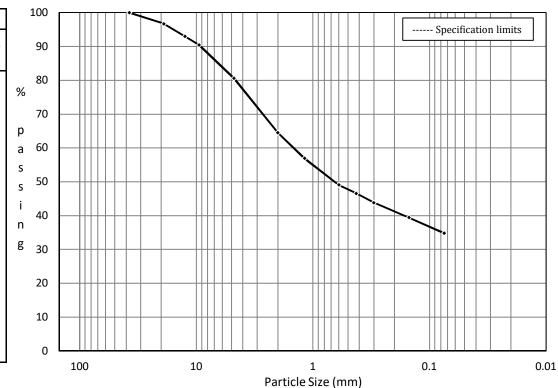
Sample Time:

Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sie	Sieve Analysis									
Sieve Size (mm)	% Passing	Specification limits								
100.0										
75.0										
37.5	100.0									
19.0	96.7									
12.5	93.0									
9.5	90.5									
4.75	80.6									
2.00	64.5									
1.18	56.9									
0.600	49.1									
0.425	46.6									
0.300	43.8									
0.150	39.4									
0.075	34.8									



Summary

Cobble: >75mm % Gravel: < 75mm and > 4.75mm 19.4 % Sand: < 4.75mm and > 0.075mm 45.8 % 34.8 % Silt/Clay: < 0.075mm

Moisture Content: 22.2%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

May 12, 2017 **Report Date:**

Reviewed By:



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

S17166

M.C.

Date Received: April 29, 2017

Project No: 17.0008.AR

Groundtech General

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Project:

Sample Description: Gravelly, silty/clayey SAND

Sample ID: BH4 S5 @ 19'

Geotechnical Investigation Sample Source:

Client Project:

Lab ID:

Sample Date:

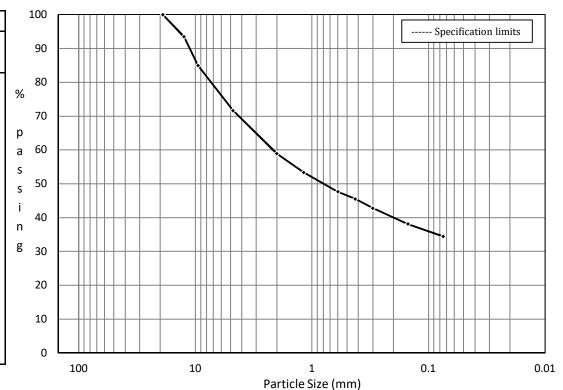
Sample Time:

Sampled By: Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sieve Analysis				
Sieve Size (mm)	% Passing	Specification limits		
100.0				
75.0				
37.5				
19.0	100.0			
12.5	93.4			
9.5	85.0			
4.75	71.6			
2.00	58.9			
1.18	53.4			
0.600	47.7			
0.425	45.5			
0.300	42.8			
0.150	38.1			
0.075	34.5			



Summary

Cobble: >75mm % Gravel: < 75mm and > 4.75mm 28.4 % Sand: < 4.75mm and > 0.075mm 37.2 % 34.5 % Silt/Clay: < 0.075mm

Moisture Content: 14.2%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

May 12, 2017 **Report Date:**

Reviewed By:



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS

S17168

M.C.

Date Received: April 29, 2017

Project No: 17.0008.AR

Project: **Groundtech General**

Client: Groundtech Engineering Ltd.

Attn: Doug Clapp

CC:

Sample Description: Silty/clayey SAND, trace gravel

Sample ID: BH5 S4 @ 13.5'

Geotechnical Investigation Sample Source:

Sample Date:

Client Project:

Lab ID:

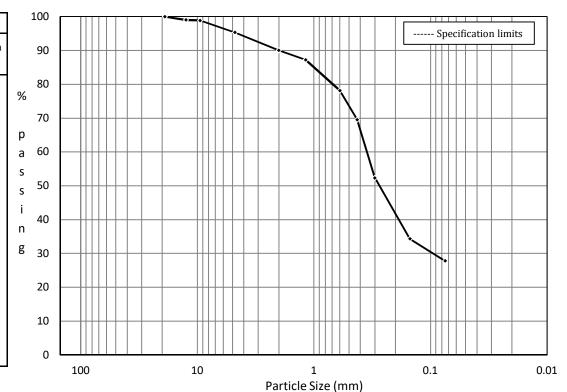
Sample Time: Sampled By:

Client

Specification: NA

% PASSING VS PARTICLE SIZE

Sie	Sieve Analysis				
Sieve Size (mm)	% Passing	Specification limits			
100.0					
75.0					
37.5					
19.0	100.0				
12.5	99.0				
9.5	98.9				
4.75	95.3				
2.00	90.0				
1.18	87.3				
0.600	78.2				
0.425	69.5				
0.300	52.3				
0.150	34.3				
0.075	27.8				



Summary

Cobble: >75mm % Gravel: < 75mm and > 4.75mm 4.7 % Sand: < 4.75mm and > 0.075mm 67.5 % 27.8 % Silt/Clay: < 0.075mm

Moisture Content: 31.1%

Comments:

Tested in accordance with ASTM C136 Sieve Analysis of Fine and Coarse Aggregates /C117 Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

May 12, 2017 **Report Date:**

Reviewed By:



229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR Lab ID: S17171

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** Montane Phase 4

Attn: Doug Clapp Date Received: April 29, 2017

CC:

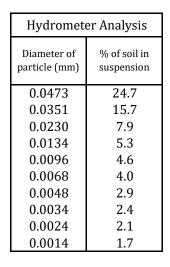
Sample Description: SAND and SILT, some gravel, trace clay Sample Date:

Sample ID BH6 S4 @ 13' Sample Time: Sample Source:

Sampled By: Geotechnical Investigation Client

% PASSING VS PARTICLE SIZE

Sieve Analysis			
% Passing			
100			
75			
37.5	100.0		
19	91.5		
12.5	91.5		
9.5	91.0		
4.75	89.9		
2.00	88.1		
1.18	87.1		
0.600	86.1		
0.425	85.5		
0.300	84.6		
0.150	74.1		
0.075	47.7		



10	00 11	Gravel		Sand Medium	Fine _1	Silt	Clay
10							
9	90	>	-		1		
۶	30						
%							
7 P	70				 		
	50		1				
S S							
i	50				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	10					$ar{1}$	
g	30						
2	20						
1	10		i				
						\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_•
	100.000	10.000		1.000	0.100	0.010	0.001
				Particle S	ize (mm)		

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 10.1 % < 4.75mm and > 0.075mm Sand: 42.1 % < 0.075mm and > 0.002mm 45.6 % Silt: Clay: < 0.002mm 2.1 %

Moisture Content: 31.4 %

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: May 12, 2017 **Reviewed By:**



ONSERVICES

229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR Lab ID: S17092

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** M.C.

Attn: Doug Clapp Date Received: April 17, 2017

CC:

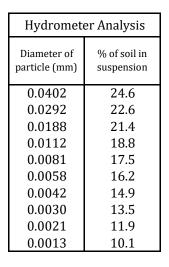
Sample Description: GRAVEL, some sand, some silt, some clay

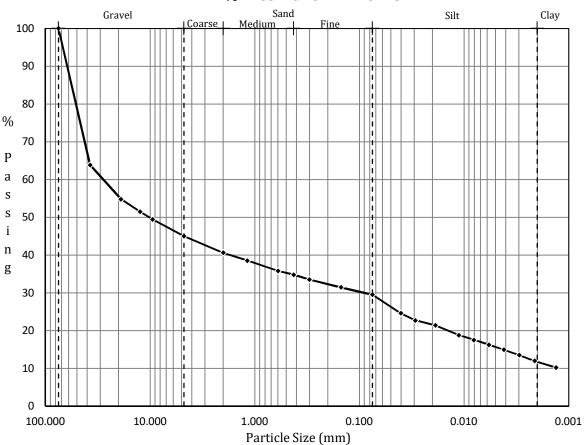
Sample Date: Sample ID **TP5 S1** Sample Time:

Sampled By: Sample Source: Geotechnical Investigation Client

% PASSING VS PARTICLE SIZE

Sieve Analysis			
% Passing			
100			
75	100.0		
37.5	63.9		
19	54.8		
12.5	51.5		
9.5	49.4		
4.75	45.0		
2.00	40.6		
1.18	38.5		
0.600	35.8		
0.425	34.8		
0.300	33.5		
0.150	31.4		
0.075	29.5		





Summary

Cobble:	>75mm	0.0 %
Gravel:	< 75mm and > 4.75mm	55.0 %
Sand:	< 4.75mm and > 0.075mm	15.5 %
Silt:	< 0.075mm and > 0.002mm	17.6 %
Clay:	< 0.002mm	11.9 %

7.0 % **Moisture Content:**

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: April 26, 2017 **Reviewed By:**



229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR Lab ID: S17162

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** M.C.

Attn: Doug Clapp Date Received: April 29, 2017

CC:

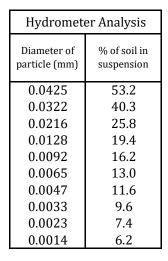
Sample Description: SILT, some sand, trace gravel, trace clay

Sample Date: Sample ID BH3 S3 @ 9' Sample Time: Sample Source:

Sampled By: Geotechnical Investigation Client

% PASSING VS PARTICLE SIZE

Sieve Analysis			
% Passing Sieve Size (mm)			
100			
75			
37.5			
19			
12.5	100.0		
9.5	97.8		
4.75	96.0		
2.00	94.5		
1.18	93.9		
0.600	93.4		
0.425	93.1		
0.300	92.7		
0.150	92.0		
0.075	85.6		



		•	70 1 71551110		CLE SIZE	
	Gravel	. 0	Sand	-	Silt	Clay
100	 	Coarse	Medium	_ Fine	, 	+
90						
80						
70 P						
a 60						
						+
n 40						
30						
20						
10						
о Ш	<u> </u>					
100.00	10.000		1.000 Particle S	0.10 Size (mm)	0.010	0.003

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 4.0 % < 4.75mm and > 0.075mm 10.4 % Sand: < 0.075mm and > 0.002mm 78.1 % Silt: Clay: < 0.002mm 7.4 %

Moisture Content: 25.2 %

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: May 12, 2017 **Reviewed By:**



ONSERVICES

229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR Lab ID: S17163

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** M.C.

Attn: Doug Clapp Date Received: April 29, 2017

CC:

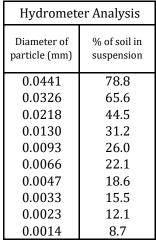
Sample Description: SILT, some clay, trace gravel, trace sand

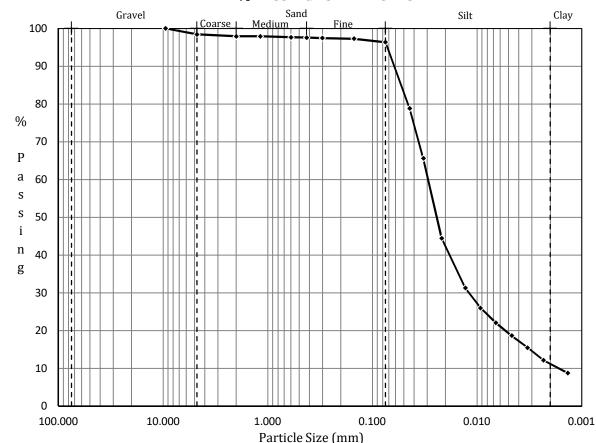
Sample Date: BH3 S4 @ 14' Sample ID Sample Time:

Sampled By: Sample Source: Geotechnical Investigation Client

% PASSING VS PARTICLE SIZE

Sieve Analysis		
Sieve Size (mm)	% Passing	
100		
75		
37.5		
19		
12.5		
9.5	100.0	
4.75	98.5	
2.00	97.9	
1.18	97.9	
0.600	97.7	
0.425	97.6	
0.300	97.5	
0.150	97.3	
0.075	96.4	





Summary

Cobble:	>75mm	0.0 %
Gravel:	< 75mm and > 4.75mm	1.5 %
Sand:	< 4.75mm and > 0.075mm	2.1 %
Silt:	< 0.075mm and > 0.002mm	84.3 %
Clay:	< 0.002mm	12.1 %

Moisture Content: 26.8 %

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: May 12, 2017 **Reviewed By:**



229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR Lab ID: S17164

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** M.C.

