

Mitigating Community Impacts of Mining Operations:
Options for Local Governments

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Table of Contents

I. Introduction.....	4
I.1 Overview of This Paper	4
II. General Comments on the Jurisdiction of Local Governments to Regulate Mining.....	5
II.1 The Issue of Provincial Paramountcy	5
II.2 Spheres of Concurrent Jurisdiction	6
II.3 Crown Land vs Private Land	7
II.4 Zoning Bylaws.....	7
II.5 Development Permit Areas and Development Approval Information Areas	9
II.6 Other Bylaws – General Comments	10
II.7 Nuisance Powers	12
II.8 Soil Removal and Deposit Bylaws	13
III. Noise Mitigation	14
III.1 The Problem.....	14
III.2 Options for Mitigating Noise.....	15
<i>III.2.1 Noise Control Bylaws</i>	<i>15</i>
<i>III.2.2 Soil Removal & Deposit Bylaws.....</i>	<i>16</i>
<i>III.2.3 Nuisance Bylaws</i>	<i>17</i>
IV. Controlling Dust & Air Pollution.....	17
IV.1 The Problem.....	17
IV.2 Options for Controlling Dust and Air Pollution.....	18
<i>IV.2.1 Soil Removal & Deposit Bylaws.....</i>	<i>18</i>
<i>IV.2.2 Nuisance Bylaws</i>	<i>19</i>
V. Protecting Water	20
V.1 The Problem.....	20
V.2 Options for Protecting Water	21
<i>V.2.1 Municipal Jurisdiction to Protect Water</i>	<i>21</i>
<i>V.2.2 Soil Removal & Deposit Bylaws.....</i>	<i>21</i>
<i>V.2.3 Screening & Landscaping.....</i>	<i>23</i>
<i>V.2.4 Drainage Control.....</i>	<i>23</i>

<i>V.2.5 Development Permit Areas and Development Approval Information Areas</i>	23
VI. Protecting Wildlife	24
VI.1 The Problem.....	24
VI.2 Options for Protecting Wildlife	24
<i>VI.2.1 Jurisdiction to Protect the Natural Environment</i>	24
<i>VI.2.2 Development Permit Areas</i>	25
VII. Protecting Public Health	26
VII.1 The Problem.....	26
VII.2 Options for Protecting Public Health	26
<i>VIII.2.1 General Authority to Regulate Regarding Public Health</i>	26
VIII. Regulating Traffic	27
VIII.1 The Problem.....	27
VIII.2 Options for Regulating Traffic.....	28
<i>VIII.2.1 General Authority to Regulate Municipal Highways</i>	28
<i>VIII.2.2 Soil Removal & Deposit Bylaws</i>	29
Summary of Recommendations	31
Appendix: Links to Example Bylaws	35

I. Introduction

I.1 Overview of This Paper

Many citizens feel troubled when they hear that a new mining operation or similar development may start up near their community. On the one hand, a new development suggests the prospect of new jobs and economic prosperity. On the other hand, citizens worry about the impacts that mining and industrial developments might have on their community. Will the new industrial activity be noisy and disruptive? Will there be pollution and dust, getting everything dirty and making the air unhealthy to breathe? Could property values be affected? What about the risks of water contamination and damage to the environment? Will fish and other aquatic species suffer, and how will that affect local industries that rely on them?

These concerns are substantial. However, the good news is that local governments are not powerless to address them. For example, though provincial laws prevent local governments from directly regulating mining excavations, there are many other options by which they can minimize the less desirable side-effects of these operations. There are limits on the scope of these options (see the discussion in Part II about jurisdiction and other issues), but through careful bylaw design, BC communities and their local governments can take action to better regulate potential problems from mining and other industrial operations.

This paper discusses some of the options for local government to address the impacts of mining on residents and the natural environment. The purpose is to make communities and local governments aware of the tools at their disposal, generate discussion as to what steps a community might want to take, and provide examples of how bylaw powers have been creatively used in other BC communities. While every community is different and there is no “one size fits all” solution, we do offer fifteen recommendations for measures that a community facing a prospective mine may wish to investigate further, to decide if something similar would be appropriate for them.

Part II of this paper offers a general overview of the different jurisdiction of municipalities and regional districts where mining operations are concerned, discussing the ways in which their powers are limited - and also the ways in which they remain free to act. This discussion is necessarily somewhat technical, but it provides important context for the rest of the paper. The other Parts of this paper are divided into different “areas of concern”, including noise, dust, water contamination, environmental protection, public health, and traffic issues. Each Part discusses the potential problems arising from a mining or similar industrial operation, and then analyzes (with examples, where available) some of the ways in which these problems can be addressed through bylaws.

The recommendations made by this paper are collected in the ‘Summary of Recommendations’ section at the end.

Acknowledgements: The Fraser Valley Regional District (FVRD) recently undertook a comprehensive study of its own options for regulating gravel mining operations within its territory, and we thank them for the benefits of their research.¹

¹ Fraser Valley Regional District, *Discussion Paper: Objectives for Planning & Regulating Aggregate Operations in FVRD’s Electoral Areas (Draft Version)*, 2011 (“FVRD Discussion Paper”)

II. General Comments on the Jurisdiction of Local Governments to Regulate Mining

II.1 The Issue of Provincial Paramountcy

Summary: If a bylaw conflicts with a Provincial law such that it is impossible to comply with both at the same time, the Provincial law will override the bylaw. Since mining operations are regulated by the Province, local governments must be careful to craft their bylaws in a manner that does not conflict with existing Provincial legislation or with permits issued by the Provincial Government under the Mining Act (hereafter “Mines Permit”).

The bylaw-making powers of BC local governments are delegated to them from the Provincial legislature, primarily via the *Local Government Act*² (hereafter “LGA”) and the *Community Charter*³ (hereafter the “Charter”). The fact that local governments ‘borrow’ their legislative powers from the Province means that those powers cannot be used to override the Province’s use of its authority. In other words, if a bylaw and a Provincial law come into conflict, the Provincial law will prevail. This is known as the ‘paramountcy’ of Provincial legislation, and is codified in s. 10(1) of the *Charter*, which states that “[a] provision of a municipal bylaw has no effect if it is inconsistent with a Provincial enactment”.

This does not mean that local governments are entirely barred from regulating matters that happen to relate to an area of Provincial concern – a certain degree of overlap is permissible, and probably inevitable. The standard test for when a bylaw is trumped by a Provincial law is “impossibility of dual compliance”: if it is possible to comply with both laws at the same time, they both stand, but otherwise the bylaw is overridden.⁴ The *Charter* has again codified this in s. 10(2), which states that “...unless otherwise provided, a municipal bylaw is not inconsistent with another enactment if a person who complies with the bylaw does not, by this, contravene the other enactment.”

The case law on dual compliance suggests that a bylaw is not in conflict simply because it imposes a more stringent standard than provincial legislation, since a party could comply with both laws by complying with the stricter requirement. This has even been extended to cases where a bylaw prohibited something that a Provincial law allowed, but did not require.⁵ For example, in *Cowichan Valley (Regional District) v. Norton*,⁶ (hereafter “Norton”), the court found no conflict between a zoning bylaw prohibiting on-site processing activities (i.e. control of surface activities) and a Mines Permit that allowed them, since on-site processing was not actually *required* as part of the excavating activity and so the company could comply with both laws by moving its processing operations somewhere else.⁷ It is important to note that this was zoning regulation of private land and the landowners did not challenge the validity of the bylaw itself. Note also that this would not have worked if the bylaw were directly or indirectly prohibiting the mine itself – see Parts II.4 and II.6 below for further discussion on this point.

² *Local Government Act*, [RSBC 1996] C. 323 (“LGA”)

³ *Community Charter*, [SBC 2003] C. 26 (“CC”)

⁴ Rogers, p. 345. See also *Squamish (District) v. Great Pacific Pumice Inc.*, 2003 BCCA 404, (“*Great Pacific Pumice II*”), at para. 64: “...[where] there is no conflict between the surface right the respondent seeks to exercise and the appellant’s bylaw, of the sort that makes impossible compliance with both enactments, the provincial legislation presents no impediment to the enforcement of the zoning bylaw.”

⁵ William Buholzer, *British Columbia Planning Law and Practice*, Lexis Nexis Canada Inc., Markham, Ontario, 2001 (“Buholzer”), s. 2.65.

⁶ *Cowichan Valley (Regional District) v. Norton et al*, 2005 BCSC 1056 (“Norton”).

⁷ *Norton*, at para. 22.

Paramountcy is of particular concern when it comes to mining issues, because the Canadian *Constitution Act, 1867*⁸ assigns to the Provinces exclusive jurisdiction over “development, conservation and management of non-renewable resources”.⁹ Mines are thus a matter falling squarely within Provincial jurisdiction. The Province has not delegated any mining-specific powers to local governments, so a bylaw that explicitly sought to directly regulate mining excavation activities would almost certainly be struck down as *ultra vires* (i.e., outside the scope of the local government’s jurisdiction), while a bylaw that did not explicitly regulate mining but still conflicted with the *Mines Act*¹⁰ or any other Provincial mining legislation would be overridden due to paramountcy. Paramountcy would also apply to the terms of Mines Permits, as these are granted pursuant to the *Mines Act*.

