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Sterilization of Homeowners' Land and Loss of Property Value Occasioned by Aggregate Extraction in Ontario: A *De Facto* Taking Without Compensation

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ABSTRACT

Aggregate extraction operations are notorious for causing significant environmental damage, often permanent and irreversible, and when permitted in the wrong geographic locations nearby property owners are adversely and uniquely impacted. Through no fault of their own conduct, innocent property owners near an aggregate extraction operation experience a diminished quality of life, lose the full use and enjoyment of their properties, and sustain a reduction in the value of their properties, for which no compensation is received. The unauthorized and free use of third-party property by a Pit or Quarry results in a *de facto* taking of an interest in land similar to an easement for as long as the Pit or Quarry remains operational, which, in Ontario, should be assumed to be in perpetuity. A Licence to extract aggregate has no expiry date, and annual tonnage figures are not publicly accessible. Given the indeterminate duration of aggregate extraction, municipalities need to develop robust land use policies that will protect existing communities, sustain orderly and efficient long-term growth and preserve the quality of life for future generations.

Keywords: Mining; Quarry; Blasting; Aggregate extraction; Property value; Compensation

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1. INTRODUCTION

The contentious nature of aggregate extraction in Ontario and its negative environmental impacts are highlighted in the thesis prepared by Port (2013):

> "Aggregate extraction has been identified as one of the most controversial land-uses in Ontario (Binstock & Carter-Whitney, 2011; ECO, 2011). This is largely due to the environmental consequences and the social costs associated with aggregate extraction activities (Winfield & Taylor, 2005; Kellett, 1995). In most land-use planning scenarios, aggregate developments are unwelcomed by local residents and there has been a growing amount of public disdain towards proposed extraction projects. This public contempt towards the aggregate industry is largely due to a legacy of poorly managed operations and countless number of abandoned, un-rehabilitated sites that have resulted in social and environmental impacts (ECO, 2005; Pichette, 1995), such as dust, noise, increased truck traffic, and lowered property values."

According to Bill Langer, a geologist and quarry reclamation consultant who worked more than 40 years with the U.S. Geological Survey, years of detonating explosives cause irreversible environmental damage, including permanently rerouting of natural water systems beyond the boundaries of the quarry site (cone of depression) (Carey, 2022; Green et al., 2005; Langer, 2001):

> *"[Y]ears of blasting can fracture underground caverns, rerouting natural water systems and displacing local species. The soil and water in quarries are often thick with iron, manganese, and phosphorus, making most former quarry sites hostile to vegetation...."*

2. TEMPORARY (ABATABLE) AND PERMANENT NUISANCES

According to Professor Prosser, the different ways in which an interest in the use or enjoyment of land may be invaded and cause a temporary or permanent loss in property value. In the words of Prosser, Law of Torts '87, at 619-620 (5th ed. 1984):

> "A [compensable] private nuisance may consist of an interference with the physical condition of the land itself, as by vibrations or blasting which damages a house, the destruction of crops, flooding, raising the water table, or the pollution of a stream or of an underground water supply. It may consist of a disturbance of the comfort or convenience of the occupant, as by unpleasant odours, smoke or dust or gas, loud noises, excessive light or high temperatures, or even repeated telephone calls; or of his health, as by a pond full of malarial mosquitoes. Likewise, it may disturb merely his peace of mind, as in the case of a bawdy house, the depressing effect of an undertaking establishment, or the unfounded fear of contagion from a tuberculosis hospital. A threat of future injury may be a present menace and interference with enjoyment, as in the case of stored explosives, inflammable buildings or materials, or a vicious dog; and even though no use is being made of the plaintiff's land at the time, the depreciation in the use value of the property because of such conditions or activities are sufficient for present damage upon which an action may be based. Many nuisances involve an assortment of interferences: a factory may cause vibration, smoke and dust, loud noises, pollution of a stream, and a fire hazard. So long as the interference is substantial and unreasonable, and, such as, would be offensive or inconvenient to the normal person, virtually any disturbance of the enjoyment of the property may amount to a nuisance" [p. 10].[1]

As Prosser has pointed out, the intent element in nuisance is most often met "where the invasion is intentional merely in the sense that the defendant has created or continued the condition caused or is substantially to occur." Prosser further argued:

> "It is apparent from what has been said hereafter that the conduct may often result in substantial interference, as when a cement factory locates next to a small farmer, without such conduct being unreasonable, and even when defendant is exercising utmost care while utilizing all the technical know-how available. It has often been observed that

[1] Plaintiffs' Trial Memorandum, Sept. 2000, Rutland Superior Court, State of Vermont, Docket No.S0562-97cC.. https://www.vermontjudiciary.org/courts/court-calendars/rdd_cal.htm

> liability, if imposed in such a case, is liability without fault. But this is a mistake. The harm is intentional. Private property cannot be physically harmed or its value impaired in this way; however, socially desirable the conduct, without payment being made for the harm done, if the interference that is the consequence of the activity is substantial and considered to be unreasonable. This, of course, does not mean that the activity will be enjoined. When the defendant engages in an activity with knowledge that this activity is interfering with the plaintiff in the use and enjoyment of his property, and the interference is substantial and unreasonable in extent, the defendant is liable, and the monetary recovery is simply a cost of engaging in the kind of activity in which the defendant is engaged [p. 12]."[2]

In *Ledbetter v. Holcomb* (1963),[3] the homeowner claimed that the market value of his home was at least $20,000 immediately before the defendant began the operation of its blasting rock quarry, and, as a result of the quarrying operations, the value of homeowner's property had declined by $8,000 to $12,000. The homeowner sought damages of $8,127.25, which included $127.25 in medical expenses incurred in the treatment of his son for the respiratory ailment allegedly caused by dust from the blasting. The homeowner further alleged,

> *"That the injury and damage which resulted in the loss in value of the plaintiff's home consisted of 'pollution of the atmosphere with dust and debris, making plaintiff's home uninhabitable unless all windows are kept down; the settling of said dust and debris upon the painted surfaces of said home; the vibration and shaking of plaintiff's home by said blasting operations causing plaintiff, his two minor children and his wife to be constantly apprehensive about the safety of themselves and the children; and because the casting of rocks [flyrock debris] into plaintiff's yard by said blast of sufficient size to kill or injure his children if hit by same while playing on the outside of the home restricts the full use and enjoyment of his home."*

As the alleged nuisance and trespass was an abatable one, rather than one causing permanent damage, the appeals court ruled that the loss in property value is generally measured by the yearly rental loss. The court said:

> *"The diminution of the yearly rental value of the property during its existence and within the statute of limitation, plus any special damages sustained, if the injury is of a temporary nature."*

In addition to the annual rental loss, the homeowner was still entitled to claim other special damages, which the appeals court found to be "meritorious."

As reported, a dispute between neighbouring property owners and Enon Sand and Gravel resulted in favourable outcomes for residents, whose interest in their land was adversely affected by a proposed expansion of a blasting quarry operation on a 420-acre parcel in Mad River Township (Bachman, 2021):

> *"…[I]n December 2020,…a private lawsuit settled in favor of five neighbors of the mine who successfully argued that mining could damage their property values and private wells. The judge…, agreeing with the plaintiffs that they could be "specially damaged by the proposed surface mining," with possible impacts to their private wells along with their property values, which may be harmed by increased traffic and blasting noise.*[4]

In *McLean Lake Residents' Association v. City of Whitehorse and Yukon Government Department of Energy, Mines and Resources* [2007],[5] involving an application to rezone 14 hectares (34.59 acres) to permit a quarry with a 50-year life expectancy, the Supreme Court of the Yukon Territory rejected the argument that property values are outside the scope of the *Environmental Assessment Act*:

> "I do not necessarily agree with the statement in the Screening Report that property values are outside the scope of the *Environmental Protection Act*. Surely, the definition of "environmental effect" is broad enough to include property values. Obviously, if there is a

[2] Ibid
[3] *Ledbetter Brothers, Inc. v. Holcomb*, 108 Ga. App. 282 (1963) 132 S.E.2d 805. https://casetext.com/case/ledbetter-c-inc-v-holcomb
[4] "[D]iminished property value has been held to establish the needed special damages." *Ameigh v. Baycliffs Corp.*, 127 Ohio App.3d 254. "Special damages can also be shown by proof that 'the character of the neighborhood would be affected in a different manner from other properties by the proposed use.'" *Ameigh* at 254. In *Verbillion et al. v. Enon Sand & Gravel, LLC,* 2021, it was noted that the judge in the lower court ruling took "judicial notice" that adjoining property values would be diminished if blasting occurred [para. 47]." https://casetext.com/case/verbillion-v-enon-sand-gravel-llc
[5] *McLean Lake Residents' Association v. City of Whitehorse and Yukon Government* https://ca.vlex.com/vid/residents-assoc-v-whitehorse-681628161

> significant negative impact on the property values, that would be a significant finding to be taken into consideration" [para. 43].