Attn: Doug Clapp Date Received: April 29, 2017

CC:

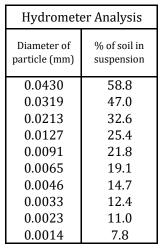
Sample Description: SILT, some sand, some clay Sample Date:

Sample ID BH4 S3 @ 9' Sample Time: Sample Source:

Sampled By: Geotechnical Investigation Client

% PASSING VS PARTICLE SIZE

Sieve Analysis		
Sieve Size (mm)	% Passing	
100		
75		
37.5		
19		
12.5		
9.5		
4.75		
2.00	100.0	
1.18	99.9	
0.600	99.7	
0.425	99.7	
0.300	99.5	
0.150	99.2	
0.075	89.2	



			THE TELL SIZE		
Gravel		Sand		Silt	Clay
100	Coarse M	ledium Fi	ne		<u> </u>
90					
80					
70					
P					
s					
i					
n 40 g					
30					
20					
10					
o [:					
100.000 10.00		000 Particle Size (r	0.100 nm)	0.010	0.001

Summary

Cobble: >75mm 0.0 % Gravel: < 75mm and > 4.75mm 0.0 % < 4.75mm and > 0.075mm 10.8 % Sand: < 0.075mm and > 0.002mm 78.1 % Silt: Clay: < 0.002mm 11.0 %

Moisture Content: 25.2 %

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: May 12, 2017 **Reviewed By:**



229 Industrial Road F, Cranbrook, BC V1C 6N4 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

PARTICLE SIZE ANALYSIS (HYDROMETER)

Project No: 17.0008.AR **Lab ID:** S17167

Project: Groundtech General

Client: Groundtech Engineering Client Project: M.C.

Attn: Doug Clapp Date Received: April 29, 2017

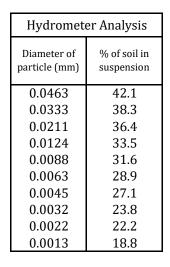
CC: -

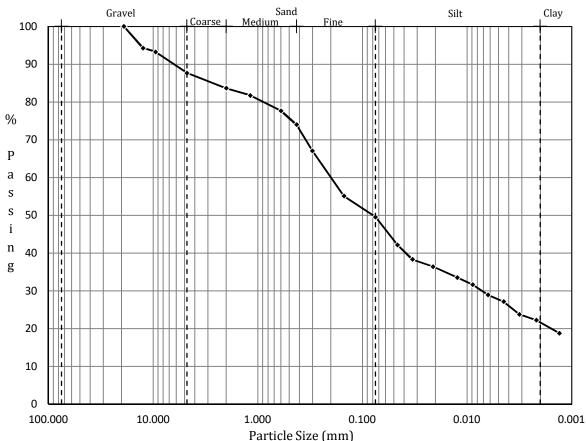
Sample Description:Silty, clayey SAND, some gravelSample Date:Sample IDBH5 S3 @ 8.5'Sample Time:

Sample Source: Geotechnical Investigation Sampled By: Client

% PASSING VS PARTICLE SIZE

Sieve Analysis		
Sieve Size (mm)	% Passing	
100		
75		
37.5		
19	100.0	
12.5	94.3	
9.5	93.3	
4.75	87.7	
2.00	83.7	
1.18	81.7	
0.600	77.7	
0.425	74.0	
0.300	67.0	
0.150	55.1	
0.075	49.5	





Summary

Cobble:	>75mm	0.0 %
Gravel:	< 75mm and > 4.75mm	12.3 %
Sand:	< 4.75mm and > 0.075mm	38.1 %
Silt:	< 0.075mm and > 0.002mm	27.4 %
Clay:	< 0.002mm	22.2 %

Moisture Content: 27.1 %

Tested in accordance with AASHTO T88 Particle Size Analysis of Soils (modified)

Report Date: May 12, 2017 Reviewed By:



Lab ID:

Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17107

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering Client Project: Montane Phase 4

Attn: Doug Clapp **Date Received:** April 12, 2017

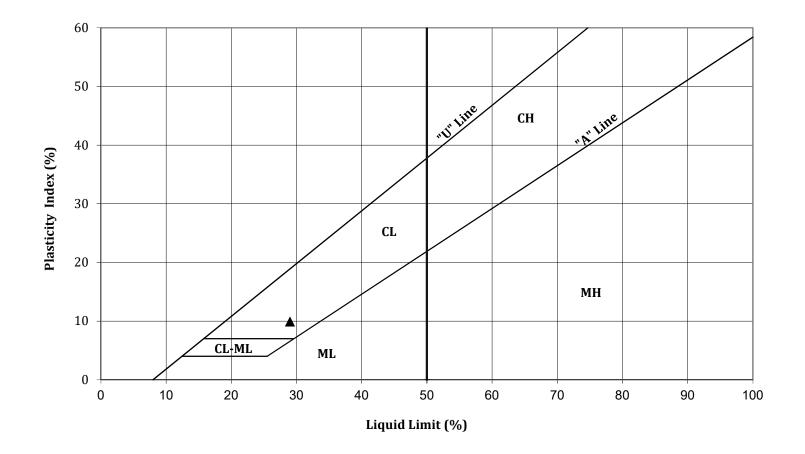
CC:

Sample Description: Sample Date: Sample ID: TP3 S3c (2.6m) Sample Time:

Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
CL	33.2%	29	19	10



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: April 26, 2017 **Reviewed By:**



Lab ID:

Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17094

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering **Client Project:** Montane Phase 4

Attn: Doug Clapp Date Received: April 17, 2017

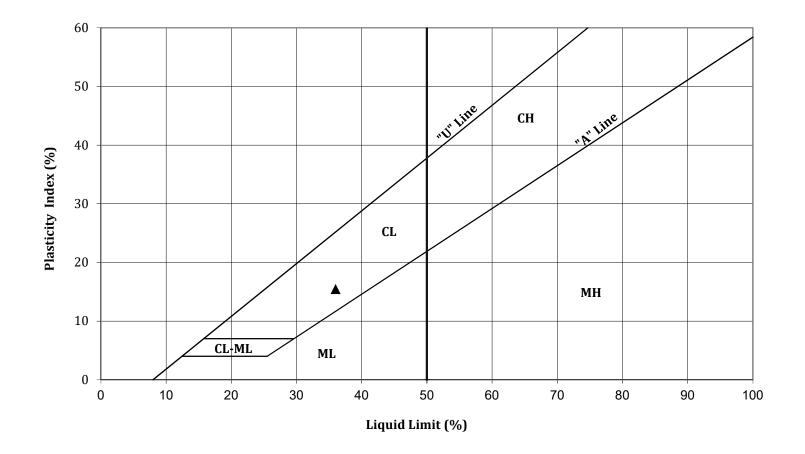
CC: -

Sample Description: - Sample Date: - TP5 S1 (0.75 m) Sample Time: -

Sample ID: TP5 S1 (0.75 m) Sample Time: Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
CL	26.8%	36	21	15



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: April 26, 2017 Reviewed By:



Lab ID:

229 Industrial Road F, Cranbrook, BC V1C 6 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17169

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering **Client Project:** Montane Phase 4

Attn: Doug Clapp Date Received: April 29, 2017

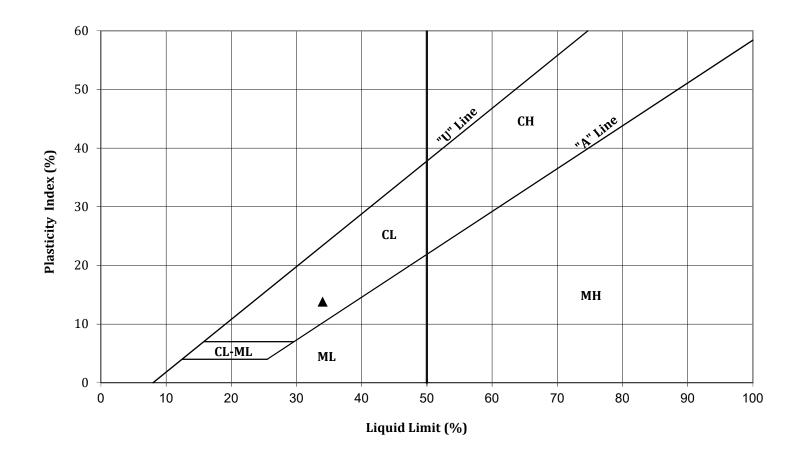
CC: -

Sample Description: - Sample Date: - Sample ID: Sample Time: -

Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
CL	28.9%	34	20	14



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017 Reviewed By:



Lab ID:

229 Industrial Road F, Cranbrook, BC V1C 6N Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17170

Project No: 17.0008.AR

Project: Groundtech General

Client: Groundtech Engineering Client Project: Montane Phase 4

Attn: Doug Clapp Date Received: April 29, 2017

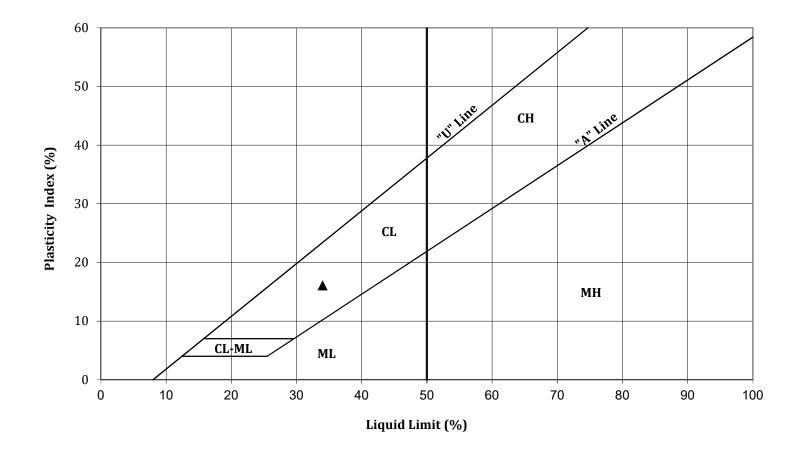
CC: -

Sample Description: - Sample Date: - Sample ID: Sample Time: -

Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
CL	23.0%	34	18	16



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017

Reviewed By:

| Description | Properties |



229 Industrial Road F, Cranbrook, BC V1C 6N Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

Project No: 17.0008.AR

Groundtech General

Client: Groundtech Engineering

Attn: Doug Clapp

CC: -

Project:

Sample Description: -

Sample ID: BH6 S5 @ 18'

Sample Source: Geotechnical Investigation

Lab ID:

S17172

Client Project:

Montane Phase 4

Date Received:

April 29, 2017

Sample Date: -

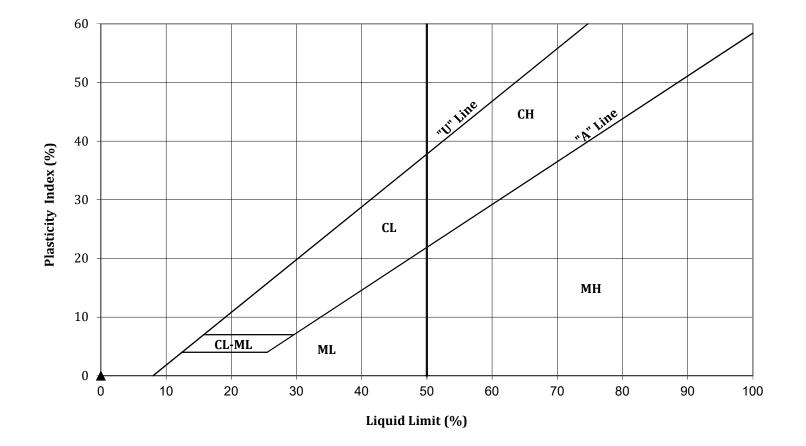
Sample Time: -

Sampled By: Client

Method: Wet Preparation

Soil Classification (USCS) Moisture Content Liquid Limit % Plastic Limit % Plasticity Index