That being said, local governments do have some room to regulate some of the *impacts* and *effects* of mining operations. It is worth noting that the Provincial legislature could have chosen to totally immunize mining operations from local regulation, by putting a provision in the *Mines Act* giving it automatic priority over the *LGA* and *Charter* (similar to what was done in s. 121 of the *Utilities Commission Act*¹¹). However, the Province chose not to do so, and the courts have declined to infer such an override.¹² Further, the courts have stated in several cases that a Mines Permit is not a license to disregard local bylaws,¹³ indicating that there are situations in which local regulations must still be followed by mining operators.

Still, local governments should keep paramountcy issues in mind when crafting their bylaws, particularly with respect to the terms of Mines Permits, which will vary from case to case. It is difficult to say exactly when a bylaw goes so far as to encroach on Provincial mining interests, as this is an area of little-tested ground, but there have been recent pro-local government decisions in cases like *Norton*. In this context, there is opportunity for local governments to be leaders and ensure that their community interests are protected to the fullest extent.

II.2 Spheres of Concurrent Jurisdiction

Several of the specific powers granted to local governments tend inherently to overlap with areas of Provincial jurisdiction. Consequently, these powers have a special prerequisite: before using them, a local government must obtain the permission of the relevant Provincial Minister (unless permission has already been granted by regulation or prior agreement). The affected powers include: regulating with respect to public health; protection of the natural environment or wildlife (note: Regional Districts do not have this power); prohibition of soil removal; or prohibiting the deposit of soil or other material with reference to its quality or to contamination.¹⁴ The effects of this requirement for extra permission to

⁸ *The Constitution Act, 1867*, 30 & 31 Victoria, c. 3 (U.K.) (“*Constitution Act*”)

⁹ *Constitution Act*, s. 92A(1)(b).

¹⁰ *Mines Act*, [RSBC 1996] C. 293.

¹¹ *Utilities Commission Act*, [RSBC 1996] c. 473. This section prohibits local government bylaws from interfering with the exercise of powers or authorizations granted to a public utility. In effect it prohibits local governments from regulating run-of-river and other power installations.

¹² *Great Pacific Pumice II*, at para. 7: “However persuasive the economic arguments in favour of exclusive provincial jurisdiction over the regulation of the mining industry, to begin with the view the mining legislation must take priority over the municipal legislation is to give precedence where the Legislature stated none[.]”

¹³ *Great Pacific Pumice II*, at para. 61; also, *Pitt River Quarries Ltd. v. Dewdney-Alouette (District of)*, (1995) 27 M.P.L.R. (2d) 257, at para. 38: “Permission granted under the *Mines Act* to carry on crushing as part of a mining operation does not purport to give permission to [the mining company] to carry on its operations without regard for municipal land use concerns.”

¹⁴ CC, ss. 9(1) and (3), *LGA* ss. 523(2), 693.1(2) and 723(4).

use these specific powers are discussed in more detail in the relevant portions of this paper (parts II.8, VII.1 and VIII.2.1).

II.3 Crown Land vs Private Land

Summary: Land-use bylaws do not normally apply to Crown land, but they may apply to the operations of companies that lease Crown land for private commercial purposes.

Privately-owned land within the boundaries of a local government will generally be subject to regulation by local bylaws. However, many mining operations are located on Provincial Crown land. Even when this land happens to fall within a local government's territory, the fact that it is Crown land has certain implications for the applicability of local bylaws.

Section 14(2) of the B.C. *Interpretation Act*¹⁵ states that "...an enactment that would bind or affect the government in the use or development of land, or in the planning, construction, alteration, servicing, maintenance or use of improvements, as defined in the *Assessment Act*, does not bind or affect the government." Section 1 defines "enactments" as including bylaws. What this means is that land-use bylaws, such as Official Community Plans (OCPs), zoning bylaws, or Development Permit Areas (DPAs), do not affect the Provincial Crown.¹⁶ This does not prevent local governments from passing land-use bylaws that apply to Crown land, but it does mean that the Province is not obligated to abide by them.¹⁷

However, this immunity does not extend to tenants who lease land from the Province for private commercial purposes.¹⁸ In the 2000 BC Court of Appeal Case *Squamish (District) v. Great Pacific Pumice Inc. ("Great Pacific Pumice I")*, the court held that local land use bylaws applied to a mining company that had obtained a lease of Crown land under the *Mines Act* for processing activities.¹⁹ Thus, so long as the mining company is a tenant pursuing private profit, and is not acting as an agent of the Crown, land-use bylaws will likely apply to these operations on Crown lands within a local government's territory. (Though there is another significant limitation to land-use powers in the context of mining – see Part II.4, below.)

Even in a situation where Provincial immunity did extend to a mining operation, it might still be possible to regulate some aspects of the operation through non-land-use bylaws. In particular, noise and nuisance powers, as well as the traffic powers of Municipalities, might be useful in regulating impacts that spilled over from Crown land onto private properties.

II.4 Zoning Bylaws

Summary: Zoning bylaws cannot regulate a mine's extraction activities, nor any surface activities so integral to extraction that they are effectively part of the same process. However, zoning bylaws can regulate or even prohibit other mining-related surface activities, such as post-extraction crushing of minerals to render them marketable.

¹⁵ *Interpretation Act*, [RSBC 1996] c. 238.

¹⁶ Buholzer, s. 3.25.

¹⁷ Buholzer, s. 3.94.

¹⁸ Buholzer, s. 3.26.

¹⁹ *Squamish (District) v. Great Pacific Pumice Inc.*, [2000] B.C.J. No. 1027 (C.A.), at para. 25.

Local governments are empowered to regulate the use of land within their territories through zoning bylaws. The empowering provision is s. 903 of the *LGA*, which states that:

903 (1) A local government may, by bylaw, do one or more of the following:

...

(c) regulate within a zone

(i) the use of land, buildings and other structures,

(ii) the density of the use of land, buildings and other structures,

(iii) the siting, size and dimensions of

(A) buildings and other structures, and

(B) uses that are permitted on the land, and

(iv) the location of uses on the land and within buildings and other structures;

...

(4) The power to regulate under subsection (1) includes the power to prohibit any use or uses in a zone.

However, the definition of “land” in the *LGA* (via the *Community Charter*) explicitly exempts “mines and minerals” from the ambit of these bylaws:²⁰

"land"

...

(b) for [purposes other than assessment and taxation], includes the surface of water, but does not include

...

(ii) mines or minerals belonging to the Crown, or

(iii) mines or minerals for which title in fee simple has been registered in the land title office;

What this means, effectively, is that mines are not considered a “use of land” for *LGA* purposes, and so zoning bylaws cannot regulate them.²¹

However, a series of BC court cases has established that this exemption for “mines” does not include *all* mining-related activities;²² rather, it applies only to the mineral “...substances on or under the

²⁰ *CC*, Schedule. This definition is incorporated into the *Local Government Act*, per s. 5.1 of that *Act*.

²¹ Also note that under s. 14(5) of the *Mineral Tenure Act*, local land use designations do not preclude the registered holder of a mineral title from applying for, or receiving, a Mines Permit or other mining-related approval.

²² *Great Pacific Pumice II*, at para. 48.

surface”,²³ the excavation activities,²⁴ and any related activities that must be carried out on-site as part of the extraction process.²⁵ In other words, local governments can use zoning bylaws to regulate or even prohibit “...any related activity at the [mine site] that is not necessary for extraction.”²⁶

What, then, counts as an activity “necessary for extraction”? Two recent court cases illustrate the difference: *Norton*, which was mentioned earlier, and *Nanaimo (Regional District) v. Jameson Quarries*, (hereafter “*Jameson*”). In both cases, gravel mines were crushing their quarried rocks on-site, contrary to local zoning bylaws. In *Jameson*, it was argued that the crushing was necessary just to be able to transport the quarried stones off-site, which counted as an activity necessary for extraction. However, in *Norton*, the purpose of the crushing was to render the gravel marketable. This did not count as necessary for extraction, since it could be done at another location; the fact that this would be economically inconvenient for the company was not enough to make on-site crushing “necessary”.²⁷

Another way to put this might be that where an activity is so integral to the extraction process that regulating the activity is tantamount to regulating the extraction itself, that activity counts as part of the “mine” for statutory purposes and is thus outside the jurisdiction of a local government’s zoning powers. For example, the right to mine minerals necessarily implies the right to transport them off-site, which in turn implies the right to process them to a point where they *can* be transported. However, to the extent that extraction can continue without the activity, that activity is subject to local zoning and other land use bylaws.

As a final note, there is a similar Common Law doctrine that zoning bylaws cannot prohibit extraction of soil materials, because this would interfere with a “*profit a prendre*” – the right of a landowner to take from the land its physical components. (The idea being that a *profit a prendre* is an ‘interest’ in land, rather than a ‘use’ of land.)²⁸ However, this doctrine also applies only to extraction, and not to post-extraction processing of materials.²⁹

II.5 Development Permit Areas and Development Approval Information Areas

Summary: Development Permit Areas offer an alternative means of imposing conditions on land uses for environmental protection purposes, though they are subject to the same regulatory exemption for ‘mines’ as zoning bylaws.

Local governments may designate Development Permit Areas (DPAs) in their OCPs for various purposes, including protection of the natural environment, its ecosystems and biodiversity.³⁰ The local government can then require development permits before land is subdivided or altered,³¹ and this

²³ *Great Pacific Pumice II*, at para. 49.

²⁴ *Great Pacific Pumice II*, at para. 49.

