The quarry proposed by St Marys Cement Inc. for a location near Carlisle, Ontario should not be permitted: Opponent Brief

Evan Bracken, Leah Grant, Alexander Marit,
Joshua Nasielski, Sarah Smith, Victoria Yang

This study was conducted under the supervision of Professor Glenn Fox,
Food, Agricultural and Resource Economics, Ontario Agricultural College
University of Guelph, Guelph, Ontario, Canada

The quarry proposed to extract Amabel formation Dolostone by the St. Marys Cement Inc. near Flamborough, Ontario should be implemented based on the arguments of this paper. The quality of the aggregate material, as well as the quantity that St. Marys Cement Inc. hopes to extract would supply enough building material for all of Ontario for nearly two years. However, the construction of the quarry has been strongly opposed by a local community group, Friends of Rural Communities and the Environment (FORCE). The major concerns raised by FORCE have already been addressed by St. Marys Cement Inc., and any further opposition from the community is either based on misinformation provided by FORCE and/or a “not in my back yard” (NIMBY) mentality. “NIMBY-ism” is a selfish, unjustified hindrance to the process of achieving the most efficient outcome for society, an outcome where the needs of the greater good (in this case, aggregate) are fulfilled. The residents of Flamborough and the surrounding area must acknowledge that they too require aggregate material for their roads, houses, and buildings, and that FORCE’s arguments are not for the community or the environment’s wellbeing, but are a front for a NIMBY mentality.

We believe that the quarry proposed by St. Marys Cement Inc. near Flamborough, Ontario should be implemented. The aggregate material to be extracted, amabel dolostone, is recognized by the Ontario Stone, Sand, and Gravel Association (OSSGA) as the highest quality aggregate material in Southern Ontario [1]. This material would be used in constructing roads and buildings across Ontario, an essential aspect of our society. A group of local citizens, Friends of Rural Communities and the Environment (FORCE), is the main opposition of this quarry. We have found that many of their issues have already been addressed by St. Marys Cement Inc., and thus are not strong enough to justify opposing the quarry. We also believe that local residents’ sentiments toward the quarry, particularly the concept of “Not In My Back Yard” (NIMBY), are selfish, unjustified, and hinderances in the process of achieving the most efficient outcome for society- an outcome where the needs of the greater good (in this case, aggregate) are fulfilled.

BACKGROUND INFORMATION

St. Marys Cement Inc., a leading manufacturer of cement and other related products in the U.S. and Canada, purchased the proposed Flamborough Quarry site from Lowndes Holdings in 2006 [2]. The proposed quarry is

situated on a 158-hectare site located on 11th Concession Road East at Milborough Line close to the eastern edge of a major geological structure known as the Michigan Basin (Figure 1). A geological investigation by John Emery Geotechnical Engineering Limited to determine the rock types, the potential suitability as construction aggregate, and approximate quantities of the rock types on the site revealed an estimated 32.6 million m³ of Amabel formation Dolostone [3]. The total proposed extraction area covers 67 hectares, leaving the remaining 97 hectares in its natural state [2]. The OSSGA considers Amabel dolostone to be the highest quality aggregate material in Ontario and valued as a source for the production of hot mix asphalt paving, structural concrete and concrete paving coarse aggregates [1]. According to the OSSGA, Dolostone is a key building block of the construction industry in Ontario and has many essential uses for our society: structural concrete for schools, hospitals, housing, office buildings, airport runways, sidewalks, bridges, roads and streets [1].

Why Flamborough?

As previously mentioned, there are extremely rich deposits of Amabel Dolostone in the proposed Flamborough Quarry and the OSSGA recognizes it as the highest quality aggregate material in Ontario [1].

Figure 1. Aerial shot of the proposed Flamborough site [2]

The proposed Flamborough Quarry would be located on lands that are subject to the policies of the Greenbelt Plan. This limits or prevents development on wetlands or habitats of threatened and endangered species. However, St. Marys Cement Inc. has done considerable research on publicly available resource plans and zoning classifications [4]. They reveal that according to the Greenbelt plan, aggregate extraction is an approved and recognized land use. In effect, pits and quarries create sustainable assets for future generations through rehabilitation and are therefore compatible with the Greenbelt's goals and objectives. Moreover, the OSSGA has identified that the Flamborough site is near the required market and near an existing road system (Highway 401 Figure 2), noting that, for each additional kilometre added roadway to the GTA, 3,500 tonnes of greenhouse gases are released and 2 million litres of fossil fuels are consumed. Thus, using an existing road system is crucial in reducing the environmental impact [1]. Aside from these important points, the demand for aggregate in Ontario has grown to a consumption level above 170 million tonnes and yet, in over 35 years, there has not been one new quarry developed in the GTA. A quarry located in the near vicinity would help to meet Ontario's demand and need for aggregate that is crucial in the development of our society.