The Yukon *Environment Act*, passed in 1991, contains the following definitions:

"environment" means

(a) the air, land, and water,
(b) all organic and inorganic matter and living organisms, including biodiversity within and among species,
(c) the ecosystem and ecological relationships,
(d) buildings, structures, roads, facilities, works, artifacts,
(e) all social and economic conditions affecting community life, and
(f) the inter-relationships between (a), (b), (c), (d), or (e).

In the Yukon:

> "natural environment" means paragraphs (a), (b), and (c) of the definition of "environment" in the Yukon and includes the cultural and aesthetic values associated with it;"
>
> "public trust" means the collective interest of the people of the Yukon in the quality of the natural environment and the protection of present and future generations."

The Yukon Supreme Court also ruled that the proposed quarry with a life expectancy of 50 years is "demonstrably not an 'interim use'" [para. 78].

The substantial loss in property value (e.g. homeowner equity) occasioned by aggregate extraction operations has been extensively researched and investigated by Sevelka (2022, 2023), with the negative financial impacts on third-party properties found to extend a considerable distance from a Pit or Quarry.

A recent November 2022 study by Nevada County[6] regarding the economic impact of the proposed reopening of the Idaho-Maryland Mine, an underground gold mine (175 surface acres of industrial land and 2,585 sub-surface acres), undertaken by Niehaus, also considered whether the project would indirectly impact property values, which included the following as part of the findings:

> "A survey of licensed real estate professionals in Nevada indicates that most respondents believe that the proposed project would result in a large and permanent negative impact on local property values. This result is coupled with their opinion that the Draft EIR significantly understates the significance of the project's environmental impacts [p. ii]. [T]hree [of the] real estate brokers interviewed for this study claimed they had first-hand experience with buyers who walked away from a potential sale due to concerns about the proposed project's environmental effects on the property. Though the homes ultimately sold, they either sold at lower prices or spent more days on the market than they otherwise would. According to one broker, information about the mine is one of the required disclosures when selling homes nearby [p. 34]. [As to why the project]…would impact property values…many cited the anticipated increases in traffic and noise along the proposed truck haul routes,…[and] those who expect large negative impacts [it] is the possible draining or contamination of local wells and other water sources…[citing] the case of the San Juan Ridge Mine…[which] in 1995, miners inadvertently drilled into an aquifer, flooding the mine…[and] drain[ing] and contaminat[ing] a dozen of wells [p. 35]."
>
> "Approximately 79 percent of respondents expect property values in Nevada County to decline if the Idaho-Maryland Mine re-opens. Only eight percent of respondents expect property values would increase. The remaining 12 percent do not expect the mine to impact property values. Of participants that included a written comment explaining their opinion, the most cited factor was the risk to water resources, which was mentioned by 37 percent of respondents. There is a strong presence of opinion that if water supply is impacted by the mine's activity, either by dewatering or pollutant run-off, property values would drop significantly. Increases in traffic and noise pollution were mentioned by 32 percent and 31 percent of respondents, respectively, as other causes for declines in

[6] https://www.nevadacountyca.gov/DocumentCenter/View/46101/Economic-Impact-Report_Final

> property values.…[The 8% of] respondents that expect increases in property values cited the increase in jobs and economic activity associated with the proposed project [p. 40]."

The author of the study also cautioned that any perceived benefits from the proposed underground gold mine project could be offset in the event of any long-term adverse effects resulting in reduced property values:

> "Construction and operation of the proposed project would result in costs and benefits to the local community as a result of new mining activity. These activities would provide financial benefits to the community by increasing economic activity and supporting new jobs. However, they could also result in adverse environmental effects, such as increased traffic volumes, noise levels, and visual impacts, making the surrounding area a less desirable place to live or visit. In the event the proposed project resulted in substantial long-term adverse effects, these effects could translate to indirect financial costs in the form of reduced property values and County tax revenues [p. 1]."

In another recent study undertaken by Kolala et al. (2020), measuring the impact of open pit Fimiston Gold Mine in Western Australia, found significant property-value impacts within 2 kilometres of the mine, described as follows:

> "In this study, we estimate the dis-amenity of proximity to a large open-pit gold mine in Kalgoorlie, Western Australia, that has been capitalised into residential property values. To estimate the impact of proximity to the mine on property values, we use sales data for 21,850 residential properties sold in Kalgoorlie-Boulder between 1990 and 2018 [adjusted to 2012 values using the CPI, average price of AU$248,178]. We use distance to the mine as a measure of the impact. We control for spatial heterogeneity using spatial fixed effects. We found that residential properties located within 2 kilometres of the mine trade at a 20% to 30% discount to similar residential properties located at least 6 to 7 kilometres from the mine. Our results can be used for planning appropriate buffer zones around mining activities [p. 1]."

The Province of Nova Scotia recognizes the importance of separating incompatible land uses. A blasting quarry is not permitted within 800 metres of a residential structure without written consent from all the owners of structures within 800 metres from the point of blast. Four residents, including Angela Vroom, who resides 1,000 metres from the quarry, were granted status as respondents to an appeal brought by *Parker Mountain Aggregates Limited* (PMAL)[7] from a decision of the Nova Scotia Department of Environment (NSE) suspending the quarry's permit. Angela Vroom also owns a 25-acre parcel adjacent to the quarry, which she claims was adversely affected by the quarry:

> *"She…owns a 25 acre parcel adjacent to the quarry. She reported excessive noise, dust, dirt and traffic when the Appellant started operations in 2009. She further reported that the 2009 blasting threw rocks [flyrock debris] on her property damaging trees [para. 10]."*

All four respondents expressed the concern that approval of the quarry permit would negatively affect their property value. On this issue, the court found,

> *"It is not just speculation that Ms. Vroom, as well as the other Applicants [homeowners], will experience a decline in the value of their properties. Such a decline will be the direct result of the development and operation of the quarry [para. 16]".*

Suspension of the quarry permit was upheld by the Nova Scotia appeal court (2011),[8] which found that the nature of the NSE decision was not judicial but administrative,

> *"aimed at supporting and promoting the protection, enhancement and prudent use of the environment while balancing the rights of the parties involved, PMAL the quarry owner and those adjacent neighbours as well as exercising a general responsibility to all Nova Scotians [para. 56(1)]."*

[7] Parker Mountain Aggregates Limited v. Nova Scotia (Minister of Environment), 2010 NSSC 277 (CanLII), <https://canlii.ca/t/2bjb4>, retrieved on 20 January 2023.
[8] Ibid.

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3. THE CASE STUDY – STERILIZATION OF HOMEOWNERS' LAND: A *DE FACTO* TAKING WITHOUT COMPENSATION

In the Township of Assiginack, Ontario, a homeowner couple (Dene Banger and Frances Boegli) were deprived of the right to sever and create a *new* 2.9-hectare (7-acre) *lot* from their 7.7-hectare (17.3-acre) parcel, and to maximize the use and value of their property. The homeowners' existing residence is on the 4.8 hectares (11.86 acres) to have been retained. The homeowners' property is zoned *Agricultural* and designated *Rural Area* in the Official Plan. A non-farm related use is permitted in an *Agricultural Zone* within the proposed severed land (7 acres). Private well and septic were proposed for the new lot. The required minimum water flow rate is 13.7 litres per minute or 3 gallons per minute (OP Policy E.2.3 - Provincial D-5-5 Guidelines), similar to the potable water requirement for obtaining mortgage financing in Ontario.

Why were the homeowners denied the right to sever their land and create a *new lot*? Because of inadequate, inappropriate and short-sighted land use Planning and Zoning policies governing *aggregate extraction* at the municipal level and a failure to fully comprehend both the short- and land-term *adverse effects* (some permanent and irreversible), which continue to victimize innocent nearby third-party property owners, not just those within 300 metres of the boundary limits of the Pit and Quarry site. The adjoining 49.3-hectare (121.8-acre) property is a combination Pit and Quarry (Licence No. 616921),[9] which at the time of the homeowners' request for severance (lot creation) in Spring 2022 had been inactive (not in operation) for 7 years. However, the Pit and Quarry Licence (Permit) was still in effect, as a licence to extract aggregate in Ontario has no expiry date, and annual tonnage production figures for a licenced Pit or Quarry are not publicly accessible.[10] According to the Ontario Aggregate Resources Act (ARA),[11] Pit and Quarry are defined as follows:

> *"pit" means land or land under water from which unconsolidated aggregate is being or has been excavated, and that has not been rehabilitated, but does not mean land or land under water excavated for a building or structure on the excavation site or in relation to which an order has been made under subsection (3); ("puits d'extraction")*
>
> *"quarry" means land or land under water from which consolidated aggregate is being or has been excavated, and that has not been rehabilitated, but does not mean land or land under water excavated for a building or structure on the excavation site or in relation to which an order has been made under subsection (3); ("carrière")*

The township justified declining the homeowners' severance request to create a new 7-acre lot on the basis of Policy D.8.2 of the District of Manitoulin Official Plan, which, in part, states

> *"2. Development proposals in close proximity to licenced aggregate extraction areas will be evaluated in terms of potential incompatibilities and addressed accordingly in consultation with the Province. Pertinent information regarding surface and groundwater, dust, vibration, noise, traffic routes in connection with the licenced area, and buffering will be considered to ascertain the effect these existing factors will have on the proposed new development. Residential and institutional development within 300 metres of mineral aggregate resource areas and licenced pits will generally not be permitted. Proposed residential or institutional development within these areas will be supported by studies that demonstrate that any land use conflicts will be fully mitigated."*

The *Ontario* Ministry of the Environment, Conservation and Parks (MECP), one of the agencies invited by the Manitoulin Planning Board to comment on the severance request to create a new 7-acre lot, and whose comments were then conveyed to the homeowners:

> "As per the Ministry of the Environment…(MEPC) the D-series guidelines require a minimum setback of 300 metres from the Aggregate Site [property lot boundaries] for a new residential sensitive use.
>
> I have attached a sketch identifying the 300 metre buffer: you will note that the subject land is entirely within the 300 metres buffer, as shown in the green hatched area.