- 26.2% - - Non-plastic



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017

Reviewed By:



229 Industrial Road F, Cranbrook, BC V1C 6N-Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17093

Project No: 17.0008.AR **Lab ID:**

Project: Groundtech General

Client: Groundtech Engineering Client Project: MC

Attn: Doug Clapp Date Received: April 17, 2017

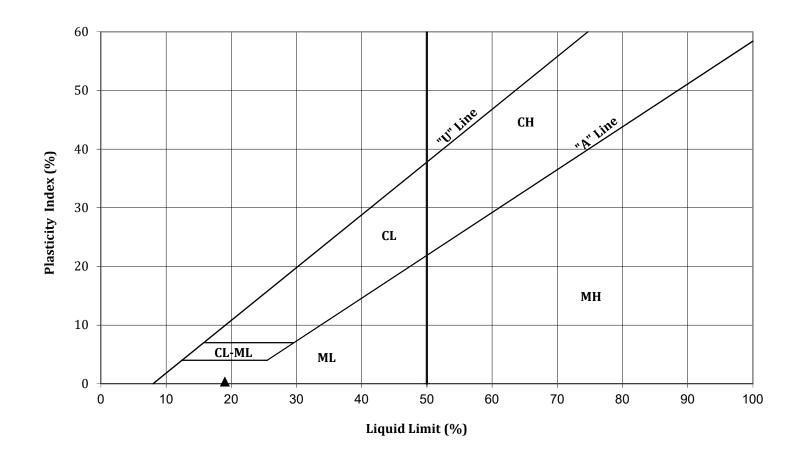
CC: -

Sample Description: - Sample Date: - Sample ID: Sample Time: -

Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
ML	24.8%	19	19	0



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: April 26, 2017 Reviewed By:



Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

Project No: 17.0008.AR Lab ID: S17160

Project: Groundtech General

Client: **Groundtech Engineering Client Project:** M.C.

Attn: Doug Clapp **Date Received:** April 29, 2017

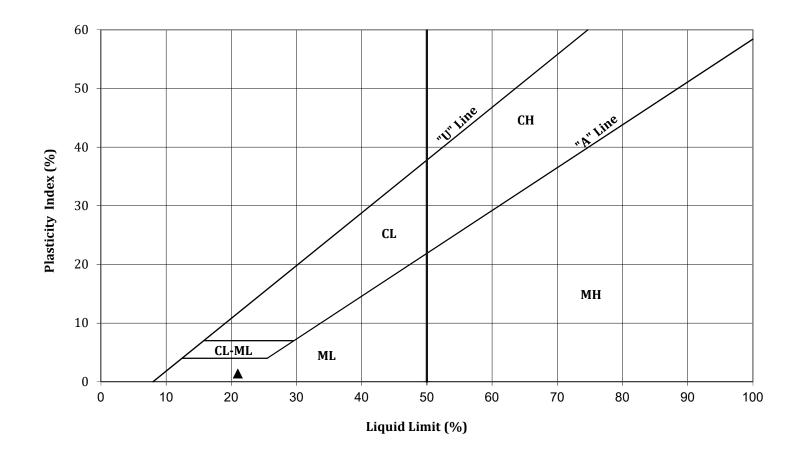
CC:

Sample Description: Sample Date: Sample ID: BH1 S4 @ 14' Sample Time:

Sample Source: Sampled By: Geotechnical Investigation Client

Method: Wet Preparation

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
ML	28.3%	21	20	1



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017 **Reviewed By:**



229 Industrial Road F, Cranbrook, BC V1C 6 Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

Project No: 17.0008.AR **Lab ID:** S17163

Project: Groundtech General

Client: Groundtech Engineering Client Project: M.C.

Attn: Doug Clapp Date Received: April 29, 2017

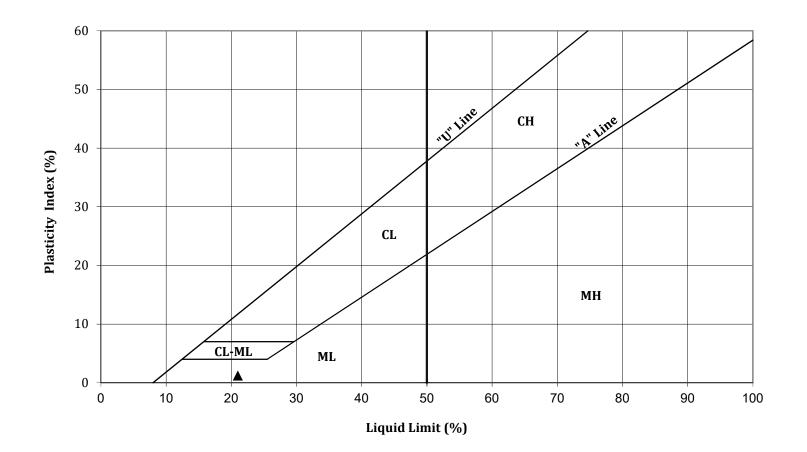
CC: -

Sample Description:SILT, some clay, trace gravel, trace sandSample Date:-Sample ID:BH3 S4 14'Sample Time:-

Sample Source: Geotechnical Investigation Sampled By: Client

Method: Dry Preparation (air-dried)

Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
ML	26.8%	21	20	1



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017 Reviewed By:



Lab ID:

Ph: 250/489-1940; Fax: 250/489-1667; Email: info@artechconsulting.ca

ATTERBERG LIMITS REPORT

S17165

M.C.

Project No: 17.0008.AR

Project: Groundtech General

Client: **Groundtech Engineering Client Project:**

Attn: Doug Clapp **Date Received:** April 29, 2017

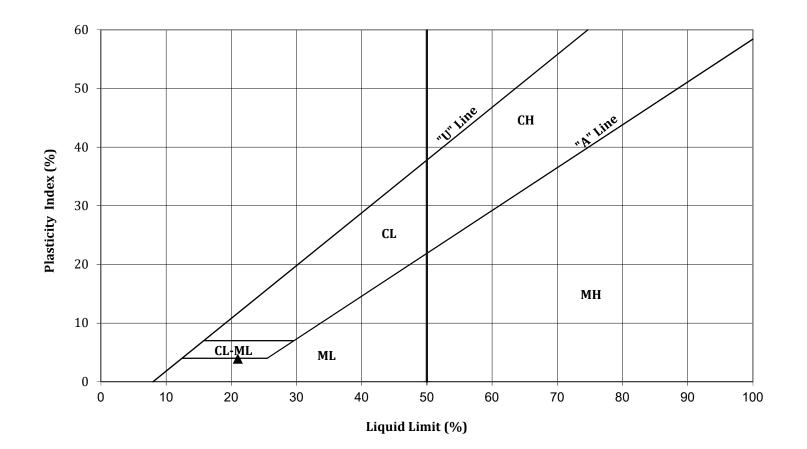
CC:

Sample Description: Sample Date: Sample ID: BH4 S4 @ 14' Sample Time:

Sample Source: Sampled By: Geotechnical Investigation Client

Method: Wet Preparation

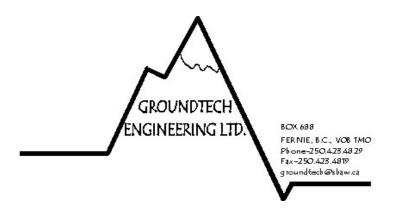
Soil Classification (USCS)	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index
ML	25.0%	21	17	4



Comments:

Tested in accordance with ASTM D4318-10 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Report Date: May 12, 2017 **Reviewed By:**



Moisture Content Report

Date: 19 April and 22 April

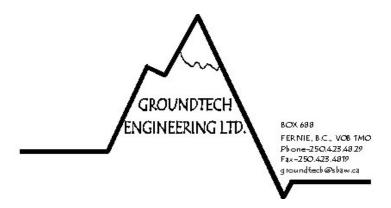
Job number: 172506

No of samples tested: 4

Client: Parastone Montane Ph4

Property Address: Montane

Sample	Moisture Content
BH4/S4	20.83
BH5/S2	25.81
BH6/S6	27.91
BH7/S6	25.71



Moisture Content Report

Date: 20-Apr-17

No of samples tested: 2

Job number:

Client:

172506

Montane Morrisey Court

Property Address: Montane

Sample Moisture Content

BH1/S3 29.79

BH1/S5 31.33

APPENDIX V

Overview Terrain Stability Assessment

EXHIBIT H المعداة الماط لهدد project boundar 1 watercourses Alumily for the Track of the present P. 64 PF 000 00 80 E 3080CC00079 No.09 Province of Brit

APPENDIX A

LEGEND FOR POLYGON LABELS

(1) Terrain Symbol $texture \rightarrow aCk-R"b \leftarrow geomorphological process subclass$

surface expression **₹** Reomorphological process

(2) Slope Class \rightarrow 50 – 70

(3) Terrain Stability Class → P

1) TERRAIN SYMBOL

Composite Units: Two or three groups of letters are used to indicate that two or three

kinds of terrain are present within a map unit.

Examples:

Mv.Rk indicates "Mv" and "Rk" are roughly equal in extent

Mv/Rk indicates "Mv" is more extensive than "Rk" (about 2/1 or 3/2)

Mv//Rk indicates "Mv" is much more extensive than "Rk" (about 3/1 or 4/1)

/Mw indicates "Rk" is partially buried by "Mw"

Rk

Stratigraphic Units: Groups of letters are arranged one above the other where one or more

kinds of surficial material overlie a different material or bedrock: e.g.,

Mv indicates that "Mv" overlies "Rr".

Rr

Note: one or more letters may be used to describe any characteristic other than surficial

material, or letters may be omitted if information is lacking.

(1.1) Surficial Material

Α	Anthropogenic materials	Artificial materials and materials modified by human actions such that their original physical appearance and properties have been drastically altered.		
С	Colluvium	Products of gravitational slope movements; materials derived from local bedrock and major deposits derived from drift; includes talus and landslide deposits. Includes up to 20% bedrock.		
C1 Slope wash overland flow carries su is silty sand or sandy		Slope wash is a result of rainfall events in which non-channelized overland flow carries surface material downslope. Typical texture is silty sand or sandy silt with generally less than 5% coarse fragments.		
D	Weathered bedrock	Bedrock modified in situ by mechanical and chemical weathering.		
E	Eolian sediments	Sand and silt transported and deposited by wind; includes loess.		
F	Fluvial sediments	Sands and gravels transported and deposited by streams and rivers; floodplains, terraces and alluvial fans.		
FA	"Active" fluvial sediments	Active deposition zone on modern floodplains and fans; active channel zone.		
FG	Glaciofluvial sediments	Sands and gravels transported and deposited by meltwater streams; includes kames, eskers and outwash plains.		
L	Lacustrine sediments	Fine sand, silt and clay deposited in lakes.		
LG	LG Glaciolacustrine sediments Fine sand, silt and clay deposited in ice-dammed			
water. Typically consists of a mixture of pe		Material deposited by glaciers without modification by flowing water. Typically consists of a mixture of pebbles, cobbles and boulders in a matrix of sand, silt and clay; diamicton. Includes up to 20% bedrock and/or colluvium.		
M1	Fine-grained glacial materials	The deeply gullied terrain implies that the soils are fine-grained; the soils are likely of glacial origin (ie till).		
0	Organic materials	Material resulting from the accumulation of decaying vegetative matter; includes peat and organic soils.		
R	Bedrock	Outcrops and bedrock within a few centimetres of the surface. Includes up to 20% colluvium.		
U	Undifferentiated materials	Different surficial materials in such close proximity that they cannot be separated at the scale of the mapping.		
WG	Glaciomarine sediments	Sediments laid down in marine waters in close proximity to glacier ice.		