CONCERNS ABOUT THE QUARRY

Concerns about the proposed quarry near Flamborough, Ontario have been widely reviewed and debated. Many claims about the impacts that the new quarry could have are addressed by the company itself, as well as within the legislation that binds the proposal by St. Marys Cement Inc..

Some major concerns raised by FORCE include issues related to the dust and noise emitted from the site exposed to neighbouring residents and environments, the state of the proposed site during and after the extraction process, and the sheer magnitude of the operation itself [5]. All of these concerns have been sensationalized to some degree in order to pit the community against this proposal when in fact many benefits are accrued from it.

During the course of the quarry construction proposal, St. Marys Cement Inc. made significant effort to reach out to community members personally by going to residents' homes and addressing concerns. In November 2007, they released a community newsletter to help the community step back from the sensationalized community reaction and understand the reality of the situation and how St Marys

Figure 2. A map of the quarry in relation to surrounding major roads and highways [25]

Cement Inc. will be addressing the identified problems. In the fall 2007 Community newsletter, they explained how the proposed quarry would not infringe on the Greenbelt legislation, as aggregate extraction is considered an appropriate rural land use. The proposed site was within the correctly zoned area (Figure 3) [6]. Aggregate extraction is promoted within these rural areas experiencing growth because it is an essential material in the construction of many aspects of our infrastructure.

The Flamborough quarry location is close to the GTA (a large market centre for aggregate material), high volume provincial and regional roads and the 400 highway series, allowing it to easily supply dolostone [1]. St. Marys Cement Inc. will use this existing road system to transport the extract, reducing environmental impacts. With regards to the issue of dust and debris, St. Marys Cement Inc. states in a pamphlet of frequently asked questions that they comply with standards for ground vibration and air concussion by implementing noise barriers, using many small blasts in quick succession instead of single large ones, and timing blasts co-ordinated with the community [7]. Lowndes Holdings state in their report that the blasts would be electronically controlled and sequential, instead of the traditional blasting method, to minimize vibrations in the vicinity of the quarry [8]. The dust created by this will be controlled through the use of enclosure suppressants and vegetation screens, in accordance with the Ministry of Environment's standards. This method of blasting offers

various advantages to the quarry without harming the environment. The use of electronic detonation offers more options for quarry blasting and improves safety for all concerned. Electric detonation offers precision timing, which is unavailable with traditional pyrotechnic blasting systems [9].

Groundwater is also an issue that has raised concern, but St. Marys Cement Inc. plans to combat impacts on groundwater by using a groundwater recirculation system that will not even cause water to leave the site. Another important facet of the aggregate industry is its cleanliness. No chemicals are used during extraction or processing, thus eliminating the potential for groundwater contamination [10].

As for the rehabilitation of the site, St. Marys Cement Inc.'s prime example would be the McMillan Pit, referred to in S.E. Yundt Limited's brochure on outstanding rehabilitation and reclamation sites [11]. The McMillan Pit, implemented in the early 1980s, was closed in 2004. A 28 hectare pond with wetland and shorelines was created in its place. Seedlings and trees were planted, along with the reintroduction of bird, fish and other wildlife species. This progressive stewardship was undertaken by hired professionals, who were respected in terms of their work ecologically and biologically [11, 12]. St. Marys Cement Inc. has set a high standard for rehabilitation. Specific rehabilitation plans will be subject to approval by the Ministry of Natural Resources, after which St. Marys Cement Inc. will be required to fulfill approved plans [13].

Figure 3. A map illustrating zoning in the City of Hamilton [6].