[9] Source: Pits and Quarries Online, https://www.lioapplications.lrc.gov.on.ca/Pits_And_Quarries/index.html?viewer=Pits_and_Quarries.Pits_and_Quarries&locale=en-CA.
[10] Information as to the amount of annual tonnage production figures for a specific licenced Pit or Quarry in Ontario is deemed to be confidential. See Order PO-2839, Appeal PA07-375, Ministry of Natural Resources, 2009-10-29, Information and Privacy Commissioner of Ontario. https://decisions.ipc.on.ca/ipc-cipvp/orders/en/item/133378/index.do.
[11] Aggregate Resources Act, R.S.O. 1990, c. A.8, as amended 2021, https://www.ontario.ca/laws/statute/90a08#BK0.

> Policies of our Official Plan for the District of Manitoulin and the Provincial Policy Statement 2020 do not support new sensitive uses within an Aggregate Resource Area. I have attached a copy of the policies from our Official Plan document and from the Provincial Policy Statement 2020.
>
> If the licence is rescinded or if a report can be obtained supporting the new residential use, there may be a possibility to proceed with an application for Consent to Sever…."

In addressing incompatible land uses, the "Preferred Approach" of the D-Series "Guideline" is prevention, which in many cases can only be achieved through appropriate land use planning policies with a long-term view, and imposing setbacks of sufficient width on the offending use (e.g. Pit or Quarry) that do not impede future development opportunities of land owned by others.

Subsequently, the homeowners appealed the decision of the Manitoulin Planning Board to the Ontario Land Tribunal (OLT), Case No. OLT-22-004349,[12] where they represented themselves. On March 17, 2023, the OLT upheld the planning board's decision to deny the homeowners' severance request to permit the creation of a new 7-acre lot. The OLT decision concluded with the following comments:

> "[20] While the Appellant's testimony and submissions sought discretion from the Tribunal, the absence of any expert land-use planning analysis, and the absence of any effort to seek a DNVS [Dust, Noise, Vibration Study], at a minimum, impacted the credibility of the Appellant's case. Without the support of any relevant planning analysis, or even a minimum amount of environmental analysis, the Tribunal is not convinced the consent/severance appeal meets the objectives of the TOP [Township Official Plan], nor is it consistent with the *PPS 2020*.
>
> [21] Concurrently, the testimony and submissions from the Township, particularly the planning report, highlighted the relevance and importance of the TOP, and the need to ensure an effective level of compatibility between such land uses. While the 300-metre setback may seem inordinate from a layman's perspective, it is indeed part of the TOP, and the process for the implementation of this important planning document was not in dispute. Additionally, in the absence of any expert opinion or evidence on behalf of the Appellant related to the TOP, and the *PPS 2020*, the Tribunal cannot be reasonably expected to challenge the integrity of these documents and guidelines. The requisite land-use planning analysis, and at a minimum, some degree of professional environmental study and submissions should have been contemplated by the Appellant."

Severance (single lot creation) is typically a straightforward, quick and inexpensive process handled by members (often politically-motivated appointments) of a Committee of Adjustment or Land Division Committee, and seldom requires costly professional assistance (e.g. studies) in support of a severance request, as suggested by the Manitoulin Planning Board and, effectively, endorsed by the decision of the OLT. Had the homeowners' 17.3-acre property been located on similarly zoned and designated land (Official Plan) elsewhere in the Township of Assiginack and not next to the Pit and Quarry, the homeowners would have been able to obtain the severance (lot creation) and maximize the use and enjoyment and value of their property. Accordingly, only homeowners near a Pit or Quarry are singled out for discriminatory and detrimental treatment by the Township.

Both the Manitoulin Planning Board and the OLT, in declining the homeowners' severance request to create a new lot, failed to appreciate that *adverse effects* apply equally to aggregate extraction, and that *adverse effects* are not permitted beyond the boundary limits of a Pit or Quarry. As noted in Section 2.3 of the D-Series Guideline:

> "This guideline does not apply to situations where incompatible land uses already exist, and there is no new land use proposal for which approval is being sought. However, where feasible, the Ministry encourages the implementation of mitigation measures by the appropriate authority, at the earliest opportunity, to minimize existing compatibility problems.
>
> Note: When there is a compatibility problem where both land uses already exist, matters may be subject to Ministry abatement activities if there is non-compliance with a Ministry issued Certificate of Approval (C of A) for the facility, or there is no C of A in place."

[12] *Banger v Assiginack (Township)*, 2023 CanLII 21657 (ON LT), <https://canlii.ca/t/jw950>, retrieved on 09 May 2023.

Therefore, the owner of the Pit and Quarry site, the party responsible for sterilizing the use of the adjoining homeowners' property, should have been ordered to provide what amounts to a 300-metre setback (extraction limit), even if it reduces the amount of aggregate that can be extracted. *Adverse effects*, as listed below, are similarly defined under the EPA and the Provincial Policy Statement (p. 39):

Adverse effects: as defined in the Environmental Protection Act, means one or more of:

a) impairment of the quality of the natural environment for any use that can be made of it;
b) injury or damage to property or plant or animal life;
c) harm or material discomfort to any person;
d) an adverse effect on the health of any person;
e) impairment of the safety of any person;
f) rendering any property or plant or animal life unfit for human use;
g) loss of enjoyment of normal use of property; and
h) interference with normal conduct of business

The above-noted potential adverse effects are also consistent with Section 45 of Ontario Regulation 419/05[13] under the *Environmental Protection Act*, including "loss of enjoyment of normal use of property."

> "No person shall cause or permit to be caused the emission of any air contaminant to such an extent or degree as may,
> (a) cause discomfort to persons;
> (b) cause loss of enjoyment of normal use of property;
> (c) interfere with normal conduct of business; or
> (d) cause damage to property. O. Reg. 507/09, s. 32 (1).

Vibrations, toxic fumes and flyrock are contaminants,[14] and they are not to leave the site of any existing or proposed aggregate extraction operation.

As for the ARA, regard must also be had to the criteria at s. 12(1) in assessing the merits of an application for a licence to permit aggregate extraction, including municipal planning and land use considerations:

> In considering whether a licence should be issued or refused, the Minister or the Board, as the case may be, shall have regard to,
> (a) The effect of the operation of the pit or quarry on the environment;
> (b) The effect of the operation of the pit or quarry on nearby communities;
> (c) Any comments provided by a municipality in which the site is located;
> (d) The suitability of the progressive rehabilitation and final rehabilitation plans for the site;
> (e) Any possible effects on ground and surface water resources;
> (f) Any possible effects of the operation of the pit or quarry on agricultural resources;
> (g) Any planning and land-use considerations;
> (h) The main haulage routes and proposed truck traffic to and from the site;
> (i) The applicant's history of compliance with this Act and the regulations, if a licence or permit has previously been issued to the applicant under this Act or a predecessor of this Act; and
> (j) Such other matters as are considered appropriate.

Imposing a 300-metre buffer (setback) on the homeowners' property is the equivalent of an easement with an indeterminate term, depriving the homeowners of the use and enjoyment of their property (diminished utility and property value) without compensation for as long as the adjoining Pit and Quarry remains licenced. This scenario is similar to MetroLinx's attempt to seek temporary "work space" easements from property owners adjacent to the Hurontario Street corridor in connection with the installation of the Light Rail Transit (LRT) in Peel Region, Ontario, without appropriate financial compensation.