²⁵ *Nanaimo (Regional District) v. Jameson Quarries Ltd.*, 2005 BCSC 1639, (“*Jameson*”), at paras. 49-53.

²⁶ *Jameson*, at para. 68.

²⁷ *Norton*, at para. 22. It is worth mentioning that the court made specific note of the fact that the bylaw was already in place when the company applied for their Mines Permit. It is implied that the courts might be more sympathetic to an economic hardship argument if the local government had imposed the bylaw after the fact.

²⁸ *Vernon v. Okanagan Excavating Ltd.* (1993), 17 M.P.L.R. (2d) 216 (B.C.S.C.); affd (1995), 9 B.C.L.R. (3d) 331 (B.C.C.A.).

²⁹ Buholzer, ss. 7.75-7.76.

³⁰ LGA, s. 919.1.

³¹ LGA, s. 920(1).

permit can be used to impose various requirements.³² Examples of how these might be used are found throughout the paper.

Two caveats should be made with respect to the use of DPAs. First, the triggering conditions that require a development permit make reference to 'land'.³³ Since mining excavations are excluded from the definition of 'land' in the *LGA*, a mining company would not need a development permit for the excavation itself, nor for activities 'essential' to the excavation (though other associated surface activities could still require them.) Second, because they are land-use bylaws, DPAs would not normally apply to Crown land, though they may still apply if the mining company is a tenant leasing Crown land for private commercial purposes. (See Part II.3 of this paper, above. Note, however, that the courts have not yet specifically applied the principle in *Great Pacific Pumice I* in the context of DPAs.)

Local governments may also designate Development Approval Information Areas (DAIAs) in their OCPs,³⁴ which can be used in conjunction with DPAs to require that an applicant for a development permit provide information, at their own expense, on the anticipated impact of a proposed activity on various areas of concern.³⁵ Again, examples are discussed elsewhere in the paper.

II.6 Other Bylaws – General Comments

Summary: Local governments can use their various regulatory powers to regulate some of the impacts of mining operations, though Regional Districts may need to pass a Service Enabling Bylaw first. As always, local governments must be careful not to directly or indirectly make it impossible for the mining company to exercise the rights granted to them in their Mines Permit.

Local governments are given broad general powers to pass bylaws regulating a range of activities and things. Municipalities draw their jurisdiction from the *Community Charter*, and some of the "fundamental powers" that they are granted include:

8 ...

(3) A council may, by bylaw, regulate, prohibit and impose requirements in relation to the following:

...

(h) the protection and enhancement of the well-being of its community in relation to the matters referred to in section 64 [*nuisances, disturbances and other objectionable situations*];

(i) public health;

(j) protection of the natural environment;

(k) animals;

...

³² *LGA*, s. 920(7).

³³ *LGA*, s. 920(1).

³⁴ *LGA* s. 920.01.

³⁵ *LGA*, s. 920.1(1).

(m) the removal of soil and the deposit of soil or other material.

...

(7) The powers under subsections (3) to (6) to regulate, prohibit and impose requirements, as applicable, in relation to a matter

(a) are separate powers that may be exercised independently of one another,

(b) include the power to regulate, prohibit and impose requirements, as applicable, respecting persons, property, things and activities in relation to the matter, and

(c) may not be used to do anything that a council is specifically authorized to do under Part 26 [*Planning and Land Use Management*] or Part 27 [*Heritage Conservation*] of the *Local Government Act*.

The regulatory jurisdiction of Regional Districts derives from the *LGA*, and while it spans a similar range of powers (with some exceptions noted elsewhere), there is a key difference in how some of these powers work. Specifically, some of the regulatory powers of a regional district are activated only once they decide to offer a related service:

797.1 (1) If a board establishes any of the following services, the indicated provisions apply in relation to the service:

...

(c) in relation to the control of the deposit and removal of soil and the control of the deposit of other materials, section 723;

(d) in relation to the control of pollution, nuisances... noise... unwholesome or noxious materials, odours and disturbances, sections 724 [*noise control*], 725 [*nuisances and disturbances*] and 728 [*fireworks*];

...

This means that Regional Districts seeking to use these powers may need to pass a related Service Enabling Bylaw, (which in turn requires obtaining the approval of the electors and the Province³⁶), if they do not already offer a corresponding service.

Unlike the provisions for zoning bylaws, these regulatory powers of municipalities and regional districts are not exclusively tied to “land”, so they are not subject to the same exemption for mines. Therefore, while none of these powers addresses mining directly, there is no reason in principle why a local government could not use them to indirectly regulate the impacts of mining operations. However, there are two important caveats that must be made here.

³⁶ *LGA*, s. 801(1).

The first caveat is that, as noted above, section 7(c) of the *Community Charter* states that municipalities may not use their “fundamental powers” to do things that would normally fall under their zoning and land use powers – in other words, they cannot enact what amounts to a zoning bylaw disguised under another name. For example, since prohibiting land uses is normally accomplished through zoning, and since zoning bylaws cannot prohibit mining excavations (see Part II.4 of this paper), a non-zoning bylaw, such as nuisance control, that had the indirect effect of banning the excavation would likely fall afoul of section 7(c). The second caveat is that the bylaw must still respect Provincial paramountcy, as discussed above in Part II.1 of this paper.

II.7 Nuisance Powers

Summary: Local governments can regulate many undesirable effects of mining operations by prohibiting “nuisances” by bylaw. However, it is beyond the jurisdiction of a local government to declare that a mine or related activity is a nuisance; they can only require that the activity be carried on in such a manner as not to cause a nuisance.

Nuisance powers have some unique quirks, and deserve their own special mention. Municipalities³⁷ and Regional Districts³⁸ are granted broad general powers to prohibit or abate “nuisances”; while some common varieties of nuisance are spelled out in the legislation (such as graffiti³⁹ and smoke emissions⁴⁰), local governments have a fair degree of latitude in determining what amounts to a “nuisance”.⁴¹ Nuisance powers often overlap with other regulatory powers, and it is not uncommon to see them combined in a single bylaw – for example, a noise bylaw that combines a general prohibition against noise that “constitutes a nuisance”, with more specific provisions regulating common sources of noise.

Because of their flexibility, nuisance powers can be a useful tool for controlling many of the troublesome side-effects of mining and industrial operations. However, they have some limitations. While the legal issues are somewhat complex, in general local government cannot use nuisance to “simulate” regulatory powers that they do not have, nor to expand a specific power that is normally limited in scope.⁴² In the context of mining, this means that local governments could not simply declare the mine itself to be a nuisance, nor could they use nuisance powers to regulate aspects of a mining operation, such as excavation, that are normally beyond their jurisdiction. This would include regulations that ostensibly apply equally to everyone – for example, a bylaw declaring all dust emissions to be a nuisance would not specifically target the mine, but since it would effectively prevent the mine from operating, such a bylaw would almost certainly be held inapplicable.

Another limitation worth mentioning is that neither the *LGA* nor the *Charter* provide for the use of nuisance powers in a manner that discriminates between industries. This means that a local government could not, for example, pass a nuisance bylaw specifically targeting “dust emissions from mining sites that create a nuisance”, but ignore other sources of dust emissions.

³⁷ *CC*, ss. 8(3)(h) and 64.

³⁸ *LGA* s. 725(1).

³⁹ *LGA* s. 725(1)(c)(i), *CC* s. 64(k).

⁴⁰ *LGA* s. 725(1)(g), *CC* s. 64(c).

⁴¹ *Rogers*, s. 180.

⁴² *Rogers*, s.180.

Note that Regional Districts can only regulate nuisances in connection with a service they offer.⁴³

II.8 Soil Removal and Deposit Bylaws

Summary: Soil Removal and Deposit Bylaws can be used to establish a permitting scheme and to impose requirements on operations that involve the removal or deposit of soil. It is commonly accepted that these bylaws can apply to mines, though some legal and practical questions remain unanswered.

Soil Removal and Deposit Bylaws (SRDBs) are frequently used in the context of gravel mining operations as a means of imposing requirements on these operations and mitigating their impacts. While they primarily draw on the soil-related powers described below, it is possible to include provisions in an SRDB that draw on other powers; for example, a local government might rely on their noise powers to impose a noise limit on operators who hold a soil removal or deposit permit. Options of this kind are discussed throughout the paper; here, we discuss the general nature and potential limitations of this type of bylaw.

Municipalities may, "...by bylaw, regulate, prohibit and impose requirements in relation to... the removal of soil and the deposit of soil or other material."⁴⁴ They may also charge fees for obtaining a permit to carry on these activities, and/or charge fees for the actual removal or deposit of soil.⁴⁵ Similarly, Regional Districts that provide an associated service may, "...by bylaw, regulate or prohibit (a) the removal of soil from, and (b) the deposit of soil or other material on any land in the regional district or in any area of the regional district",⁴⁶ and may also require permits and charge fees for the same.⁴⁷

Some types of SRDB provisions may require approval by the Minister. These include provisions that prohibit soil removal, or that prohibit soil deposit with reference to its quality or contamination, as these fall under the "spheres of concurrent jurisdiction" provisions in the *Charter* that were discussed in Part II.2 of this paper. In addition, any bylaw that imposes a permit fee or a soil removal or deposit fee must be approved by the Minister, per s. 723(7) of the *LGA* and s. 195(3) of the *Charter*.

