SAANICH INLET PROTECTION SOCIETY

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George Heyman, Minister of Environment and Climate Change Strategy

Dear Minister Heyman

Enclosed please find our letter requesting an Environmental Assessment for three projects at Bamberton. We also attach four annexes dealing in detail with each of three permit applications for the same site and a review of the Social and Heritage Implications.

Eric Falkenberg-Poetz
President Saanich Inlet Protection Society
On behalf of the Board of Directors

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October 28th 2022

Request for an Environmental Assessment of Multiple Projects at Bamberton

Dear Minister Heyman,

We are writing to request you order an Environmental Assessment under s.35 of the BCEAA for a group of projects at Bamberton. Taken together these projects create significant environmental risk and have not been properly assessed for their potential environmental, economic, social, cultural and health impacts on Saanich Inlet, the surrounding lands and the people who live here.

The projects in question are:

1. Significant increase in size and scope of the existing quarry. This application is currently open for public review and comment
2. Significant increase in area and use of a foreshore lease for a very long term (30 years.) This application is pending
3. Deposit of significant volumes of soil of unknown source, authorized by the CVRD in 2020 with no opportunity for public consultation.

We believe that the cumulative impact of these three separate applications is likely to result in environmental harm to the waters of Saanich Inlet and the lands from which water flows into the Saanich Inlet. In the following text we deal in more detail with the purpose and reach of these applications.

Permits for these three projects are proceeding in separate silos without an evaluation of their combined effect. Such an evaluation of the combined and cumulative effects is urgently required. In this letter we treat each situation in turn describing the permit application, what activities would result if the permit was granted and the predicted effects on the land, fresh-water and marine waters of Saanich Inlet.

The opportunity for the public to express opinions about any of these three permit applications has been minimal or non-existent. Advertisements were only placed in very low circulation newspapers and for minimum periods. Almost no one among affected and interested citizens was aware of these potentially environmentally damaging proposals. The public comment period for only one of the proposals (the quarry expansion permit) is still open. We have been assured, though, that comments received recently on the foreshore lease extension will be considered. In the case of the CVRD approval of the soil deposit permit public consultation was explicitly excluded.

We next provide a brief overview of each project with fuller details in separate appendices, attached.

Quarry (Mine) Expansion Permit - Ministry of Mines and Energy: While the permit application is submitted as an "extension", granting it would enable a doubling of the annual volume of rock quarried, crushed and exported from the site by barge. Detailed analysis is in Annex 1. The operations plan provided by Coast Mountain Resources is in Annex 5. This permit would expand the mine permitted area by approximately 47% and increase the annual extraction rate to 479,000 tonnes. The EA threshold for a new mine is production of 75,000 tonnes annually (see Annex 1, page 12). <u>For this reason alone we ask for an EA.</u>

The expanded extraction plan will increase the total mineable reserves to approximately 19.5 million tonnes over 15 – 30 years, see map page 11. The possibility of frequent extensions could result in the entire 500-acre site becoming a quarry and in fact the operator has previously described the mine as being over 500 acres.

Operation of the quarry is designed to create sites "for future residential, commercial, light industrial and heavy industrial development", (Reclamation Plan, Annex 5, page 45). Sounds like Bamberton new town is coming 25 years after it was first proposed and denied.

Round the clock, all year operation of crushing, loading and transporting of rock with noise and dust is requested. Tree cover will be removed, plants destroyed, streams disrupted potentially causing erosion close to the Malahat Highway, dust will smother life in the Inlet and vegetation on the east facing Malahat slopes, and sediment will be washed into the Inlet destroying marine habitats and life.

The quarry will desecrate Malahat mountain (YOS in the Wasanec language) a sacred place for the Wsanec people of the Saanich Peninsula and Saanich Inlet.

Foreshore Lease Expansion - Ministry of Forests: By extending the lease area over 100 metres in to Saanich Inlet, the port can be expanded to cope with increased export volumes of crushed rock from the quarry and continued import of cement powder. A full analysis is in Annex 2.

Additionally, according to the environmental consultants report (Annex 6) it is planned to:

- load and unload barges of contaminated soils, creosote piles, scrap metal, and fuels,
- store hydrocarbons in the existing upland tanks,
- maintain piles, dolphins and shoreline armouring,
- conduct barge and vessel maintenance, and
- moor vessels associated with the upland.

These descriptions cover just about every port related activity imaginable, for example, these same words were used to permit shipbreaking in Baynes Sound. There is already a facility claiming to remediate contaminated soils at Malahat and reports suggest contaminated soils could be imported by sea from more than 50 sites in southern BC. Contaminated soils are proposed to be remediated by a method developed for *in situ* clean-up of oil well sites in Alberta. At Bamberton the same company will receive contaminated soils (containing many different contaminants), barging contaminated soils to the port, unload, stockpile, and transport them up the hill to the remediation site which is located over an aquifer. There they will be heated and then … what?

There is potential for environmental contamination by wind, rain and carelessness at every step and what will be the fate of the "treated" materials?

Soil Deposits - CVRD: In 2020 a five-year permit was granted by the CVRD to Coast Mountain Resources, the same company that operates the quarry for Malahat Investment Corporation. Annex 3 is a full analysis of the situation, the environmental consultants report is found in Annex 7.

The permit allows deposit of 400,000 cu meters of "soil" over 14 acres for the next five years. Compressed, this is roughly equivalent to a 25-storey building covering a city block! There is little monitoring or reporting of the nature of these "soils", no berming to prevent sediment being washed off site and into the Inlet, no effective dust control and no monitoring of pollutants leaving the site. Coast Mountain is voluntarily monitoring the groundwater but no reports are available from CVRD.

After only two years of operation the "soil" deposit is already visible from the Saanich Peninsula with materials being deposited over vegetation including mature trees and slumping down the very steep slopes of Malahat Mountain. There has been no opportunity for public comments on this permit.

Details of the three permits

1. BC Ministry of Energy and Mines, Mining and Minerals Division by René Bourdin of the Malahat Investment Corporation ("**MICO**") to expand an existing mine. The Mine Number is 0800407 and the mine is referenced as Bamberton Quarry, 1451 Trowsse Road, Bamberton, B.C. V0R 2P4.
2. BC Ministry of Forests, Crown Lands, submitted by Malahat Investment Corporation, for foreshore lease renewal and expansion of lease currently held by Malahat First Nation. Seeks to extend crown land lease for the Bamberton deep water dock for 30 years and extend the water lease 100m into the Inlet. Crown Land File #0336205
3. Cowichan Valley Regional District submitted by Coast Mountain Resources on behalf of Malahat Investment Corporation to deposit soil on a 14-acre site over 5 years, submitted and approved in 2020 under by-law #4380.

Saanich Inlet Environment

The Saanich Inlet is the southern-most fjord on the Pacific coast, a unique deep glacial fjord separated from adjacent marine waters by a shallow sill that restricts water inflow. Pollution and contamination of the inlet persists for months and in some cases decades. The potential negative environmental effects of quarrying, and handling of waste materials at Bamberton could have a serious negative impact on the entire marine ecosystem and the thousands of residents living around Saanich Inlet.

Saanich Inlet is an integral part of the Southern Strait of Georgia currently being assessed by the Government of Canada as a National Marine Conservation Area (NMCA). Once declared an NMCA "protects and conserves representative marine ecosystems, while ensuring sustainable use of marine resources". NMCAs protect against ocean dumping, undersea mining, and oil and gas exploration and development. Traditional fishing is permitted with conservation of the ecosystem as the main goal". [1] SIPS has long advocated not only for protection of the marine environment of Saanich Inlet but also for restoration for example "*… the Tsartlip people cut cedar boughs during the herring run in March placing them in the water. When the boughs were covered with herring spawn the would strip the spawn from them to eat. … they would troll for spring salmon at the time of the herring run*"[2].

Recreational activities on the water of Saanich Inlet are increasingly diversified with ever larger numbers of participants. The four marinas in Brentwood Bay and those at Goldstream and Mill Bay are full of sail and motor pleasure craft. On the water activities such as kayaking, paddle boarding, scuba diving, bird watching and cruising are all becoming more and more popular.

Three decades ago when a Bamberton new town was first proposed by South Island Development Corporation and later revived by Three Point Properties, the Ministry of

[1] National Marine Conservation Area System, Parks Canada. 2022-10-07 https://mpanetwork.ca
[2] Deep and Sheltered Waters David R Gray The History of Tod Inlet p165

Environment conducted an environmental assessment. An important component of the EA was the comprehensive environmental study of the Saanich Inlet[3]. The principal findings were:

First Nations

Saanich Inlet is valued by First Nations as an inextricable link to their culture (Simonsen et al., 1995). The area has special significance related to the numerous remains of aboriginal camps, villages, processing areas, sacred grave sites and other features which make up the archaeological record of the inlet people. Past and present traditional activities such as hunting, fishing, shellfish gathering, food and medicinal plant gathering, spiritual practices and a host of other traditions are focused on the land and the sea of Saanich Inlet.

Recreational Fishing

Recreational fishing effort, as well as the catch of coho and chinook, has declined consistently since the 1980s (Drinnan et al., 1995; Section 10). The number of chinook taken annually by the Saanich Inlet recreational fishery declined from 15,000 - 25,000 fish in the early 1980s to less than 200 fish in 1994.

Assimilative Capacity and Marine Water Pollution

For fecal contamination and, in some areas, chemical contamination, the assimilative capacity of Saanich Inlet has been exceeded. Fish populations have declined dramatically and eelgrass and other aquatic habitats have been degraded. The inlet is sensitive to nutrient enrichment, specifically nitrogen, in surface waters.

Water Exchange and Residence Time

Water residence times for many embayments are in the order of a few weeks, rather than hours to days as is the case for well flushed coastal areas. These physical attributes limit the capacity of the inlet to assimilate contaminants.

Marine Biology

Marine species such as glass (cloud and boot) sponges and other invertebrates, appear to have healthy populations but are considered at risk due to their sensitivity to direct physical disturbance, habitat loss, and sedimentation. Such species are vulnerable to any activity that resuspends aquatic sediments or causes terrestrial sediments to enter Saanich Inlet. Many marine invertebrate species are long-lived (60-100 years for sponges); therefore, if they are damaged, recovery could take decades.

[3] Saanich Inlet Study, https:saanichinletprotection.org

Cumulative Pollution

If the trend of incremental degradation continues, the environmental quality of Saanich Inlet will worsen. In particular, if non-point pollution sources continue to increase it is expected that further environmental degradation of the inlet will occur. Therefore, it is important that impacts of specific stresses to Saanich Inlet be viewed in the context of all stresses.

Opportunity to Halt Degradation and Restore Environmental Quality

The uses and values of Saanich Inlet can be maintained and/or improved by implementing the recommendations of the Saanich Inlet Study. Saanich Inlet would likely not return to pristine conditions ….. however, there is an opportunity here to halt the degradation and restore the environmental quality of Saanich Inlet.

Past Remediation of the Site

When the site was acquired by Three Point Properties the former cement plant was in a dangerous state of decay and large volumes of contaminated materials existed throughout the site, including the foreshore. The decision was taken to retain all material on-site. From about 2005-2006 the former limestone quarry, about 40m, deep was lined with crushed rock and the contaminated materials transported to the quarry where they were deposited in clay lined and sealed cells. In total about 750,000 tons of contaminated materials were moved to the quarry from other parts of the site. One contemporary report estimated the amount moved was equivalent to 110,000 truck-loads. Water was allowed to escape from the former quarry through a single drain immediately inland of the present dock at a height of about 10m. This drain continues to flow to this day.

Fisheries and Oceans Canada was involved in ensuring that contaminated materials did not enter the Inlet and those that were below the tide line were removed from the ocean. It is reported that glass sponges and other marine life are now re-established in the deep near shore waters.

Whatever happens to the site, preservation of the integrity of this contained contaminated material deposit is of utmost importance. Intense daily truck transport to and from the port travels over the site with potential for disruption of the carefully engineered disposal site.



The drain (above and right of the stern of “Mercury” barge) is the drainage outlet for the contaminated materials sealed in clay cells in the former limestone quarry. Remediation was carried out by Three Point Properties about 2005-2006. The main unpaved road to the dock crosses above the storage site for the contaminated materials descending from right to left in the photo. Photo September 21st 2022.

Recommendation

The Minister can and should require an EA under the BCEAA if there may be significant adverse *environmental, economic, social, cultural and health effects*. The 1996 Bamberton Heritage Report documents the adverse social and cultural effects of the then proposed town center on the same site as now proposed for the three permits of concern. The 1996 Saanich Inlet Study documents the adverse environmental effects that may occur if the three permitted activities proceed. Health effects may well result from damage to the aquifer under the enormous "soil" deposit permitted by the CVRD. Economic effects resulting from environmental damage to Saanich Inlet are incalculable. We encourage you to review the 1995 Bamberton town center development file, in full, before deciding whether to exercise your discretion on the current applications.

An EA will allow the stakeholders to make a properly informed decision on how blasting, clearcutting, extracting minerals, transporting hazardous material and depositing large volumes of "soil" in such an important ocean ecosystem, will impact the environment and well-being of people living and relying on the Saanich Inlet for years to come.

Mr. Heyman, as Minister of the Environment, surely the desecration of the Malahat Mountain and the Saanich Inlet should not be your legacy. We and other residents are relying on you to exercise your discretion under the BCEAA and to, as the BC Court of Appeal has said[4], not lose sight, in all the minutia, of the object of the BCEAA; protecting the environment.

We urge you to exercise your discretion and require the applicants undertake an EA. The EA would provide a technical evaluation of the combined cumulative effects of the three projects. It would be an open process with adequate opportunity and time for public comments, suggestions and evaluation by all interested parties. It would be conducted by fully qualified, independent professionals.