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[13] https://www.canlii.org/en/on/laws/regu/o-reg-419-05/latest/o-reg-419-05.html

[14] In *Pike Industries Inc. v. City of Westbrook, et al.*, 45 A.3d 707 (2012) 2012 ME 78, the Supreme Judicial Court of Maine approved a consent decree recommending quarrying at the Spring Street Quarry, subject to conditions and restrictions including "limit[ing] vibrations through the use of electronic detonators and laser profiling (Consent Order ¶¶ 35-37), maintain decibels below prescribed levels measured at the property line (Consent Order ¶¶ 39-43) [underscoring added] Consent Decree upheld by the Supreme Judicial Court of Maine, 96 A.3d 73 (2014) ME 85. Docket No. BCD-13-300.

MetroLinx imposed temporary easements with a 6-year term, including the right to enter onto the "work space" easement for a period of 2 months anytime within the 6-year period, and attempted to limit the property-owners' compensation to the actual 2-month period of occupation. By tying up (encumbering) "work space" easements for 6 years, the impacted property owners are entitled to be compensated for the easement for a period of 6 years, rather than for 2 months, the period of actual/physical possession.

> ***Valuing Temporary Easements:*** *One of the most complicated issues in valuing TCEs [Temporary Construction Easements] is how to handle "floating' construction easements, with no defined start or end date. For example, an agency may know it needs to be on the property for one month, but given the size and scope of the project (and the fact that construction phasing or methodologies typically are decided by the contractors), the agency may not know when that one month will commence – it could be years down the road….[For]…highway projects…the Federal Highway Administration must follow…a valuation directive. Specifically, the FHWA has concluded:*
>
> > "Although the actual/physical use of a property may be anticipated for a limited duration within a set timeframe, the property is considered to be encumbered for the entire duration of the set timeframe….TCEs cannot "float"….For example, a TCE for a 12-month anticipated duration to be used within a 36-month timeframe is not permitted…[T]his constitutes a "taking" (encumbrance) even if actual/physical possession is only anticipated for 12 months. A property owner must be compensated for the entire TCE (in this case, for the entire 36-month duration) (Kuhn, 2017)."

Applying the same logic to the homeowners' land adversely impacted by the adjoining Pit and Quarry, whose licence has no expiry date, the loss of the use and enjoyment of the homeowners' property should be treated as permanent, with compensation paid accordingly, either by the Township of Assiginack or, preferably, by the owner of the Pit and Quarry. In the following legal actions, the courts held that the quarry operator must provide the necessary setback (buffer) and refrain from using third-party property to mitigate or avoid deleterious effects of blasting quarry operations and not cast the burden on the adjoining neighbours:

- *Kozesnik et al. v. Township of Montgomery et al*, 24 N.J. 154 (1957) 131 A.2d 1[15]
- *City Sand and Gravel Limited v. Newfoundland (Municipal and Provincial Affairs)* 2007 NLCA 51[16]
- *Eastman et al. v. Dewdney Mountain Farms Ltd.* (2017), ONSC 5749[17]
- *Miller Paving Ltd. v. McNab/Braeside (Township)* (2015), CanLII 70369 (ON LPAT)[18]

In Ontario, the issue of *setbacks* was addressed by the Ontario Municipal Board in *Miller Paving Ltd. v. McNab/Braeside (Township)* 2015, CanLII 70369 (ON LPAT),[19] where the owner of the quarry attempted to unlawfully use the backyards (i.e., outdoor amenity space) of abutting homeowners to satisfy a 300-metre setback requirement of the McNab/Braeside Zoning By-law. Miller Paving submitted an application seeking to expand the blasting quarry operation by attempting to use part of the rear yards of the abutting property owners to satisfy a 300-metre setback requirement. McNab/Braeside Township had passed a by-law requiring a 300-metre setback, and the quarry owner tried unsuccessfully to use the rear 150 metres of the adjoining owners' properties, which are 220 metres deep, to satisfy the Township's 300-metre setback in an effort to extract more aggregate at the expense of innocent third-party property owners. Below are excerpts from the 2015 OMB decision.

As noted from the OMB decision, all *adverse effects* under the Official Plan (Planning Act and 2020 Provincial Policy Statement) must remain on the site of the applicant (owner of the quarry site),

[15] *Kozesnik v. Township of Montgomery*, 24 N.J. 154 (1957), https://casetext.com/case/kozesnik-v-montgomery-twp
[16] Leave to appeal to the Supreme Court of Canada denied. Supreme Court of Canada Summary 32302 *City Sand and Gravel Limited, et al. v. Her Majesty the Queen in Right of Newfoundland, as represented by The Honourable Minister of Municipal and Provincial Affairs* (Newfoundland & Labrador) (Civil) (By Leave), https://www.scc-csc.ca/case-dossier/info/sum-som-eng.aspx?cas=32302
[17] *Eastman, Johnson, Klein and Pillsworth v. Dewdney Mountain Farms Ltd*., 2017 ONSC 5749 (CanLII), <https://canlii.ca/t/h6fbf>, retrieved on 2022-09-22.
[18] *Miller Paving Ltd. v McNab / Braeside (Township)*, 2015 CanLII 70369 (ON LPAT), <https://canlii.ca/t/glwwn>, retrieved on 27 April 2023.
[19] Ibid

and not "dumped" on neighbouring third-party property. Given that one of the known incidents of flyrock had showered the neighbourhood 400 metres from the blast site, even the required 300-metre setback under the zoning by-law proved inadequate from preventing a contaminant (i.e., flyrock), as defined under Section 45 of the Ontario Environmental Protection Act (EPA), from leaving the boundaries of the Miller quarry site. Miller had no legal right to invade, disrupt, diminish or sterilize the *use and enjoyment* of the adjoining homeowners' properties, and, in effect, reduces the value of the homeowners' properties without compensation.

Some incidents need to be noted:

> [54] One was blasting. The applicant's experts acknowledged "three anomalous exceedances over the years." One blast,…[on September 15,] 2005, was labeled the "megablast." [with flyrock debris launched over 400 metres causing damage to residences, driveways and wells.] There were also complaints about flyrock from blasting…[on August 27,] 2007.[20]
>
> [55] Neighbours took the applicant and the blasting firm to Court.[21] One neighbour, Mr. Battiston, described flyrock that landed on his roof over 400 m from the site. After the [September 15, 2005] megablast, said neighbour Norma Moore, "the water was murky for days." The applicant produced a damage report, denying all responsibility. It said it took all such complaints seriously and had conducted a thorough internal investigation, but found no non-conformance.
>
> [56] The blasting firm was found guilty, but charges were dropped against the applicant. That blasting firm was not subsequently used by the applicant….
>
> [154] On this "sterilization" argument, the Township sided with Messrs. Kerr and Simek. Counsel for the Township argued that "it makes no sense to say your land has been expropriated because (the applicant) wants to expand." She added that, as a general rule, this OP did not normally tell third parties that their private property was now subject to restrictive separation distances, e.g. in the case of other expanding facilities, notably for sewage treatment, animal hospitals, or kennels.
>
> [155] On consideration, it is not necessary for the Board to opine on this sterilization argument, because this matter can be determined on other grounds. The Board does observe, however, that Messrs. Kerr and Simek did raise a legitimate question concerning compliance with D-1's provision about "freezing" intervening land. It is a question worthy of a proper answer in due course, but that is for another day.
>
> [159] As mentioned earlier, the general rule in key Ministry guidelines is that 300 m is the recommended minimum distance from the *property line*. That 300 m figure is a "minimum"; indeed, even when operations were *farther* from neighbours than 300 m, adverse impacts still precipitated two Court Orders.[22]
>
> [174] In their *Responses to Planning Advisory Committee Technical Questions*, the applicant's experts again discounted impacts elsewhere than at "receptors", e.g. on accessory buildings on neighbouring properties: Sheds constructed at the rear of the property would not be considered sensitive receptors and would not be subject to the (MOE) guideline vibration and overpressure limits.
>
> [175] The Board finds, however, that whatever the merits of receptor methodology in meeting Ministry guidelines, there is a critical problem in confining oneself to that approach here. That problem is elementary, namely that the environmental standards laid out by the Ministry and the OP are *not the same*:

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[20] A third flyrock incident was experienced by a nearby homeowner on September 10, 2022, which the quarry operator refused to acknowledge. Dunn, Derek. "Inspection reveals violations at site of Arnprior blasting," *Arnprior Chronicle-Guide*, January 7, 2022, https://www.insideottawavalley.com/news/inspection-reveals-violations-at-site-of-arnprior-blasting/article_999d4b73-a413-552e-b553-09e76dd63276.html?.

[21] *James v. Miller Group Inc*, 2013 ONSC 3266 (CanLII), <https://canlii.ca/t/g2f5j>, retrieved on 14 December 2022.

[22] *Moore et al. v. Smith Construction Company, a Division of the Miller Group Inc.*, 2011, OSCJ (Small Claims Court), and *Moore et al. v. Smith Construction, a Division of the Miller Group Inc.*, 2013, ONSC 5260. See also *Battiston et al. v. Smiths Construction Co., a Division of Miller Group Inc.*, 2017 CanLII 77336 (ON SCSM), which again upheld the of claims for *negligence* over "odour," "noise" and "dust." *Battiston v Smiths Construction Company*, 2017 CanLII 77336 (ON SCSM), <https://canlii.ca/t/hnsh8>, retrieved on 07 May 2023.