Municipal soil removal and deposit powers do not refer to 'land', and so the exclusion of 'mines' from the definition of land would not affect their SRDBs. The equivalent provisions for Regional Districts do refer to "land", but they allow for regulation with respect to "land... or in any area of the regional district" [emphasis added]. It is not clear whether this ability to regulate in respect of 'an area' gets around the exclusion for 'mines', but local government practice is that both Municipalities and Regional Districts can require soil removal or deposit permits for gravel mines, and can impose requirements through these permits (so long as these requirements are otherwise permissible).⁴⁸ For the purposes of this paper, we will assume this is correct, and that it would apply equally to other types of mining

⁴³ *LGA*, s. 725(1).

⁴⁴ *CC*, s. 8(3)(m).

⁴⁵ *CC*, s. 195(1).

⁴⁶ *LGA*, s. 723(2).

⁴⁷ *LGA*, s. 723(5).

⁴⁸ For example, in a recent opinion paper by FVRD staff regarding a gravel mine in the vicinity of Lake Errock, it is assumed that the operation does in fact require soil removal permits for its various lots. See: Fraser Valley Regional District, *Background Report: Lehigh and Ekset gravel pits, 43837 Lougheed Highway, Lake Errock*, Sep. 30 2011 (rev. Dec. 2 2011), online: <http://www.fvrd.bc.ca/InsidetheFVRD/MeetingsAgendasMinutes/ElectoralAreaServicesCommittee/Archived%20Agendas/CARS%202011%2010%2011/Item%2010-02%20-background%20rpt%20dtd%202011%2009%2030%20re%20Lehigh%20and%20Ekset%20Gravel%20Pits.pdf>, p. 12.

operations, though it should be noted that the courts do not appear to have addressed either of these questions.

There is a potential practical concern that should be raised with respect to using SRDBs in the context of mining operations. Gravel mines, by their nature, require the constant removal of soil, so any SRDB requirements would likely apply throughout the lifetime of the mine. This would not be true of all types of mining operations; some operations will only need to remove soil at certain stages. As such, where a local government wants a particular regulation to apply to all stages of a mining operation, an SRDB may not always be the ideal regulatory instrument.

Finally, and as always, Local Governments must be careful to avoid doing indirectly what they cannot do directly. An example of a bylaw that fell afoul of this principle was seen in *Totangi Forestry Ltd. v. Metchosin (District)*.⁴⁹ In this case, the Regional District passed an SRDB that did not explicitly prohibit soil removal (and so did not, seemingly, require Ministerial approval), but it did set a measurable limit on the level of suspended solids in nearby watercourses. Unfortunately, the limit that was chosen was found to be lower than naturally-occurring levels – in other words, it was probably impossible to comply with the bylaw. The court held that this provision was effectively a prohibition on soil removal, and was thus ineffective unless and until it received the Minister's approval.⁵⁰

AREAS OF CONCERN

III. Noise Mitigation

III.1 The Problem

Mining operations can generate significant noise, which many community members may find disruptive or disturbing. In addition to blasting, extraction, and transportation of materials, noise may be generated by clearing, crushing, screening, loading, back-up beepers, truck marshalling, truck braking, conveyor belts, and other related activities.

High noise levels can significantly impact quality of life, enjoyment of property, and property values for community members living in the vicinity of a mining operation.⁵¹ In addition, there is growing evidence that excessive noise levels may be harmful to human health, causing a stress reaction that can contribute to or aggravate stress-related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches.⁵² Environmental noise can also interfere with wildlife sound communication, sound detection, navigation, breeding and habitat usage, leading to negative impacts on the natural environment.⁵³

⁴⁹ *Totangi Forestry Ltd. v. Metchosin (District)*, 2003 BCSC 1617 (“*Totangi*”).

⁵⁰ *Totangi*, paras. 18 and 24.

⁵¹ *FVRD Discussion Paper*, p. 5.

⁵² Office of the Scientific Assistant Office of Noise Abatement and Control: US Environmental Protection Agency, *Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise*, National Association of Noise Control Officials, Fort Walton Beach, Florida, 1981.

⁵³ *FVRD Discussion Paper*, p. 5.

III.2 Options for Mitigating Noise

III.2.1 Noise Control Bylaws:

Municipalities⁵⁴ and Regional Districts⁵⁵ are both empowered to pass bylaws regulating or prohibiting disturbing or objectionable levels of noise. (Regional Districts must provide an associated service.) Historically, noise control bylaws have often taken the form of “general” prohibitions against creating any noise that tends to disturb the peace, comfort, enjoyment, etc. of persons in the vicinity.⁵⁶ What constitutes a violation of such a bylaw is a matter of discretion, and many local governments maintain no active sound monitoring program, initiating enforcement procedures only when complaints are received from members of the public.

However, more rigorous sound control bylaws are possible. For example, local governments can set specific levels of noise (typically measured in decibels or “dB”) that may not be exceeded. For a more fine-grained control, different decibel limits can be set for different circumstances, such as for different zoning types or different times of day.⁵⁷ Regional Districts are empowered to pass different noise control bylaws for different areas within the Regional District.⁵⁸ Another option for varying the limits is to set them at a certain amount “over ambient levels” – for example, prohibiting noise that exceeds “10 dB over ambient daytime levels” for a given area. The advantage of such an approach is that it naturally adjusts the noise limit to reflect the ‘normal’ level of noise in a given area; the disadvantage is that it would require determining what the relevant ‘ambient’ noise levels are. Daytime noise limits of 50-55 dB, or 5-10 dB over ambient levels, appear to be commonly used for residential areas.⁵⁹

A local government wishing to enforce a noise limit scheme such as this on an ongoing basis would likely need to establish procedures for routine monitoring of noise levels, such as by a trained enforcement officer equipped with a hand-held sound level meter.⁶⁰

Examples from other jurisdictions:

- City of Victoria *Noise Bylaw* No. 03-12: this bylaw includes general prohibitions against disruptive noise, specific decibel limits varying by area and by time of day, and prohibitions and restrictions on certain types of noise (e.g. leaf blowers, power equipment.)
- Regional District of Central Kootenay *Noise Bylaw* No. 2061: sets specific decibel limits varying by zoning type and time of day, in addition to general prohibitions against disruptive noise, and other regulatory measures.

⁵⁴ *Community Charter*, s. 64(b)

⁵⁵ *Local Government Act*, s. 724(1)(a).

⁵⁶ See, for example, the FVRD’s *Chilliwack River Valley Noise and Disturbance Bylaw No. 0799*, 1988, s. 4(a).

⁵⁷ For an example of this, see *Regional District of Central Kootenay Noise Bylaw No. 2061*, 2009, ss. 4-6.

⁵⁸ *LGA*, s. 724(2).

⁵⁹ For example, the City of Victoria *Noise Bylaw* No. 03-12, s. 5 sets a 55 dBA daytime limit for “quiet districts”, and 60 dBA for “activity districts”, as defined elsewhere in the bylaw.

⁶⁰ *FVRD Discussion Paper*, p. 8.

Recommendation #1: Consider adopting a noise-control bylaw to regulate permissible levels of noise resulting from industrial operations. This might include any or all of the following:

- Prohibiting the creation of noise that disturbs or tends to disturb the peace, comfort, enjoyment, etc. of persons in the vicinity, or that creates or tends to create a nuisance;
- Prohibiting noise above a measurable limit (e.g. 50 decibels), which can be varied depending on the type of zoning and/or the time of day; or
- Prohibiting noise that exceeds the ‘ambient’ level in an area by a measurable amount (e.g. “15 decibels above ambient levels”).

III.2.2 Soil Removal & Deposit Bylaws:

A local government may also insert provisions that draw on its noise powers into an SRDB. This means that provisions similar to those described in the previous section could be included in an SRDB - for example, a bylaw might generally prohibit noise that disturbs the public, or set specific decibel limits for noise resulting from operations. SRDBs may also control sound levels by requiring the use of appropriate mitigation measures or equipment. These might include: sound deflection berms or structures; landscaping and screening; mine site practices such as non-audible back-up alarms; the use of acoustical barriers for equipment and activity locations; and/or limits on permissible hours of operation. If the local government requires soil removal and deposit permits, these requirements could also be imposed as conditions of the permit.

Local governments may be loath to impose requirements that are too specific (e.g. requiring that industrial equipment use rubber-lined chutes) due to their comparative lack of expertise in these matters. However, it is equally important to avoid phrasing provisions in an overly broad manner; for example, a provision that simply mandated that an industrial operation “use sound-reducing equipment wherever feasible” would likely be very difficult to enforce.

Examples from other jurisdictions:

- City of Abbotsford, *Soil Deposit and Removal By-Law* No. 1228-2003, s. 26: “No person engaged in a soil removal or a soil or other material deposit operation shall cause or permit... noise to escape so as to constitute a nuisance to any other property.”
- Fraser Valley Regional District formerly had a soil removal bylaw setting a 55 dB noise limit. (It was subsequently struck down by the courts for unrelated reasons.)⁶¹

Recommendation #2: Consider adopting a soil removal and deposit bylaw that sets out mandatory noise mitigation requirements. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- Prohibiting excessive noise generation, using any of the methods discussed in Recommendation #1; or
- Requiring the use of specific noise-mitigation measures.

⁶¹ FVRD Discussion Paper, p. 7.

III.2.3 Nuisance Bylaws:

Local governments may also prohibit noise which rises to the level of a nuisance. While nuisance provisions can be included in other types of bylaws, another option is to pass a general nuisance bylaw covering a range of issues. Prohibitions against noise-related nuisances could be included in such a bylaw.

