



resources

# State of Aggregate Resources in Niagara Region

BACKGROUND REPORT

Final

January 2016



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# 1 INTRODUCTION

## 1.1 Purpose and Key Questions

The Niagara Region is undertaking a review of its planning policy framework for aggregate resources. The purpose of this report is to present the state of aggregate resources in Niagara and to inform, through policy analysis and recommendations, a future amendment to the Regional Official Plan. While this report touches a number of policy-related themes which are relevant to aggregate resource planning, this document is ultimately intended to answer to the following questions:

- What are aggregate resources and where are they located in Niagara Region?
- What is the planning framework in Ontario for aggregate resource management?
- What are Niagara's provincial planning obligations for aggregate resource management?
- Which aspects of aggregate resource management should be addressed in Niagara Region's Official Plan?
- What types of planning and policy tools can be used to proactively plan for aggregates?
- Given the multi-faceted nature of aggregate resource planning, what is the optimal way to arrange the Region's Official Plan policies to ensure that the policies are effectively communicated?
- What actions should be considered for future implementation of the policies?





## 1.2 Background



Aggregates are raw materials, such as stone, sand and gravel which are used for supporting the everyday activities. They are used for our roads, sidewalks, sewers, airports, as well as our homes, offices, hospitals, schools and shopping centres. Aggregates are non-renewable resources and are a matter of provincial interest. The Ministry of Natural Resources and Forestry (MNRF) manages the licence approvals process, administers the *Aggregate Resources Act* (primary legislation governing aggregates) and ensures aggregate resources are protected and made available along with the Provincial Policy Statement (PPS) and other provincial policies/plans.

Niagara has an active aggregate industry, and has a number of deposits of aggregate resources, including sand and various types of stone. These resources play a vital role in supporting both the local and provincial economy and need to be managed for long-term protection and use. Although the Province guides the review and decision-making on applications for new aggregate operations and the management of existing operations through the ARA and the PPS, municipalities have an important role to play in further clarifying the implementation of provincial policy in a way that reflects unique local conditions and community values. This project will update the relevant policies of the Regional Official Plan (ROP) to better reflect these local conditions and community values related to aggregate resource extraction in Niagara Region.

Currently, Niagara Region provides direction on planning for aggregate resources through Section 6 of the Regional Official Plan. The policies within this section of the ROP have not been comprehensively reviewed for a number of years and do not fully reflect current provincial direction for aggregate resource protection and remediation nor local land use challenges. There is a need to build clarity and

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apply a careful use of language to align ROP policies with provincial direction, while providing certainty regarding the location of resources and the planning process for new or expanding operations for citizens and industry alike. With this in a mind, a few key words which are used throughout the report are defined below.

### Important report terms:

- **Mineral Aggregates Resources:** gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other material prescribed under the Aggregate Resources Act suitable for construction, industrial, manufacturing and maintenance purposes, but does not include metallic ores, asbestos, graphite, kyanite, mica, nepheline syenite, salt, talc, wollastonite, mine tailings or other material prescribed under the Mining Act.
- **Aggregate Resource Area:** an area of identified mineral aggregate resources which may be of sufficient quality or quantity to warrant current or future extraction. Areas identified as being selected have been selected through the Aggregate Resource Inventory Papers established by the Province.<sup>2</sup>
- **Mineral Aggregate Operation:** means a) lands under license or permit, other than for wayside pits and quarries, issued in accordance with the Aggregate Resources Act; b) for lands not designated under the Aggregate Resources Act, established pits and quarries that are not in contravention of municipal zoning by laws and including adjacent land under agreement with or owned by the operator, to permit continuation of the operation; and c) associated facilities used in extraction, transport, beneficiation, processing or recycling of mineral aggregate resources and derived products such as asphalt and concrete, or the production of secondary related products.
- **Pit:** an area of land in which loose material, such as sand and gravel, is being excavated.<sup>3</sup>
- **Quarry:** an area of land in which solid bedrock, such as limestone and granite, is being excavated.<sup>4</sup>
- **Wayside Pit or Quarry:** a temporary pit or quarry established to supply aggregate for temporary public projects, such as construction of a road or highway.<sup>5</sup>

<sup>1</sup>Province of Ontario, Queen's Printer for Ontario 2012-15, Provincial Policy Statement