We thank you for your time and consideration of this very important request

Respectfully,

Eric Falkenberg-Poetz
President, Saanich Inlet Protection Society
On behalf of the Board of Directors

[4] Friends of Davie Bay v. Province of British Columbia, 2012 BCCA 293 (CanLII), para 34. https://www.canlii.org/en/bc/bcca/doc/2012/2012bcca293/2012bcca293.html?resultIndex=1

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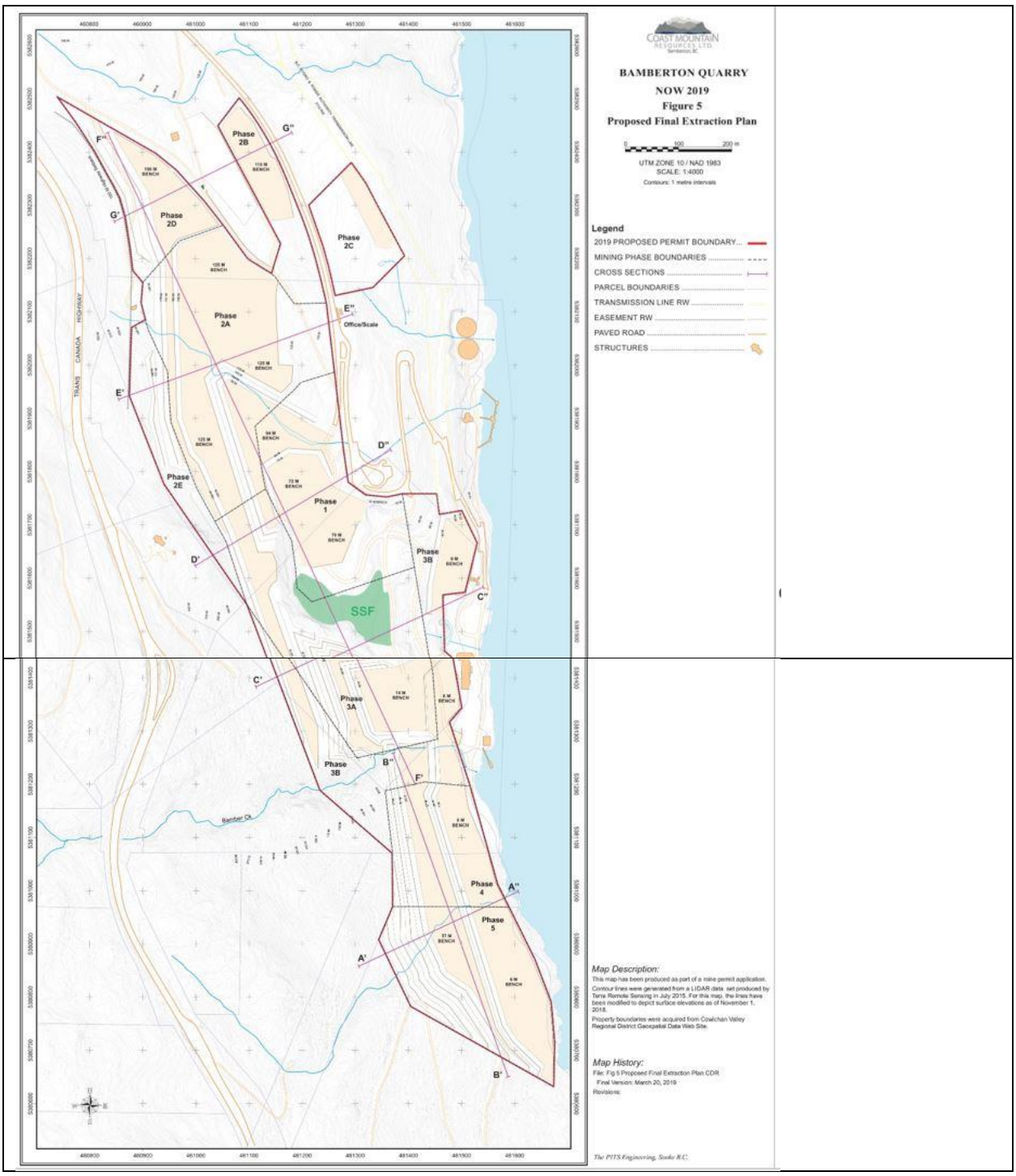
Annex 1. Quarry (Mine) Permit



Letter prepared by a concerned member of Saanich Inlet Protection Society

October 28, 2022

RE: MALAHAT INVESTMENT CORPORATION ("MIC") - MINE NUMBER 0800407 AND CROWN LAND FILE NO. #0336205

I write in respect of an application submitted to the BC Ministry of Energy and Mines Mining and Minerals Division by René Bourdin of the Malahat Investment Corporation ("**MIC**") to expand an existing mine. The Mine Number is 0800407 and the mine is referenced as Bamberton Quarry, 1451 Trowsse Road, Bamberton, B.C. V0R 2P4.

Further to an October 18, 2022 notice by Ru Pope (cc'ed), Operations Coordinator of the Ministry of Energy, Mines and Low Carbon Innovation, I understand the permit amendment application is currently being reviewed and a public consultation period ends November 14, 2022. I wish to have this letter form part of the public consultation, shared with applicable decision makers and be a matter of public record for your file.

Regulations under the *BC Environmental Assessment Act*, SBC 2002, c 43[5] (the "**BCEAA**") may or may not require the MIC application to undertake an environmental assessment ("**EA**").

The Reviewable Projects Regulation, BC Reg 243/2019[6] (the "**RPR**") requires the MIC mine to undertake an EA if:

> […] the modification will result in the disturbance of an area of land that was not previously permitted for disturbance and that is at least 50% of the area of land that was previously permitted for disturbance at the existing project.

MIC submitted their application, without particulars, to "expand the mine permitted area by approximately 47%". Insufficient information is publicly available to determine the size of the permitted area or the size of the expansion using statutory definitions. Accordingly, I will let the relevant Minister determine if the application fits within the RPR thresholds for requiring an EA. I will further let the Minister of Environment determine whether the mine triggers section 5 of the RPR requiring project notifications. For example, I note the applicant does not specify what the greenhouse gas emissions from the project will be.

[5] https://www.canlii.org/en/bc/laws/stat/sbc-2002-c-43/latest/sbc-2002-c-43.html
[6] https://www.canlii.org/en/bc/laws/regu/bc-reg-243-2019/latest/bc-reg-243-2019.html

The purpose of my letter is to:

1. Make it clear the Minister of Environment and the Environmental Assessment Office, can and should exercise their discretion, under the BCEAA, to require an EA, even if one is not required by the RPR;

2. Bring to light that BC Courts have found the RPR can lead to absurd results (even referring to '**loopholes'** in the regulation), requiring the Minister to carefully exercise his discretion. This is particularly the case for mine applications that seek to extract annual tonnages far in excess of what a new mine would be permitted to extract without an EA; and

3. Bring to the Minister of Environment's attention important facts, previously quashed development proposals on the same site, previously recorded heritage and cultural opinions from Saanich Inlet First Nations peoples, regulatory history, BC Court of Appeal case law and greater context to inform a decision on whether the Minister ought to exercise discretion to require an EA.

MINISTER OF ENVIRONMENT'S RIGHT TO REQUIRE AN EA

The Minister can exercise his discretion under section 6 of the BCEAA to require an EA if the Minister is satisfied that:

- *[…] the project may have a significant adverse environmental, economic, social, heritage or health effect, and that the designation is in the public interest […]*

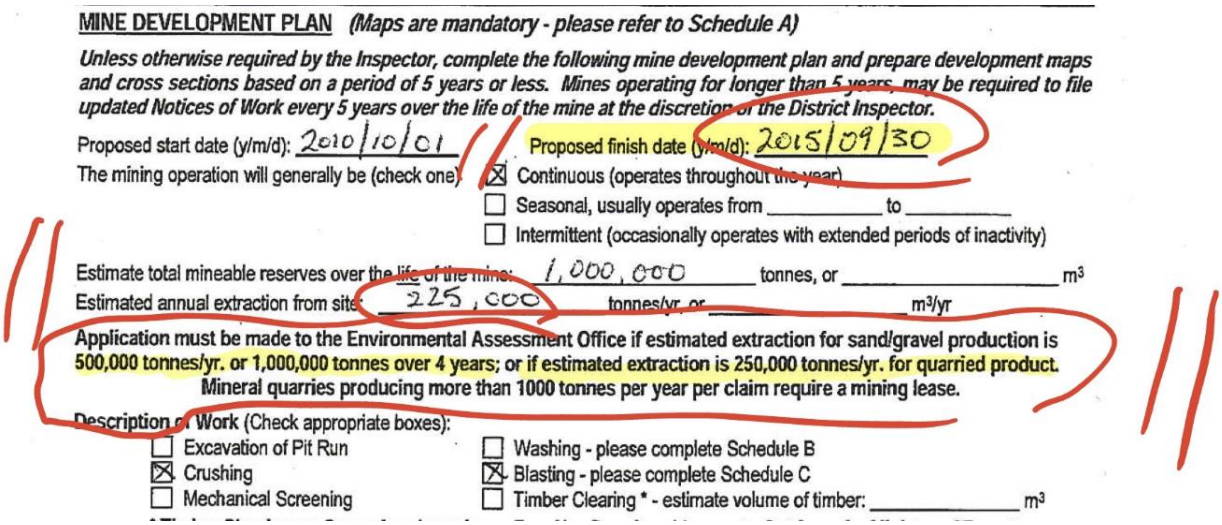
FACTS AND CIRCUMSTANCES OF THE MIC MINE APPLICATION

THE ORIGINAL APPLICATION

In 2010, an applicant at the subject property submitted a previous application (under a regulation no longer in force)[7] that only required an environmental assessment if the estimated extraction from the mine was 250,000 tonnes/year or more.

The original application sought to extract 225,000 tonnes per year and was permitted, with a proposed finish date of September 30, 2015. The screenshot below is a copy of the original application.

[7] The previous regulation is online at https://www.canlii.org/en/bc/laws/regu/bc-reg-370-2002/latest/bc-reg-370-2002.html.



MINE DEVELOPMENT PLAN *(Maps are mandatory - please refer to Schedule A)*

Unless otherwise required by the Inspector, complete the following mine development plan and prepare development maps and cross sections based on a period of 5 years or less. Mines operating for longer than 5 years, may be required to file updated Notices of Work every 5 years over the life of the mine at the discretion of the District Inspector.

Proposed start date (y/m/d): 2010/10/01 Proposed finish date (y/m/d): 2015/09/30

The mining operation will generally be (check one)

- ☒ Continuous (operates throughout the year)
- ☐ Seasonal, usually operates from _____ to _____
- ☐ Intermittent (occasionally operates with extended periods of inactivity)

Estimate total mineable reserves over the life of the mine: 1,000,000 tonnes, or _____ m^3

Estimated annual extraction from site: 225,000 tonnes/yr, or _____ m^3/yr

Application must be made to the Environmental Assessment Office if estimated extraction for sand/gravel production is 500,000 tonnes/yr. or 1,000,000 tonnes over 4 years; or if estimated extraction is 250,000 tonnes/yr. for quarried product. Mineral quarries producing more than 1000 tonnes per year per claim require a mining lease.

Description of Work (Check appropriate boxes):

- ☐ Excavation of Pit Run
- ☒ Crushing
- ☐ Mechanical Screening
- ☐ Washing - please complete Schedule B
- ☒ Blasting - please complete Schedule C
- ☐ Timber Clearing * - estimate volume of timber: _____ m^3

THE AMENDED REGULATIONS UNDER THE BCEAA

In 2019, the regulation was amended. The current RPR states that a new mine facility with a production capacity of more than 75,000 tonnes/year requires an EA.

Accordingly, extracting 75,000 tonnes/year reflects what the BC Government views as a reasonable threshold number for requiring an EA for mines like the MIC mine.

THE CURRENT APPLICATION

The current application will permit **479,000 tonnes/year. That represents almost six and a half times the volume of extraction the regulations set as a reasonable annual rate for requiring an EA.**

This alone should give the Minister pause to consider if the spirt of the regulation is being followed and whether the benchmark extraction rate set by the Government should lend insight to a decision to require an EA.

However, what is more concerning is the larger context in which the spirt of the regulation is being abused. That is, the MIC mine application states that the applicant currently owns 525 hectares of land (equivalent to 525 football fields), of which, the existing mine permit area covers 39.3 hectares, and the proposed expansion will add 18.4 hectares to the mining area, totaling 57.7 hectares.

The applicant forecasts that its mining operations will take five years to extract 2,130,000 tonnes from the land covered by the current application. At the end of the five years, the regulation permits the applicant to apply for another 50% increase to the mining area, being an addition 28.8 hectares, and so on, without requiring an EA.

On page 4 of their application, the applicant makes clear their intent to operate for an additional 15 to 30 years, indicating that they intend to operate on lands not covered by the current application. In short, they plan to submit additional applications at the end of the 5 year period to increase the size of the extraction area by 50% or less.

The chart below illustrates how the applicant may, in 6 applications, use all 500 hectares of land to extract millions of tonnes, without ever requiring an EA.

Application	Percentage Increase	Hectares of Land Added	Total Hectares
Current	47%	18.4 hectares	57.7
2nd	50%	28.8	86.5
3rd	50%	43.25	129.75
4th	50%	64.9	194.65
5th	50%	97.3	291.95
6th	50%	146	437.95

That produces an absurd result, which circumvents the essence and purpose of the BCEAA; protecting the environment.

The question for the Minister becomes, at what stage in the line of 6 additional prospective applications to increase the mine's capacity, will the Minister exercise the discretion to require a study on the true impact the mine will have on the environment and social, heritage and health concerns?

THE MIC MINE'S ENVIRONMENTAL MANAGEMENT

The MIC mine's current application is ten pages, featuring two pages on "Environmental Management" (see section 4).

The best assurances on the environment in the application are that "[…] reasonable efforts are used to minimize the impact of the operation on the local community and natural environment," with scant details on what that entails.

The 2 page environmental protection plan is in the context of a mine expansion proposal that plans to:

- Extract 479,000 tonnes of minerals per year;
- Clearcut the side of a mountain with four streams running into the Saanich Inlet;
- Crush, screen and undertake pneumatic/hydraulic rock work;
- Operate 7 days a week blasting rock across the bay from residential neighborhoods;
- Load and unload large ocean barges of contaminated soils, creosote piles, cement powder, scrap metal, aggregate and fuels;
- Create "catchment/retention ponds" with a "drainage scheme";
- Store hydrocarbons in the existing upland tanks;
- Maintain piles, dolphins and shoreline armoring;
- Conduct barge and vessel maintenance;
- Moor large vessels associated with the blasting of the mountain side and extracting rock.

This highlights the absurdity of the outcome produced, in this matter, by the RFR regulations. I submit that two pages of vaguely worded 'reasonable efforts' to protect the environment simply cannot be what is required in BC, in terms of environmental considerations, to clear cut a forest, operate a 500 hectare mine on a the side of a mountain, with streams running into a fragile ocean inlet.

THE INLET

If you have not visited Brentwood Bay and looked across the inlet to see the current operation, I encourage you to do so. The thought that a mine, the size of 525 football fields, in view of our community's backyards, could operate on the non-binding assurances of 'reasonable efforts' to protect the environment, is absurd.

Below is an image (Figure 1) I took looking out from Brentwood Bay towards the proposed mine site. This view shows where the applicant proposes to strip forests and extract 479,000 tonnes of material per year to be placed on ocean barges.



Figure 1: View from Brentwood Bay Local Community Towards Proposed Site



Figure 2. Closer view of current operations Sept 21 this year.

Even if we presume the above was a reasonable outcome in the context of the regulation, which has been referenced by the BC Court of Appeal as having an obvious 'loophole' (see below), respectfully, the Minister must consider the location of the mine.

The applicant's mine is not 100's of kilometers from civilization in the vast BC interior. This is a mine operating:

- on a precious ocean inlet, with fish, whales, prawn, crabs, seals and birds;
- on vast green forests required to be clear cut (which has already started);
- on a steep mountain side with four rivers flowing into the ocean;
- adjacent to the Malahat First Nations and a BC Provincial Park (Bamberton Provincial Park (https://bcparks.ca/explore/parkpgs/bamberton/); and
- across the intel from the Tsartlip First Nation, Willis Point and Brentwood Bay.

I submit that there is no reasonable argument, in the context of a normal 75,000 tonnes per year threshold for requiring an EA, for permitting a mine to extract 479,000 tonnes per year, possibly over 30 years or more, without an EA.

BC JUDICIAL DECISIONS

The absurd results produced by the regulations have been recognized by judges in two BC Court Cases, including:

- *Friends of Davie Bay v. Province of British Columbia*, 2012 BCCA 293 (CanLII); and
- *Fort Nelson First Nation v. British Columbia (Environmental Assessment Office*), 2015 BCSC 1180 (CanLII)

For example, in *Friends of Davie Bay v. Province of British Columbia, the BC Court of Appeal noted:*

> [37] This proponent-centred, self-monitoring approach to environmental regulatory compliance creates an apparent frailty or **loophole** in the legislation, as noted by Friends of Davie Bay and accepted by the chambers judge. A proponent can (and Lehigh did) overbuild its infrastructure and equipment which would allow for future increases to levels of production well beyond the initial declared production capacity. **The proponent could, at some time in the future, "modify the existing project" and produce well in excess of 250,000 tonnes of quarried product per year, increasing the detrimental impact on the environment without subjecting the project to an environmental assessment performed under the Act**.

In the present application, the applicant does not hide their intent to later expand the size of the mine's extraction area, beyond what they seek to mine in the present application.

This is obvious from the fact that they say the increased production from the current application will take 5 years to mine, but they intend to operate the mine for 15-30 years.

It is also now clear, their original application in 2010 was submitted to extract 225,000 tonnes, of the 250,000 maximum (under the old regulations) in the context of knowing they could always expand the mine later, without an EA, by submitting a 10 page permit application.