A Municipality may, by bylaw:

- "...regulate, prohibit, and impose requirements in relation to... the protection and enhancement of the well-being of its community in relation to... nuisances;"⁶²
- "...regulate, prohibit, and impose requirements in relation to... the protection and enhancement of the well-being of its community in relation to... noise, vibration... or any other matter that is liable to disturb the quiet, peace, rest, enjoyment, comfort or convenience of individuals or the public;"⁶³

A Regional District which provides a relevant service may, by bylaw:

- "...prevent, abate and prohibit nuisances, and provide for the recovery of costs of abatement of nuisances from the person causing the nuisance or other persons prescribed in the bylaw;"⁶⁴
- "...regulate or prohibit the making or causing of noises or sounds in or on a highway or elsewhere in the regional district (i) that disturb, or tend to disturb, the quiet, peace, rest, enjoyment, comfort or convenience of the neighbourhood, or of persons in the vicinity, or (ii) that the board believes are objectionable or liable to disturb the quiet, peace, rest, enjoyment, comfort or convenience of individuals in the public;"⁶⁵

Recommendation #3: Consider adopting a general nuisance bylaw that prohibits the creation of noise that interferes with residents' use or enjoyment of property or public spaces.

IV. Controlling Dust & Air Pollution

IV.1 The Problem

Dust pollution has been raised as a serious concern by communities living near mining operations. Dust can be generated through the mining activities themselves, but also through the loading, transportation, and storage of excavated materials. This dust can enter the air and settle throughout the area, soiling houses, gardens and vehicles, and contaminating ponds, lakes and fields. In addition to the inconvenience of more frequent cleaning and the aesthetic impacts, excessive dust (particularly black coal dust) can also lower property values, making a region a less attractive place to live.⁶⁶

⁶² CC, ss. 8(3)(h) and 64(a).

⁶³ CC, ss. 8(3)(h) and 64(b).

⁶⁴ LGA, s. 725(1)(a).

⁶⁵ LGA, ss. 724(1)(a).

⁶⁶ Sandborn, Chunick and Sharp, Letter to the Hon. Jim Prentice, P.C., M.P., dated August 16 2010. Environmental Law Centre, online: <http://www.elc.uvic.ca/documents/comox-coal-mine-MEDIA-PKGE-Aug17.2010.doc.pdf>, p. 7. ("Letter to Prentice")

Of even greater concern, however, are the potential health effects of dust. An increase in air particulate matter can lead to increases in respiratory diseases in the population. A West Virginia study found that adults living in close proximity to coal mines tended to have poorer health, with higher risk for cardiopulmonary disease, chronic lung disease, hypertension, and kidney disease.⁶⁷ There is also the risk that some of this dust will end up being ingested.⁶⁸

Finally, dust emissions can be harmful to the natural environment. Dust that accumulates on plants and vegetation (including crops) can reduce light penetration and thereby reduce growth rates and impair plant health. Dust can also settle into watercourses where it accumulates as sediment, reducing water quality and harming aquatic species.⁶⁹

IV.2 Options for Controlling Dust and Air Pollution

IV.2.1 Soil Removal & Deposit Bylaws:

SRDBs, and the corresponding permits, are commonly used by local governments in BC to control dust emissions. This can be as simple as a general prohibition on allowing dust to escape “so as to constitute a nuisance”, but more sophisticated controls are possible. For example, a local government might prohibit allowing dust to escape in quantities that raises the concentration of airborne particulate matter above a set limit (assuming the local government has the capacity to monitor this).

Another approach would be to require a permit applicant to identify what methods of dust control they will employ, or even identify mandatory measures to reduce dust emissions. These might include locating dust sources in areas sheltered from wind, revegetating exposed soil, landscaping to create windbreaks, paving loading areas, erecting berms, spraying of dust-suppressing liquids, enclosing (or partially enclosing) hopper dumps or processing equipment, filtering, spraying haul roads, installing and using wheel wash stations, and others.

SRDBs can also specify information and technical reports that must be provided before a permit will be issued. This could include requiring the applicant to prepare a dust mitigation plan with the aid of a qualified professional.

Examples from other jurisdictions:

- City of Abbotsford *Soil Removal & Deposit Bylaw* No. 1228-2003, s. 26: “No person engaged in a soil removal or a soil or other material deposit operation shall cause or permit dust... to escape so as to constitute a nuisance to any other property.”
- District of Summerland *Earthwork Control Bylaw* No. 2000-290, s. 9.1(n): “All *earthwork* shall be subject to a continuous program of dust control to the satisfaction of the *Director*. The *permit holder* shall control the escape of dirt, dust, and smoke so as to prevent private or public nuisance affecting any public or private property, highway, or right of way.”

⁶⁷ M. Hendryx and M.A. Ahern, “Relations Between Health Indicators and Residential Proximity to Coal Mining in West Virginia”, *American Journal of Public Health*, April 2008, Vol 98, No. 4, online: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2376994/pdf/0980669.pdf>, accessed January 18, 2012.

⁶⁸ Letter to Prentice, p. 7.

⁶⁹ *FVRD discussion paper*, p. 9.

- City of Prince George *Soil Removal & Deposit Bylaw* No. 7022, 1999, s. 13.1(e): “Removal or Deposit Operations must occur in a manner which minimizes the impact of noise, dust and other potential nuisances on the users of adjacent Land.” Schedule “D” sets out eight required dust control practices. (See link in Appendix.)
- FVRD *Soil Removal & Deposit Bylaw* No. 0729, 2006, s. 9(a)(xv): Permit applicants are required to identify the proposed “methods of dust... control on the land while soil removal or deposit is being undertaken.”

Recommendation #4: Consider adopting a soil removal and deposit bylaw that sets out mandatory dust control requirements. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- A prohibition against causing or permitting dust to escape in such a manner as to disturb or tend to disturb the peace, comfort, enjoyment, etc. of persons in the vicinity, or so as to create or tend to create a nuisance;
- Requiring a permit applicant to prepare a dust mitigation plan with the aid of a qualified professional, or to identify what dust mitigation techniques they intend to use; or
- Requiring the use of specific dust control measures.

IV.2.2 Nuisance Bylaws:

Local governments can regulate dust emissions through their nuisance powers generally, without tying the regulation to the specific context of a soil removal or deposit operation. These powers could be used to prohibit the creation of a nuisance, prescribe mitigation measures or precautions that must be undertaken, or impose requirements to ameliorate dust emissions that are creating a nuisance.

A Municipality may, by bylaw:

- “...regulate, prohibit, and impose requirements in relation to... the protection and enhancement of the well-being of its community in relation to... nuisances;”⁷⁰
- “...regulate, prohibit, and impose requirements in relation to... the protection and enhancement of the well-being of its community in relation to... dust... or any other matter that is liable to disturb the quiet, peace, rest, enjoyment, comfort or convenience of individuals or the public;”⁷¹
- “...regulate, prohibit, and impose requirements in relation to... the protection and enhancement of the well-being of the community in relation to... the emission of... dust... or other effluvia that is liable to foul or contaminate the atmosphere;”⁷²

⁷⁰ CC, ss. 8(3)(h) and 64(a).

⁷¹ CC, ss. 8(3)(h) and 64(b).

⁷² CC, ss. 8(3)(h) and 64(c).

A Regional District that provides a relevant service may, by bylaw:

- "...prevent, abate and prohibit nuisances, and provide for the recovery of costs of abatement of nuisances from the person causing the nuisance or other persons prescribed in the bylaw;"⁷³
- "...in relation to the emission of... dust... or other effluvia, (i) require the owners or occupiers of real property, or their agents, to eliminate or reduce the fouling or contaminating of the atmosphere through those emissions, (ii) prescribe measures and precautions to be taken for the purpose of subparagraph (i), and (iii) establish limits not to be exceeded for those emissions[.]"⁷⁴

Examples from other jurisdictions:

- City of Quesnel *Nuisance Bylaw* 1456, 2001, s. 3.5: "No owner or occupier of real property shall foul or contaminate the atmosphere through emission of... dust... other effluvia, or permit the fouling or contaminating of the atmosphere by such substances."

Recommendation #5: Consider adopting a general nuisance bylaw that prohibits causing or allowing dust to escape in a manner that interferes with residents' use or enjoyment of property or public spaces.

V. Protecting Water

V.1 The Problem

There are numerous ways in which mining operations can degrade drinking water quality and threaten watercourses and groundwater. Landscape alterations can alter or disrupt groundwater flows, potentially impacting water supply wells; they can also alter surface hydrology, which can remove or disrupt wetlands, springs, intermittent streams or other surface water features, or alter runoff patterns.⁷⁵

Of perhaps even greater concern is the threat of water contamination, particularly from acid mine drainage. This occurs when sulphide minerals are exposed through mining operations to air and water, forming sulphuric acid⁷⁶ that can leach toxic metals such as arsenic, cadmium, chromium, lead,⁷⁷ copper, mercury, selenium and zinc⁷⁸ out of waste rock. Surface runoff can carry these metals into local streams, rivers, lakes and groundwater. Acid mine drainage is one of the most serious environmental threats posed by mining, potentially rendering drinking water unsafe, contaminating ground water and

⁷³ LGA, s. 725(1)(a).

⁷⁴ LGA, ss. 725(1)(g).