Finally, the proposed quarry site at Carlisle will not be the 8th largest quarry in Canada, as FORCE has stated [19]. The excavation site would be a fraction of the size of other sites; according to St. Marys Cement Inc., it would cover approximately 67 hectares and would delve 34 metres (100 feet) deep [2]. In Ontario, there are over 100 existing licensed pit and quarry sites measuring more than 200 hectares. Close to 200 sites in Ontario would be larger than the Flamborough Quarry based on size [4]. Therefore, the Flamborough site pales in comparison to existing and approved quarry sites in Ontario. St. Marys Cement Inc. has applied for a class 'A' license under the Aggregate Resources Act (ARA) for an annual tonnage extraction limit of 3 million tonnes [4]. Other sites in the area are operating with no tonnage limit, making the Flamborough quarry much smaller in extraction quantity than 200 existing sites in Ontario [4].

“NOT IN MY BACK YARD” (NIMBYISM)

Environmental legislation and regulation have had a dramatic impact on the operations of North American firms, most notably in the increased costs associated with regulatory compliance (see for example [14]). Jorgenson and Wilcoxon found that between 1973 and 1985, the total compliance costs created by environmental regulations comprised more than 2.5% of the total gross national product generated during the same time period [15]. Interestingly, although there is a large amount of literature studying the detrimental business impacts of environmental regulations, there is also a growing body of empirical and theoretical work suggesting that environmental regulations can be used strategically by other firms to advantage themselves [16]. By

increasing the cost and complexity of environmental regulations for firms that wish to enter an industry, incumbent firms can raise the cost of entry high enough to prevent any new competition from springing up [16]. Studying the Portland cement industry, Ryan found empirical evidence that environmental regulations increased the costs of entry for newer firms, leading to higher entry costs for new firms, higher consumer costs and a lower number of total firms [17]. Even if environmental legislation offers little benefit, incumbent firms will lobby for such regulations because it increases the costs of firm entry.

St. Marys Cement Inc. has not only taken great care to follow all applicable environmental regulations, but they have also changed their business and construction plans to accommodate the desires of local residents and environmentalists. The company has paid for various studies, consultants, and site-assessments and has been forced to navigate a complex administrative process in order to demonstrate that the quarry will have minimal environmental and social impacts [18]. As the following section will demonstrate, it seems that the quarry opponents are hijacking this process to increase St. Marys Cement Inc.'s compliance costs high enough to prevent them from constructing a quarry on their land.

An environmental report written as part of the quarry approval process, which took 3 years to complete due to the various studies done to support the report's findings, stated that the proposed quarry "conserves provincially significant wetlands, potential habitat for threatened and endangered species, fish habitat, significant woodlands and, significant wildlife habitat" [18]. Moreover, the proposed quarry site does not host any at-risk or endangered animal species and only a single at-risk plant species [18].

However, shortly before the 170-page environmental report was released, FORCE hired a consultant who wrote a 19 page summary report opposing the findings of St. Marys Cement Inc.'s report [19]. Unlike the St. Marys report, which used 3 years worth of data, FORCE's report included main findings which are essentially normative statements, scientifically unverifiable and essentially meaningless. Examples include: "The subject property and contiguous lands are rich in natural features and complex in terms of interconnected linkages", "The [proposed quarry] contains significant...natural features that contribute to the biological diversity and ecological integrity of the site and the broader region" [19]. However, all development which uses land that could otherwise be used by animals and plants will harm the biological diversity and ecological integrity of the region. Even "environmentally-friendly" organic farms built on recently cleared forest land have decreased the biodiversity of the region. Unsatisfied with the findings of the environmental report, FORCE decided to lobby the Ministry of Natural Resources in 2006 to change the existing Species at Risk legislation to include habitat protection on private lands [20]. Such a regulatory change would have made it even more difficult for St. Marys Cement Inc. to begin

quarry construction. Clearly, FORCE is using all environmental legislation it can, even if it does not exist yet, to ensure the quarry stays out of their neighbourhood.