- Under both the insensitive lands exception and the scientific exception, those MOE standards (not legally binding) measure environmental disturbance only at the "sensitive receptors", not at other parts of neighbouring lots;
- But this OP (legally binding), in contrast, says at s. 11(2)(3) that "disturbance to the environment" must be "limited to the (subject) site…", to the apparent exclusion of significant environmental disturbance, not just at receptors, but on neighbouring sites altogether.

[176] Furthermore, although factors like noise and blasting would fall within Ministry guidelines when measured at the receptors themselves, there was no dispute that, if those factors were measured elsewhere on the neighbours' lots, Ministry limits could be exceeded.

[177] The above is problematic. Noise and overpressure are "disturbances to the environment"; and to the extent that they exceeded Ministry limits on neighbouring properties, those disturbances were clearly not "limited to the site", as required by OP s. 11.2(3).

[178] The Board is compelled to conclude that the applicant's proposed boundaries, and those reflected in the 2013 By-law, failed to confine disturbances to the site, and hence did not comply with this provision of the OP. The 2015 By-law was more consistent with the OP in that regard. Similarly, the Board was not persuaded to depart from the general 300 m rule. For those reasons, the Board declines to intervene either in the 2015 By-law boundaries (which it finds more appropriate), or the usual measurement of 300 m from the boundary line. The proposed licence should so specify, as should the zoning.

[179] Parenthetically, counsel for the Township said that although it was not in the Board's jurisdiction to amend the 1999 By-law, which had originally adopted the 150 m setback (repeated in the 2008 By-law), it was certainly within the Board's jurisdiction to suggest to Council that it consider changing the minimum setback to 300 m. The Board is compelled to agree.

The case study involving the denial of the severance application to permit a new 7-acre lot is a classic example of a de facto taking of land without compensation. The Township of Assiginack should be held financially responsible (or more appropriately the owner of the Pit and Quarry abutting the homeowners' land) for sterilizing the use and enjoyment and reducing the value of the homeowners' property. The owner of the Pit and Quarry is not entitled to the free use of adjoining third-party property by effectively imposing a 300-metre setback on the abutting homeowners' property. In effect, the Pit and Quarry has caused a change in the *Highest and Best Use* of the abutting homeowners' property, resulting in a diminution in *Market Value*. *Highest and Best Use* and *Market Value* are defined as follows:

> *Highest and Best Use – The reasonably probable use of property results in the highest value. The four criteria that the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity.*[23]
>
> *Market Value - (Value in Exchange)* is the major focus of most real property appraisal assignments. Both economic and legal definitions of market value have been developed and refined. Market Value is defined as,[24]
>
> > *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress. Implicit in this definition of market value are elements requisite to a fair sale. These intrinsic components include:*
> >
> > *1) buyer and seller are typically motivated;*
> > *2) both parties are well informed or well advised, and acting in what they consider their best interests;* [underscoring added]
> > *3) a reasonable time is allowed for exposure in the open market;*

[23] *The Dictionary of Real Estate Appraisal*, Seventh Edition, The Appraisal Institute, 2022, p. 88.
[24] *The Appraisal of Real Estate*, Fifteenth Edition (2020); The Appraisal Institute, p. 48-49.

4) *payment is made in terms of cash in Canadian dollars, or in terms of financial arrangements comparable thereto; and*
5) *the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."*

Adverse effects, as defined under the *Ontario* Environmental Act and the 2020 Provincial Policy Statement, are analogous to *disamenities* and *externalities* that are taken into account in the preparation of an appraisal when estimating *market value* of property, especially residential.

> *Disamenity – A feature that is perceived negatively; the opposite of an amenity.*[25] *Amenity is a tangible or intangible benefit of real estate that enhances its attractiveness or increases the satisfaction of the user. Natural amenities may include a pleasant location near water or scenic view of the surrounding area; man-made amenities include swimming pools, tennis courts, community buildings, and other recreational facilities.*[26]
>
> *Externalities – In appraisal, off-site conditions that affect a property's value. Exposure to street noise or proximity to a blighted property [pit or quarry] may exemplify negative externalities, whereas proximity to attractive and well-maintained property [, parks or green spaces] or easy access to mass transit may exemplify positive externalities.*[27]

Because a Licence or Permit issued under the *Ontario* ARA to extract aggregate has no expiry date, a municipality in formulating meaningful and effective land use policies should assume a worst case scenario (as should MNRF) that aggregate operations will remain operational in perpetuity. In other words, for all intents and purposes the *adverse effects* of a Pit or Quarry on the environment and innocent third-party property owners are permanent, and should not be *trivialized* or treated with *indifference*.

In 2012, a proponent of a 50-acre quarry application in the City of Westbrook, Maine, in a Consent Order (CO) agreed to purchase homeowners properties within a half-mile (805 metres) of the proposed quarry for their fair pre-quarry market value:[28]

> *"…This measure requires Pike to meet with the owners of homes located within ½ mile [805 metres] of the quarry to discuss purchasing their homes for its fair market value as of the date of the Consent Order using a written appraisal prepared by a[] Maine licensed appraiser and submitted by the property owner. This is a very important measure that Pike willingly agreed to include in the CO that was requested by the residents to protect their property values in the event that the performance standards are not effective and residential property values are devalued in the quarry area. This allows the residents to recoup their investment in their homes prior to full commercial operation of the quarry and relocate to another location [p.9]."*

On its face, and in the absence of appropriate separation distances and setbacks, the buyout by the quarry proponent of properties within a half-mile (805 metres) of the quarry at market value appears to be a practical solution for the preservation of property values, but the stipulated distance is unlikely to capture all of the impacted properties, and, depending on the number of properties involved, it could effectively destroy the community.[29] In discussing the merits of the Consent Order, concerns over the long-term planning implications of the proposed quarry operation were expressed:

> *"When this Consent Order was trodded [sic] out and it seems long ago back in 2010, much ado was made at the time about the Consent Order and how it provided protections and it was the most onerous quarry ordinance in New England. That was untrue at the farm we would call it a lie. It was not the most restrictive quarry ordinance within five miles [8.05 kilometres]. There is a quarry ordinance, a contract zone*[30] *in the town of Scarborough, between Grondin and the Town of*

[25] *The Dictionary of Real Estate Appraisal*, Seventh Edition, 2022, p. 53.
[26] *The Dictionary of Real Estate Appraisal*, Seventh Edition, 2022, p. 7.
[27] *The Dictionary of Real Estate Appraisal*, Seventh Edition, 2022, p. 68.
[28] Westbrook Planning Board Minutes, September 25, 2012, https://www.westbrookmaine.com/ArchiveCenter/ViewFile/Item/239.
[29] Acquisition by the quarry owner of 13 residences, as far as approximately 1,509 metres from the excavated area of the blasting Acton Quarry operation, has effectively obliterated any sense of community life along Third Line, https://files.secure.website/wscfus/6880241/28362475/adverse-effects-13-homeowners-bought-out-by-quarry-owner-jan-21.pdf.
[30] Contract zoning in the United States, also referred to as "zoning by contract", "rezoning by contract," or "rezoning by conditions" is a form of land use regulation in which a local zoning authority accommodates a private interest by rezoning a district or a parcel of land within the district to a zoning classification with fewer restrictions based on an agreement that the property owner abide by certain conditions or limitations imposed by the zoning authority for that parcel. Contract zoning is a contentious practice in that, by definition, it involves public servants or officials, namely an urban planner, working outside of a locality's general plan. Opponents of contract zoning are wary of the practice insofar as it might lead to "arbitrariness and random decision making" in land use planning and thus the overall

> *Scarborough and is known as Larrabee Road. That Ordinance provides 200 naturally vegetated buffers. It is a 284 acre [114.9 hectare] site; it provides 200 feet [61 metres] of naturally vegetated buffer surrounding it. That Ordinance, Contract Zone also has a sunset provision on it. The Town wisely said why we should saddle that area of the Town with that type of noxious use for perpetuity. We are going to give you a 20 year window, you get what you need out of there and we will redevelop that site with something that supports the community long term."*

Votorantim Cimentos (St Marys/CBM)'s 556-acre blasting quarry operation and cement plant in the Municipality of Clarington, Ontario, is approximately 5 kilometres from the Darlington Nuclear Plant, and reportedly vibrations from blasting are kept to a Peak Particle Velocity of 3mm per second, but as to where the seismographs are positioned to measure the ground vibrations is unknown. Even at this reduced vibration level neighbouring homeowners, the closest being 250 metres from the quarry, continue to be adversely impacted by the blasting.