⁷⁵ FVRD Discussion Paper, pp. 14-15.

⁷⁶ First Nations Environmental Health Innovation Network, *Acid Mine Drainage (AMD) Fact Sheet*, online:

http://www.focs.ca/reports/Catface_info_pkg/Acid%20Mine%20Drainage--FNEHIN.pdf, p. 1, accessed Feb. 02 2012 ("AMD Fact Sheet")

⁷⁷ AMD Fact Sheet, p. 1.

⁷⁸ Miningwatch Canada, *EMCBC Mining and the Environment Primer: Acid Mine Drainage*, online:

<http://www.miningwatch.ca/en/emcbc-mining-and-environment-primer-acid-mine-drainage>, accessed Feb. 02 2012. ("Miningwatch AMD Primer")

destroying fish habitat. The effects can continue for centuries after the mine is dug, and can cost millions of dollars to remediate.⁷⁹

Unfortunately, there is no one blanket solution to protecting water sources; because the conditions in each region are unique, protective measures must be tailored to suit each site and watershed. This means that detailed and accurate information on local hydrology and impact assessments, combined with ongoing monitoring and reporting of appropriately-designed mitigation measures, are key in ensuring the effectiveness of any water protection program.⁸⁰

V.2 Options for Protecting Water

V.2.1 Municipal Jurisdiction to Protect Water:

Municipalities are granted a specific power to “regulate, prohibit and impose requirements in relation to... protection of the natural environment [...]”⁸¹ However, this power falls under the “spheres of concurrent authority” described in s. 9 of the *Charter*, so municipalities are required to seek ministerial approval before using it, unless the bylaw is already authorized by regulation or by a prior agreement between the municipality and the Minister responsible.⁸²

The *Spheres of Concurrent Jurisdiction - Environment and Wildlife Regulation* grants municipalities authority to “regulate, prohibit and impose requirements in relation to polluting or obstructing, or impeding the flow of, a stream, creek, waterway, watercourse, waterworks, ditch, drain or sewer, whether or not it is located on private property[.]”⁸³ The use of the environmental protection power in this manner has been pre-approved by regulation, so it would not require special permission from the Minister.

Regional Districts do not possess an analogous watercourse protection power.⁸⁴

Recommendation # 6: Investigate possible methods of using Municipal environmental and water protection powers to protect water from impacts of industrial operations. (Regional Districts do not possess these powers.)

V.2.2 Soil Removal & Deposit Bylaws:

SRDBs offer many options for protecting local watercourses and groundwater, both generally and as part of the permitting process. They can be used to require proponents to gather essential hydrological data prior to beginning operations and can mandate the identification and implementation of mitigation measures. Some examples of how these bylaws could be used include:

- Requiring detailed preliminary reports on local hydrology and proposed mitigation methods as part of a permit application. These might include, for example: the location of all watercourses

⁷⁹ *Miningwatch AMD Primer*

⁸⁰ *FVRD Discussion Paper*, p. 15.

⁸¹ *CC*, s. 8(3)(j).

⁸² *CC*, ss. 9(1)(b) and (c), and 9(3).

⁸³ *Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation*, B.C. Reg. 144/2004. (“*Environment and Wildlife Regulation*”), s. 2(1)(a).

⁸⁴ *LGA*, s. 703.

within a given radius of the activity site; ground water surveys for the proposed activity site and all adjacent lands; water table elevations and aquifer characteristics, including water quality; professional impact assessments; proposed methods to control drainage, sediment, or erosion during excavation; and a report prepared by a Registered Professional certifying the adequacy of these control methods;

- Requiring drainage control measures to prevent surface run-off (using drainage powers – see Part V.2.3, below);
- Requiring the use of buffers along streams (using the screening and landscaping power – see Part V.2.2, below);
- Implementing a leachate-control program to prevent degradation of surface water (using the Municipal water protection powers granted in the *Environment and Wildlife Regulation*; Regional Districts probably could not use this sort of provision);
- Prohibiting the alteration of drainage patterns of any adjoining lands, or causing the ground water table to rise on adjoining lands (using the Municipal water protection powers granted in the *Environment and Wildlife Regulation*; Regional Districts probably could not use this sort of provision);
- General prohibitions against the obstructing, polluting or impeding watercourses, or the introduction of silt or other materials into surface water (using the Municipal water protection powers granted in the *Environment and Wildlife Regulation*; Regional Districts probably could not use this sort of provision);
- Requiring annual and post-completion reports by registered professionals, confirming that the project is in substantial compliance with the terms of its permit.

Examples from other jurisdictions: both the City of Abbotsford's *Consolidated Soil Removal & Deposit Bylaw No. 1228-2003*, and the FVRD's *Soil Removal and Deposit Bylaw No. 0729, 2006*, contain numerous examples of the sorts of provisions discussed above. Links to these bylaws have been included in the Appendix.

Recommendation #7: Consider adopting a soil removal and deposit bylaw that sets out mandatory protective measures for local watercourses and groundwater. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- Requiring a permit applicant to prepare detailed reports on local hydrology (e.g. ground water surveys, professional impact assessments, etc.) and proposed mitigation measures;
- Prohibiting undesirable outcomes, such as the pollution of or introduction of silt into watercourses (note: only Municipalities may do this);
- Requiring the use of specific water protection measures (may only be available to Municipalities); or
- Requiring periodic reports from registered professionals, confirming that the project is in substantial compliance with these requirements.

V.2.3 Screening & Landscaping:

Local governments may, by bylaw, "...require, set standards for and regulate the provision of screening or landscaping for one or more of the following purposes... (b) preserving, protecting, restoring and enhancing the natural environment; (c) preventing hazardous conditions."⁸⁵ Such a bylaw may also "set different requirements, standards and regulations for... (a) different zones; (b) different uses within a zone; [or] (c) different locations within a zone."⁸⁶

These powers could potentially be used to require vegetative buffers around water features, and/or to require that natural vegetation be maintained in certain circumstances. They have the advantage that they can expressly be used for environmental protection purposes, and do not invoke the word 'land' and so would not appear to be subject to the exemption for 'mines' in the definition of 'land'.

Recommendation #8: Explore ways to use screening and landscaping powers to protect watercourses, such as by:

- Requiring vegetative buffers around water features; or
- Requiring that natural vegetation be maintained in certain circumstances.

V.2.4 Drainage Control:

Regional Districts are empowered to regulate, by bylaw, "...the design and installation of drainage and sewerage works provided by persons other than the regional district."⁸⁷ Municipalities possess similar powers.⁸⁸

It is possible that these powers could be used to prescribe specific drainage control requirements, though it would be necessary to determine to what extent these powers would apply to drainage control works within a mining operation.

Recommendation #9: Investigate to what extent drainage regulation powers could be used to prescribe specific drainage control requirements for a mining operation.

V.2.5 Development Permit Areas and Development Approval Information Areas:

As noted earlier, Local Governments may designate DPAs in their OCPs for the purpose of protecting the natural environment.⁸⁹ The local government can then require development permits before construction or land alteration can begin on land within the permit area,⁹⁰ and these permits can be used to impose various requirements, including designation of where development can occur,

⁸⁵ LGA, s. 909(1).

⁸⁶ LGA, s. 909(2).

⁸⁷ LGA, s. 540(a).

⁸⁸ CC, s. 69(a).

⁸⁹ LGA, s. 919.1.

⁹⁰ LGA, s. 920(1).

protection of specified natural features, construction of works to protect watercourses, and use of protective measures such as tree-planting to protect fish habitat and control drainage or erosion.⁹¹

DAIAs can also be used in conjunction with DPAs, to require an applicant for a development permit provide information, at their own expense, on the anticipated impact of a proposed activity on the natural environment.⁹² This might operate as an alternative mechanism by which a mining company could be required to provide information on local hydrology and undertake professional impact assessments.

See Part II.5 of this paper for further discussion of DPAs, DAIAs, and their potential limitations.

Recommendation #10: Explore possibilities for designating Development Permit Areas and Development Approval Information Areas in the Official Community Plan. These designations allow local governments to require development permits before construction or land alteration can begin within the area, and the permits can in turn be used to:

- Require protection of specified natural features or areas (such as watercourses);
- Prohibit development in some areas and allow it in others;
- Require construction of works to protect watercourses;
- Require the use of protective measures, such as tree-planting, to protect fish habitat and control drainage and erosion; or
- Require applicants for development permits to provide an environmental impact assessment.

VI. Protecting Wildlife

VI.1 The Problem

Mining operations can be highly disruptive to local wildlife. As discussed above, contaminated runoff from mining sites and alterations to local hydrology can endanger local water sources that are used by wildlife. Noise and dust from excavation and hauling operations can disrupt habitat and alter the normal behaviour patterns of local animals. Moreover, the mine sites themselves can have a large surface footprint, which can further disrupt or destroy critical habitat.⁹³

VI.2 Options for Protecting Wildlife

VI.2.1 Jurisdiction to Protect the Natural Environment:

Municipalities are granted a specific power to “regulate, prohibit and impose requirements in relation to... protection of the natural environment [...]”⁹⁴ They are also given jurisdiction over animals.⁹⁵ However, there is an important limitation on both of these powers. Before exercising their environmental protection powers in any way, or their animal powers specifically with respect to wildlife,

⁹¹ LGA, s. 920(7).

⁹² LGA, s. 920.1(1).

⁹³ Letter to Prentice, p. 9.