In each of the two judicial cases, while lamenting the regulation, the courts reference the fact that even with the absurd outcomes the regulation can produce, there are two safeguards in place:

1. The Minster can impose penalties if a mine extracts more than they are permitted to; and
2. The Minister can exercise the discretion under the BCEAA to require an EA.

In the present case, ex-post facto penalties do not protect the environment. That means, for matters like the one at hand, which sees the regulations producing absurd results, the only means for protecting the environment is for the Minister to exercise its discretion to require an EA. Doing so, is the only way to at least know the potential and severe impacts this large industrial mine may have.

At paragraph 34 of *Friends of Davie Bay v. Province of British Columbia* the Court of Appeal noted that:

> [34] Here, the object of the legislation is environmental protection. **<u>This important object must not be lost in the minutia</u>**.[8]

Respectfully, the Minister will be failing the object of the legislation and the true meaning and intent of the legislation, if he does not exercise his discretion to require an EA of the MIC mine. He will have become lost in the minutia.

Social and Heritage Implication

As stated, the Minister has the legal authority to order an EA under the BCEAA if the mine may have a significant adverse social or heritage effect.

There seems to be an assumption that the applicant is the Malahat First Nations people as a whole, simply because the corporate entity is the "Malahat Investment Corporation". However, nowhere does the application state that MFN is wholly owned by the Malahat First Nations, nor does it indicate if the Malahat First Nations people have been consulted

[8] https://www.canlii.org/en/bc/bcca/doc/2012/2012bcca293/2012bcca293.html?resultIndex=1.

on whether they wish the project to proceed with blasting hundreds of thousands of tonnes of rock each year next to their property.

Accordingly, the application should not be viewed as a request by the Malahat First Nations, or any other First Nations, to develop the mine. In fact, there is a historical record of First Nations opposing development on the site for cultural and heritage reasons. Excerpts from the report prepared in 1996 are included here as Appendix 4, Social and Heritage Implications.

In 1996, there was a proposal to develop the lands into a town center featuring a planned residential community with a projected population of approximately 12,000 people.

As part of the study at the time, submission were sought and report was prepared entitled, *Report Of The First Nations Cultural Heritage Impact Assessment and Consultation Component; Bamberton Town Development Project (the "1996 Bamberton Heritage Report").* I can provide a copy of the full report upon request.

The 1996 Bamberton Heritage Report features the written statements of a number of First Nations people, many of whom make the following points:

- The mountain which the mine site is to be expanded is considered a sacred site;
- The landscape of the Malahat Mountain -- the plants, the animals, the streams and pools, and the spirits -- provides for both their physical and spiritual well-being.
- Malahat Mountain continues to play an essential role in the lives of the Saanich Inlet peoples. It provides plants and animals for food, for materials, for medicines and for spiritual purposes. The waters of the mountain continue to be used for ceremonies and for spiritual renewal. In turn, the plants, animals, rocks and streams of the Malahat are recognized as components of the larger ecological community linking the land and its people with the sea and its resources.
- The landscape is essential to the continuity of traditional First Nations culture and, like traditional cultures, is threatened by the development.

Extracts from the report quoting and interviewing First Nations peoples opposing the town development project in 1996-97 are included as Annex 4, Cultural and Social Implications.

> *In short, the people of the Saanich Inlet view the proposed Bamberton project as another in a lengthy list of developments that have eroded -- and will continue to erode -- their traditional territory and their traditional way of life.*

Ironically, the town center development was quashed due to the concerns at the time, including those of the First Nations people. Now, some 26 years later, the current mine

expansion application expressly states that "*The end land use will be mixed residential, business, light industry and heavy industry*." **Meaning, once the applicant is done extracting millions of tonnes of quarry rock, it intends to turn the site into a development that was originally quashed, on environmental, social and heritage concerns in 1997.**

The above highlights how further absurd the RFR regulations are in the context of permitting the environment to be damaged and the resulting impact on the culture and heritage of First Nations people; who, aside from those participating via the MIC corporation, will not be consulted.

Again, the Minister can require an EA under the BCEAA if there may be significant adverse social or heritage effect from the mine. The 146 page 1996 Bamberton Heritage Report, along with the town center development being previously quashed, is sufficient evidence in and of itself to give the Minister grounds for believing such significant adverse social and heritage effects may result from the mine expansion. I encourage you to review the 1995 Bamberton town center development file, in full, before deciding whether to exercise your discretion on the current application.

ENVIRONMENTAL IMPACTS

I refer you to the Saanich Inlet Protection Society (see https://www.saanichinletprotection.org/pdf/BambertonDevt-2022-Action.pdf) for a number of reasons, above those expressed here, as to why the Minister should have significant concerns with the environmental impacts of the expansion of the mine.

I refer you also to the Willis Point Community Association (http://www.willispoint.ca/bamberton-large-scale-quarry-development-application/) for additional reasons, above those expressed here, as to why the Minister should have significant concerns with the environmental impacts of the expansion of the mine.

The Saanich Inlet is a unique deep glacial fjord separated from adjacent waters by a shallow sill that restricts water inflow. Pollution and contamination could have a serious negative impact on the entire marine ecosystem and the thousands of residents living around Saanich Inlet.

Using contaminants on a steep slope, with four streams running into an ocean inlet with an important ecosystem full of whales, fish, prawns, seals and other wildlife warrants significant concern.

CONCLUSION

When our environmental protection regulations produce absurd results, our courts have highlighted the importance of the Minister of Environment acting as a safeguard. That is what I

and other residents are calling on the Minister to do when asking the Minister to exercise his discretion to require an EA.

An EA will allow the stakeholders to make a properly informed decision on how blasting, clearcutting and extracting minerals on such an important ocean ecosystem, will impact the environment and well-being of people living and relying on the Saanich Inlet for years to come.

Mr. Heyman, as Minister of the Environment, surely this isn't to be your legacy. I and other residents are relying on you to exercise your discretion under the BCEAA and to, as the BC Court of Appeal has said[9], not lose sight, in all the minutia, of the object of the BCEAA; protecting the environment.

For the above reasons, I urge you to exercise your discretion and require the applicant undertake an EA.



Figure 3. Area recently clearcut in preparation for quarry extension. 22 September 2022

[9] Friends of Davie Bay v. Province of British Columbia, 2012 BCCA 293 (CanLII), para 34. https://www.canlii.org/en/bc/bcca/doc/2012/2012bcca293/2012bcca293.html?resultIndex=1

ADDENDUM

Prior to sending this letter, I walked down to the water in Brentwood Bay and realized clear cutting has already commenced in the past 3-4 days alone. Images are below.

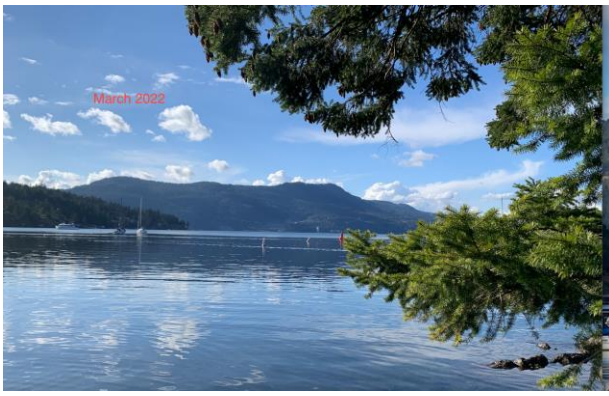


Photo taken March 2022

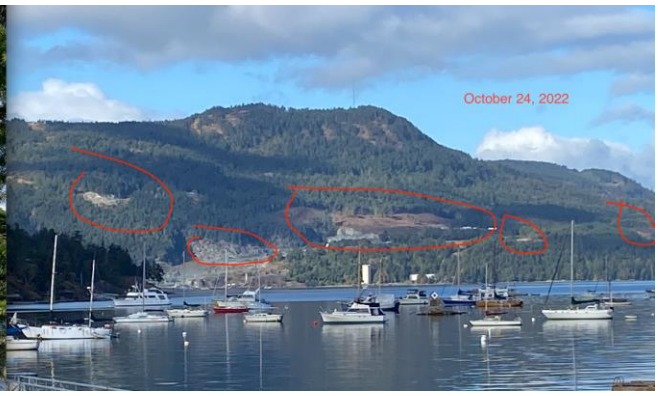


Photo taken October 2022

Annex 2. Bamberton Dock – Foreshore Lease

Prepared by John Pennington, Central Saanich, BC
October 26th 2022

To: Delegated Decision Maker, *Land Act* section 11
Subject: Application by Malahat First Nation for Foreshore Lease Expansion - Crown Land File #0336205

I am writing to ask you to reject the application concerning the foreshore lease currently held by the Malahat First Nation. The application is not legally sufficient.

In order to be approved the application must satisfy the Minister that the proposal is in the public interest. It does not come close to meeting that standard, for reasons set out below. It should be rejected.

I am a resident of Central Saanich. I first found out about this application on October 19, 2022 when the Times Colonist published an article. In spite of being a significant matter which affects residents on all sides of Saanich Inlet, it was not well publicized.

Furthermore, I have not been able to get a copy of, or view, the application. I have contacted your Ministry but have received no response. I have also searched the *Applications, Comments and Reasons for Decision* website but have not been able to find any documentation, in spite of the following statement on the website:

> Section 32(2) of the *Land Act* sets out the Province's requirement to publish Crown land applications on a publicly accessible website. Public participation in the administration of Crown land is encouraged and this site offers a platform for members of the public to submit comments for consideration.

In these circumstances I am relying on the Management Plan prepared by Pacificus Biological Services Ltd., dated July 12, 2021 and updated November 22, 2021, which I obtained from another source (I have written to Pacificus with questions concerning the Management Plan but I have not received a response).

The statutory test
Under section 11 of the *Land Act* the minister may lease Crown land if the minister considers it "advisable in the public interest". This application is not in the public interest.

The application seeks to more than double the size of the lease and to change the permitted uses, including loading and unloading barges of contaminated soils.
No rationale is offered for the increase in the area of the lease. No explanation is offered concerning contaminated soils. Where will they come from? In what quantities? What will be

the characteristics of the soil? Where will the soil be stored? What plans are in place for contingencies, including the possibility of spills from a barge both within the lease area and on the way to the lease area? Who will be responsible? Is there a risk to fish habitat?

Saanich Inlet

First, a word about Saanich Inlet to set the context for the decision you are called on to make. Saanich Inlet abounds with great natural beauty. At the southern end lie the salmon-bearing Goldstream River, Tod Inlet and Gowlland Tod Provincial Park. To the west is the Malahat and at the north end are Moses Point and the Satellite Channel Ecological Reserve.

Butchart Gardens and Tod Inlet are major tourist attractions. The real estate industry promotes the beauty of the area. Here is how Vancouver Island.com refers to the Malahat:

> Named after the Malahat First Nation, this rugged region of heavy forest and steep cliffs north of Victoria is traversed by one of the most beautiful roadways in the world, with viewpoints providing scenic vistas of Saanich Inlet, the Saanich Peninsula, Saltspring Island, and the BC Gulf Islands in the distance. (underlining added)

Bamberton was historically the site of a cement plant. Industrial activities have been carried out there in recent years. But expansion of industrial activity is not desirable for the future.

Expansion of lease area

The application seeks to more than double the size of the lease area, to cover 25 acres of ocean. The proposed area would extend 100 metres further into the Saanich Inlet. This is a significant increase in size. Yet, curiously, *no rationale for this expansion is offered in the Management Plan*. None whatsoever.

The Management Plan states, at page 6:

to ensure sufficient space for current and future uses of the site, an expansion to the current boundary has been proposed. Proposed uses for the tenure are as follows:

- Load and unload barges of contaminated soils, creosote piles, cement powder, scrap metal, aggregate and fuels;
- Store hydrocarbons in the existing upland tanks;
- Maintain piles, dolphins, and shoreline armouring;
- Conduct barge and vessel maintenance;
- Moor vessels associated with upland activities

These activities have been conducted for years. In particular, barges have been coming and going to the site for years, although not with contaminated soil. Why can't these proposed uses be carried out within the existing lease area? There is no explanation in the Management Plan.

Although there is no mention of building larger docks in the Management Plan, does the applicant intend to construct docks to enable "vessel maintenance" and "moor vessels"? If so, would these docks potentially intrude 100 metres into Saanich Inlet? The Management Plan is silent on these crucial questions.



Derelict Boat moored at the Bamberton dock, 22 Sept 2022. Cement powder loading tower behind the boat. Could storage of such boats occur in the future?

Contaminated soil

One of the intended future uses of the lease is "load and unload barges of contaminated soils". The facile way in which this issue is treated in the Management Plan—merely two passing mentions on pages 6 and 13—is shocking.

Contaminated soil could contain heavy metals, PCBs, hydrocarbons and other substances that could cause damage to the environment and human health.

The notion of contaminated soil being barged into Saanich Inlet, offloaded at Bamberton and stored who-knows-where should sound alarm bells. Where will the soil come from? In what quantities? What contaminants will be in the soil? Where will it be stored? Who will be in charge of operations? What plans are in place for contingencies, including the possibility of spills from a barge both within the lease area and on the way to the lease area (possibly in the Satellite Channel Ecological Reserve)?

What would be the liability of the province if contaminated soil entered Saanich Inlet from the lease area? Among other things, such a spill could potentially contravene the *Fisheries Act*. (Canada).

This intended use should not be approved. If it were to be approved there must be comprehensive, enforceable conditions *in the lease itself* to ensure high standards and a comprehensive contingency plan.

Who will be responsible among multiple operators?
A related issue is the number of operators currently on the lease and the immediate upland area. This creates questions. Who will be supervising the lease area? How will the lessee ensure compliance with the terms of the lease and with applicable legislation?

Confusion in the Management Plan does not help. For example, on page 10, Table 2 sets out a list of tenants of sub-lease areas. Three tenants are listed: Lehigh Hanson Materials Ltd., Heavy Metal Marine Ltd. and Ruskin Construction Ltd. Yet, for the first time on page 22, another player appears – Hall Construction Corporation, also said to be operating in the lease area. A search of the internet reveals no such corporation. Instead, there is an umbrella organization known as Hall Constructors, which includes a company known as Coast Mountain Resources (2020) Ltd. Coast Mountain is the company that actually operates the Bamberton quarry. Coast Mountain's website refers to a barge facility operated in cooperation with the Malahat Nation. Coast Mountain is not mentioned in the Management Plan.

I mean no criticism of these companies or their operations. I am simply pointing out that multiple operators on a site creates a risk and the Management Plan does not inspire confidence that the risk has been anticipated.

There is more. There is yet another player not mentioned in the Management Plan. This is the Malahat Investment Corporation (MIC). MIC has applied for an extension of its quarry permit upland of the lease area. Presumably, there is a relationship between Coast Mountain, which operates the quarry and a barge facility, and MIC, but *neither entity is mentioned in the Management Plan*. There is little information about MIC on the internet. It is owned by the Malahat Nation but there is no reference to the corporation on the Nation's website as far as I can find.

With all the different operators at Bamberton, there is a need for coordination and clear lines of responsibility. Without these, the risk of an environmental accident is increased. These are the sorts of things one might expect to see addressed in a management plan but they are not addressed in the Management Plan in question.

Inadequate information on risk to fish and other aquatic species
Under the heading, *Fish and Wildlife Habitat Impacts,* on page 21 of the Management Plan is the following demonstrably inaccurate statement:

"A biological assessment in the vicinity of the site was last conducted in 2005 by Seacor Environmental Inc. The biological assessment and compensation plan was conducted prior to the construction of an access road for remedial excavation of contaminated areas of the Bamberton Lands. *As the general use of the site is not changing*, continued use of the site is considered low risk and is not anticipated to cause any additional impacts to fish or fish habitat." (emphasis added)

This statement is inaccurate because clearly the use of the site is intended to change. It is disingenuous, in the context of potential impacts to fish habitat, to ignore the change from the current barging activities to the intended barging of contaminated soil.