(1.2) Surface Expression

	mandameta alamata)			
a	moderate slope(s)	predominantly planar slopes; 15-26° (28 - 49%)		
b	blanket	material >1-2 m thick with topography derived from underlying bedrock (which may not be mapped) or surficial material		
С	cone	a fan-shaped surface that is a sector of a cone; slopes 15° (27%) and steeper		
d	depression	enclosed depressions		
f	fan	a fan-shaped surface that is a sector of a cone; slopes 3-15° (5-27%)		
h	hummocky	steep-sided hillocks and hollows; many slopes 15° (27%) and steeper		
j	gentle slope(s)	predominantly planar slopes; 4-15° (6 - 27%)		
k	moderately steep slope	predominantly planar slopes; 26-35° (50 - 70%)		
m	rolling topography	linear rises and depressions; < 15° (27%)		
р	plain	0-3° (0-5%)		
r	ridges	linear rises and depressions with many slopes 15° and steeper		
s	steep slope(s)	slopes steeper than 35° (> 70%)		
t	terrace(s)	stepped topography and benchlands		
u	undulating topography	hillocks and hollows; slopes predominantly <15º		
v veneer		material <1-2 m thick with topography derived from underlying bedrock (may not be mapped) or surficial materials; may include outcrops of underlying material		
w	mantle	surficial material of variable thickness		
х	thin veneer	a subset of v (veneer), where there is a dominance of surficial materials about 10-25 centimetres thick		

(1.3) Geomorphological Processes

E	Glacial meltwater channels	Areas crossed by meltwater channels that are too small or too numerous to map individually.		
F	Failing	Slope experiencing slow mass movement, such as sliding or slumping		
L	Surface seepage	Zones of active seepage often found along the base of slope positions.		
R	Rapid mass movement	Slope or parts of slope affected by processes such as debris flows, debris slides and avalanches, and rockfall		
U	Inundation	Inundation refers to areas that are seasonally flooded, for example marshlands		
٧	Gullying Slope affected by gully erosion.			

(1.4) Geomorphological Process Subclass

-F"	slow mass movement - initiation zone		
-Fk	tension cracks		
-Fm slump in bedrock			
-Fu	slump in surficial material		
-R	rapid mass movement		
-R"	rapid mass movement - initiation zone		
-Rb	rock fall		
-Rd	debris flow		
-Rs	debris slide		
-RfI	debris flood		

2) SLOPE CLASS

Slopes are given in percentages as a range. For example, '20-45' indicates that the majority of the slopes in the polygon are between 20% and 45%.

3) TERRAIN STABILITY CLASS

S	Stable	Low likelihood of landslide initiation following development. S* - transport and/or deposition zone for rock fall and debris flows	
P	Potentially Unstable	Expected to contain areas with a moderate likelihood of landslide initiation following development	
U	Unstable	Natural instability present. Expected to contain areas with a high likelihood of landslide initiation following development.	

APPENDIX B

SURFICIAL MATERIALS

TILL (M) (M1)

Till is deposited directly by glacier ice and usually exists as a veneer (Mv), blanket (Mb), or mantle of variable thickness (Mw) over the underlying bedrock surface. It typically consists of a fine-grained matrix (particles <2 mm) that surrounds and supports clasts (particles >2 mm) of a variety of sizes, shapes and rock types. Till characteristics, such as texture (particle sizes) and consolidation (or bulk density), vary according to specific processes of deposition by glacier ice (e.g., subglacial vs. supraglacial tills). These deposits can be highly variable and gradations in texture and consolidation can vary over short distances. Over the last 12,000 years, the upper half metre to one metre of these deposits have been weathered by pedogenic processes creating loose, permeable soils. The lower slopes are typically Brunisols and the upper slopes are generally Podzols.

Basal till (subglacial till) is deposited at the base of a glacier creating highly consolidated material. As a result, basal till has a relatively low permeability and commonly acts like an impermeable layer. It tends to be the strongest of all surficial materials.

COLLUVIUM (C)

Colluvium has accumulated during post-glacial times as a result of gravity-induced slope movement, for example, rock fall and soil creep. The physical characteristics of colluvium are closely related to its source and mode of accumulation. Four processes generally create colluvial deposits; (1) rockfall from bedrock bluffs, (2) soil creep in weathered bedrock, (3) mass movement processes in surficial materials (debris flows and debris slides), and (4) rockslides and rock slumps.

Rockfall from bedrock bluffs typically forms talus slopes (Ck). Talus is loosely packed rubble or blocks with little interstitial silt and sand near the surface, and is rapidly drained.

Colluvial veneers (Cv) and blankets (Cb) develop where weathered bedrock or surficial materials has been loosened and moved downslope by gravitational processes such as soil creep. It is loosely packed and usually rapidly drained. Colluvial veneers and very thin veneers are most common on upper, moderately steep and steep gradient slopes and as discontinous, very thin veneers on bedrock-controlled terrain in the watershed. The matrix texture of the colluvium reflects the bedrock or surficial materials it is derived from.

Colluvial fans (Cf) and cones (Cc) form at the base of steep gullies due to deposition by debris flows (-Rd). These deposits are generally compact, and sorting may range from poorly sorted to well sorted. The deposit may or may not be matrix supported, and the matrix is usually sand.

Deep-seated slumps in bedrock and surficial materials result in hummocky, irregular colluvial deposits (Chu). Rock slumps contain blocks and rubble with little or no interstitial silt and sand.

WEATHERED BEDROCK (D)

Weathered bedrock has been modified in situ by mechanical and chemical weathering. In the assessment area, weathered bedrock is found as a discontinuous very thin veneer (Dx) overlying gently sloping or undulating bedrock outcrops. It typically contains a high proportion of angular coarse fragments with varying amounts of interstitial silty sand. It is non-cohesive and rapidly to very rapidly drained.

EOLIAN SEDIMENTS (E)

Eolian sediments were transported and deposited by wind. They typically occur as a thin cap (Ev) over other materials, but may locally thicken into a blanket or dunes. These deposits typically consist of silt and fine sand and often form the Ah horizon in Chernozemic soils.

GLACIOFLUVIAL MATERIALS (FG)

Glaciofluvial materials were deposited by glacial meltwater streams near the end of the most recent glaciation. Sands and gravels accumulated along ice margins and on top of melting ice (FGu) (ice contact deposits), and downstream of glaciers (FGp) (outwash plains). Where outwash streams flowed onto flat ground, fans (FGf) were formed. Where outwash streams drained into former lakes, deltas (FGf and FGp) were created. Postglacial streams have incised into some outwash plains and fans transforming them into terraces (FGt) and scarps (FGk).

Glaciofluvial materials consist of sand and gravel with small quantities of finer material and are potential sources of aggregate. Sorting and bedding characteristics are variable depending on the mode and site of deposition. Gravels range from unsorted to well-sorted and bedding can range from absent to well-defined. Glaciofluvial deposits are loose (uncompacted) and clasts tend to be more subrounded than subangular. Ice-contact deposits may have distorted bedding, slump structures and faults as a result of settling and collapse due to the melting of supporting ice. Ice contact deposits may also contain lenses of fine-textured glaciolacustrine sediments and coarse-textured ablation till. Beds in raised deltas are inclined up to 40 %, and indicate the frontal slopes of depositional landforms.

FLUVIAL MATERIALS (F)

Streams have deposited fluvial gravels in post-glacial time. These sediments are loose, non-cohesive and highly porous and permeable. Associated landforms, such as floodplains (Fp, FAp) and parts of fans that are close to stream-level, have high water tables and are moderately to imperfectly drained. Floodplains are subject to periodic inundation during high flows. Fluvial terraces (Ft) stand above present day creek-levels, are relatively well drained and dry.

GLACIOLACUSTRINE SEDIMENTS (LG)

Glaciolacustrine materials have been deposited in glacial or ice-dammed lakes that were present during and shortly after glaciation. Glaciolacustrine materials generally consist of well to moderately well stratified fine sand, silt and/or clay with occasional lenses of till or glaciofluvial material. Glaciolacustrine materials are generally only slowly permeable, and so the presence of even a thin layer of this material is sufficient to cause impeded drainage, perched water tables, and surface seepage. These conditions may promote instability in some situations. These fine-textured materials are also susceptible to surface erosion by running water.

GLACIOMARINE SEDIMENTS (WG)

Glaciomarine sediments consist of sediments that accumulated along the shoreline and underwater off-shore at the end of the Fraser Glaciation when relative sea level was higher than present. Fine sand, silt and clay ("rock flour") initially produced by glacial abrasion were transported to the ocean by meltwater streams. Finer sediments tend to remain suspended in the ocean, and then slowly settle to the bottom. Glaciomarine sediments typically consist of interlayered silt, clay and fine sand. Dropstones from floating ice that range from pebble up to boulder-size may be embedded in the finer material. The sediments are usually slowly permeable to impermeable and are generally moderately to highly cohesive, depending on the percentage of clay. Beach sediments tend to be sands and gravels that are loose and porous.

ORGANICS (O)

Organic materials form where decaying plant material accumulates in poorly or very poorly drained areas, for example wetlands.

SLOPE WASH (C1)

Slope wash is a result of rainfall events in which non-channellized overland flow carries surface material from a steeper area to a gentler area down slope. The material is generally derived from eolian sediments. Slope wash generally does not travel far and comes to rest on gentler slopes of 0 to 15 %.

BEDROCK (R)

Bedrock is mapped where it outcrops at the surface. Polygons mapped with thin or very thin material (Cv, Dx, Mv, Mx), may also have a small proportion of bedrock outcrops.

APPENDIX C

GEOMORPHOLOGICAL PROCESSES

GULLY EROSION (-V)

Gullies are small ravines with V-shaped cross sections that can form in either glacial drift or bedrock. Gully erosion has been mapped in two kinds of terrain: (i) slopes with several parallel shallow gullies in drift materials (dissected slope) and (ii) single gullies where streams have exploited joints in bedrock or have cut down into thick drift. Gullied terrain is an indicator of either former or active erosion, and the symbol serves to identify material that is potentially subject to erosion or mass movement (e.g., Uk-V). Gully sideslopes and steep headwalls are common sites of slope failures and are classed as potential unstable (Class IV) where there is no evidence of instability and unstable (Class V) where there is evidence of instability.

ROCK FALL (-R"b), DEBRIS SLIDES (-R"s) and DEBRIS FLOWS (-R"d)

Rapid mass movement refers to downslope movement by falling, rolling or sliding of debris derived from surficial material and/or bedrock. Where a double prime symbol (") is used with a mass movement process (e.g., -R"s), slope failure has initiated within the polygon. Mass movement symbols without the double prime symbol (e.g., -Rb) indicate a polygon that contains the transport or deposition zone of rapid mass movement. Transportation zones are generally not recognized as areas where landslides initiate; they may contribute additional volume of transported material to a failure. Transport and deposition zones represent hazardous areas downslope of slides or rockfall.

Rockfall (-Rb, -R"b) occurs when either a single block or a mass of bedrock falls, bounces and rolls downslope. In the assessment area, rockfall from local outcrops creates talus slopes, colluvial veneers and blankets. Polygons with rockfall are scattered throughout the assessment area in association with local bedrock outcrops or cliffs.

Debris flows (-Rd) initiate in steep gullies and debris slides (-Rs) initiate on steep hillsides. They occur when a mass of surficial material slides rapidly downslope often as a result of the loss of soil strength due to high pore water pressure. Debris slides (non-channelized movement of debris) and debris flows (channelized movement of debris) are initiated on steep slopes where material slides along a shear plane. The shear plane often coincides with the boundary between more permeable and less permeable material (e.g. between weathered and unweathered material or between surficial material and bedrock). Debris flows and debris slides are triggered by heavy rain, water from snow melt, and/or rain on snow events, and result from loss of soil strength due to high pore water pressure. During wet conditions, slides are also triggered by wind stress on trees, tree throw, impact of falling rocks from up slope, and vibrations due to earthquakes or human activity. In logged areas, debris slides that occur several years after logging can be due to the loss of soil strength that results from root decay. Diverted drainage from roads commonly trigger failure of sidecast material and may initiate landslides some distance downslope. A debris flow may move downslope for several hundred metres or more

before it is arrested by gentler terrain or by de-watering, or it may enter a trunk stream. Debris flows are effective agents of erosion, commonly increasing the volume of material as it progresses downslope. Debris slides and debris flows are significant potential sources of stream sediment and a hazard to activities or structures (roads, culverts) located in runout zones.