⁹⁴ CC, s. 8(3)(j).

⁹⁵ CC, s. 8(3)(k).

municipalities are required to seek Ministerial approval, unless the bylaw is already authorized by regulation or by a prior agreement between the municipality and the Minister responsible.⁹⁶ The *Environment and Wildlife Regulation* allows municipalities to regulate with respect to feeding or attracting dangerous wildlife,⁹⁷ but does not expressly allow for any wildlife protection measures, so any bylaws attempting to regulate wildlife for this purpose would require Ministerial approval.

Regional Districts do not possess an analogous environmental protection power, and their animal powers do not appear to apply to wildlife.⁹⁸

At this point in time, these powers do not appear to have been widely used, though some jurisdictions have invoked them in passing cosmetic pesticide regulations.⁹⁹ Municipalities interested in protecting local wildlife and critical habitat from the effects of mining and other industrial operations may wish to investigate other potential uses of these powers by bylaw and seek approval from the Provincial Government. Wildlife and species at risk are already regulated at the Provincial¹⁰⁰ and Federal¹⁰¹ levels, but there may be room for complementary measures on a local level.

Recommendation #11: Investigate possible methods of using environmental protection and wildlife powers (Municipalities only) to protect local wildlife from the impacts of industrial operations.

VI.2.2 Development Permit Areas:

As noted earlier, local governments may designate Development Permit Areas in their OCPs for the purpose of “protection of the natural environment, its ecosystems and biological diversity.”¹⁰² The local government can then require development permits before construction or land alteration can begin on land within the permit area.¹⁰³ Among the conditions that may be imposed through these permits are:

- Specifying areas of land that must remain free of development, except in accordance with specified conditions;¹⁰⁴
- Requiring specified natural features or areas to be preserved, protected, restored or enhanced;¹⁰⁵
- Requiring works to be constructed to preserve, protect, restore or enhance specified natural features of the environment;¹⁰⁶
- Requiring protection measures, including that vegetation or trees be planted or retained in order to preserve, protect, restore or enhance fish habitat or riparian areas, control drainage, or control erosion or protect banks.¹⁰⁷

⁹⁶ CC, ss. 9(1)(b) and (c), and 9(3).

⁹⁷ *Environment and Wildlife Regulation*, s. 2(1)(c).

⁹⁸ LGA, s. 703.

⁹⁹ District of Saanich, *Pesticide Bylaw*, 2010, No. 9054.

¹⁰⁰ *Wildlife Act*, [RSBC 1996] C. 488.

¹⁰¹ *Species At Risk Act*, S.C. 2002, c. 29.

¹⁰² LGA, s. 919.1(1)(a).

¹⁰³ LGA, s. 920(1).

¹⁰⁴ LGA, s. 920(7)(a).

¹⁰⁵ LGA, s. 920(7)(b).

¹⁰⁶ LGA, s. 920(7)(d).

¹⁰⁷ LGA, s. 920(7)(e).

Furthermore, the designation of a DAIA in conjunction with the DPA could be used to require the applicant to provide, at their own expense, information on the anticipated impacts of their activities on the natural environment.¹⁰⁸ For example, information about the presence of species at risk in the area and the location of their critical habitat would likely be of great utility in planning mitigation measures.

See Part II.5 of this paper for further discussion of DPAs, DAIA's, and their potential limitations.

Recommendation #12: Designate Development Permit Areas and Development Approval Information Areas in the Official Community Plan for the protection of the natural environment with a focus on wildlife habitat. Permits under a DPA can be used to:

- Require protection of specified natural features or areas (such as critical habitat);
- Require buffers between industrial activities and wildlife corridors;
- Require construction of works to preserve, protect store or enhance specified natural features of the environment;
- Require use of protective measures, such as tree-planting, to protect fish habitat and control drainage and erosion; or
- Require applicants for development permits to provide an environmental impact assessment.

VII. Protecting Public Health

VII.1 The Problem

Health impacts are, understandably, one of the biggest concerns for residents living in the vicinity of a major mining operation. Dust and other airborne particulate matter, contaminated water sources, and even noise from the mining activities can all result in negative health impacts. As noted earlier, a West Virginia study found that adults living in close proximity to coal mines tended to have poorer health overall, and were at higher risk for cardiopulmonary disease, chronic lung disease, hypertension, and kidney disease.¹⁰⁹

VII.2 Options for Protecting Public Health

VII.2.1 General Authority to Regulate Regarding Public Health:

Municipalities are granted the fundamental power to “by bylaw, regulate, prohibit and impose requirements in relation to... public health[.]”¹¹⁰ However, before exercising this power they are

¹⁰⁸ LGA, s. 920.1(1)

¹⁰⁹ M. Hendryx and M.A. Ahern, *Relations Between Health Indicators and Residential Proximity to Coal Mining in West Virginia*, American Journal of Public Health, April 2008, Vol 98, No. 4, online: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2376994/pdf/0980669.pdf>, accessed January 18, 2012.

¹¹⁰ CC, s. 8(3)(i).

required to seek ministerial approval, unless the bylaw is already authorized by regulation or by a prior agreement between the municipality and the minister responsible.¹¹¹

The *Public Health Bylaws Regulation*¹¹² further clarifies that municipalities may pass bylaws in relation to “the protection, promotion or preservation of the health of individuals”,¹¹³ or “the maintenance of sanitary conditions in the municipality”,¹¹⁴ so long as they first consult with the regional health board or medical health officer responsible for public health matters within the municipality,¹¹⁵ and deposit a copy of the bylaw with the minister.¹¹⁶

Regional districts are granted authority to “regulate and prohibit for the purposes of maintaining, promoting or preserving public health or maintaining sanitary conditions, [and to] undertake any other measures it considers necessary for those purposes.”¹¹⁷ These powers are subject to the same limitations and requirements as those of municipalities.¹¹⁸

The public health power has not been widely used. Several local governments have passed or contemplated passing smoking bans¹¹⁹ under this power, and Richmond’s *Public Health Protection Bylaw* No. 6989 regulates a range of health issues including noise.¹²⁰ It is worth investigating what other applications these powers might have in regulating potential health issues arising from mining operations.

Recommendation #13: Investigate the feasibility of using public health powers to regulate negative health impacts associated with industrial operations.

VIII. Regulating Traffic

VIII.1 The Problem

Mining operations involve extensive heavy industrial traffic, and issues surrounding road use are a common source of complaints from local citizens. Local roads, especially in rural areas, are frequently not well-suited to the safe conveyance of industrial traffic, in part because they are often intended for rural residential traffic and not designed in their width, gradient, construction, site lines, and shoulders for more intensive and large industrial uses. This becomes even more problematic where the road must be shared with local users, potentially leading to conflicts.¹²¹ Damage to roads is also a frequent concern.¹²² Finally, loose material from the mine site can collect in truck tires and on the truck chassis

¹¹¹ CC, ss. 9(1)(a) and 9(3).

¹¹² *Public Health Bylaws Regulation*, BC Reg. M29/2004 (“PHBR”).

¹¹³ PHBR, s. 2(1)(a).

¹¹⁴ PHBR, s. 2(1)(b).

¹¹⁵ PHBR, s. 2(2)(c).

¹¹⁶ PHBR, s. 2(2)(a).

¹¹⁷ LGA, s. 523(1).

¹¹⁸ LGA, s. 523(2).

¹¹⁹ City of Surrey *Public Health Smoking Protection Bylaw* No. 16694.

¹²⁰ It is not clear, however, that this bylaw was actually passed pursuant to the public health power.

¹²¹ FVRD *Discussion Paper*, p. 19.

¹²² FVRD *Discussion Paper*, p. 19.

while loading, and can then come loose on public roadways along the haul routes, causing potential safety and nuisance issues.¹²³

VIII.2 Options for Regulating Traffic

VIII.2.1 General Authority to Regulate Municipal Highways:

Municipalities have a broad general authority to pass bylaws to “...regulate and prohibit in relation to all uses of or involving a highway or part of a highway”,¹²⁴ subject to certain limitations.¹²⁵ This includes the power to regulate or prohibit “extraordinary traffic” on a non-arterial highway, and to allow exceptions in return for “...reasonable compensation to the municipality for the damage to the highway or the resulting expense to the municipality that may be caused by extraordinary traffic.”¹²⁶ Note that these powers refer only to municipal highways, and would not apply to Provincial highways.

Municipalities are also granted further powers under the *Motor Vehicle Act*¹²⁷ to pass bylaws regarding vehicle parking¹²⁸ and the regulation of vehicle width, length, height, fastenings and load distributions on non-arterial municipal highways,¹²⁹ among other things. (Again, this does not include Provincial highways.)

These powers could be used to regulate road use by industrial vehicles, such as by designating or restricting haul routes, setting load limits, and providing other controls to deal with safety and traffic issues as required. They could also be used to require compensation for damage to non-arterial municipal highways.

Note that Regional Districts do not own their roads and do not possess analogous powers.

Recommendation #14: Consider using traffic powers (Municipalities only) to regulate road use by industrial vehicles, such as by:

- Designating or restricting haul routes;
- Setting load limits and regulating load distributions on municipal highways;
- Regulating with respect to potential safety and traffic issues (such as possible conflicts with school bus routes); or
- Requiring compensation for damage to non-arterial highways.

¹²³ *FVRD Discussion Paper*, p. 20.

¹²⁴ *CC*, s. 36(1).