Public opposition
One measure of what is in the public interest is the level of public support or opposition. It is clear from recent news reports that there is public opposition to this application.

Thirty years is too long
A lease term of thirty years is too long. Such a long term is not necessary to support investment in the site, which would appear to be minimal based on the Management Plan. And it would unreasonably tie the hands of the Province. A term of five years would be reasonable. The applicant could apply for a renewal, of course.

Conclusion
In conclusion, the application should be rejected for the following reasons:

- no rationale is presented for doubling the lease area,
- barging of contaminated soils should not be permitted,
- if contaminated soils were to be a permitted use, iron-clad commitments from the applicant and enforceable terms in the lease would be essential,
- there is a serious lack of clarity about responsibility for environmental risks associated with the proposed operations,
- there is inadequate information about the risk to fish and other aquatic species,
- there is public opposition, and
- thirty years is too long.

The onus on the applicant to satisfy the Minister that the application is advisable in the public interest. This application falls far short of meeting that onus.

M. Wylie Blanchet lived on the Saanich Peninsula and travelled coastal British Columbia by boat for many years. The title of her book, *The Curve of Time*, reflects on the nature of time:

> Standing in the Present, on the highest point of the curve, you can look back and see the Past, or forward and see the Future, all in the same instant.

As we stand today we can appreciate the past, from pre-colonial times to more recent history. We can respect present needs. But let us not compromise the future by increasing industrialization of the Bamberton site.

For all the above reasons, I respectfully ask you to reject the application.

Thank you for your consideration.

John Pennington
2428 Eastgate Place
Victoria, BC V8Z 6R7

Annex 3. Soil Deposit

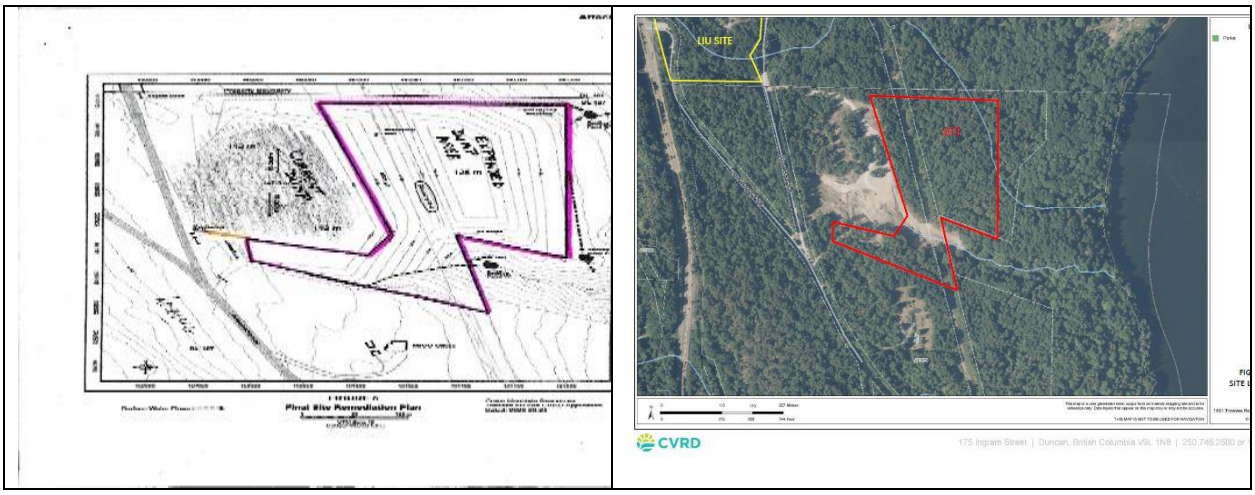
In addition to the requests to the Province of BC for expansion of the quarry and the docking facilities, there is also an enormous volume of soil currently being deposited on the Bamberton site under terms of a permit issued by the Cowichan Valley Regional District. CVRD Bylaw 4380. Permit SDC-20-05, 1451 Trowse Rd., Issued Oct 14 2020.

The total quantity of soil to be deposited over 5 years is permitted to be 400,000 cubic meters. This is equivalent to a 25-story building taking up a city block. The map shows the present dump area (shaded on the left) and the proposed expanded area (outlined in purple). Note the contours indicating a steeply sloping site.

At the CVRD Board meeting to approve the permit application the planner and CVRD Chair advised that "*a public meeting would likely serve no productive purpose and instead cause frustration for both the public and the applicant".* CVRD Staff recommended that the permit be issued given that the applicant had met all requirements of **CVRD Bylaw No. 4380.**

We asked the CVRD Bylaw Enforcement Officer how the soil was to be monitored. The officer stated that Coast Mountain Resources (the company also doing the quarrying) monitors themselves under "Professional SELF RELIANCE" but he assured us the 1451 Trowsse Rd site was clean soil. Coast Mountain sends the log-books to the CVRD once a month and receives any other pertinent information annually. The CVRD are not required to visit the site, ever.

The accumulated soil dump is, after two years, clearly visible from the far side of the Inlet (a distance of about 3km). We include two maps showing the location of the soil dump site obtained from CVRD reports.



Before the soil deposit permit was issued CVRD received a consultant's report on the site conditions, Gandalf Consultants, September 12th 2020. Amongst other subjects it reviewed the

source of the soils to be deposited and the potential for damage to the underlying aquifer which is used for water supply by neighbouring residences. Some of the findings are as follows:

1.4 Source Soil Site Review

Source Soil Sites are not yet known. What are termed “site profiles”, showing the location of source materials, may be required but as far as is known no site profiles have been requested nor have any been supplied. The source of the “soils” is unknown.

The Gandalf report states: “*A review process is described that includes professional review for geotechnical and environmental concerns; however, it does not explicitly require the submission of a Site Profile. As part of a Type “C” permit application, the General Manager may require Site Profiles of the site(s) from which the soil originated, prepared in accordance with Schedule 1 of the provincial Contaminated Sites Regulation”.*

1.5 Groundwater Impact Assessment

The Gandalf report states: “*The Site is located on a mapped aquifer and is in an area of moderate aquifer vulnerability under the Drastic and Aquifer Classification Systems. The proponent indicated that "Monitoring wells have been constructed to monitor the water quality in and around the fill site". The application does not reference any monitoring program and could be included in the application as part of a Groundwater Impact Assessment. The applicant supplied an authorization letter to the CVRD committing to supplying the results of the monitoring with the annual Fill Site Report and <u>the issue is resolved</u>*” (our emphasis).

To date there has been no response from CVRD staff to our request for this information. It appears that despite the “authorization letter” there is no effective monitoring of the effects of the soil deposit on the ground water aquifer.

There was no opportunity for public engagement in the approval of this enormous “soil” deposit, nor is information concerning operation of the dump site easily available, nor is monitoring data for the effects of the dumped soils on the environment available and may not even be measured by the operator.

In addition to these environmental concerns there appear to be no berms preventing run-off, nor does there appear to be any effective dust control. We have to trust Coast Mountain assurances, “that there are no contaminants in the materials being dumped at the site”, as there is no third-party confirmation, and we have to trust that there is no contamination of the ground water in the aquifer.

The “soil” deposit as of October 2022.





Notice displaying CVRD Soil Deposit Permit at the site.

Annex 4. Social and Heritage Implications

As the letter in Annex 1 states, the applicants for the permits of concern are the Malahat Investment Corporation (MICO) and Coast Mountain Resources. The applicant is not the Malahat First Nation. The "quarry" application does not state that MICO is wholly owned by the Malahat First Nations, nor does it indicate if the Malahat First Nations people have been consulted on whether they wish the project to proceed with blasting hundreds of thousands of tonnes of rock each year next to their property, nor if they have been consulted on having enormous quantities of soil dumped near their homes, nor if they have been consulted on transporting contaminated soil and other obnoxious materials through their port.

Accordingly, the applications should not be viewed as a request by the Malahat First Nations, or any other First Nations, for expansion of the industrial activities. In fact, there is a historical record of First Nations opposing development on the site for cultural and heritage reasons.

In 1996, the proposal to develop the lands into a town center featuring a planned residential community with a projected population of approximately 12,000 people was the subject of an Environmental Assessment. Kim Walters (cc'ed) was the Executive Project Director from the Environmental Assessment Office in respect of the project.

As part of the assessment, submissions were sought and a report was prepared entitled, *Report of The First Nations Cultural Heritage Impact Assessment and Consultation Component; Bamberton Town Development Project (the "1996 Bamberton Heritage Report").* We can provide a copy of the full report upon request.

The 1996 Bamberton Heritage Report features the written statements of a number of First Nations people, many of whom make the following points:

- The mountain is considered a sacred site;
- The landscape of the Malahat Mountain -- the plants, the animals, the streams and pools, and the spirits -- provides for both their physical and spiritual well-being.
- Malahat Mountain continues to play an essential role in the lives of the Saanich Inlet peoples. It provides plants and animals for food, for materials, for medicines and for spiritual purposes. The waters of the mountain continue to be used for ceremonies and for spiritual renewal. In turn, the plants, animals, rocks and streams of the Malahat are recognized as components of the larger ecological community linking the land and its people with the sea and its resources.
- The landscape is essential to the continuity of traditional First Nations culture and, like traditional cultures, is threatened by the development.

Below are extracts from the report quoting and interviewing First Nations peoples opposing the town development project in 1996-97:

> *Elders also spoke of the impact of development on the waters and marine resources of the Saanich Inlet, a "landscape" also critical to survival of First Nations peoples and traditional culture.*
>
> *Foods that come down from the mountain also feed the creatures in the sea and these are now impacted by development and introduced chemicals. The land has to be left in its natural state to preserve the water.*
>
> *Development of the sacred mountain results in more than simply the loss of the physical landscape. It represents the loss of the culture which is connected to that landscape, a way of life linked to the plants, the animals, the waters and the spirits. It is a loss of those teachings which are essential to the cultural identity of the Saanich Inlet people. This point was made quite eloquently by Tsartlip elder Samuel Sam (January 28, 1997):*
>
> *"About 50 years ago, the elders told them to be careful. My grandfather was 105 years old when he died. He paddled up Goldstream even when he was 100. Things were plentiful then, fish. But, they've destroyed the spiritual ways of the Indian people. We're losing reverence for nature because where we used to go has been destroyed, where old people used to go to get spirit songs for winter dances. So now, young people don't have the same spirit, the same strength as the old people, because nature is destroyed.*
>
> *"There is reverence in the woods, sacredness -- every shrub and tree, because it's a part of life. Now we can't find medicines and have to depend on doctors. Doesn't cure like Indian medicine. Devil's club, it's now very rare, but it and other medicines used to be plentiful around the inlet. Now we have to go up island. In the old days, we couldn't take anything without ritual, without thanking the Creator for the item, thanking when we pick it. Things were not just destroyed.*
>
> *"Killer whales used to go up [the Inlet]. You'd hear them at certain times and the old people would know the chum salmon was coming. Murrs by the thousands, now not one. Blue blacks, now there are none, there used to be thousands. Now we don't see flounders or herring spawning. The old people used to get excited and holler "herring" in our language and get ready and lay down branches and the roe would be about 6 inches thick and really white. Now there's hardly any and it's yellowy. Cod fish -- the old people used to love it.*

> *"The land is destroyed. What's left for young people?* ***Whatever we can do to salvage what's left, anything, that's what we should do. The old people told us to watch out, 60 to 70 years ago."***
>
> *In short, the indigenous people of the Saanich Inlet view the proposed Bamberton project as another in a lengthy list of developments that have eroded -- and will continue to erode -- their traditional territory and their traditional way of life.*

Ironically, the town center development was quashed due to the concerns at the time, including those of the First Nations people. Now, some 26 years later, the current quarry expansion application expressly states that "*The end land use will be mixed residential, business, light industry and heavy industry*." **Meaning, once the applicant is done extracting millions of tonnes of quarry rock, it intends to turn the site into a development that was originally quashed, on environmental, social and heritage concerns in 1997.**

Annex 5 Operations at Bamberton Quarry: Coast Mountain Resources[10]

Sumission to Ministry of Energy and Mines
Coast Mountain Resources, April 2019

Quarry Operation Notice of Work and Reclamation Program

BAMBERTON QUARRY
1451 Trowsse Road, Bamberton, B.C. V0R 2P4

AMENDMENT TO EXISTING BC MINES ACT PERMIT Q-8-24

for

MINE NUMBER 0800407
LEGAL DESCRIPTION: DL 118, DL 73, DL 135, DL 183, DL 95, DL 127 Malahat District

April 2019

Prepared for:

BC Ministry of Energy and Mines
Mining and Minerals Division
Regional Operations Branch, Southwest (Victoria) PO Box 9320 Stn Prov Govt Victoria, B.C.

Applicant Name:

René Bourdin, Finance Administrator – Site Manager
Malahat Investment Corporation
1451 Trowsse Road, Mill Bay, B.C. V0R 2P4
Tel: 250-743-3737 Cell: 250-618-7288
Email: rene@malahatinvestment.ca

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[10] Formatting of the original report may have been changed. The wording is faithful to the original

COAST MOUNTAIN RESOURCES
BAMBERTON AGGREGATE QUARRY
Operating Since 2014



Entrance to Bamberton Quarry

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Figure 14: Cross-section G' to G"

ATTACHMENTS

Attachment 1: Emergency Response Plan
Attachment 2: Hydrocarbon Management Plan
Attachment 3: Archaeological Chance Find Procedure
Attachment 4: Blasting Plan

1.0 INTRODUCTION

This Notice of Work and Reclamation Program document outlines amendments to an existing rock quarry *permit Q-8-45* that was issued for the Bamberton Quarry located 10 kilometres south of Mill Bay (Figure 1 – Property Location Map). The original work plan and reclamation program for the Bamberton Quarry was approved by the Ministry of Energy, Mines and Petroleum Resources in March 2011. This approval and permit was amended in March and July 2016.

The current permit amendment application proposes modifications to the existing mine plan that will expand the mine permitted area by approximately 47%. Associated maps and resource calculations will utilize new LIDAR elevation information which will significantly upgrade the overall accuracy of the application. Primarily, modifications to the existing mine plan bench configurations and water courses were necessary since the use of higher resolution elevation information acquired from a LIDAR data set is more accurate than the elevation data used in the 2016 application.

The expanded mine plan will incorporate the current phased development scheme and will include strategic expansion into Malahat Nation owned adjacent areas. The work will be based on an improved understanding of the natural elevation features of the property. Expansion plans will provide access to new rock resources as well as provide improved bench and slope configurations related to the permitted quarry final walls.

The proposed permit amendments are limited in scope and do not significantly alter the current mining processes or environmental and community impacts. Provisions are made to eventually increase the annual extraction rate to 479,000 tonnes. The quarry access and operating conditions will not change from the current plan. Malahat Nation is involved in the development of this application. The application is not subject to review under the BCEAA.

Based on current economic conditions and available reserves, the mine operators plan is to continue the quarry and processing operation over a 15 to 30 year period. They plan to continue meeting the existing conditions of their mining permit. They have a stringent environmental management plan in place as well as a progressive restoration strategy that will prepare the property for future Comprehensive Development Zone land use.

2.0 **SITE CONDITIONS**

2.1 Land Use and Site Features

The Bamberton properties consist of 525 hectares which are situated within the Cowichan Valley Regional District on lands that included part of a cement plant that operated from 1912 to 1980. Recently, several of these properties surrounding and including the mine permit area were acquired by Malahat Investment Corporation (MICO) which is owned by the Malahat Nation except for one southern lot (DL 183) which was acquired by the Province of BC in the same transaction. The Trans-Canada Highway is located to the west and the Saanich Inlet to the east. Crown land and private land holdings can be found adjacent to the property boundary to the north, west and south.