SLUMP IN SURFICIAL MATERIAL (-F"u)

Slumps in surficial materials (-Fu) consist of deep-seated, rotational failures along a zone of weakness within thick deposits. Slumping in fine-grained sediments, such as, glaciolacustrine materials are common.

APPENDIX D

GENERAL CONDITIONS

D.0 Closure

This report incorporates and is subject to these general conditions.

D.1 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 to which it refers. Any variation from the site or development would necessitate a supplementary assessment.

This report and the recommendations contained herein are intended for the sole use of Polar's client. Polar 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 other party than Polar's client unless otherwise authorized in writing by Polar. 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 Polar. Additional copies of the report, if required, may be obtained upon request.

D.2 Nature and Exactness of Soil, Surficial Material and/or Rock Descriptions

Classification and identification of soils, surficial materials, and rocks are based upon commonly accepted methods employed in geoscience practice. This report contains descriptions of the methods used. Where deviations from these methods prevail, they are specifically mentioned.

Classification and identification of geological units or terrain polygons are judgmental in nature as to both type and condition. The information and interpretations presented in this report must be applied with due recognition of the inherent limitations associated with the use of remote sensing information, including aerial photos. Where such information is used, it should be recognized that while such information may reasonably represent the conditions on the ground at the same scale and date as that of the photos, any mapping or interpretations based on the information cannot be expected to reflect variations occurring on smaller spatial scales or changes that may occur after the date the information was collected. In addition, there is a limited level of accuracy associated with the procedure. Field inspections are useful in confirming the spatial extent and likely depth of a given soil or surficial material, but they are by definition inspections of the ground surface; our judgment concerning the three dimensional extent of the material are the product of interpretation of information available at the surface. In addition, no areas in this assignment were field checked, which further limits the mapping accuracy.

The present report represents the current information available; it is valid for the condition of the study (assessment) area as of the date of the information. If further information or

observations become available, the interpretations and conclusions contained within this report may require updating.

Polar does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in geoscience practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified professional(s) should revisit the site and review recommendations in light of the actual conditions encountered.

D.3 Stratigraphic and Geological Information

Any stratigraphic and geological information indicated on drawings contained in this report are inferred from surface observations and/or previous reports and maps. Stratigraphy is known only at the locations of the test holes or exposures. Actual geology and stratigraphy may vary from that presented in this report. Natural variations in geological conditions are inherent and are a function of the historic environment. Polar does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

D.4 Surface Water and Groundwater Conditions

Any surface water and groundwater conditions that are mentioned in this report are those observed at the times recorded in the report. These conditions vary with location, time, development activity, and in response to special meteorological conditions. Interpretation of water conditions from observations and records is judgmental and constitutes an evaluation of circumstances as influenced by geology, meteorology, and development activity. Deviations from these observations may occur during the course of development activities. Where surface water or groundwater conditions encountered during development are different from those described in this report, qualified professional(s) should revisit the site and review recommendations in light of actual conditions encountered.

D.5 Observations During Development

Because the nature of geological deposits, the judgmental nature of the assessment, as well as the potential adverse circumstances arising from development activity, observations during site preparation, excavation and construction should be carried out by a qualified professional, where specified in this report. These observations may then serve as the basis for confirmation and/or alteration of recommendations presented herein.

D.6 Standard of Care

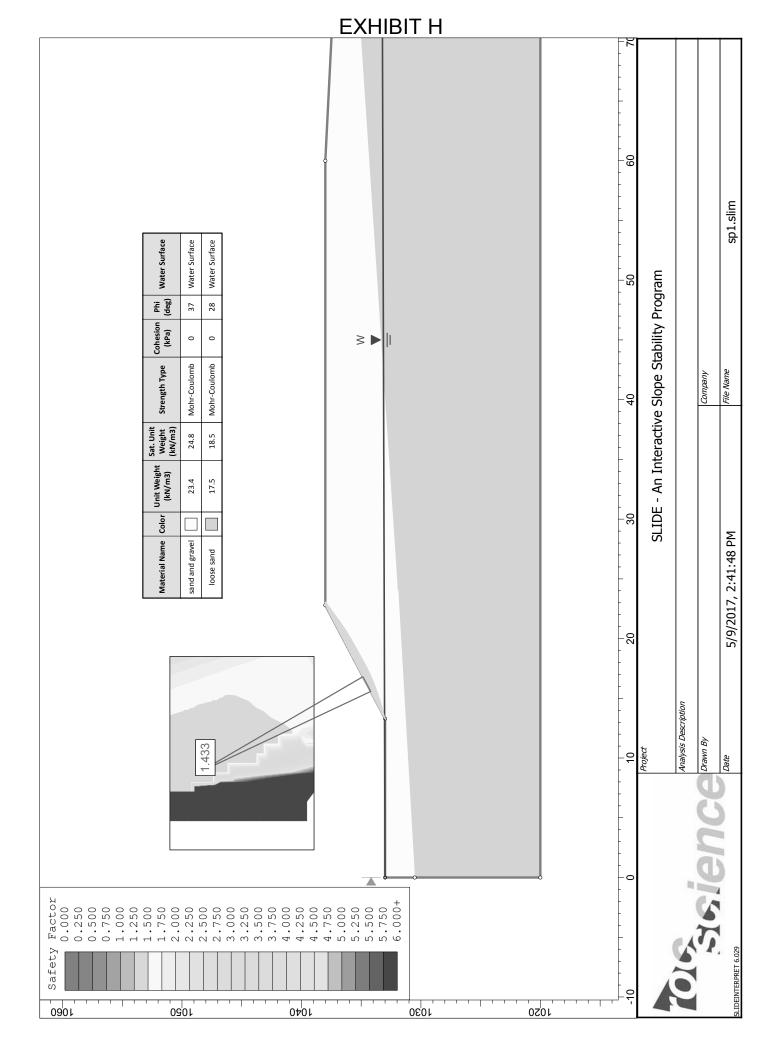
Services performed by Polar for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the results, comments, recommendations, or any other portion of this report.

D.7 Environmental and Regulatory Issues

Unless stipulated in the report, Polar has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

APPENDIX VI

Slope Stability Plots



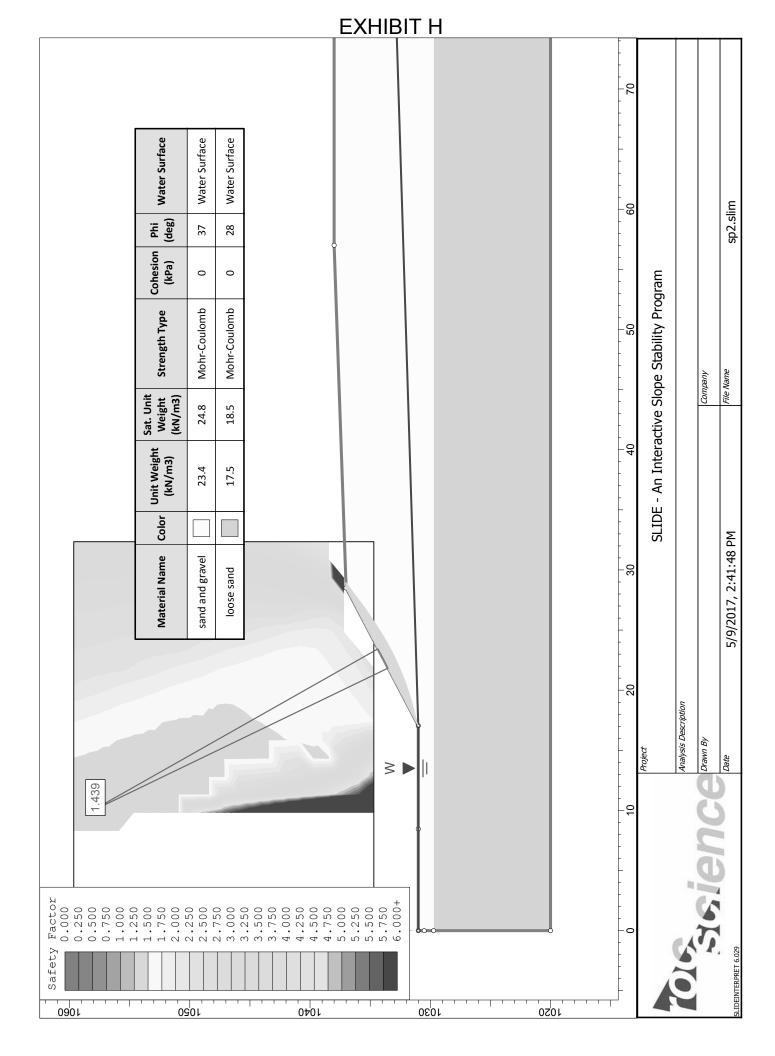
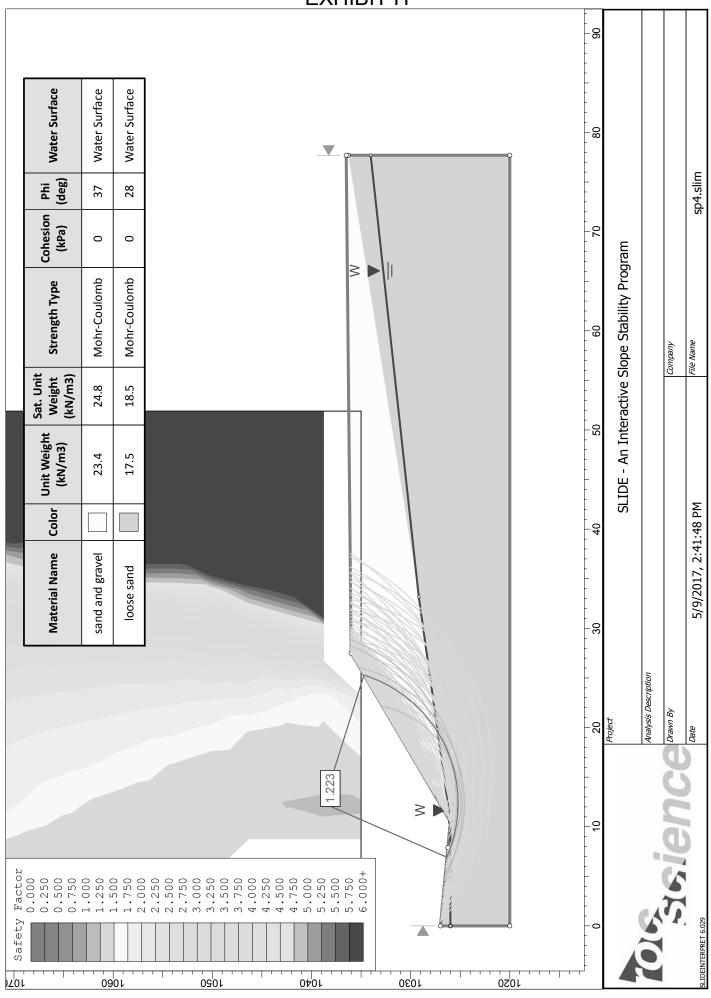
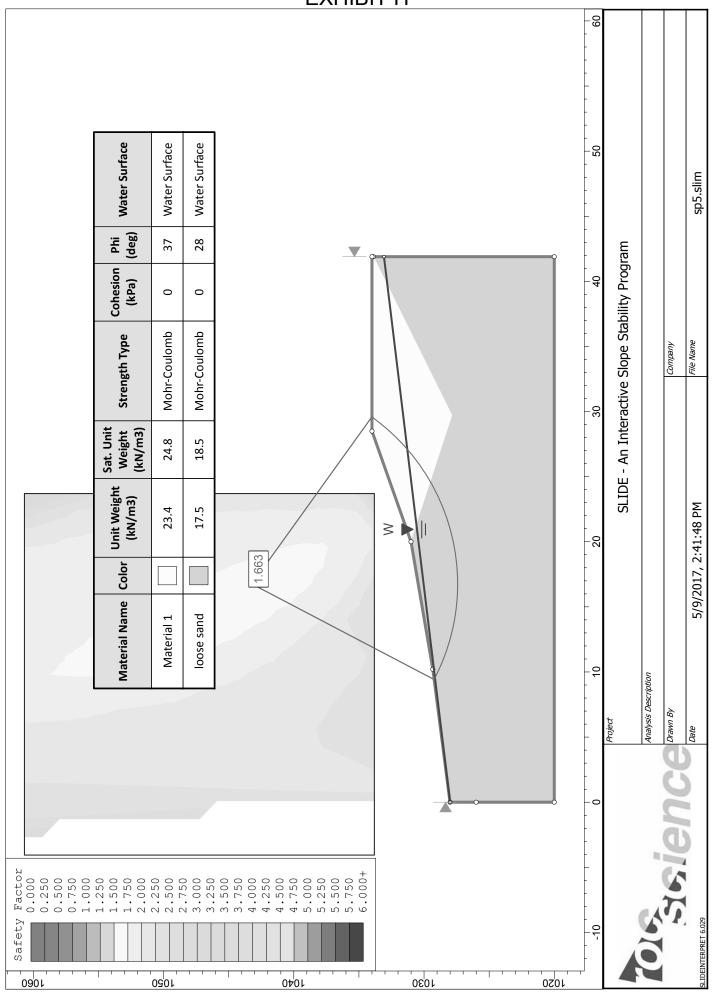
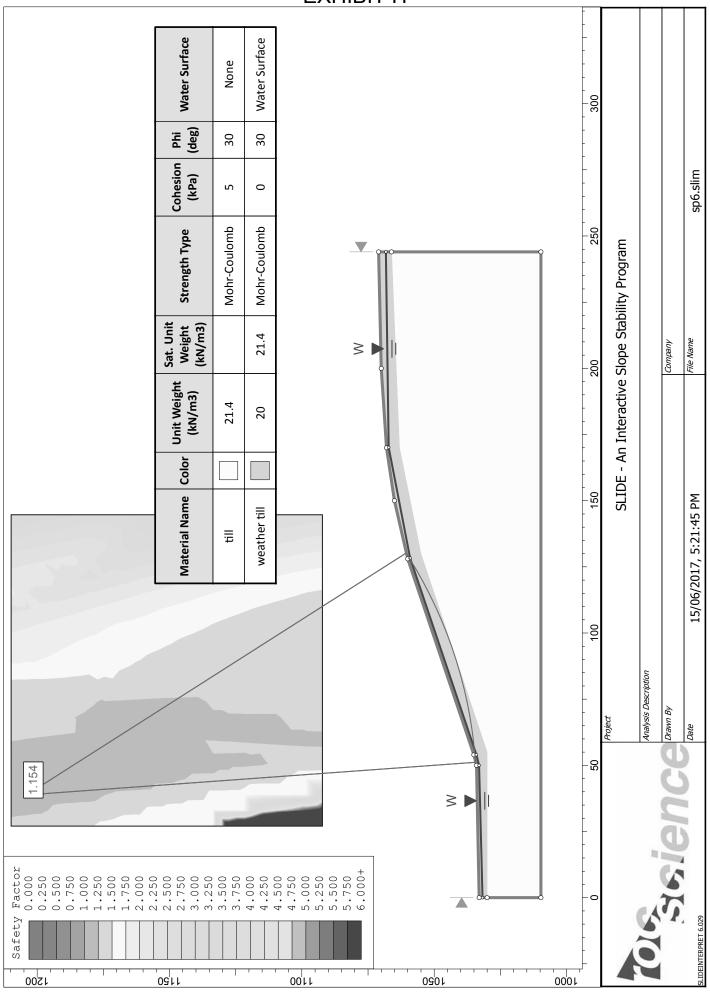