At the Sept 11, 2018 Community Relations Committee meeting[31] blasting quarry complaints were raised, to which Votorantim Cimentos simply responded as follows without taking any corrective measures:

> *"…[N]ot much can be done to muffle the noise from twice weekly blasts that takes place at the limestone quarry [a continuing nuisance that residents in neighbouring subdivisions will have to endure for 65 more years from 2022 to 2087.]…"* (Scales, 2017).

The closest residence is 250 metres from the quarry, which operates between 10 and 20 hours each day (Scales, 2017). Somehow, to the detriment of the health, safety and quality of life of the community, St. Marys Cement's predecessor (Blue Circle Canada Inc.) was able to convince the Municipality of Clarington to exempt the operations from enforcement of Municipal Noise By-law 2007-071, as amended.[32] It is doubtful that anyone currently residing in the subdivisions surrounding the quarry and cement plant operation is aware of the noise exemption. The municipal noise by-law is far more restrictive than Ministry of the Environment and Climate Change (MOECC) noise guideline NPC-300[33] or NPC-119 (blasting).[34] Now, the only effective remedy available to residents living in proximity to the quarry and cement plant and who continue to be subjected to intolerable noise levels (e.g., blasting, equipment, etc.) on an ongoing basis would be to initiate a civil action against St. Marys Cement (Votorantim Cimentos) for *nuisance* and *trespass.* All *adverse effects*, including noise, airblast, vibrations, dust, toxic fumes and flyrock, are not permitted to leave the licenced site.

> *"The Municipality of Clarington confirmed that in accordance with section 2.2(e) of Noise By-law 2007-071, St. Marys Cement (referred to in the By-law by its former name, Blue Circle Canada Inc.), its licenced pit and quarry operations and all related accessory uses are granted an exemption from the noise restrictions that the by-law puts into place. This exemption applies to the entirety of the site. Further, the noise curfew provisions of the by-law are not applicable to these activities at the site."*[35]

At two blasts a week, assuming 50 weeks in a year, and a quarry life expectancy of 65 years as of 2022, means that three more generations of homeowners in the neighbouring subdivisions will be subjected to the adverse effects of 6,500 blasts at Votorantim Cimentos (St Marys/CBM) quarry operations. Assuming an average of 50 blastholes per blast, three generations of homeowners will be exposed to the adverse and cumulative effects of 325,000 explosions. All structures/residences are eventually damaged by vibrations from the cumulative effect of repeated detonation of explosives.

It is inexcusable for the Municipality of Clarington to have exempted the owner of the quarry site from the noise by-law and to permit the quarry to operate 10 to 20 hours each day, subjecting neighbouring homeowners to the on-going adverse effects of the blasting quarry operation, which is

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design of a locality. Proponents of the practice argue that it is a useful tool for achieving dynamic development, especially in growing urban areas where there is an increasing emphasis on mixed-use and higher density development." [citations omitted], https://en.wikipedia.org/wiki/Contract_zoning [accessed on May 11, 2023].

[31] https://www.stmaryscement.com/Documents/Bowmanville%20CRC/2018%20Sept%2011th%20CRC%20Minutes.pdf.

[32] Office Consolidation of By-law 2007-071, as amended. https://weblink.clarington.net/WebLink/DocView.aspx?dbid=0&id=58848&page=1&cr=1.

[33] https://www.ontario.ca/page/environmental-noise-guideline-stationary-and-transportation-sources-approval-and-planning.

[34] https://iaac-aeic.gc.ca/050/documents/p80101/137027E.pdf.

[35] St Mary's Cement Community Relations Committee, September 29, 2020. https://www.stmaryscement.com/Documents/Bowmanville%20CRC/2020%20September%2029th%20CRC%20Minutes.pdf.

expected to continue to operate for another 65 years or more, as a Licence issued under the ARA by MNRF has no expiry date.

In 2018, LaFarge agreed to offer a property value protection plan to homeowners residing near the expansion area of the company's Lockport quarry:[36]

> *"LaFarge agreed to offer a property value protection plan for all homeowners within 1,000 feet [305 metres] of the expansion site, which will cover a 200-acre area south of the existing quarry. The plan requires the company to pay the difference between market value and the actual amounts those homeowners receive when selling their properties.*
>
> *But at a May public hearing on the proposed expansion, several residents who live just outside of the 1,000 foot-zone [305 metre-zone] complained that they would receive no compensation for the loss in their property values brought on by the mine. LaFarge has now agreed to offer the protection plan to all property owners along Murphy and Hinman roads, and those on the east side of Campbell Boulevard between Murphy and Hinman roads, according to Town Supervisor Mark Crocker.*
>
> *Crocker said the company also agreed to base the market value of protected homes on sales within the Starpoint Central School District, which covers the towns of Pendleton, Cambria and portions of the town of Lockport."*

As disclosed on its website,[37] with respect to the operation of the Seebe Quarry in Seebe, Alberta, Lafarge readily admits residents of any development within 500 metres of the Seebe Quarry would experience a number of *adverse effects* from blasting quarry operations, which effectively constitute *nuisance* and *trespass*, and a permanent loss in the value of third-party property. Lafarge expects neighbouring residents to run for cover whenever Lafarge decides to initiate blasting (i.e., detonation of explosives). Lafarge has no legal authority to force residents to evacuate when Lefarge decides to initiate a blast, nor does it have a legal right to prevent and sterilize the use and enjoyment of neighbouring third-party properties. Blasting is an ultra-hazardous activity and any damage caused to third-party personal or real property is held to strict liability regardless of whether blasting has been conducted within regulatory limits. The following observations are important in this regard:

> *"The sandstone and shale quarries are active and have approval to operate with industrial lighting 24 hours a day, seven days a week. Lafarge has no plans to close or reclaim these quarries in the short or medium term and expects to use the quarries beyond 2070 to support Lafarge's modernized, Exshaw Cement Plant. This means that residents can expect:*
>
> - *Noise and vibration [and flyrock][38] caused by regular blasting activity*
> - *Noise from breaking material and equipment operations*
> - *Up to 100 trucks a day leaving and then returning to the quarries each day*
> - *Airborne dust from quarry operations.*
>
> ***Evacuation potential during blasting***
>
> *The proposed development area near Seebe is within 500m of our Shale Quarry operation. For any blasting that takes place, Lafarge employs a 500m exclusion zone to the front of the blast and 200m zone to the side of the blast. Considering the location of this proposed development, there is the possibility that the area would have to be evacuated for safety during blasting. When evacuation is not required, residents can expect to feel vibration and airblast from the blasting due to the saturated nature of the ground surrounding the bow river."*

Residents of Kyaggundal Village, Uganda, who are affected by flyrock debris from a nearby 15-acre quarry, and residing within a radius of 500 metres of the quarry, are being compensated by the

[36] "LaFarge to expand property value protection zone, LOCKPORT: Property value protection plan is for homeowners near quarry," *Union-Sun & Journal*, July 13, 2018, https://www.lockportjournal.com/news/local_news/lafarge-to-expand-property-value-protection-zone/article_fd104fca-2636-5bd3-8d8f-579f59d0e204.html.

[37] Yamnuska and SeeBe Quarries, Active Shale Quarries, Information for potential property owners, Lafarge Exshaw | 2019, https://lafargeexshaw.ca/yamnuska-and-seebe-quarries/ retrieved May 7, 2023.

[38] Flyrock is an inevitable by-product of blasting rock. According to the application (DP 15/22) for the residential development to which Lafarge objects, "blasting has the potential of launching debris [flyrock] and that is why there is an exclusion zone" and "nuisances are continuing…year-round [p. 13]," https://www.mdbighorn.ca/AgendaCenter/ViewFile/Minutes/_03162022-563. Retrieved on September 9, 2022.

quarry owner to temporarily relocate to safer places and return after 24 months (two years).[39] Below is the verbatim of villagers:

> *"A Chinese firm, Hunan Road and Bridge Construction Group Companies Ltd, which is managing the quarry, last week [August 2019] started compensating about 80 residents with plots of land and houses within 500 metres radius from the stone quarry to enable then to relocate to safer places and return after 24 months."*

Antrim is the leading Canadian case addressing a *de facto* taking, which, arguably, is akin to an unabatable or permanent nuisance resulting in *permanent* damages to property (i.e., loss in property value) rather than *temporary* damages to property (i.e., loss in rental value for the duration of each tort or cost to cure).