The current zoning on the Bamberton Properties is Rural Resource 1 (RUR-1), Rural Resource 2 (RUR-2), Bamberton Light Industry (I-1A) and Heavy Industry (I-2) and the 2011 South Cowichan OCP lists zoning as Rural Resource (RUR) and Industrial (I) (Figure 2 – Land Status Map). The end land use will be mixed residential, business, light industry and heavy industry.

The existing mine permit area covers 39.3 hectares of which 11 hectares are disturbed from past quarry activities. An additional 1.6 hectares within the quarry footprint contain a reclaimed soil storage facility (SSF). The quarry exposure is positioned above the 6 metre contour line and extends to the 220 metre contour line on the east facing side of Mount Jeffrey which is characterized by steep slopes (See Figure 3 – Existing Surface Map). Areas immediately bordering the quarry are covered by exposed rock, forest, and ocean frontage.

2.2 Aggregate Resource Expansion

The proposed expansion area to the north, west and east of the current permitted area will add 18.4 hectares to the mining area which will now total 57.7 hectares, (See Figure 4 and Table). This will expand the mine permit area by 47%. The expanded extraction plan (See Figure 5) will increase the total mineable reserves to approximately 19.5 million tonnes. The thickness of the target resource ranges from 10 to 60 metres. Table 1 summarizes the expected reserve total by individual phases.

Table 1: Estimated Total Bamberton Quarry Reserves.

PHASE	AREA (ha)	VOLUME (m^3)	RESERVES (tonnes)
1	7.0	210,000	506,000
2A	11.2	1,900,000	4,579,000
2B	2.7	200,000	482,000
2C	2.6	55,000	132,500
2D	3.4	250,000	602,500
2E	2.5	140,000	337,500

3A	10.0	1,800,000	4,338,000
3B	7.2	600,000	1,446,000
4	4.2	800,000	1,928,000
5	7.0	2,100,000	5,061,000
TOTAL	**57.7**	**8,055,000**	**19,412,500**

3.0 QUARRY OPERATIONS

3.1 Setbacks, Extraction Areas and Processing Site

In areas where the quarry operations encroach upon neighbouring properties outside the mine permit boundary, a minimum 5 metre excavation setback along the mine permit boundary will be maintained and is shown on the enclosed cross sections (Figures 8 to 14). Vegetation will be stripped to the mine permit boundary and any loose surface material will be removed to 3 metres from the crest of the excavation.

The proposed quarry expansion will extend into areas immediately adjacent to the current permitted boundary. The expansion areas will primarily take place around the existing Phase 1, 2, and 3 mining areas. No expansion will take place in the southern portion of the mine permitted area. The locations of existing Phases 1, 2, 3, 4 and 5 will not be altered. To accommodate proposed expansion, Phases 2 and 3 will be renamed to Phase 2A and 3A respectively. Labels for Phases 1, 4 and 5 remain unchanged as no expansion is planned for these three phases. The proposed expansion areas around Phase 2A will be identified as Phase 2B, 2C, 2D and 2E; the proposed expansion area around Phase 3A will be identified as Phase 3B. The phase outlines, labels, and increase in extraction areas is shown clearly between Figures 4 and 5. The quarry will continue to be developed from the top down in 10 to 11 metre bench heights for operational purposes. Final overall bench heights may be up to 20 metre and the planned overall slope angle will be 45 degrees.

Five Year Mine Plan: As part of identifying areas for near term (0 to 5 years) extraction, included in this application is a proposed 5 Year Mine Plan (Fig 6 – Proposed 5 Year Mine Plan). Detailed setbacks, planned areas of disturbance, bench configurations, surface water management, and planned reclamation areas are included in this plan. Much of the 0 to 5 year mine extraction area is within the current mine permitted area except for some new areas in Phases 2B and 2C. Table 2 summarizes the disturbance area, extraction quantity and reclamation area for the next 5 years.

Table 2: Five year mine plan estimated disturbance area, extraction, and reclamation.

PHASE	DISTURBANCE AREA (ha)	EXTRACTION (tonnes)	RECLAMATION (ha)
1	0.2	400,000	0
2A	2.6	400,000	0
2B	1.2	400,000	1.2

2C	0.5	130,000	0.5
4	4.0	800,000	0
TOTAL	8.5	2,130,000	1.7

Hydraulic excavators will be used for clearing, top soil salvaging and overburden removal. Front end loaders and haulage trucks will be used for handling blasted and processed rock products. Drilling and blasting will be contracted out to a mine certified blaster and will follow best management practices including the use of monitoring stations as well as suitable noise, dust and vibration controls. Blasting will take place on average 2 to 3 times per month. Explosives are not planned to be stored on site and pneumatic/hydraulic rock breaking will not be utilized for primary excavation purposes. A copy of the blasting program/procedures will be posted on site. All blasting logs will be stored and available for review on site.

The processing of all materials will be maintained at the Bamberton quarry utilizing a 200tonne/hour crushing/screening/washing plant. This application proposes increasing the annual production from 240,000 tonnes of material processed per year to eventually 479,000 tonnes of material processed per year.

3.2 Access

Access to the Bamberton Quarry will continue to use highway and marine access. In bound and out bound truck traffic will continue to use the routes from the Trans-Canada Highway at Mill Bay Road Interchange and access the property via Trowsse Road. This application will not significantly increase truck traffic as much of the increase in quarry output will be shipped offsite through increased barging activity. Appropriate safety signage for traffic flow will be maintained.

3.3 Extraction Schedule and Hours of Operation

The Bamberton Quarry conducts mining activities as a year round operation. Mining activities will take place approximately 300 days per year. Crushing, screening and pneumatic/hydraulic rock work, product sales and shipping will be conducted 7 days per week.

The primary hours of work will be 7:00 am to 7:00 pm with 24 hour operation used when required.

4.0 ENVIRONMENTAL MANAGEMENT

During the operation of the quarry all reasonable efforts are used to minimize the impact of the operation on the local community and natural environment. Environmental management and remediation strategies used are outlined as follows. These measures will be monitored on an ongoing basis and mediation actions will be immediately taken to correct/improve any identified concerns.

4.1 Water Management

The management of drainage courses and storm flows in and around the extraction site is required to minimize the deposit of sediment and other possible contaminants into the local aquatic drainages and adjacent marine shoreline. The existing and proposed extraction work will be undertaken and completed in a manner as to prevent the direct or indirect discharge of soils, sediment and/or sediment-laden water or any other deleterious substances into any watercourse. Surface water flows containing suspended sediments are controlled using surface contouring, strategically located water containment berms, and control traps and settlement ponds. Water flows are contained within the extraction areas by maintaining grade elevations that are strategically sloped, maintaining undisturbed buffer strips and installing ditches/berms along the perimeter of the extraction sites. Water is confined and allowed to naturally evaporate and/or percolate into the porous adjoining subsurface limiting the escape of surface water. Captured surface water within the quarry is also recycled as part of the dust control program and material washing. Figure 3 – Existing Surface Map outlines the current drainage courses in and around the extraction site. Water and sediment is collected in suitably designed settling ponds. Contained solids in the pond overflow is targeted not exceed 25 ppm.

During the full life cycle of the quarry operation, water management planning will be continually updated for each new phase of the mining sequence. New in-pit settlement ponds and water courses will be constructed as required for each phase of mining. The planned final surface water flows and controls are shown in Figure 7 – Final Surface Water Management Plan. This plan strives to keep pre-existing water courses to their original location and condition where ever possible.

4.2 Material Management

The average depth of topsoil is 20 cm and overlies a thin veneer (0.2 to 2 metres) of overburden. This material is being conserved for reclamation of the mine site. Temporary topsoil and overburden stockpiles will be stabilized on level ground contoured and seeded with appropriate grass and will be routinely monitored for erosion and the appearance of noxious weeds. All excavated surface materials will be stored in suitable locations and protected from erosion.

4.3 Operational Management (Noise and Dust Mitigation)

To minimize noise and dust pollution concerns, all heavy equipment and plant machinery will be maintained in good operating condition. All appropriate noise and dust suppression equipment will be available and in good working order.

Noise issues are commonly associated with blasting, and the operation of equipment and machinery during working activities. Noise mitigation measures for use in the operation include the following:

- Operating within defined work times.
- Maintaining berms and/or placement of gravel stockpiles in strategic locations to provide a barrier effect to the receiver locations.
- Orientation of the equipment to direct noise away from the receptor location.
- Locating noise sources at lower depths (bottom of excavation).
- Keeping equipment maintained for peak efficiency and overall reduction of noise.
- Operator awareness when operating equipment.
- Night time substitution of back-up alarms with strobe warning lights.

The most significant source of dust to be controlled is from trucks traveling within the pit as well as dust from stockpiles and crushers. The dust control program for the site will include the following:

- Regular application of dust suppressants (e.g. water sprinkling).
- Drilling machinery will be equipped with dust collectors.
- Use of vegetative coverings on overburden stockpiles and filled reclamation slopes.
- Watering and sweeping of access routes.

4.4 Hydrocarbon Management

To minimize potential hydrocarbon pollution concerns, all equipment and machinery will be maintained in good operating condition. It will be free of leaks or excess oil and grease. No refueling or servicing will be undertaken within 30-metres of any watercourse or surface water drainage. Spill kits will be readily accessible on site.

A Hydrocarbon Management Plan has been developed to guide the storage, fueling, operational servicing, spill prevention, disposal and clean-up for fuels and lubricants stored on the mine site. The plan conforms to the requirements of the Ministry of Environments Field Guide to Fuel Handling, Transportation and Storage. A copy of the plan is posted at the mine site and all workers have been instructed on the use of the plan.

4.5 Archaeological Chance Find Procedure

An archaeological chance find procedure (ACFP) has been implemented for the Bamberton Quarry. The ACFP outlines action to be taken in the event of a chance find. A copy of the procedure is posted at the mine site and all workers have been trained in its implementation.

4.6 Site Security and Safety

Access routes into the excavation areas will be gated or use other forms of barricades. Appropriate barriers will be used to control access into any danger areas and warning signs will be posted in unguarded areas. For incidents which may happen on-site, a site specific emergency response plan has been developed.

5.0 RECLAMATION PLAN

The end land use for the properties has been identified as mixed residential, commercial, light industry and heavy industry. Extraction and reclamation plans are being designed with the intent of accommodating and facilitating these types of future development.

Currently, mining at the Bamberton Quarry has directly disturbed a total of 11.0 hectares of the property. Extending the existing quarry in the five year plan would add 8.5 hectares of disturbed ground (Table 2). The combined mine disturbance area after this proposed work has been completed would be approximately 19.5 hectares. Progressive restoration activities will be incorporated in the overall mine plan that includes preparation of areas for future use, and the maintenance and monitoring of environmental management plans.

5.1 Land Surface

In order to accommodate reclamation requirements, the mined areas will be re-contoured to appropriate elevations and grades that are suitable for the final designated zoning and use.

Residual high-walls will be properly scaled and have appropriate catch benches installed and maintained. The final high-wall reclamation will include the planting of fir trees along the inner edge of the catch benches where appropriate. Any smaller back slopes will be re-sloped to a minimum 1.5:1 grade and re-vegetated to a self-sustaining state using appropriate plant species. Previously stockpiled overburden and approved imported fill materials will be used as part of the reclamation program. Stockpiled topsoil will be spread to cap the fill materials and enhance the re-vegetation.

Final ground level elevations will be graded towards (1 to 3% grade) catchment ponds located at the edge of the final quarry floor.

5.2 Watercourses

The final phase of the quarry's water management plan will be developed to assist in transition to the drainage scheme for the site after final reclamation is completed. This includes constructing water courses and catchment/retention ponds in appropriate areas of the quarry for final use. Water courses and structures will be developed to be compatible with future land uses. The plan will be for long-term water quality to be maintained to an acceptable standard and contained solids in final pond overflows to not exceed 25 ppm.

Where possible, drainages will be restored to their original condition. If not, drainages will be diverted into new watercourses which will sustain themselves without maintenance. The level of productivity of these watercourses will not be less than conditions that existed prior to mining.

Annex 6 Management Plan - Renewal of Aquatic Lease in Saanich Inlet, BC (File #0336205) Pacificus Biological Consultants[11]

[11] Formatting of the original report may have been modified. The wording is faithful to the original

MANAGEMENT PLAN FOR THE AMENDMENT OF THE BLOCK A, D.L. 30-G AQUATIC LEASE IN SAANICH INLET, BRITISH COLUMBIA

MALAHAT FIRST NATION

CROWN LANDS FILE NO. 0336205



July 2021
(Updated November 2021)

PACIFICUS Biological Services Ltd

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MANAGEMENT PLAN FOR THE RENEWAL OF THE DISTRICT LOT 30-G AQUATIC LEASE IN SAANICH INLET, BRITISH COLUMBIA MALAHAT FIRST NATION LANDS FILE NO. 0336205

Prepared for: Tristan Gale
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Date: July 12th, 2021 (Updated November 22nd, 2021)
PACIFICUS BIOLOGICAL SERVICES LTD.
P.O. Box 2760 Port Hardy, B.C.
V0N 2P0

Management Plan Submitted by: Marissa Miles, RPBio

Management Plan Received by:

_____ _____

Signature:

Signature:



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_____

Date:
November 22nd, 2021

Date:

_____ _____

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1.0 BACKGROUND & PROJECT DESCRIPTION

1.1 Project Overview & Description

Saanich Inlet is located on south Vancouver Island, British Columbia. As a multi-use waterway, it hosts a variety of recreational, commercial, and industrial activities. Currently, the Malahat First Nation (MFN) holds an existing aquatic Crown foreshore lease for Block A D.L. 30-G (Lands File No. 0336205) on the western shore of Saanich Inlet (Figure 1; 48°35'7.94"N 123°31'17.77"W). This aquatic foreshore lease has been in place since 1989. To support continued industrial use of the area, MFN has proposed to renew the tenure of Block A D.L. 30G for an additional 30-year term. However, to ensure sufficient space for current and future uses of the site, an expansion to the current boundary has been proposed. Proposed uses for the tenure are as follows:

Load and unload barges of contaminated soils, creosote piles, cement powder, scrap metal, aggregate, and fuels;

Store hydrocarbons in the existing upland tanks;

Maintain piles, dolphins, and shoreline armouring; •

Conduct barge and vessel maintenance;

Moor vessels associated with the upland activities.

As part of the tenure application process, MFN is required to submit an updated management plan for the Block A D.L. 30-G water lot, as requested by the Province of British Columbia. Pacificus Biological Services Ltd. (Pacificus) was retained as an agent to assist with the preparation and submission of the Management Plan for the Block A D.L. 30-G aquatic lease amendment.

1.2 Investigative Work

Investigative work has been extensively conducted in the vicinity of the water lot since the 1990's. This includes investigative work such as site characterization and remediation, environmental liability site assessments, review of hydrogeological settings, environmental studies, and transportation and infrastructure studies. Details of the most recent biological assessment[12] and remediation plan[13] are provided in Table 1.

Table 1. Recent investigative work conducted within or adjacent to Block A D.L. 30-G.

Activity	Brief Description of Activity	Status (complete, incomplete, ongoing)	Comments/ Milestones

[12] Seacor Environmental Inc. December 1, 2005. Biological Assessment and Compensation Plan, South Landfill Access Road, Bamberton Lands, Mill Bay, BC.

[13] Seacor Environmental Inc. May 16, 2007. Remediation Plan, District Lot 73 and Block B of Lot 30-G, Bamberton Lands, Mill Bay, BC.

• Biological Assessment for the marine access road (Seacor 2005)	• Assessment of foreshore habitat and development of a habitat compensation plan.	• Complete	• Recommendations for habitat enhancement were developed.
• Remediation Plan (Seacor 2007)	Identification of areas of potential environmental concern, confirmatory sampling of soil pre- and post-remediation. Proposed monitoring program for surface and ground water relating to soil storage facility.	• Complete	• Certificate of Compliance was received.