EXHIBIT H 2 ≥ ▶ sp3.slim Water Surface Water Surface Water Surface .09 SLIDE - An Interactive Slope Stability Program Phi (deg) 37 28 Cohesion (kPa) 0 0 Mohr-Coulomb Mohr-Coulomb File Name Strength Type Company Sat. Unit Weight (kN/m3) 24.8 18.5 Unit Weight (kN/m3) 17.5 23.4 5/9/2017, 2:41:48 PM Color 30 Material Name sand and gravel loose sand 20 Analysis Description Drawn By 1.223 ≥ Factors as a 3. 250 0.00 Safety 1040 1020 1020 0901 1030







APPENDIX VII

Flood Hazard and Landslide Assessment Assurance Statements

APPENDIX J: FLOOD HAZARD AND RISK ASSURANCE STATEMENT

This Statement is to be read and completed in conjunction with the "APEGBC Professional Practice Guidelines - Legislated Flood Assessments in a Changing Climate, March 2012 ("APEGBĆ Guidelines") and is to be provided for flood assessments for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The Approving Authority Date: 1014 30 3018	
City of Fernee	
Jurisdiction and address	
With reference to (check one):	
 ✓ Land Title Act (Section 86) – Subdivision Approval ☐ Local Government Act (Sections 919.1 and 920) – Development Permit 	
□ Community Charter (Section 56) – Building Permit	
 Local Government Act (Section 910) – Flood Plain Bylaw Variance Local Government Act (Section 910) – Flood Plain Bylaw Exemption 	
For the Property: PLAN NEF 935 08 Montane Phase + Montsey Court Legal description and civic address of the Property	1
Supplied on the	1
The undersigned hereby gives assurance that he/she is a <i>Qualified Professional</i> and is a <i>Professional Eng</i> ine or <i>Professional Geoscientist.</i>	è
I have signed, sealed and dated, and thereby certified, the attached flood assessment report on the Property accordance with the APEGBC Guidelines. That report must be read in conjunction with this Statement. In	in
preparing that report I have:	
Check to the left of applicable items	
2. Reviewed the proposed residential development on the Property	
3. Conducted field work on and, if required, beyond the Property	
4. Reported on the results of the field work on and, if required, beyond the Property	
5. Considered any changed conditions on and, if required, beyond the Property	
 For a flood hazard analysis or flood risk analysis I have: 6.1 reviewed and characterized, if appropriate, floods that may affect the Property 	
6.2 estimated the <i>flood hazard</i> or <i>flood risk</i> on the property	
6.3 included (if appropriate) the effects of climate change and land use change	
6.4 identified existing and anticipated future <i>elements at risk</i> on and, if required, beyond the Property	
✓ 6.5 estimated the potential consequences to those elements at risk	
7. Where the Approving Authority has adopted a specific level of flood hazard or flood risk tolerance or return period that is different from the standard 200-year return period design criteria (1), I have	
7.1 compared the level of flood hazard or flood risk tolerance adopted by the Approving Authority with the findings of my investigation	1
7.2 made a finding on the level of <i>flood hazard</i> or <i>flood risk</i> tolerance on the Property based on the comparison	
7.3 made recommendations to reduce the <i>flood hazard</i> or <i>flood risk</i> on the Property	

⁽¹⁾ Flood Hazard Area Land Use Management Guidelines published by the BC Ministry of Forests, Lands , and Natural Resource Operations and the 2009 publication Subdivision Preliminary Layout Review - Natural Hazard Risk published by the Ministry of Transportation and Public Infrastructure. It should be noted that the 200-year return period is a standard used typically for rivers and purely fluvial processes. For small creeks subject to debris floods and debris flows return periods are commonly applied that exceed 200 years. For life-threatening events including debris flows, the Ministry of Transportation and Public Infrastructure stipulates in their 2009 publication Subdivision Preliminary Layout Review - Natural Hazard Risk that a 10,000-year return period needs to be considered.

8.	Where the Approving Authority has not adopted a level of flood risk or flood hazard tolerance I have:					
8.1 described the method of <i>flood hazard</i> analysis or <i>flood risk analysis</i> used						
1	8.2 referred to an appropriate and identified provincial or national guideline for level of <i>flood hazard</i> or <i>flood risk</i>					
1	_8/3 compared this guideline with the findings of my investigation					
V	8.4 made a finding on the level of <i>flood hazard</i> of <i>flood risk</i> tolerance on the Property based on the comparison					
1	_8.5 made recommendations to reduce <i>flood risks</i>					
9.	Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.					
Based	on my comparison between					
Che	ck one					
	the findings from the investigation and the adopted level of <i>flood hazard</i> or <i>flood risk</i> tolerance (item 7.2 above)					
	the appropriate and identified provincial or national guideline for level of <i>flood hazard</i> or <i>flood risk</i> tolerance (item 8.4 above)					
Iherek	y give my assurance that, based on the conditions contained in the attached flood assessment report,					
Che	for <u>subdivision approval</u> , as required by the <i>Land Title Act</i> (Section 86), "that the land may be used safely for the use intended".					
	Check one □ with one or more recommended registered <i>covenants</i> . □ without any registered <i>covenant</i> .					
	for a <u>development permit</u> , as required by the <i>Local Government Act</i> (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".					
	for a <u>building permit</u> , as required by the Community Charter (Section 56), "the land may be used safely for the use intended".					
	Check one □ with one cr more recommended registered <i>covenants</i> . □ without any registered <i>covenant</i> .					
	for flood plain bylaw variance, as required by the <i>Flood Hazard Area Land Use Management Guidelines</i> associated with the <i>Local Government Act</i> (Section 910), "the development may occur safely".					
	for flood plain bylaw exemption, as required by the <i>Local Government Act</i> (Section 910), "the land may be used safely for the use intended".					
Nama (na	Doyglas CLAPP, PENG 30 May 2018					
Name (pr	Date Date					
Signature	Po Box 688					
Address	remis BC VOBIMO					
Telephon	Q504934899 (Affix Professional seal here)					
	valified Professional is a member of a firm, complete the following.					
	nember of the firm					

APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("APEGBC Guidelines") and the "2006 BC Building Code (BCBC 2006)" and is to be provided for landslide assessments (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The Approving Authority	Date: ADVIL 30 2018
City of Fornee	
Jurisdiction and address	
 □ Community Charter (Section 56) – □ Local Government Act (Section 910 □ Local Government Act (Section 910 □ British Columbia Building Code 200 	19.1 and 920) – Development Permit Building Permit 0) – Flood Plain Bylaw Variance
For the Property: PLAN NEP 90508 Nov Legal description and civic address of the P	stane Prosely + Morrisey Court Subdivision,
The undersigned hereby gives assurance the Engineer or Professional Geoscientist.	hat he/she is a Qualified Professional and is a Professional
I have signed, sealed and dated, and therel Property in accordance with the <i>APEGBC</i> (Statement. In preparing that report I have:	by certified, the attached <i>landslide assessment</i> report on the <i>Guidelines</i> . That report must be read in conjunction with this
Check to the left of applicable items	
1. Collected and reviewed appropriate	e background information
2. Reviewed the proposed residential	
3. Conducted field work on and, if required	
	work on and, if required, beyond the Property
	s on and, if required, beyond the Property
6. For a landslide hazard analysis or la	andslide risk analysis I have:
6.1 reviewed and characterized, if a6.2 estimated the <i>landslide hazard</i>	appropriate, any landslide that may affect the Property
Property	ed future elements at risk on and, if required, beyond the
6.4 estimated the potential consequ	
	adopted a level of landslide safety I have:
my investigation	safety adopted by the Approving Authority with the findings of
	andslide safety on the Property based on the comparison
7.3 made recommendations to redu	uce landslide hazards and/or landslide risks
8. Where the Approving Authority has	not adopted a level of landslide safety I have:

	_8.1	described the method of landslide hazard analysis or landslide risk analysis used
_ +	_8.2	referred to an appropriate and identified provincial, national or international guideline for <i>level</i> of <i>landslide safety</i>
1	8.3	compared this guideline with the findings of my investigation
-	8.4	made a finding on the level of landslide safety on the Property based on the comparison
	_8.5	made recommendations to reduce landslide hazards and/or landslide risks
9		orted on the requirements for future inspections of the Property and recommended who should uct those inspections.
Base	d on m	ny comparison between
C	Check or	the findings from the investigation and the adopted <i>level of landslide safety</i> (item 7.2 above)
		the appropriate and identified provincial, national or international guideline for <i>level of landslide safety</i> (item 8.4 above)
		live my assurance that, based on the conditions $^{[1]}$ contained in the attached $landslide$ t report,
	heck or	
	V	for <u>subdivision approval</u> , as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"
		Check one with one or more recommended registered covenants.
		with one of more recommended registered covenants. without any registered covenant.
]	for a <u>development permit</u> , as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".
]	for a <u>building permit</u> , as required by the Community Charter (Section 56), "the land may be used safely for the use intended"
		Check one
		 with one or more recommended registered covenants. without any registered covenant.
]	for flood plain bylaw variance, as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely".
]	for flood plain by law exemption, as required by the Local Government Act (Section 910), "the land may be used safely for the use intended".
	Do	GLAPP, P. ENG. 30 May 2018
Name	(print)	Date
Signat	ure	

When seismic slope stability assessments are involved, *level of landslide safety* is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005), Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division B. This states:

[&]quot;The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive camage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".