<sup>2</sup>Province of Ontario, Queen's Printer for Ontario 2012-15

<sup>3</sup>Province of Ontario, Queen's Printer for Ontario 2012-15

<sup>4</sup>Province of Ontario, Queen's Printer for Ontario 2012-15

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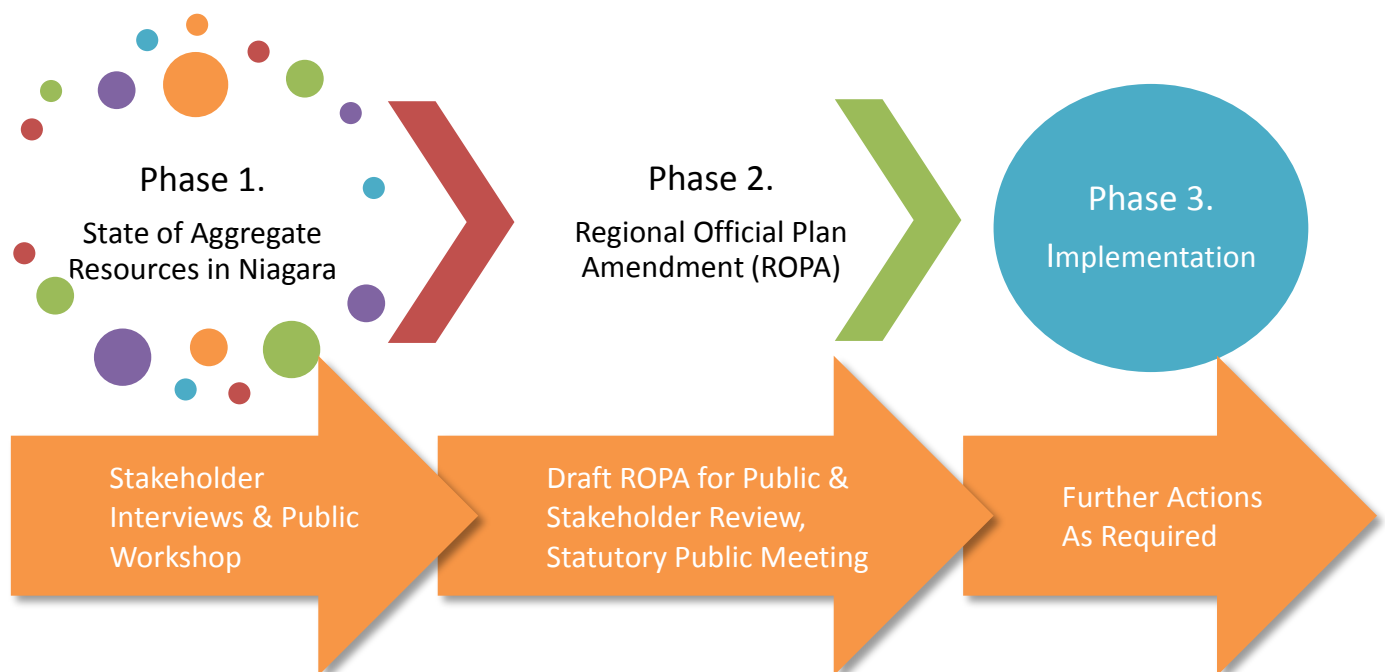


## 1.3 Methods

The Region's review of aggregate resources is being undertaken in three phases (see **Figure 1.1**):

- 1) Analysis of the state of aggregate resources in Niagara, including existing conditions and best practices review;
- 2) Development of a ROP Amendment; and,
- 3) Implementation.

**FIGURE 1.1: PROJECT PROCESS**



This State of Aggregate Resources in Niagara report represents the key output from Phase 1 of the work program. The report has been developed based on a review of existing conditions, applicable policy as well as input from local industry stakeholders, local municipalities and members of the public (who attended the public workshop).

### 1.4 Organization of the Report

This report has been organized into five sections. Section 1 provides the introduction, background, purpose and a description of methods to undertake the review of Niagara's aggregate resource policies. Section 2 presents the provincial, regional and local policy framework for aggregate resources. The third section describes the importance of aggregate resources, its projected demand and Niagara's current resource areas and operations. Section 4 describes the methods to manage the impacts of aggregate operations through planning, and presents the analysis and recommendations organized under nine key topics:

- Natural Heritage;
- Water Resources;
- Transportation;
- Cultural Heritage;
- Agriculture;
- Land Use Compatibility;
- Recycling;
- Rehabilitation and After Use; and,
- Implementation Tools.

The fifth and final section summarizes the recommendations outlined in Section 4, and the next steps in implementing the recommendations of this report.