The question of severity of harm must be decided on the particular facts of each case. However, the court will be more reluctant to find an actionable nuisance where the alleged interference is an "incident of daily living," such as a neighbour playing the piano and the relatively unobtrusive barking of dogs.[40] The severity of the interference must be viewed with regard to its "nature, duration and effect." The interference must be "substantial and serious and of such a nature that it is clear according to accepted concepts of the day that it should be an actionable wrong."[41] In cases where the alleged nuisance has not given rise to actual, physical damage, the court considers the following four factors in determining whether the intangible interference complained of constitutes an actionable nuisance:

(a) the characteristics of the locality in question;
(b) the severity of the harm;
(c) the sensitivity of the plaintiff; and
(d) the utility of the defendant's conduct

The facts in *Antrim*, as summarized by the Ontario Bar Association (McAnsh, 2013), are as follows:

> "Antrim Truck Stop is located just off Highway 417 near Arnprior, just west of Ottawa. It did not exist at that location until 2004. Prior to moving to Arnprior, Antrim Truck Stop was more true to its name, being located near the hamlet of Antrim on Highway 17. At that time the truck stop was located on the Trans-Canada highway system. In September of 2004, however, the Province of Ontario opened a new stretch of Highway 417 parallel to Highway 17, altering the course of the Trans-Canada highway system and severely limiting highway access to the Antrim Truck Stop. Once the new Highway 417 opened, it was a two kilometer trip to and from the highway to the truck stop involving the use of some dirt roads. The new road effectively put Antrim Truck Stop out of business at its former location. Antrim moved to mitigate its losses, but sought compensation for the damage the construction of the new highway had wrought.
>
> Antrim Truck Centre Ltd. brought a claim against the Province under Ontario's Expropriations Act[42] for injurious affection. After years of travelling through Ontario's courts, Cromwell J., writing for a unanimous Supreme Court of Canada, on March 6, 2013, determined that Antrim Truck Centre Ltd. was entitled to compensation for injurious affection in the amount of $393,000: $58,000 for business loss and $335,000 for loss in market value of the land, as initially determined by the Ontario Municipal Board. While this is much less than the $8,224,671 initially claimed by Antrim Truck Centre Ltd., the path the claim took through the Ontario Municipal Board, the Divisional Court, the Court of Appeal and finally, the Supreme Court of Canada,…provides a thorough review of the thorny area of law known as injurious affection."

According to the analysis of the *Antrim* case undertaken by the Ontario Bar Association, private nuisance is at the core of injurious affection:

> The fundamental factors identified in *Antrim* are not new:

[39] "Residents reject cash to abandon stone quarry site," *Monitor*, September 4, 2019, https://www.monitor.co.ug/uganda/news/national/residents-reject-cash-to-abandon-stone-quarry-site-1846128?view=htmlamp.
[40] See *Chiang v. Yang*, [1999] B.C.J. No. 966 and *Miron v. Dusette*, [1987] O.J. No. 1577.
[41] In the absence of proof of "special" damage, the Attorney General of Canada says an individual plaintiff may only sue for public nuisance with the consent of the Attorney General, who must bring the individuals' behalf as a "relator," at para. 23. *Sutherland v. Vancouver International Airport Authority*, 2002 BCCA 416 (CanLII), <https://canlii.ca/t/5kgc>, retrieved on 09 May 2023.
[42] *Expropriations Act*, R.S.O. 1990, c. E.26

(1) severity,
(2) nature of the neighbourhood;
(3) duration [and frequency[43]];
(4) sensitivity of the claimant; and
(5) the utility of the public work

What is to be determined in weighing those and any other relevant factors, is if "the harm cannot reasonably be viewed as more than the claimant's fair share of the costs associated with providing a public benefit."[44] Everyone must put up with some give and take: some noise and dust from construction, and those in industrial areas are expected to put up with more. At the end of the day we should only have [to] bear our fair share.

In *Antrim* the Supreme Court stated unequivocally that a reasonableness analysis must be done in all cases and that any distinction between physical damage and amenity damage is unworkable and unnecessary.[45]

The Antrim property consisted of a truck stop with a restaurant, bakery, gas bar, offices and truck leasing and sales service. The appraisal evidence favoured by the Ontario Municipal Board, as eventually accepted by the Supreme Court, fixed the market value of the property, ignoring construction of the new Highway 417 and its impact, at $935,000, and at $600,000, with the new Highway 417 in place, reflecting a diminution or loss of $335,000 in market value directly attributed to the impact of the new Highway 417 alignment. The loss in value both in absolute dollars ($335,000) and percentage (35.8%) is substantial.

In another instance a group of individual homeowners launched an action grounded in *trespass, negligence* and *nuisance* against a quarry owner in *Moore et al. v. Smith Construction Company, A Division of the Miller Group Inc.*, 2013, ONSC 5260. Only the *nuisance* claim was upheld on appeal, as the damage caused to the environment and the nearby homeowners was held to be temporary rather than permanent. According to the Ontario Superior Court, which upheld the Trial Court's finding of nuisance and the damages awarded, framed the determination of factors required to support a finding of nuisance as follows:

> "[12] A nuisance arises when a person is unlawfully annoyed, prejudiced or disturbed in the enjoyment of land. It often occurs in the context of conflicting activities conducted in close proximity to one another. Whether a particular act or omission constitutes a "nuisance" in the legal sense depends on assessment of four factors. They are as follows:
>
> i. character of the neighbourhood
> ii. severity of interference
> iii. utility of defendant's conduct
> iv. whether the plaintiff displayed abnormal sensitivity."

The Ontario government readily acknowledges the obligations of municipal councillors and the importance of municipalities to manage *land use planning* in a manner that promotes long-term orderly growth and sustains a community's quality of life.[46] Some parts of the province, which are highly environmentally sensitive, are afforded more protection than others against development:

> "Community or land use planning can be defined as managing our land and resources. Through careful land use planning, municipalities can manage their growth and development while addressing important social, economic and environmental concerns. More specifically, the land use planning process balances the interests of individual property owners with the wider needs and objectives of your community, and can have a significant effect on a community's quality of life. You have a key role to play in land use planning. As a representative of the community, you are responsible for making decisions on existing and future land use matters and on issues related to local planning documents.
> It is important to note that land use planning affects most other municipal activities and almost every aspect of life in Ontario. Council will need to consider these effects when making planning decisions, while recognizing that most planning decisions are long-term

[43] "The frequency and duration of an interference may also be relevant in some cases," para. 26, *Antrim Truck Centre Ltd. v. Ontario (Transportation)*, 2013 SCC 13 (CanLII), [2013] 1 SCR 594, <https://canlii.ca/t/fwdn1>, retrieved on 11 May 2023.
[44] *Antrim, supra* note2 at para. 40.
[45] *Antrim, supra* note 2 at para. 50.
[46] https://www.ontario.ca/document/ontario-municipal-councillors-guide/10-land-use-planning.

> in nature. Public consultation is a mandatory part of the planning process. You and your colleagues will devote a large part of your time to community planning issues. You may also find that much of your interaction with the public involves planning matters.
>
> Good planning contributes significantly to long-term, orderly growth and efficient use of services. On a day-to-day basis, it is sometimes difficult to see how individual planning decisions can have such impact. Making decisions on planning issues is challenging and, for these reasons, it is important to understand the planning system and process.
>
> The responsibility for long-term planning in Ontario is shared between the province and municipalities. The province sets the ground rules and directions for land use planning through the *Planning Act* and the Provincial Policy Statement (PPS)[47]. In certain parts of the province, provincial plans provide more detailed and geographically-specific policies to meet certain objectives, such as managing growth, or protecting agricultural lands and the natural environment. The Greenbelt Plan[48], Niagara Escarpment Plan (NEP)[49], the Oak Ridges Moraine Conservation Plan (ORMCP)[50], the A Place to Grow: Growth Plan for the Greater Golden Horseshoe[51] and the Growth Plan for Northern Ontario[52] are examples of geography-specific regional plans. These plans work together with the PPS, and generally take precedence over the PPS in the geographic areas where they apply. While decisions are required to be "consistent with" the PPS, the standard for complying with these provincial plans is more stringent, and municipal decisions are required to "conform" or "not conflict" with the policies in these plans."

Unlike *Antrim*, where the scheme involved expropriation of land by MTO for the realignment of a highway, leaving *Antrim*, a commercial operation, isolated and not readily accessible to potential vehicular traffic, the claim for $119 million in damages for loss of property value against Halifax Regional Municipality by Annapolis Group Inc. is more direct and involves the municipality's refusal to rezone their 965-acre parcel to allow a subdivision. The 965 acres are part of a long-promised park in the Blue Mountain-Birch Cove Lakes area in Halifax. In September 2016, Halifax regional council voted against rezoning the developer's 965 acres to permit a subdivision (Zane, 2022). In 2022, the Supreme Court of Canada ruled that the test for a de facto taking did not have to involve "*an acquisition of a beneficial interest in the property or flowing from it*."[53] To support the claim for loss of property value it is sufficient to show that Halifax is receiving "*an advantage*." This same legal principle applies to private land owners (e.g. Pits and Quarries), whose lands gain an "economic advantage" by indirectly sterilizing the use and enjoyment of nearby lands owned by innocent third-parties. No public interest is served when a municipality's land use policies intentionally enhance the profits of a private company (e.g. Pit or Quarry owner)[54] through the indirect free use of neighbouring land without compensation. According to *Canadian Law of Planning and Zoning* (Butler & Rogers, 1988)[55]:

> "The principle purpose of zoning regulations, as with restrictive covenants, is to preserve property values by prohibiting uses which are believed to be deleterious to neighbourhoods mainly residential in character."