1.3 First Nation Consultation

Redacted

2.0 LOCATION

2.1 Description

District Lot 30-G is located within BC's South Coast Region, along the western shore of Saanich Inlet, Vancouver Island. The site is approximately 7.4 km south of Mill Bay, BC. The water lot can be accessed off of Highway 1 and/or from Saanich Inlet via float place / helicopter / vessel.

[3] BC Contacts for First Nation Consultation Areas. <https://maps.gov.bc.ca/ess/hm/cadb/> Accessed July 1, 2021.

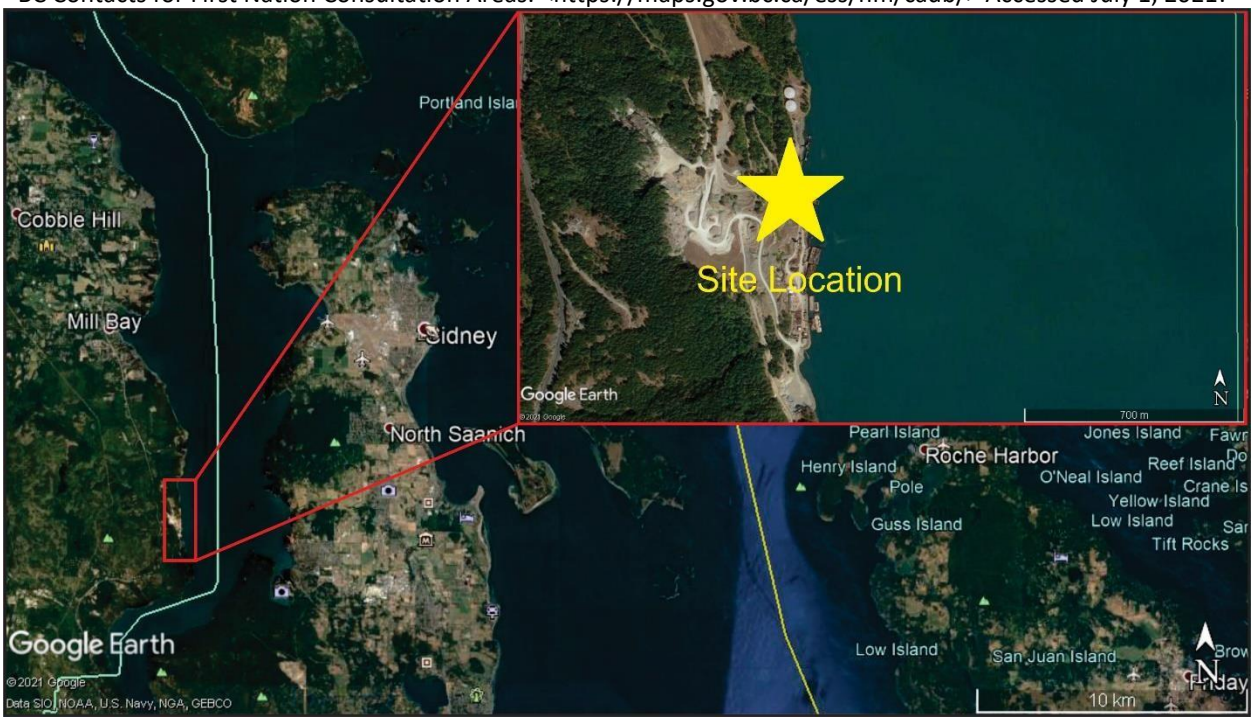


Figure 1: General location of the foreshore lease at D.L. 30-G, located along the western shore of Saanich Inlet, on Vancouver Island. The site is approximately 7.4km south of Mill Bay, BC.

2.2 Location Justification

The MFN currently holds a tenure for the subject water lot and is seeking to expand the existing tenure to encompass the entire area required for the continuation of operations. The site is currently used for industrial activities due to its proximity to a multi-use waterway and economic feasibility. The Block A D.L. 30-G water lot is an active site, with several sub-leased parcels of land for a variety of industrial uses (see Table 2). As Block A D.L. 30-G is currently active, existing industrial infrastructure within the tenure is present. This site is highly developed with multiple industrial uses and activities being conducted on the premises.

Table 2. List of Tenants of Block A DL 30-G and industrial uses of sub-lease areas.

Tenant	Industrial Use
Lehigh Hanson Materials Ltd.	Store and distribute marine construction materials and purposes reasonably incidental to such use
Heavy Metal Marine Ltd.	Store and distribute construction materials and aggregate
Ruskin Construction Ltd.	Store and distribute marine construction materials and purposes reasonably incidental to such use

2.3 Seasonal Expectations of Use

Usage of the industrial infrastructure within Block A D.L. 30-G will continue to occur year-round. Operations include the maintenance of existing infrastructure, loading and unloading of barge materials, storage of hydrocarbons in existing upland tanks, barge and vessel maintenance, and vessel moorage (Table 3). Improvements to the existing facilities are likely to occur in the future but depend on several factors, including economic benefits and environmental impacts. Over the short-term, however, the only improvement proposed is the repair of four aging pilings. Variations in usage of the facility will be dictated based on works scheduled.

Table 3. Description of activity and expected schedule of all phases of construction and operation of the Block A D. L. 30-G Facility.

Project Phase (Construction / Operations)	Brief Description of Activity / Works	Schedule
Maintenance of existing infrastructure	Routine maintenance of existing infrastructure, including, but not limited to, piles, dolphins, barge ramps, and shoreline armoring.	Maintenance: Annually, as required. All works will be conducted within appropriate federal and provincial fish windows, pending approvals.

Loading and unloading barges of materials	Transportation and movement of contaminated soils, creosote piles, cement powder, scrap metal, aggregate, and hydrocarbon fuels (Note: storage of these materials will occur at appropriate upland locations, not within Block A D.L. 30G).	Year-round
Hydrocarbon storage	Fueling and hydrocarbon storage occurs in tanks in the upland portion of the tenure area.	Year-round
Barge and vessel maintenance	Repairs and maintenance of industrial watercraft will be conducted as required.	Year-round
Moorage of industrial vessels	Industrial vessels associated with upland activities at the site will be moored in the marine area of the lease	Year-round
Repair of pilings	Repairs to four steel pilings situated west of the metal grated ramp.	Works will aim to be minimally invasive and will involve reinforcing the existing pilings, if possible. Driving of new pilings directly adjacent to the existing pilings may be required if repair is not possible. If pile driving is required, Best Management Practices will be followed and all appropriate DFO notifications/approvals will be completed/acquired prior to the start of works.

3.0 INFRASTRUCTURE AND IMPROVEMENTS

3.1 Facilities and Infrastructure

The upland facility contains an access road along the shoreline. Two large tanks are located on the upland property at the northern end of the tenure. These tanks are currently empty, and the proponent intends to use these to store water in the future. Three silos are located near the northern end of the upland area and used to store concrete powder. Improvements within the water lot currently consist of:

A wooden pier to provide access to a barge,
Three floating docks with metal and/or wooden piling supports,
A concrete platform with metal supports accessed via a grated metal ramp,
Ten metal pilings along the shoreline,
A barge access ramp supported by metal pilings,

A grated metal ramp, and
A gravel boat launch.

In addition to the above improvements, portions of the shoreline along the entire water lot have been reinforced with rip rap and/or concrete. Approximately 19,156m^2 of the lot has been infilled over time, between the lot boundary and the highwater mark. A list of improvements to the water lot and approximate locations of each are provided in Table 4 and Figure 2 below. The location of infill and the proposed boundary expansion is outlined in Figure 3.
As the facility is currently active, routine maintenance is required for the continued industrial usage of Block A D.L. 30-G. Over the short-term, the repair of four pilings is proposed. Tenants (sub-leasers) within the water lot have proposed to conduct the following activities within the lease tenure:

Load and unload barges of contaminated soils, creosote piles, cement powder, scrap metal, aggregate, and fuels;
Store hydrocarbons in the existing upland tanks;
Maintain piles, dolphins, and shoreline armouring;
Conduct barge and vessel maintenance;
Moor vessels associated with the upland activities.

Table 4. Summary of improvements and approximate location of infrastructure at Block A D.L. 30-G.

Site Plan Reference #	Improvement	Status	Location	Approximate Size	Comments
1	Two Large tanks	Existing	Upland (48.59035°, 123.52191°)	33m wide	Located on upland area; currently unused.
2	Three Large silos	Existing	Upland (48.58894°, 123.52169°)	13m in diameter	Located on upland area; contains concrete powder.
3	Barge containing cement powder and wooden pier	Existing	Blk A D.L 30-G (48.58911°, 123.52122°)	Pier: 80m x 7m	Three access points from the shore connected to a wooden walkway and pilings. Wooden pier extends approximately 25m from the highwater mark.
4	Access Road	Existing	Upland (48.59088°, 123.52182°)	980m long	Gravel and paved .
5	Five steel pilings and floating dock	Existing	Blk A D.L 30-G (48.58721°, 123.52129°)	Dock: 40m x 5m Barge: 54m x 18m	Dock constructed of wood and five steel pilings.
6	Floating dock	Existing	Blk A D.L 30-G (48.58640°, 123.52121)	39m x 5m	Floating wood dock Eight wood pilings

7	Concrete platform with metal supports	Existing	Blk A D.L 30-G (48.58604°, 123.52102°)	65m x 55m	Large concrete float.
8	Metal grated ramp	Existing	Blk A D.L 30-G (48.58486°, 123.52143°)	6m x 23m	Ramp with two metal dolphin pilings.
9	Row of steel pilings	Existing	Blk A D.L 30-G (48.58444°, 123.52129°)	Pilings span ~72m along shoreline	Eight steel pilings parallel to shore.
10	Barge ramp	Existing	Blk A D.L 30-G (48.58377°, 123.52115°)	5m x 5m	Ramp with steel piling support and two metal pilings parallel to shore .
11	Dock/ ramp with four metal piling supports	Existing	Blk A D.L 30-G (48.58328°, 123.52144°)	Dock: 13m x 5m Gangway: 3mx 25m	Metal gangway and ramp, with floating wooden dock
12	Gravel boat launch	Existing	Blk A D.L 30-G (48.58308°, 123.52158°)	8m wide	Boat launch toward western extent of lease area.
14	Shoreline infill	Existing	Blk A D.L 30-G (48.581601°, 123.521083°)	Infill footprint: 19,156m^2	Approximately 19,156m^2 of infill between the Block A lot and the highwater mark.

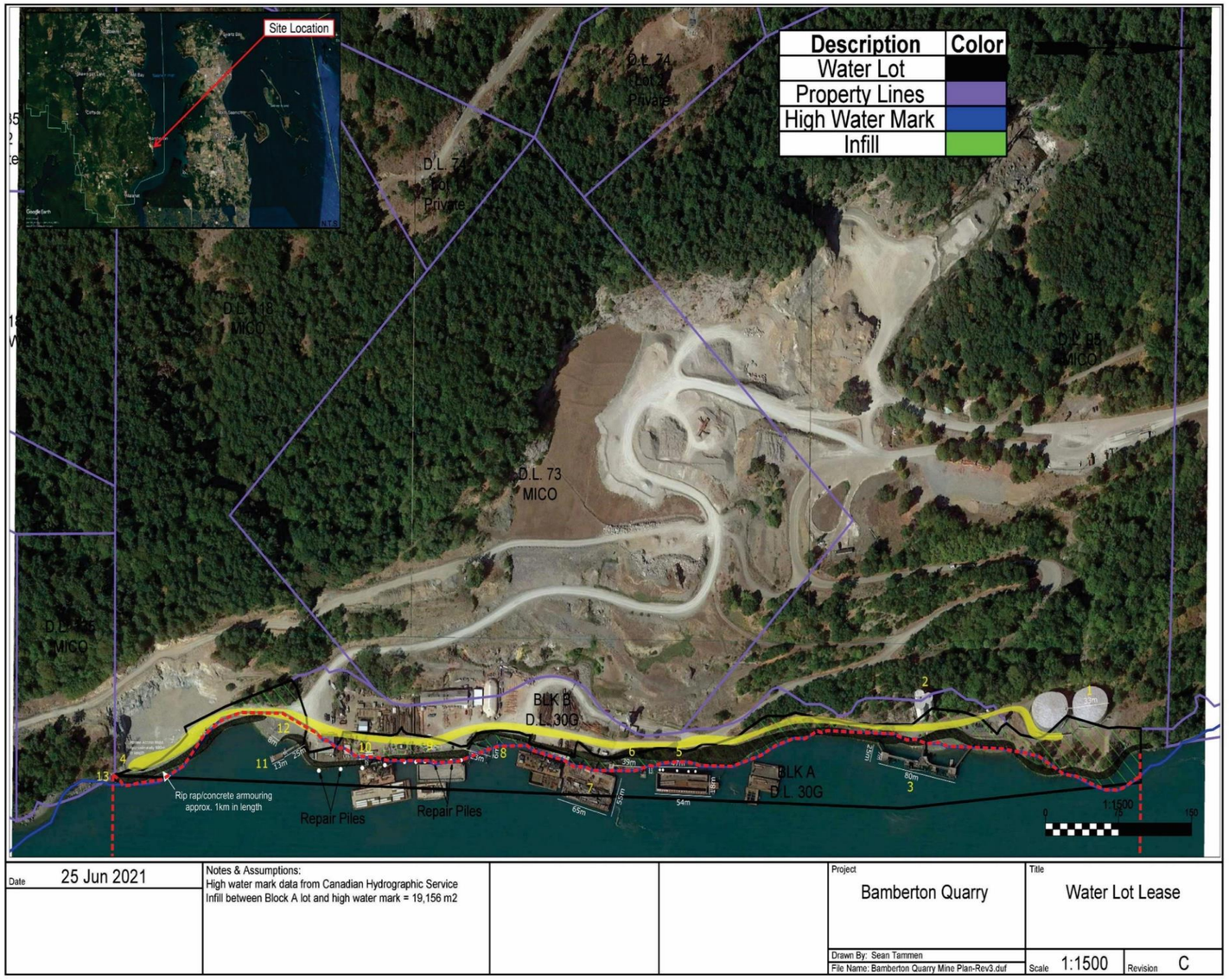


Figure 2: Site characteristics and facility diagram for Block A D.L. 30-G. Improvements within and adjacent to the lot are numbered as per Table 4.



Figure 3: Proposed boundary expansion of Crown Lands File 0336205 (Block A D.L. 30-G) near Bamberton, BC. *Pacificus Biological Services Ltd. 17*

3.2 Access Plans

The D.L. 30-G Water Lot in Saanich Inlet can be accessed via Highway 1 (Trans-Canada Highway) from Victoria, or by boat, helicopter, and/or floatplane.

3.3 Utility Requirements and Sources

No utilities will be required during the continued operation of the site.

3.4 Water Supply

No water supply is required within the Block A D.L. 30-G water lot. Water supply to the existing upland facilities is currently in place. All water on site comes from Oliphant Lake and is untreated and non-potable. Water is supplied via a water intake and gravity-fed pipeline that supplies water to the Bamberton Lands (pers. comm. Tristan Gale to Marissa Miles June 30, 2021)

3.5 Waste Collection Treatment and Disposal

Waste generated during operation of the water lot lease will be removed and disposed of at appropriate upland waste disposal facilities. Upland sewage disposal methods are currently in place and include use of a septic system and/or collection and pump out of holding tanks or portable toilets. No septic is required within Block A D.L. 30-G, and no sewer outfalls are associated with the water lot (pers. comm. Tristan Gale to Marissa Miles, June 30, 2021).

3.6 FireSmart BC

All industrial activities that occur within the lease area will be conducted in accordance with recommendations made by FireSmart BC to prevent and reduce risk of wildfire occurrence from the continued operation of this facility.

4.0 ENVIRONMENTAL CONSIDERATIONS

4.1 Land Impacts

4.1.1 Vegetation Removal

As Block A D.L. 30-G is an active industrial area, no vegetation removal is anticipated to occur from the continued operation of the site and/or expansion of the tenure area.