In addition to the relatively weak arguments concerning the local environmental impacts of the proposed quarry, FORCE also raised the issue of groundwater contamination, a potential problem because the quarry will operate below the aquifer line and will need to dewater its operations frequently [21]. Local residents are appropriately concerned that groundwater use by the quarry will affect local well-water quality and quantity [22]. In addition, the nearby town of Carlisle was concerned about the threat the quarry posed to its groundwater supply [22]. To address these concerns, the Ontario Ministry of the Environment held a public consultation in 2006 to help revise and modify the terms and conditions of the permit to take water granted to St. Marys Cement Inc. [22]. The City of Hamilton's Source Protection and Public Health Departments, an expert in physical hydrogeology from Queen's University, and the Ministry of the Environment developed a comprehensive plan for protecting local groundwater users. There would be no groundwater contamination in the short term or long term, all water usage and monitoring will be monitored and verified by an independent 3rd party, all water will be re-circulated back into the aquifer, and the re-circulated water will be regularly tested for contamination even though there is no anticipated avenue for water contamination to occur [22]. St. Marys Cement Inc. was responsible for sampling all private wells potentially affected by quarry operations for a range of water quality parameters [22]. In addition, even before testing their dewatering system St. Marys Cement Inc. installed a bedrock well between Carlisle's municipal supply wells and the proposed quarry site to ensure that any pump testing would be shut down immediately if it adversely impacted Carlisle's water supply [22].

It is suffice to say that St. Marys Cement Inc. went through considerable measures to allay the reasonable fears of local residents. However, the numerous studies, testing and public consultations did not change the fact that FORCE still opposes the quarry. In fact, once the Permit to Take Water was approved, FORCE unsuccessfully attempted to stall the quarry project based on false allegations and a single administrative oversight made by the Ministry of the Environment [23].

It is difficult to conclude that FORCE is primarily concerned about the environmental and groundwater impacts of the proposed quarry, rather than using these monikers as an excuse to prolong the approval process and to increase the environmental compliance costs that St. Marys Cement Inc. is forced to endure. It seems that these are simply convenient excuses for a group of residents who simply do not want a quarry in their backyard.

A UTILITARIAN VIEW OF THE PROPOSED PROJECT

Physical infrastructures in modern society are comprised of certain building materials, often extracted from natural resource deposits. Examples include wood, metals, and Amabel Dolostone, the material to be extracted from the proposed quarry [4]. While most would recognize the need (until technology changes) for these materials, they would also oppose the extraction, should it impede on their everyday activities in the slightest. However, resource extraction areas must exist in order for manufacturing and building to continue. In the perspective of a social planner whose ultimate goal is to attain the “greater good” for society, the question is not whether or not the quarry should be implemented, but rather, what is the most efficient way of implementing the quarry environmentally and economically. The potential for trespass and/or nuisance should the quarry be implemented is justified, given the significantly positive social benefit derived from the extraction of aggregate material. The 3 million tones of dolostone that St. Marys Cement Inc. hopes to extract from the site alone would fulfill Ontario’s entire consumption of aggregate material for nearly two full years [1].

John Rawls, an American philosopher whose thoughts and publications contributed largely to modern utilitarianism, introduced the idea of a “veil of ignorance” in determining the most just way of measuring morality in society [24]. The “veil of ignorance” refers to a scenario in which distributions, roles, and rights are reassigned within a society and renegotiated blindly [24]. Thus, the final result of this redistribution would be as just as possible, given that those negotiating the terms do so with the knowledge that they could be reassigned the least desirable bundle of rights/resources. If the world had to reassign distributions and rights under a veil of ignorance, the residents of the Flamborough region would likely support the construction of the quarry. As they would recognize the chance that they may not live near the quarry, their biases due to NIMBYism would be eliminated. Most of the residents of Flamborough would still recognize the need for gravel and cement in the newly arranged world, and would likely support the extraction of such a durable aggregate material. While this scenario is hypothetical, it illustrates that NIMBYism is the largest obstacle in determining the most just outcome in terms of the proposed quarry in Flamborough, Ontario. In order to determine the most efficient and just outcome, the residents of Flamborough must acknowledge that they too need aggregate material for their roads, houses, and buildings and would most likely choose to approve the quarry under a veil of ignorance.

CONCLUSION

We believe that the proposed quarry project near Flamborough, Ontario should be implemented. The quality of the aggregate material, as well as the quantity that St.

Marys Cement Inc. hopes to extract would supply enough building material for all of Ontario for nearly two years [1]. This significant social benefit is strongly outweighed by weak claims about the proposed quarry, most of which have been formally addressed and explained by the St. Marys Cement Inc. Finally, the personal issues with the quarry (i.e. NIMBYism) are not only selfish and unjustified, but are also major hinderances in determining the most just outcome for society. For these reasons, we believe that the quarry proposal should be approved.

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