Fo Box 688	D. ACURP.
Fernie BC	FIGURE
050433 4839 Telephone	(Affix Professional seal here)
If the Qualified Professional is a member of a firm, comp	plete the following.
I am a member of the firm Groundtech and I sign this letter on behalf of the firm.	Engineering Italian (Print name of firm)

TERMS OF INSTRUMENT PART 2 NO ACCESS COVENANT MORRISSEY RIDGE LOTS 69, 82-88

This Covenant granted as of the __ day of _____, 2019.

BETWEEN:

MONTANE DEVELOPMENTS LTD., a company incorporated in British Columbia under number 0936724, and having a registered office at Box 490, 202-502 Third Avenue, Fernie, British Columbia V0B 1M0

(the "Covenantor")

AND:

THE CORPORATION OF THE CITY OF FERNIE

City Hall P.O. Box 190, 501 Third Avenue Fernie, British Columbia V0B 1M0

(the "City" or "Covenantee")

WHEREAS:

- A. The Covenantor is the registered owner in fee-simple of that certain parcel or tract of land and premises, situate, lying and being in the City of Fernie, Province of British Columbia, and more particularly known and described in item 2 of the Form C comprising Part 1 of this instrument (the "Lands"):
- B. Section 219 of the *Land Title Act* R.S.B.C. 1996, C. 250 provides that the Covenantor may grant a covenant to the City of a negative or positive nature respecting the use of the Lands;
- C. The City required that this Covenant be registered against the Lands as a condition of subdivision;
- D. The Covenantor has agreed to prohibit any vehicular access to or from the Lands onto Montane Parkway;
- E. The Covenantor desires to grant and the City agrees to accept this Agreement on the terms and conditions contained herein.

NOW THEREFORE in consideration of the premises contained herein and the sum of One Dollar (\$1.00), now paid by the City to the Covenantor and other good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged,

THE COVENANTOR COVENANTS AND AGREES WITH THE CITY IN in accordance with s. 219 of the *Land Title Act* as follows:

- 1) the Lands shall not contain any vehicular driveway access or other means of vehicular access to or egress from Montane Parkway and the Covenantor shall not cause, permit or allow any vehicles to enter onto or exit the Lands by or from Montane Parkway by any means whatsoever;
- 2) to release, save harmless and indemnify the City, its elected and appointed officials, officers, invitees, licensees, employees, servants and against from and against all liability, actions, causes of action, expenses, damages, costs (including legal costs on a solicitor/client basis), claims debts, losses (including injurious affection) or demands whatsoever by the Covenantor or any other person which have arisen or may arise out of, or are in any way due directly or indirectly to the granting or existence of this Agreement including but not limited to:
 - a) any breach of any covenant or agreement on the part of the Covenantor contained in this Agreement or any steps taken by the City to enforce this Agreement; and
 - b) any injury to persons, including bodily injury and death or damage to or a loss of property on or about the Lands; and
- 3) to do or cause to be done, at the expense of the Covenantor, everything necessary to ensure that this Agreement is granted priority over all charges and encumbrances which are registered (or the registration of which is pending) against the title to the Lands save and except those specifically approved in writing by the City or in favour of the City.

IT IS MUTUALLY UNDERSTOOD, agreed and declared by and between the parties that:

- the City has made no representations, covenants, warranties, guarantees, promises or agreements (oral or otherwise) with the Covenantor other than those contained in this Agreement;
- 2) nothing contained or implied herein shall prejudice or affect the rights and powers of the City in the exercise of its functions under any public and private statutes, bylaws, orders and regulations, all of which may be fully and effectively exercised in relation to the Lands as if this Agreement had not been executed and delivered by the Covenantor:
- 3) this Agreement does not:
 - a) affect or limit any enactment applying to the Lands; or
 - b) relieve the Covenantor from complying with any enactment;

- 4) where the City is required or permitted by this Agreement to form an opinion, exercise its discretion, express satisfaction, make a determination or give its consent, the City is under no public law duty of fairness or natural justice in that regard and the City may do any of those things in the same manner as if it were a private party and not a public body;
- 5) the covenants set forth herein shall charge the Lands pursuant to Section 219 of the *Land Title Act* and shall be covenants the burden of which shall run with the Lands;
- 6) the benefit of all covenants made by the Covenantor herein shall accrue solely to the City and that this Agreement may be modified by agreement of the City with the Covenantor, or discharged by the City, pursuant to the provisions of Section 219 of the *Land Title Act*;
- 7) wherever the singular or masculine is used herein, the same shall be construed as meaning the plural, feminine or body corporate or politic where the context or the parties so require;
- 8) the covenants, promises and agreements herein contained have been made as contractual obligations as well as being made pursuant to Section 219 of the *Land Title Act* and as such this Agreement shall be binding upon the Covenantor and their respective heirs, executors, administrators, successors and assigns;
- 9) the parties hereto shall do and cause to be done all things and execute and cause to be executed all documents which may be necessary to give proper effect to the intention of this Agreement;
- 10) this Agreement shall be governed and construed in accordance with the laws of the Province of British Columbia;
- 11) if any section, subsection, sentence, clause or phrase in this Agreement is for any reason held to be invalid by decision of a court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder of this Agreement; and
- 12) time is of the essence of this Agreement.

IN WITNESS WHEREOF the parties hereby acknowledge that this agreement has been duly executed and delivered by executing the Forms C and D attached hereto.

CONSENT TO PRIORITY

In consideration of the sum of ONE (\$1.00) DOLLAR now paid by the Transferee to CBT COMMERCIAL FINANCE CORP. (the "Lender"), the receipt and sufficiency whereof is hereby acknowledged, the Lender hereby grants to the Transferee priority over Mortgage CA6735072 respectively, registered in the Kamloops/Nelson Land Title Office on April 13, 2018, (the "Mortgage") and hereby covenants and agrees to subordinate and postpone all its right, title and interest in and to the Lands with the intent and with the effect that the interest of the Transferee herein shall rank ahead of the Mortgage as though this Covenant had been executed, delivered and registered in time prior to the registration of the Mortgage.

MORRISSEY COURT OFFER TO PURCHASE AND AGREEMENT OF SALE

Th	e Vendor	: Montane Deve	elopments Ltd. (the "V	endor")		
	ll Name: ldress:			Address:		
E-1	mail:					
Te	lephone:		Work:			Work:
Fa	x:	Home:	Work:	Fax:	Home:	Work:
Oc	cupation:			Occupation:		
(cc	ollectively	the "Purchaser	")			
1.	The Pur	chaser [Circle one]	is [or] is not a residen	t of Canada for	r the purposes	s of the <i>Income Tax Act</i> .
2.	The Pur	chaser [Circle one]	is [or] is not registered	d for the purpo	ses of the Go	ods and Services Tax Act.
3.	Purchase	er's Solicitor: (if	f known)			
4.	Kootena British (Kootena NEP647 EPP488	ny District Plan Columbia (the " ny District Plan 706, NEP64864, 1 38, EPP55349, 1 District Lot 4589	EPP96933 in the Det Lot"), to be subdivided a 9587 Except Plans NEP65351, NEP66828 EPP72587, EPP77751,	velopment knowd from PID: s NEP22339, s, NEP66830 A EPP87188 ar	own as Mor 007-576-391 NEP62291, AND EPP449 nd EPP90403	Lot, DL 4589 rissey Court, in Fernie, I, Lot A District Lot 4589, NEP62407, NEP62408, 900, EPP51119, EPP45555, B, and PID: 030-398-738, rt in Plan EPP77751 and
5.			ereto forms an integral nd schedules of this ag		The Purchase	r acknowledges that he/she
6.		rchaser's obligating the purchaser:		ubject to the	following c	onditions precedent, each
	a)					; and
	b)					;
7.	payable	in lawful money	r the Lot is \$y of Canada. The Pur Cax,) or adjustments.	chase Price de	oes not inclu	(the "Purchase Price") ide applicable taxes (GST,
8.	which s	um the Vendor	will acknowledge by a The Deposit shall be l	accepting this	offer. If the	") accompanies this offer, offer is not accepted, the a Schedule "A".
			Purchaser's Initials	y:		

EXHIBIT J

MONTANE FERNIE - 2 - Lot #____

9. The completion date for, 20 (see			the Developer to occur on
	and upon eement of purc	acceptance by the Vendor b	5:00 p.m. Mountain time on y signing a copy of this Offer, ne Purchase Price, on the terms
DATED at		this day of	
WITNESS:	,		
Signature)	Purchaser	
Name of Witness)		
(AS TO ALL SIGNATURES))	Purchaser	
This Offer to Purchase is accept (the "Acceptance Date").		velopments Ltd.,	
	Signed at: _		, British Columbia
The Purchaser hereby acknow execution of this Agreement to amendments thereto made prior	yledges receipt read the Disc	closure Statement dated Octol	per 21, 2019 together with any
Purchaser's Signature		Purchaser's Signa	ture