¹²⁵ *CC*, s. 36(2).

¹²⁶ *CC*, s. 42.

¹²⁷ *Motor Vehicle Act*, [RSBC 1996] C. 318.

¹²⁸ *Motor Vehicle Act*, s. 124(1)(c).

¹²⁹ *Motor Vehicle Act*, s. 124(1)(j).

VIII.2.2 Soil Removal & Deposit Bylaws:

Traffic powers could be used in SRDBs to impose various requirements relating to road use and maintenance. For example, they may:

- Require submission of detailed descriptions, plans and specifications, prepared by a registered professional, regarding methods to control deterioration of and damage to public roads, as well as proposed haul routes (including certification by a registered professional that the proposed routes can safely accommodate industrial hauling);
- Prohibit damage to roads;
- Require that no material or debris be tracked onto public roads;
- Establish an annual production-based soil removal fee, a portion of which could be used to upgrade public roads in conjunction with the Ministry of Transportation and Infrastructure (MoTI);

Note that because Regional Districts do not have jurisdiction over ownership and maintenance of roads, it is not clear to what extent these options would be available to them. It is commonly thought, for example, that it may be beyond their jurisdiction to collect fees to be put towards road maintenance or upgrading.¹³⁰ This does not mean that a fee scheme could not be established, but to do so would likely require cooperation with the MoTI.

Examples from other jurisdictions:

- The FVRD's *Soil Removal and Deposit Bylaw 0729, 2006*, ss. 9(a)(xvi)-(xvii) requires permit applicants to provide "detailed descriptions, plans, and specifications prepared by a Registered Professional in accordance with good engineering practices... regarding... the proposed methods to control the deterioration of public roads caused by usage in relation to the removal or deposit of Soil on the land, including the tracking of material onto public roads from the land; [and] the proposed primary routes over public highways to and from the land, including details regarding any school zones or other traffic control areas within the Soil Removal and Deposit Regulation Area..."
- The City of Abbotsford's *Soil Removal and Deposit Bylaw No. 1228-2003*, s. 25 requires that "Any person who, in the course of a soil removal or a soil or other material deposit operation, causes or permits to be caused damage to any... highway... shall promptly repair such damage so as to restore the said property as nearly as possible to its condition prior to the commencement of the [operation]."

¹³⁰ FVRD Discussion Paper, p. 20.

Recommendation #15: Consider using a soil removal and deposit bylaw to impose requirements relating to road use and maintenance, such as:

- Requiring permit applicants to submit detailed traffic plans and specifications, such as proposed haul routes that a registered professional has certified as safe;
- Prohibiting damage to roads, tracking of debris onto roads, or other undesirable effects; or
- Establishing an annual production-based soil removal fee, a portion of which can be used to help pay for road upgrades or maintenance.

This option may not be available to Regional Districts.

Summary of Recommendations

Below is a list of the recommendations made in this paper. Although the recommendations are stated in a generalized fashion, it should be noted that there are important differences between the powers of Municipalities and those of Regional Districts, and the reader is advised to turn to the more in-depth discussions elsewhere in this paper for details.

Noise Mitigation:

Recommendation #1: Consider adopting a noise-control bylaw to regulate permissible levels of noise resulting from industrial operations. This might include any or all of the following:

- Prohibiting the creation of noise that disturbs or tends to disturb the peace, comfort, enjoyment, etc. of persons in the vicinity, or that creates or tends to create a nuisance;
- Prohibiting noise above a measurable limit (e.g. 50 decibels), which can be varied depending on the type of zoning and/or the time of day; or
- Prohibiting noise that exceeds the 'ambient' level in an area by a measurable amount (e.g. "15 decibels above ambient levels").

Recommendation #2: Consider adopting a soil removal and deposit bylaw that sets out mandatory noise mitigation requirements. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- Prohibiting excessive noise generation, using any of the methods discussed in Recommendation #1; or
- Requiring the use of specific noise-mitigation measures.

Recommendation #3: Consider adopting a general nuisance bylaw that prohibits the creation of noise that interferes with residents' use or enjoyment of property or public spaces.

Controlling Dust & Air Pollution:

Recommendation #4: Consider adopting a soil removal and deposit bylaw that sets out mandatory dust control requirements. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- A prohibition against causing or permitting dust to escape in such a manner as to disturb or tend to disturb the peace, comfort, enjoyment, etc. of persons in the vicinity, or so as to create or tend to create a nuisance;
- Requiring a permit applicant to prepare a dust mitigation plan with the aid of a qualified professional, or to identify what dust mitigation techniques they intend to use; or
- Requiring the use of specific dust control measures.

Recommendation #5: Consider adopting a general nuisance bylaw that prohibits causing or allowing dust to escape in a manner that interferes with residents' use or enjoyment of property or public spaces.

Protecting Water:

Recommendation # 6: Investigate possible methods of using Municipal environmental and water protection powers to protect water from impacts of industrial operations. (Regional Districts do not possess these powers.)

Recommendation #7: Consider adopting a soil removal and deposit bylaw that sets out mandatory protective measures for local watercourses and groundwater. These requirements could apply generally, or be imposed as conditions of a soil removal or deposit permit, and might include any or all of the following:

- Requiring a permit applicant to prepare detailed reports on local hydrology (e.g. ground water surveys, professional impact assessments, etc.) and proposed mitigation measures;
- Prohibiting undesirable outcomes, such as the pollution of or introduction of silt into watercourses (note: only Municipalities may do this);
- Requiring the use of specific water protection measures (may only be available to Municipalities); or
- Requiring periodic reports from registered professionals, confirming that the project is in substantial compliance with these requirements.

Recommendation #8: Explore ways to use screening and landscaping powers to protect watercourses, such as by:

- Requiring vegetative buffers around water features; or
- Requiring that natural vegetation be maintained in certain circumstances.

Recommendation #9: Investigate to what extent drainage regulation powers could be used to prescribe specific drainage control requirements for a mining operation.

Recommendation #10: Explore possibilities for designating Development Permit Areas and Development Approval Information Areas in the Official Community Plan. These designations allow local governments to require development permits before construction or land alteration can begin within the area, and the permits can in turn be used to:

- Require protection of specified natural features or areas (such as watercourses);
- Prohibit development in some areas and allow it in others;
- Require construction of works to protect watercourses;

- Require the use of protective measures, such as tree-planting, to protect fish habitat and control drainage and erosion; or
- Require applicants for development permits to provide an environmental impact assessment.

Protecting Wildlife:

Recommendation #11: Investigate possible methods of using environmental protection and wildlife powers (Municipalities only) to protect local wildlife from the impacts of industrial operations.

Recommendation #12: Designate Development Permit Areas and Development Approval Information Areas in the Official Community Plan for the protection of the natural environment with a focus on wildlife habitat. Permits under a DPA can be used to:

- Require protection of specified natural features or areas (such as critical habitat);
- Require buffers between industrial activities and wildlife corridors;
- Require construction of works to preserve, protect store or enhance specified natural features of the environment;
- Require use of protective measures, such as tree-planting, to protect fish habitat and control drainage and erosion; or
- Require applicants for development permits to provide an environmental impact assessment.

Protecting Public Health:

Recommendation #13: Investigate the feasibility of using public health powers to regulate negative health impacts associated with industrial operations.

Regulating Traffic:

Recommendation #14: Consider using traffic powers (Municipalities only) to regulate road use by industrial vehicles, such as by:

- Designating or restricting haul routes;
- Setting load limits and regulating load distributions on municipal highways;
- Regulating with respect to potential safety and traffic issues (such as possible conflicts with school bus routes); or
- Requiring compensation for damage to non-arterial highways.

Recommendation #15: Consider using a soil removal and deposit bylaw to impose requirements relating to road use and maintenance, such as:

- Requiring permit applicants to submit detailed traffic plans and specifications, such as proposed haul routes that a registered professional has certified as safe;
- Prohibiting damage to roads, tracking of debris onto roads, or other undesirable effects; or
- Establishing an annual production-based soil removal fee, a portion of which can be used to help pay for road upgrades or maintenance.

This option may not be available to Regional Districts.

Appendix: Links to Example Bylaws

City of Abbotsford *Consolidated Soil Removal and Deposit Bylaw* No. 1228-2003:
<https://abbotsford.civicweb.net/Documents/DocumentDisplay.aspx?ID=5669>

City of Prince George *Soil Removal & Deposit Bylaw* No. 7022, 1999:
http://princegeorge.ca/cityhall/legislativeservices/citybylaws/Bylaw%20Documents/BYLAW_7022_Consolidated_SOIL_REMOVAL_BL_Merged.pdf

City of Prince George *Soil Removal and Deposit Bylaw* No. 8344, 2011, Schedule 'D':
http://princegeorge.ca/citybusiness/currentplanning/Documents/PGDOCS_n201537_v1_Soil_Removal_and_Deposit_Bylaw_8344_2011_Schedule_D.PDF

Fraser Valley Regional District *Bylaw* No. 0729, 2006, *A Bylaw to Regulate the Removal and Deposit of Soil from Land in the Electoral Areas of the Regional District*:
<http://www.fvrd.bc.ca/InsidetheFVRD/Bylaws/LandUsePlanningandDevelopmentBylaws/Planning%20Regulatory%20and%20Admin/FVRD%20Bylaw%200729,%202006%20Electoral%20Area%20Soil%20Removal%20and%20Deposit%20Bylaw.pdf>