4.1.2 Soil Disturbance

Soil disturbance is not anticipated to occur as a result of the continued operation of the Block A D.L. 30-G water lot and/or expansion of the tenure area.

4.1.3 Riparian Encroachment

The Block A D.L. 30-G water lot is located within the marine environment and, as a previously disturbed site, continued use of the tenure will not require the removal of any functional marine riparian vegetation. No riparian encroachment is anticipated to occur from continued use of the site and/or expansion of the tenure area.

4.1.4 Pesticides and Herbicides

There will be no use of pesticides or herbicides during operation and/or maintenance of the site.

4.1.5 Visual Impacts

The Block A D.L. 30-G lease has been used for industrial purposes for over 30 years. The existing visual impacts associated with industrial activities at this site are not anticipated to change as a result of continued operation of the lease area and/or expansion of the tenure area.

4.1.6 Archeological Sites
Redacted

4.1.7 Construction Methods and Materials
Construction required within the marine environment and the application area will be limited, as the facility is currently operational and only minor improvements (i.e., piling repair) are proposed at this time. Appropriate mitigation measures will be in effect during all construction activities and operation of the site to prevent *death of fish* or *harmful alteration, disruption or destruction* of fish habitat. Repairs to the pilings indicated on the site plan (see Figure 2 for locations) will involve reinforcing the existing pilings. If repair is not possible, driving of new pilings directly adjacent to the existing pilings. If pile driving is required, relevant best management practices will be followed and appropriate DFO notifications/approvals will be completed/acquired prior to the start of works. A qualified environmental professional (QEP) will be engaged, as necessary, to provide advice regarding works in and around water.
4.2 Atmospheric Impacts
4.2.1 Sounds, Odor, Gas or Fuel Emissions
Expansion and continued operation of the site is not anticipated to cause any additional sound, odor, gas, and/or fuel emissions that will disturb wildlife in the area. 4.3 Water and Land Covered by Water Impacts
4.3.1 Drainage Effects
The expansion and continued use of the site is not anticipated to result in changes to land drainage.
4.3.2 Public Access
The expansion and continued use of the site is not anticipated to result in changes to public access.
4.3.3 Flood Potential
The expansion and continued use of the site is not anticipated to increase flooding potential.
4.4 Fish and Wildlife Habitat Impacts
4.4.1 Disturbance to Wildlife and Wildlife Habitat
A biological assessment in the vicinity of the site was last conducted in 2005 by Seacor Environmental Inc.[14] The biological assessment and compensation plan was conducted prior to the construction of an access road for remedial excavation of contaminated areas of the Bamberton Lands. As the general use of the site is not changing, continued use of the site is considered low risk and is not anticipated to cause any additional impacts to fish or fish habitat.

[14] Seacor Environmental Inc. December 1, 2005. Biological Assessment and Compensation Plan, South Landfill Access Road, Bamberton Lands, Mill Bay, BC. Bamberton Binder. Environmental Studies. Section. 6.5.2 – 6.5.4.
Malahat Investment Corporation. (2015) Bamberton Quarry Archaeological Monitoring and Chance Encounter Protocol (DRAFT).

Although the construction and operation phases of the project will occur around the marine environment, the proposed landing and dock sites are not expected to result in any additional impacts to wildlife or wildlife habitat. As proposed works are not anticipated to change, no increase in erosion or sedimentation is anticipated to occur as a result of the project, and no water diversion will be required throughout any of the development phases. In addition, continued operation of the site is not likely to threaten or endanger any species at risk in the area.

5.0 SOCIO-COMMUNITY

5.1 Land Use

Several areas within the Block A D.L. 30-G lease are subleased to multiple industrial tenants. Tenants that currently hold a sublease and are operating within the Block A D.L. 30-G lease area include Ruskin Construction Ltd., Heavy Metal Marine Ltd., Lehigh Hanson Materials Ltd., and Hall Construction Corporation. As such, the areas within and adjacent to the Block A D.L 30-G tenure is highly developed and no significant changes to land use are expected to occur over the short-term. Similarly, with respect to the marine areas adjacent to the site, use is primarily for industrial purposes; expansion of the tenure area is proposed to encompass all areas currently being used and is therefore not anticipated to result in any significant impacts to fish or fish habitat. The closest community setting to D.L. 30-G is Mill Bay, located approximately 7.4 km north of the site.

5.1.1 Land Management Plans and Regional Growth Strategies

Saanich Inlet is subject to the management guidelines and objectives outlined in the *Vancouver Island Land Use Plan*[15]. Specifically, Saanich Inlet is located within *Special Management Zone 16 (SMZ-16)*[16]. The listed *Primary Values and Location* of SMZ-16 include marine water quality, waterfowl habitat areas, estuarine habitat, and recreational values and opportunities. Additionally, the west coast of Saanich Inlet lies within the *Biodiversity Emphasis Option – Shawnigan Zone*[17]. The biodiversity emphasis within the Shawnigan Landscape Unit is classified as "Lower"[18]. As the site historically contains industrial activity and no changes in activities is proposed, it is not anticipated that the continued use of this site will conflict with the management guidelines and objectives outlined in the *Vancouver Island Land Use Plan*.

As a result of historic industrial activity in D.L. 30-G, environmental covenants have been created between the lease holders of the lot and the federal government. A compensation plan was developed by SEACOR Environmental Inc. (SEACOR) on behalf of Three Point Properties

[15] Vancouver Island Summary Land Use Plan. 2000. Government of British Columbia.
[16] Table 5. Management Regimes for Individual SMZ Units in Vancouver Island Land Use Plan. 2000. Government of British Columbia
[17] iMap BC. 2018. Province of British Columbia. https://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc - accessed May 31st, 2021.
[18] Table A. Vancouver Island Summary Land Use Plan Appendices. 2000. Province of British Columbia.

Ltd. (TPP) in 2006 to help compensate for anticipated habitat loss caused by the construction of the south landfill marine access road in D.L. 30-G[19] (DFO Reference File: 05 HPAC PA3 000 000175). Additionally, SEACOR has previously prepared a remediation plan on behalf of TPP for D.L. 30-G to help offset and mitigate against deleterious environmental effects caused by industrial activity within the lot[20].

5.2 Socio-Community Conditions

5.2.1 Adjacent Users or Communities

The Block A D.L. 30-G water lot is located within a First Nation Treaty Area (Lands File No. 1414778) belonging to the Malahat First Nation. As MFN is the tenure holder for the Block A D.L. 30-G lease, expansion of the tenure and continued operations at the site is not anticipated to restrict public access, or the ability of adjacent landowners or tenure holders to access their properties or tenures.

5.2.2 Existing Services

No predicted increases to the demand on fire protection or other health facilities and emergency services are anticipated to result from the continued use of the site.

[19] SEACOR Environmental Inc. 2005. Biological Assessment and Compensation Plan for South Landfill Access Road. Bamberton Lands, Mill Bay, BC. Three Point Properties Ltd. Vancouver, BC.

[20] SEACOR Environmental Inc. Remediation Plan, District Lot 73 & Block B of Lot 30-G. Bamberton Lands, Mill Bay, BC. Three Point Properties Ltd. Vancouver, BC.

Annex 7 Soil Dump Gandalf Consultants[21]

Attachment B
Gandalf Consulting Ltd.
Suite 500, 1190 Melville Street, Vancouver, BC, V6E 3W1
Tel: (604) 633-2750
Environmental Consulting Services
September 30th, 2020
Inspections and Enforcement Division
Land Use Services Department
Cowichan Valley Regional District
175 Ingram Street, Duncan BC, V9L 1N8
Attention: Mr. Ian MacDonald Ian.MacDonald@cvrd.bc.ca

Reference: Technical Support Services for the CVRD Soil Deposit Bylaw No. 4236
PID: 001-170-406

Dear Mr. MacDonald,

Gandalf Consulting Ltd. (Gandalf) was engaged to provide technical support services for Cowichan Valley Regional District (CVRD) in support of soil deposit permit applications under CVRD Bylaw No. 4236 – Soil Deposit Bylaw, 2018.

Gandalf prepared this review for the Soil Deposit Application submitted by Coast Mountain Resources for the deposit site located at 1451 Trowsse Road, Mill Bay, B.C (the Site). The approximate area of the Site is shown on Figure 1.

Documents Provided

The following documents were provided for review.

Coast Mountain Resources, Trowsse Rd Fill Site Expansion Area, Trowsse Road, Bamberton, B.C., Type "C" Soil Deposit Permit Application, April 14, 2020 (Trowsse Application)

Re: Liu Property – Bamberton BC – PID 000-678-201, Cascadia Biological Services, December 4, 2019 (Cascadia 2019)

RE: Update on Covenant N57090 Bamberton Area Fill Restriction, Email, Dated Apr 2nd, 2020 (Covenant Email)

The applicant subsequently provided the following

Coast Mountain Resources, Trowsse Rd Fill Site Expansion Area, Trowsse Road, Bamberton, B.C., Type "C" Soil Deposit Permit Application, April 14, 2020 (Trowsse Application) signed and with revised survey figure.

Authorization Letter from CMR to CVRD and dated June 16th, 2020 committing to supplying water quality data.

EDI Environmental Dynamics Inc, Apr 4, 2014 letter "Watercourse on DL127"

[21] Formatting may have changed. Wording is faithful to the original

Gandalf reviewed the documents according to the attached checklist. Checklist items were taken from CVRD Bylaw No. 4236 – Soil Deposit Bylaw, 2018. All items relevant to Type "C" soil deposit permit applications were reviewed, apart from the submission of fees or securities. Items were reviewed for inclusion and completeness. Items are highlighted in red where they appear to not be present or adequately completed and further information is required, and in yellow where items may not be adequately completed, and further discussion or clarification may be required.

Key findings are summarized below.

1.1 Type C Permit Application Form

The application form appears appropriate.

Survey Plans and Site

No legal survey for the Site was supplied an only a sketch onto a legal plan showing the location of the proposed soils deposit was supplied (Trowsse Application: Attachment 3) and does not meet the requirements.

The respondent prepared a revised survey plan signed by a P.Eng. and the issue is resolved.

Environmental Protection Plan and Site Remediation Plan

Two streams are identified on the CVRD Webmap as shown on Figure 1, but they are identified as being former channels and are reported to no longer meet the CVRD definition of a Stream (Cascadia 2019).

The plan presented in this memo is for the Liu Site and does not correspond with area shown in application documents. Cascadia 2019 refers to Lot 000-678-201 and is east of Trowsse Road and north of the Site on District Lot 102. The application is for Site PID 001-170-406 west of Trowsse Road and on District Lot 127. The approximate location of the Site and Liu Site are shown on Figure 1.

An email was also supplied with respect to the restrictive covenant shown in Plan EPP18898, but it is unclear how the Cascade 2019 document supports the email.

The applicant supplied an EDI report showing the water course on DL127 is not a RAR watercourse. The report is unsigned, prepared for Bamberton Properties LLP rather than the applicant and dated 2014 but seems to provide the requested information and the issue is resolved.

Source Soil Site Review mm

Source Soil Sites are not yet known. A review process is described that includes professional review for geotechnical and environmental concerns; however, it does not explicitly require the submission of a Site Profile.

As part of a Type "C" permit application, the General Manager may require Site Profiles of the site(s) from which the soil originated, prepared in accordance with Schedule 1 of the provincial Contaminated Sites Regulation.

Groundwater Impact Assessment

The Site is located on a mapped aquifer and is in an area of moderate aquifer vulnerability under the Drastic and Aquifer Classification Systems. The proponent indicated that "Monitoring wells have been constructed to monitor the water quality in and around the fill site". The application does not reference any monitoring program and could be included in the application as part of a Groundwater Impact Assessment.

The applicant supplied an authorization letter to the CVRD committing to supplying the results of the monitoring with the annual Fill Site Report and the issue is resolved.

Closure

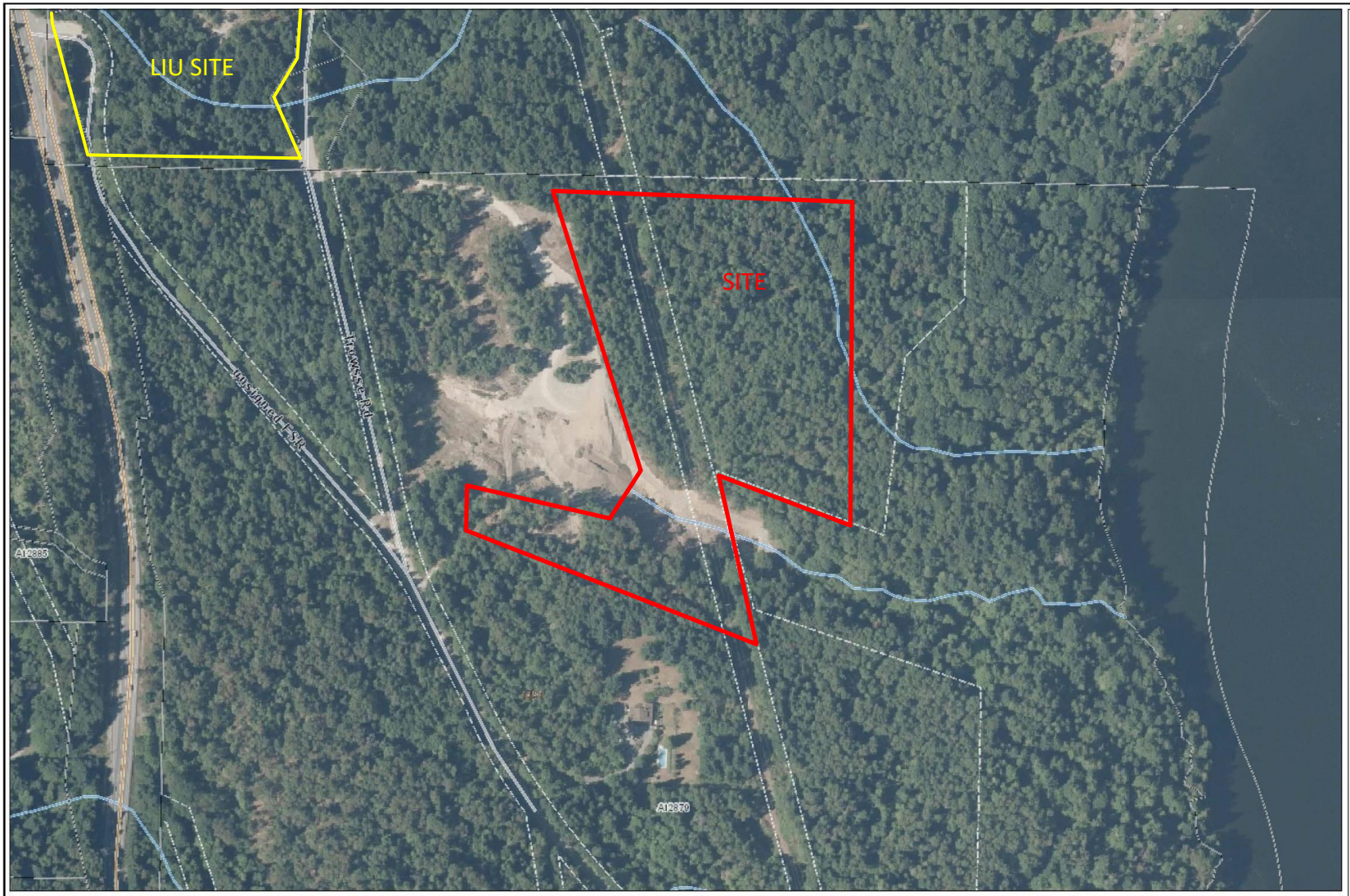
The documents and addendum documents provided for review cover most of the soil permit application requirements for the assessment and placement of soils under a Type C Permit. As per all Type C application the General Manager at his discretion could request Site Profiles for the Soils to be deposited.