EXHIBIT J

SCHEDULE "A" ADDITIONAL TERMS AND CONDITIONS

- 1. Upon acceptance by the Vendor, the Deposit shall be held in accordance with the terms and conditions set out below.
- 2. The Deposit shall be held in trust by Rockies Law Corporation (the "Vendor's Solicitor") on behalf of the Vendor. All Deposit cheques will be made payable to Vendor's Solicitor, "In Trust". Any interest earned on the deposit shall always accrue to and be payable to the Vendor. In the event that the Vendor fails to complete this transaction on the Completion Date then the Deposit shall be refunded forthwith to the Purchaser. In the event that the Purchaser's conditions precedent set out in paragraph 6 above are not fulfilled or waived in writing within the time required, the Deposit will be returned to the Purchaser. In the event that the Purchaser fails to complete this transaction on the Completion Date, or if the Purchaser or the Purchaser's solicitors fail to deliver the documents required to be delivered pursuant to this Agreement to the Vendor's solicitors before the Completion Date, the Deposit and any interest earned shall be paid to the Vendor without prejudice to the Vendor's other rights hereunder or otherwise at law. In the alternative, the Deposit may be held in trust by the Vendor's real estate agent, and in such event the provisions of this paragraph shall apply *mutatis mutandis*.
- 3. The Purchaser shall purchase the Lot and the Balance of the Purchase Price for the Lot shall be paid by <u>certified cheque or bank draft</u> on the Completion Date (as hereinafter defined). The Vendor will give the Purchaser not less than fourteen (14) days written notice (the "Notice") addressed to the Purchaser's address as set out above, specifying the date that shall be the Completion Date (the "Completion Date"). Any extension of the Completion Date may only be made by the mutual agreement of the Vendor and the Purchaser. PROVIDED ALWAYS that the Completion Date shall be extended for a period equivalent to the amount of time lost in completion of construction of the Lot by reason of unforeseen circumstances including, without limitation, time lost from strikes, lockouts, climatic conditions, acts of Governmental Authorities, fire, explosion, Acts of God, or other circumstances beyond the exclusive control of the Vendor. Any notice of extension of the Completion Date by the Developer shall be final and binding on the Purchaser.
- 4. Completion of Lot: The Purchaser shall be bound to complete the purchase and sale of the Lot if on the Completion Date the lot is legally occupiable. For the purposes of this Agreement, the Lot will be deemed conclusively to be legally occupiable on the Completion Date if the local municipal approving officer has signed the subdivision plan creating the Lot. A portion of the services required to be completed in connection with the Development, such as paving of roads and sidewalks, and installation of "shallow services" such as gas and electricity (taken together, the "Incomplete Works") may not be completed at the Completion Date. In such circumstances the Developer may elect to post a bond (the "Bond") with the City of Fernie (the "City") in the amount of 125% of the estimated cost of completion of the Incomplete Works in order to obtain the signature of the Municipal Approving Officer to the plan of subdivision of the Development. In such case purchasers will, in accordance with the terms of the purchase agreement, be required to complete the purchase and sale and the non-completion, as at the Completion Date, of the Incomplete Works shall not be construed as a breach of this Agreement for any reason and no holdbacks shall be permitted in respect of the Incomplete Works. The Purchaser agrees not to commence construction of any improvements to or on the Lot until the Incomplete Works are completed, without the written consent of the Vendor.
- 5. **Lien Holdback:** The sum of 10% of the Purchase Price (excluding taxes) shall be held back from the Balance of the Purchase Price (the "Lien Holdback") by the Developer's solicitors on the Closing Date. The Lien Holdback will be held by the Developer's solicitors in trust pursuant to the *Builders Lien*

Purchaser's Initials:	

Act of British Columbia, with interest for the benefit of the Developer, solely in respect of builders' lien claims registered in the Land Title Office in connection with work done at the behest of the Developer (each a "Lien Claim"). The Developer's solicitors are authorized to pay to the Developer on the 56th day after permission to occupy the Property has been issued the Lien Holdback plus interest earned less the amount representing Lien Claims filed against the Property of which the Purchaser or the Purchaser's solicitor notify the Developer's solicitors in writing by 1:00 PM on such day. The Purchaser hereby authorizes the Developer and the Developer's solicitors to do all things they in their discretion deem necessary or desirable to discharge any Lien Claims, including bringing court proceedings in the name of the Purchaser, provided that any such proceedings shall be at the Developer's sole expense. Notwithstanding the foregoing, if the Vendor delivers to the Purchaser a Statutory Declaration stating 1) that all accounts in respect of labour and materials in respect of the Lot have been paid, and that 2) no work has been done on the Lot such as would give rise to a valid claim of lien under the *Builder's Lien Act* of British Columbia, then and in that case there shall be no Lien Holdback.

- 6. **Completion:** On the Completion Date, the Vendor will:
 - a) transfer title to the Lot to the Purchaser, subject to the exceptions listed in section 23(1) of the *Land Title Act*, free and clear of all registered liens, mortgages, charges and encumbrances of any nature whatsoever save and except:
 - i) the legal notations set out in the Disclosure Statement;
 - ii) the encumbrances (including any to be registered) set out in the Disclosure Statement;
 - iii) any other easements, rights-of-way, and any development covenants or agreements in favour of utilities, public authorities and other parties as required by them;

(the "Permitted Encumbrances")

and on or before the Completion Date, the Vendor will have taken whatever steps are necessary in order to obtain or make arrangements for any release or discharge of any registered liens, mortgages, charges and encumbrances (the "Charges") save and except the Permitted Encumbrances.

The Purchaser acknowledges and agrees that the Vendor will be using the purchase monies received from the Purchaser to obtain a partial discharge of the Charges from the Lot. The Purchaser's solicitor or notary public will pay the balance of the adjusted Purchase Price on the Completion Date to Vendor's Solicitor in trust on their undertaking to pay sufficient funds to the holders of the Charges to legally oblige such Charge holders to discharge their Charge from title to the Lot. If the Purchaser is relying upon a new mortgage to finance the Purchase Price, the Purchaser, while still required to pay the balance of the adjusted Purchase Price on the Completion Date, may wait to pay same until after the Transfer and new mortgage documents have been lodged for registration at the Kamloops/Nelson Land Title Office but only if before such lodging against title to the Lot, the Purchaser has:

A) deposited in trust with its solicitor the cash balance of the Purchase Price not being financed by the mortgage;

- B) fulfilled all the new mortgagee's conditions for funding except lodging for registration; and
- C) made available to Vendor's Solicitor a lawyer's or notary public's undertaking to pay on the Completion Date the balance of the adjusted Purchase Price upon the lodging of the Transfer and the new mortgage documents and the advance by the new mortgage of the mortgage proceeds.
- 7. **Costs/Taxes:** The Purchaser shall assume and pay where applicable all real property taxes, Provincial Sales Tax ("PST"), Federal Goods and Services Tax ("GST"), on the value of the Lot, Property Transfer Tax, property tax, rates, local improvement assessments and other charges levied against Lot, and all adjustments both incoming and outgoing of whatsoever nature will be made as of the Completion Date. The Purchaser will pay to the Vendor on the Completion Date the amount of the GST if applicable on the value of the Lot and the Vendor will be responsible for remitting the appropriate amount of tax.
- 8. The Lot is the subdivision lot as described in this Agreement and does not include any dwelling unit or other building.
- 9. The actual area of the Lot may vary up or down from that set out in the subdivision plan by up to 5% without compensation to the Purchaser.
- 10. The Purchaser acknowledges having ample opportunity to inspect the Lot prior to completion and on completion agrees to accept the Lot in "as is, where is" condition without any representation or warranty of the Vendor whatsoever including but not limited to any warranty of fitness for use, merchantability, condition, view corridors, geotechnical matters, or other attributes of the Lot or the Development.
- 11. The Purchaser acknowledges that the Development includes service facilities and equipment required by municipal authorities and any other authority having jurisdiction over the Development, such as transformers, fire hydrants and other such facilities and equipment. The Purchaser acknowledges the current plans for the Development may not indicate the location of all such service facilities and the Purchaser accepts the Lot with any such service facilities as are deemed necessary by the Vendor, without compensation to the Purchaser.
- 12. The civic address, the Lot number relating to the Lot, and the address assigned to the Development as of the date hereof are subject to change at the discretion of the Vendor without compensation to the Purchaser.
- 13. **Transaction Documents:** It shall be the Purchaser's responsibility to prepare the documents necessary to complete this transaction and the Purchaser shall deliver to the Vendor a Transfer, in registrable form and a Statement of Adjustments at least five (5) days prior to the Completion Date. The Purchaser shall bear all costs of preparation and registration of the closing documents and delivery of the purchase monies to the Vendor. The Vendor shall bear all costs of providing clear title to the Lot in accordance with section 6.
- 14. Neither this Agreement nor any interest in the Lot created hereunder shall be registered in the applicable Land Title Office except for transfer of the Lot on the Completion Date. This Agreement creates contractual rights only between the Vendor and the Purchaser and not an interest in land.

- 15. **Time of the Essence:** Time shall be of the essence of this Agreement. Unless all payments on account of the Purchase Price together with the adjustments are provided and all other amounts payable by the Purchaser are paid when due, then the Vendor may terminate this Agreement and in addition to any other remedy available to the Vendor, the Deposit plus any interest accrued shall immediately and absolutely be forfeited to the Vendor on account of damages. The Purchaser acknowledges and agrees that in such case the Deposit represents earnest money, and is not in the nature of a penalty. The Purchaser hereby irrevocably authorizes and directs any solicitors or real estate agents holding any such Deposit to forthwith upon the request of the Vendor deliver such Deposit to the Vendor.
- 16. **Risk:** The Lot shall be at the risk of the Vendor until the Transfer of the Lot has been accepted for registration in the Land Title Office and thereafter at the risk of the Purchaser.
- 17. **Assignment:** The Purchaser shall not assign its rights under this Agreement without the prior consent of the Vendor, which consent may be withheld at the sole and unfettered discretion of the Vendor.
- 18. **Sale:** The Purchaser shall not advertise or offer the Lot for sale prior to the Completion Date.
- 19. **Privacy Consent:** The Purchaser consents to the collection, use and disclosure of personal information contained in this agreement and otherwise as collected by or on behalf of the Vendor and its agents, affiliates and service providers for the following purposes:
 - a) to complete the transaction contemplated by this agreement;
 - b) to engage in business transactions including securing financing for the construction of the Development;
 - c) to provide ongoing products and services to the purchasers;
 - d) to market, sell, provide and inform the Purchaser of the Vendor's products and services including information about future projects;
 - e) additional purposes identified when or before the information is collected.
- 20. **Miscellaneous Provisions:** All words in this Agreement may be read and construed in the singular or plural, masculine or feminine, or body corporate, as the context requires. Where there is more than one Purchaser, the obligations of the Purchaser will be construed as joint and several obligations.
- 21. This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns. All covenants and agreements herein shall survive the Completion Date and not merge.
- 22. **Entire Agreement:** This Agreement is the entire agreement between the parties and there are no other representations, warranties conditions or collateral agreements, express or implied, whether made by the Vendor, any agent, employee or representative of the Vendor or any other person including, without limitation, anything arising out of any marketing material including sales brochures, models, representative view sets, show room displays, photographs, illustrations, renderings, revenue projections or pro-formas provided to the Purchaser other than those contained in this agreement or in the Disclosure Statement. The agreements, representations and warranties contained herein will survive completion and the conveyance of the Lot to the Purchaser. This Agreement may not be altered or amended except by an amendment in writing signed by both parties.

- 23. **Governing Law:** It is expressly agreed between the Vendor and the Purchaser that this Agreement and each and every part thereof shall be governed and construed in accordance with the laws of the Province of British Columbia.
- 24. **Notices:** Any notice, document or communication required or permitted to be given under this Agreement shall be in writing and either delivered by hand, transmitted by facsimile, or sent by prepaid mail to the Vendor or to the Purchaser as the case may be, at the above address. The time of giving such notice, document, or communication shall be, if delivered, when delivered, if sent by facsimile then on the day of transmission, and if mailed, then on the third business day after the day of mailing.
- 25. Any documents to be tendered on the Purchaser may be tendered on the Purchaser or the Purchaser's solicitor or notary. Any documents or money to be tendered on the Vendor shall be tendered, if money, by way of certified funds or bank draft, and shall be delivered at the Purchaser's expense to Vendor's Solicitor.
- 26. The Purchaser agrees to, concurrently with the completion of the Purchase and Sale of the Property, grant the Vendor a Rentcharge substantially as set out in the Disclosure Statement.
- 27. The Purchaser agrees to, concurrently with the completion of the Purchase and Sale of the Property, grant the Vendor an Option to Purchase providing that the Vendor shall have the option to repurchase the Property for eighty per cent (80%) of the agreed sale price hereunder, plus the cost of any improvements thereon, at cost, in the event that:
 - 1) the Purchaser does not enter into an unconditional construction contract with a builder approved by the Vendor, acting reasonably, on or before the date which is 30 months following the Completion Date; or
 - 2) construction of a residential dwelling in accordance with the Architectural Design Guidelines applicable to the Property is not commenced by the third anniversary of the Completion Date and substantially completed by the fifth anniversary of the Completion Date.

The Option to Purchase shall be prepared by the solicitors for the Vendor and provided to the solicitor for the Purchaser and registered by the solicitor for the Purchaser at the Purchaser's registration expense immediately following the registration of the Form A Transfer and in priority to any purchase financing.