That imposing a setback on lands of adjoining property owners near a quarry (or pit) causes a loss in property value is also demonstrated in *His Majesty the King in Right of Newfoundland and Labrador v. O.D. Holdings Limited and City Sand and Gravel* [CS&G], 2022,[56] where part of the quarry owner's leasehold interest in a land lease was expropriated by the Province of Newfoundland and Labrador for

[47] https://www.ontario.ca/pps
[48] https://www.ontario.ca/document/greenbelt-plan-2017/
[49] https://www.escarpment.org/LandPlanning/PlanReview?lang=en
[50] https://www.ontario.ca/page/oak-ridges-moraine-conservation-plan-2017
[51] https://www.ontario.ca/document/place-grow-growth-plan-greater-golden-horseshoe
[52] https://www.ontario.ca/document/growth-plan-northern-ontario
[53] Annapolis Group Inc. v. Halifax Regional Municipality, 2022 SCC 36 (CanLII), <https://canlii.ca/t/jshfv>, retrieved on 24 May 2023.
[54] As noted by the Ontario Court of Appeal in *Charlesfort Developments Limited v. Ottawa (City)*, 2021, "[t]his court has not been referred to anything in any of the statutes or other instruments relating to planning that creates a duty to protect developers from pure economic loss [para. 56]." *Charlesfort Developments Limited v. Ottawa (City)*, 2021 ONCA 410 (CanLII), <https://canlii.ca/t/jgch3>, retrieved on 24 May 2023.
[55] *Service Corporation International (Canada) Inc. v. Burnaby (City of)*, 1999 CanLII 7012 (BC SC), <https://canlii.ca/t/1d45r>, retrieved on 09 June 2023.
[56] *His Majesty the King in Right of Newfoundland and Labrador v O.D. Holdings Limited and City Sand and Gravel Limited*, 2022 NLCA 60 (CanLII), <https://canlii.ca/t/jsvbs>, retrieved on 28 May 2023.

the construction of Outer Ring Road (ORR), requiring the quarry operation to employ rubber blasting mats while blasting (detonating explosives) to prevent *flyrock* debris from leaving the site. VOCM,[57] a local news outlet, describes the events leading up to CS&G's damages claim:

> "The case dates back to the mid-1990s when the province expropriated land to get the highway done. City Sand and Gravel was compensated for its contribution, but it was future blasting at their nearby quarry they were worried about. Government of the day insisted they had nothing to fear, standing by an expert's report that said there'd be no impact on the highway or blasting. But there was, with several incidents of rocks reaching the Outer Ring Road and a new subdivision, and the conclusion that the report was flawed. It also led to new blasting rules which tripled the company's costs, eventually making the quarry unprofitable."

The anticipated *use* of 900 blasting mats during the 17-year life expectancy of the quarry coupled with the offsite adverse effects rendered continuation of the quarry operation financially infeasible:

> [14] In the fall of 2012 they [CS&G] began blasting for the second lift with the use of blasting mats while discussions continued with the town of Paradise. However, this resulted in repeated road closures, public complaints and recognition by the respondents that the cost and difficulty of using blasting mats exceeded what they expected.

Previously, at the CS&G quarry there had been three (known) incidents of flyrock debris that landed in a nearby residential subdivision, the closest being 300 metres from the quarry. While "C*S&G did not have the right to indiscriminately allow flyrock [a contaminant] to escape beyond the boundaries of their property*," the question that the Board had to decide: "*was it reasonable or fair that CS&G be put out of business to further the convenient [and safe] flow of highway traffic on the Northeast Avalon*…." (PUB Order, at 21, lines 25-32).

> [59] The PUB was aware that prior to the construction of the ORR, the Respondents' Quarry was bounded on three sides by residential neighbourhoods, the closest being 300 metres from the Quarry. It was aware of the three flyrock incidents and the conditions imposed upon the Respondents' leases as a result.[58] It recognized that it was because the ORR was now constructed within 40 metres of the Quarry that the Appellant had required use of blasting mats.

The May-June 2011 "approved" blasting plan for CS&G's quarry operation, intended to "*protect the ORR from the risk of flyrock,*" recommended "*that all development and production blasts within 100 metres of the Outer Ring Road be covered with heavy duty tire blasting mats,*" a protocol that proved financially infeasible, causing the quarry to cease operations in October 2018. CS&G was awarded $10,029,811 for the anticipated increase in the cost of quarry operations to contain flyrock debris onsite when blasting, with the appeal court citing from *Antrim*:

> [43] In the traditional law of private nuisance, the courts assess, in broad terms, whether the interference is unreasonable by balancing the gravity of the harm against the utility of the defendant's conduct in all of the circumstances… In relation to the gravity of the harm, the courts have considered factors such as the severity of the interference, the character of the neighborhood and the sensitivity of the plaintiff… The frequency and duration of an interference may also be relevant in some cases…A number of other factors… are relevant to consideration of the utility of the defendant's conduct… these factors are not a checklist; they are simply "[a]mong the criteria employed by the courts in delimiting the ambit of the tort of nuisance"… Courts and tribunals are not bound to, or limited by, any specific list of factors. Rather, they should consider the substance of the balancing exercise in light of the factors relevant in the particular case.

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[57] "Province Ordered to pay $10 Million to Company Impacted by Construction of ORR," *VOCM*, November 16, 2022. https://vocm.com/2022/11/16/province-ordered-to-pay-10-million-to-company-impacted-by-construction-of-orr/.

[58] See *City Sand and Gravel Limited v. Newfoundland (Municipal and Provincial Affairs*), 2007 NLCA 51 (CanLII), <https://canlii.ca/t/1sfnv>, retrieved on 28 May 2023. Also see *Lee Lime Corp. v. Massachusetts Turnpike Authority*, 337 Mass. 433 (1958) 149 N.E.2d 905, https://casetext.com/case/lee-lime-corp-v-massachusetts-turnpike-authority Involved the taking of 3 acres from a 100-acre quarry and cement plant for the construction of a new highway, and the quarry owner testified that "secondary blasts number 15,000 to 20,000 a year and five per cent will throw stones [flyrock debris] for a distance of about 800 to 850 feet [259 metres] and are likely to reach the new highway. There was also evidence that 'the fly rock' is uncontrollable and results in making unavailable a large area of the petitioner's land by its inability to conduct blasting operations within 800 feet [244 metres] of the new turnpike."

Whether it is an expropriating authority or a private for-profit company such as a quarry or pit operation, neither is entitled to externalize their costs of operations through the free use of land owned by adjoining property owners. Sterilizing the use of adjoining land by effectively imposing a setback on third-party property, which at 300 metres in the case of the homeowners' property in Assiginack, Ontario, is a substantial *invasion* (e.g., fugitive dust, toxic fumes, noise, vibration, flyrock, etc., leaving the boundaries of the Pit and Quarry), *interference* and *deprivation of property rights* (i.e., use and enjoyment) warranting compensation.

4. CONCLUSION

As the scale, intensity and duration of aggregate extraction operations increase, so do the adverse effects on the environment, including the properties and their occupants in neighbouring communities. In Ontario, it is not uncommon for proponent-driven studies to trivialize or ignore the potential adverse effects on- and off-site of a proposed Pit or Quarry, and routinely concluding with the speculative statement that "there will be no adverse effects," without ever citing the definition of *adverse effects* under the *Environmental Protection Act* or the *Provincial Policy Statement*, or that adverse effects, effectively, can last forever as a Licence to permit aggregate extraction has no expiry date, and annual tonnage production figures are not publicly accessible. Moreover, post-COVID 19, as more people choose or are forced to work from home and as the number of home occupations and businesses increase, the adverse effects on communities near Pits or Quarries will become more intense and pronounced, rising above the level of a minor inconvenience. Adjoining owners who have had the use, enjoyment and the value of their properties diminished by inappropriate municipal land use policies that deliberately place a Pit or Quarry's adverse effects on properties owned by innocent third-parties, through the imposition of setbacks, as in the case of the homeowners' in the Township of Assiginack, are entitled to be compensated either by the municipality or, more appropriately, by the owner of the Pit and Quarry for what amounts to a de facto taking. As municipal councils and their planning and engineering staff become more informed and knowledgeable about the adverse effects occasioned by Pits and Quarries, including their long-term permanent and irreversible impacts, it is anticipated that more robust aggregate land use policies will be adopted and implemented, which ensure that the burdens from aggregate extraction operations are placed where they belong, on the Pit or Quarry, and not on innocent third-party property owners.

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Author's Contributions (in accordance with ICMJE criteria for authorship)

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The author(s) has/have NOT complied with PRISMA standards. It is not relevant in case of this study or written work.

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