I trust the information provided to you is sufficient to satisfy your requirements at this time. Please contact the undersigned if you have any questions or concerns. Yours truly,
GANDALF CONSULTING LTD.



R.M. (Bob) Symington, P. Geo.
Principal, Hydrogeologist

ATTACHMENTS
Figure 1 Site Location
Review Checklist Stonecrest Site
Gandalf Disclaimer and Limits of Liability



Legend

Parks

0 113 170 227 Metres

0 372 558 744 Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate,

THIS MAP IS NOT TO BE USED FOR NAVIGATION

FIGURE 1:
SITE LOCATION

1451 Trowsse Road

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Checklist for Soil Deposit Permit Applications within the Cowichan Valley Regional District

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Site name or address: 1451 Trowsse Road, Mill Bay, B.C. V0R 2P0
Site location: District Lot 127
Site PID: 001-170- 406

Application type (A, B, C)[1]: C
Application prepared by: Coast Mountain Resources
Application date (version 1): April 14, 2020

Application date (version 2): April 14, 2020 Signed

Supporting Documents: Coast Mountain Resources Trowsse Road Fill Site Expansion Area, Apr 14 2020 (Trowsse Application)

Review Legend:

Requires additional information or clarification

May require additional clarification; to be discussed

Corrected or added from previous version of application

Reference:			Mandatory (X) or may be required (*) for application type:			Item present and adequate?			REVIEW		
CVRD Bylaw No. 4236 (2018)	General topic:	Item:							Location of information:	Notes on review findings:	Notes on review findings:
Section:			A	B	C	Y	N	N/A	Application version: 1	Application version: 1	Application Addendum Version: 2
10.2 (a) 11.1 (a) 12.1 (a)	Application form	A completed Soil Deposit Permit application form, of the appropriate type A, B, or C, including all required signatures and authorizations	X	X	X	X			Trowsse Application: Attachment 1	Application is Coast Mountain Resources Inc on behalf of owner Malahat Investment Corporation.	Application is Coast Mountain Resources Inc on behalf of owner Malahat Investment Corporation.
10.2 (b) 11.1 (b) 12.1 (b)	Title search	A title search obtained no more than thirty calendar days prior to submission of the application, together with copies of all registered covenants, statutory rights of way, and easements	X	X	X	X			EDI Environmental Dynamics Inc, Apr 4, 2014	Title Search Mar 16th, 2020, Easements Mar 17th, 2020, Mortgage is with First Nations Finance Authority. Covenant with the CVRD to ensure SPEA and Sensitive Ecosystem are properly identified and protected. Communication supplied that this covenant to be removed.	Document to address Watercourses on DL 127 supplied.
10.2 (c) 11.1 (e)	Riparian Areas Regulation	A completed Riparian Areas Regulation Property Declaration	X	X				X			
12.1 (c)	Survey plans	A survey of the parcel prepared by a British Columbia Land Surveyor, including:			X		X		Trowsse Application: Section C1 and Attachment 3	Sketch added to Legal Plan 41475 but does not appear to be surveyor plan and areas is likely a metes and bounds area. Survey plan required and could be based on Plan EPP18898 and attached	Plan signed by a P. Eng. supplied.
12.1 (c) (i)	Survey plans	legal boundaries of the parcel, the proposed soil deposit area boundaries, and any easements, rights of way and covenant areas;			X		X		Trowsse Application: Section C1 and Attachment 3	Covenants are described but not shown, legal boundaries could not be determined.	Covenants are described but not shown, legal boundaries could not be determined.
12.1 (c) (ii)	Survey plans	location of all structures and private infrastructure on the property;			X	X			Trowsse Application: Section C2 and Figure 2	Offices Shown	Offices Shown
12.1 (c) (iii)	Survey plans	location of all public infrastructure within 20 metres of the property;			X	X			Trowsse Application: Section C3 and Figure 2	Roads and Powerline RoW shown	Roads and Powerline RoW shown

Application prepared by: Coast Mountain Resources
Application date (version 1): April 14, 2020
Application date (version 2): April 14, 2020 Signed

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Site PID: 001-170- 406

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12.1 (c) (iv)	Survey plans	location of all streams, watercourses, wetlands, drainage courses, septic systems and wells on the parcel and within 30 metres of the proposed fill site;			X	X			Trowsse Application: Section C4 and Figure 2, EDI Environmental Dynamics Inc, Apr 4, 2014	Monitoring wells shown but no septic system. Two streams are identified but are identified as being former channels and no longer meet the CVRD definition of a Stream (Cascadia 2019). The plan presented in this memo is for the Liu Site and does not correspond with area shown in application documents. Cascadia 2019 refers to Lot 000-678-201 and is east of Trowsse Road and north of the Site on District Lot 102. The application is for Site PID 001-170-406 west of Trowsse Road and on District Lot 127.	Document to address Watercourses on DL 127 supplied.
12.1 (c) (v)	Survey plans	topographic survey with 0.5 metre intervals showing the pre-deposit topography of the parcel and within 20 metres of the parcel;			X	X	X		Trowsse Application: Section C5 and Figure 2	Contours are to 1 m intervals but maybe acceptable.	Contours are to 1 m intervals but maybe acceptable.
12.1 (c) (vi)	Survey plans	all existing and proposed accesses to the parcel and soil deposit site.			X	X			Trowsse Application: Section C6 and Figure 2		
11.1 (d) (i)	Sediment and erosion	A detailed written description of how sediment and erosion from the deposited fill will be controlled and managed		X				X			
11.2 (a)	Sediment and erosion	A sediment and erosion plan prepared by a Registered Professional		*				X			
12.1 (d)	Soil Assessment and Deposit Plan	A Soil Assessment and Deposit Plan prepared by a Registered Professional, including:			X	X				Report is indicated to be prepared by R.M. Grainger, Peng but is not signed or stamped	Report has been signed and stamped by R.M. Grainger, P. Eng.
12.1 (d) (i)	Soil Assessment and Deposit Plan	proposed location and final contours (0.5 metres) of the soil deposit site;			X	X			Trowsse Application: Section D	Contours are to 1 m intervals but maybe acceptable.	Report has been signed and stamped by R.M. Grainger, P. Eng.
12.1 (d) (ii)	Soil Assessment and Deposit Plan	proposed volume of soil to be deposited, including calculations, cross-sections and other pertinent information used in calculating soil deposit volumes;			X	X			Trowsse Application: Section D2		

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CVRD Bylaw No. 4236 (2018)											
Section:			A	B	C	Y	N	N/A	Application version: 1	Application version: 1	Application Addendum Version: 2
12.1 (d) (iii)	Soil Assessment and Deposit Plan	estimated schedule and phasing of the soil deposit activity;			X	X			Trowsse Application: Section D3		
12.1 (d) (iv)	Soil Assessment and Deposit Plan	description of procedures for controlling access to the site;			X	X			Trowsse Application: Section D4		
12.1 (d) (v)	Soil Assessment and Deposit Plan	description of procedures for documenting the origins and composition of soil to be deposited, including preliminary fill source assessments, soil source site profiles and declarations, and truck tracking receipts;			X	X			Trowsse Application: Section D5		
12.1 (d) (vi)	Soil Assessment and Deposit Plan	description of process for monitoring soil placement so that the approximate location of deposited soil can be matched with truck tracking receipts;			X	X			Trowsse Application: Section D6		
12.1 (d) (vii)	Soil Assessment and Deposit Plan	certification that the proposed soil deposit will not create a danger from flooding, erosion, or landslide;			X	X			Trowsse Application: Section D7	9	9
12.1 (e)	Environmental Protection Plan	An Environmental Protection Plan prepared by a Registered Professional, including:			X	X			Trowsse Application: Section D7	Report is indicated to be prepared by R.M. Grainger, P.Eng but is not signed or stamped	Report has been signed and stamped by R.M. Grainger, P. Eng.
12.1 (e) (i)	Environmental Protection Plan	measures for controlling erosion and sedimentation and for maintaining erosion and sediment control infrastructure;			X	X			Trowsse Application: Section E1		
12.1 (e) (ii)	Environmental Protection Plan	measures for protecting riparian assessment areas, watercourses and sensitive environmental features;			X	X			Trowsse Application: Section E2		
12.1 (e) (iii)	Environmental Protection Plan	measures for minimizing the tracking of soil onto public road ways and for cleaning roads;			X	X			Trowsse Application: Section E3		

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12.1 (e) (iv)	Environmental Protection Plan	measures for minimizing dust;			X	X			Trowsse Application: Section E4		
12.1 (e) (v)	Environmental Protection Plan	measures for managing on-site drainage for the duration of the soil deposit activity and for ensuring that watercourses and adjacent properties will not be negatively impacted from storm water run-off from the soil deposit site;			X	X			Trowsse Application: Section E5		
12.1 (e) (vi)	Environmental Protection Plan	measures for controlling noxious weeds and invasive species.			X	X			Trowsse Application: Section E6		
12.1 (f)	Site Remediation Plan	A Site Remediation Plan prepared by a Registered Professional, including:			X	X			Trowsse Application: Section F	Report is indicated to be prepared by R.M. Grainger, P.Eng but is not signed or stamped	Report has been signed and stamped by R.M. Grainger, P. Eng.
12.1 (f) (i)	Site Remediation Plan	reclamation measures to stabilize, landscape and restore the land upon completion of the soil deposit activity;			X	X			Trowsse Application: Section F1		
12.1 (f) (ii)	Site Remediation Plan	measures for permanent drainage and storm water management;			X	X			Trowsse Application: Section F2		
12.1 (f) (iii)	Site Remediation Plan	measures for managing noxious weeds and invasive species on an on-going basis.			X	X			Trowsse Application: Section F3		
12.2 (a)	Agricultural Capability Report	Is the land agriculturally zoned?			*			X			
12.2 (a)	Agricultural Capability Report	If yes, an Agricultural Capability Report, prepared by a Professional Agrologist, is required, including:			*			X			
12.2 (a) (i)	Agricultural Capability Report	the soil characteristics and agricultural capability of the proposed soil deposit site;			*			X			

Application prepared by: Coast Mountain Resources
Application date (version 1): April 14, 2020
Application date (version 2): April 14, 2020 Signed

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12.2 (a) (ii)	Agricultural Capability Report	the benefits that the proposed soil deposit will provide for agricultural productivity and use;			*			X			
12.2 (a) (iii)	Agricultural Capability Report	any limitations, conditions or recommendations to ensure agricultural capability is maintained or improved;			*			X			
12.2 (a) (iv)	Agricultural Capability Report	recommended measures for protecting the agricultural capability of adjacent agricultural land.			*			X			
12.2 (b)	Hydrology Report	Is the land, in the opinion of the General Manager, susceptible to flooding?			*			X			
12.2 (b)	Hydrology Report	If yes, a Hydrology Report prepared by a Registered Professional certifying that adjacent property and infrastructure will not be subject to increased flooding and hydraulic impacts caused by the reduced absorptive capacity of the Land, reduced flood capacity, or the blockage or re-direction of flood water flows is required			*			X			
12.2 (c)	Ground Water Impact Assessment	Is the land within 100 metres of a provincially designated vulnerable aquifer?			*		X		Trowsse Application: Section C4 and Figure 2, Memo From Richard Grainger to Devin Warwick dated June 16, 2020	The Site is located on a mapped aquifer and is in an area of moderate aquifer vulnerability under the Drastic and Aquifer Classification Systems. The proponent indicated that "Monitoring wells have been constructed to monitor the water quality in and around the fill site". The application does not reference any monitoring program and could be included in the application.	Applicant has committed to allowing access to water quality data for the Site and will be submitting a report annually along with the Fill Site Report.

Application prepared by: Coast Mountain Resources
Application date (version 1): April 14, 2020
Application date (version 2): April 14, 2020 Signed
Supporting Documents: Coast Mountain Resources Trowsse Road Fill Site Expansion Area, Apr 14 2020 (Trowsse Application)

Checklist for Soil Deposit Permit Applications within the Cowichan Valley Regional District

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12.2 (c)	Ground Water Impact Assessment	If yes, a Ground Water Impact Assessment, prepared by a Registered Professional, analyzing the potential impact of proposed soil deposit activity on ground water and recommended ground water protection measures is required			*			X			
11.2 (d) 12.2 (d)	Contaminated Site Regulation	Site Profile of the site from which the soil originated, prepared in accordance with Schedule 1 of the Contaminated Sites Regulation		*	*			X			
11.2 (e) 12.2 (e)	Environmental Management Act	Where the General Manager has reason to believe that soil to be deposited is contaminated soil, satisfactory evidence that the deposit will be in accordance with an authorization, order or exemption under the Environmental Management Act.		*	*			X		Could be required at the discretion of the Manager.	Could be required at the discretion of the Manager.

* Not mandatory for all permit applications but may be required by the General Manager

[1] Soil Deposit Permit types are required based on deposits of soil on a parcel of land in a calendar year: less than 100 m^3 for Type A, between 100 m^3 and 1000 m^3 for Type B, and over 1000 m^3 for Type C

DISCLAIMER

This CVRD Bylaw No. 4236 Report has been prepared for the Cowichan Valley Regional District. ("The Client"). It is intended to provide the Client with an understanding of the potential hazards that the property evaluated in this report may pose to human health, or to the general environment due to chemical contamination. It describes what Gandalf Consulting Ltd. believes are reasonable concerns about how the property could potentially become involved in various environmental problems resulting from hazardous or special waste, and hazardous materials. Gandalf Consulting Ltd. has neither created nor contributed to the creation or existence of any hazardous, radioactive, toxic, irritant, pollutant, special waste, or otherwise dangerous substance, or condition at the site.

This report is based upon data and information obtained from government records, prior investigations, and interview with people knowledgeable about the site or adjacent properties. Information obtained by Gandalf Consulting Ltd. personnel and identified herein and is based solely upon the condition of the property on the date of such inspection, supplemented by information and data obtained by Gandalf Consulting Ltd. and described herein.

This report was prepared by Gandalf Consulting Ltd. for the account of Client. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Gandalf Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Gandalf Consulting Ltd. has performed the work, made the findings, and proposed the recommendations described in this report in accordance with generally accepted environmental science practices for review services in effect at the time the work was performed. This warranty stands in lieu of all other warranties, expressed or implied. While this report can be used as a guide by Client, it must be understood that it is neither a rejection nor an endorsement of the property.

LIMIT OF LIABILITY:

The liability of Gandalf Consulting Ltd. to the Client and to all third parties shall be limited to injury or loss caused by the negligent acts, error or omissions of Gandalf. The total aggregate liability of Gandalf related to this agreement shall not exceed the lesser of the actual damages incurred, the total fee of Gandalf for services rendered on this project, or the professional errors and omissions insurance carried by Gandalf.

The Client has, by contract, agreed to defend, indemnify and hold harmless Gandalf, its affiliates, officers, directors, employees and agents, from any and all liabilities, in excess of the limits of Gandalf Consulting Ltd. entire liability set out above, incurred by Gandalf Consulting

Ltd. or any other party, in connection with the services hereunder, or arising from or in any way connected to uninsurable obligations including those arising from the presence, discharge, dispersal, release, escape or effect of radiation, nuclear reaction of radioactive, toxic, explosive or hazardous substances, or any other pollutants including solid, liquid, gaseous, thermal irritants or contaminants. Such indemnity shall include the costs of the time spent and expenses incurred by Gandalf Consulting Ltd. and its affiliates in connection with the defence of the claims.

PROTECTION AGAINST ERRORS OF OTHERS:

The Client has, by contract, agreed to defend, indemnify and save harmless Gandalf Consulting Ltd., agents and employees against any and all claims, costs, suits and damages, including attorney's fees, arising out of errors, omissions and inaccuracies in documents and information provided to Gandalf Consulting Ltd. by the Client(s), their officers, agents, and employees.