## 2 POLICY FRAMEWORK

The policy framework for managing aggregate resources is complex, as it is governed by a myriad of policies at the provincial, regional and local levels. While the principal vehicle for managing aggregate resources in the Province is the Aggregate Resources Act, there are also aspects of the Planning Act which are relevant. Furthermore, in specific geographies, such as those lands within the Greenbelt Plan area or within the Niagara Escarpment Plan area, site specific policies apply. Finally, Regional and local official plan policies can also provide direction on how development occurs. The following section attempts to clarify the key policies and directions which are relevant for managing aggregate resources in Niagara.





## 2.1 Provincial

The following section outlines key applicable provincial policies and plans related to protection and management of aggregate resources in Ontario. Typically, the establishment of a new or expansion to an existing pit or quarry requires both Planning Act and Aggregate Resources Act approvals, as few sites are pre-zoned for aggregate resource extraction and none are pre-licensed under the Aggregate Resources Act. Accordingly, this section covers both the Planning Act and Aggregate Resources Act.

### 2.1.1 *Planning Act*

The Planning Act sets out the framework for land use planning in Ontario and outlines how land uses may be controlled and who may control them. The Planning Act is intended to guide decision making by:

- Promoting sustainable economic development in a healthy natural environment within a provincial policy framework;
- Providing a land use planning system led by provincial policy;
- Integrating matters of provincial interest into provincial and municipal planning decisions by requiring that all decisions shall be consistent with the Provincial Policy Statement when decision-makers exercise planning authority or provide advice on planning matters;
- Providing for planning processes that are fair by making them open, accessible, timely and efficient;
- Encouraging co-operation and coordination among various interests; and,
- Recognizing the decision-making authority and accountability of municipal councils in planning.

Of particular relevance is that the Planning Act identifies the conservation and management of natural resources and the mineral resource base as a Provincial interest, which then provides the authority for the Provincial Policy Statement to provide policy direction to municipalities for aggregate resource planning. The Act also grants planning authority to municipalities, allowing for the development and implementation of a variety of land use planning tools, such as official plans and zoning by-laws.

### 2.1.2 Provincial Policy Statement

The 2014 Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development. All decisions affecting planning matters shall be consistent with the Provincial Policy Statement (PPS). The policies provided in the PPS must be read in its entirety to balance competing interests. In the event of a conflict between the PPS and Provincial Plans, the Provincial Plan policies take precedence. The key vehicle for implementing the PPS is an official plan. Section 2.5 of the PPS provides policies on aggregate resources relating to three main areas:

1. Protection of long term resource supply;
2. Rehabilitation; and,
3. Extraction in prime agricultural areas.

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The PPS directs municipalities to provide policies which protect mineral aggregate resources for long-term use through a variety of policy mechanisms<sup>5</sup>. Firstly, municipal official plans shall identify deposits where provincial information is available<sup>6</sup>. Secondly, municipalities are to protect as much of the supply as is reasonably possible, as close to the market as possible. Furthermore, the identification of supply is not to be restricted by supply-demand analysis. Thirdly, the PPS also directs municipalities to provide policies which promote mineral aggregate resource conservation, such as reuse and recycling of manufactured materials<sup>7</sup>. The fourth and final element, which is intended to ensure the protection of mineral aggregate resource areas for long term use, is the need to proactively plan land use around resource areas to minimize economic, social and environmental impacts<sup>8</sup>, and reduce the potential for future land use conflict<sup>9</sup>. The PPS provides some exceptions to the above, noting that supply need not be protected where extraction is not considered feasible or where the proposed land use development is foreseen to serve in the greater long-term public interest (assuming all issues related to public health and safety can be addressed)<sup>11</sup>.

On the topic of rehabilitation, the PPS requires progressive and final rehabilitation to accommodate subsequent land use, promote land use capability and recognize the interim nature of extraction, while mitigating negative impacts<sup>12</sup>. Where there is a concentration of mineral aggregate operations, the PPS encourages comprehensive rehabilitation planning<sup>13</sup>.

With regard to extraction in Prime Agricultural Areas, the PPS directs planning authorities to permit extraction of minerals, petroleum resources and mineral aggregate resources provided that the site will be rehabilitated. Extraction is permitted as an interim use, provided that the site will be comprehensively rehabilitated back to an agricultural condition<sup>14</sup>. The extent to which a site is comprehensively rehabilitated depends on whether or not the site is located in a specialty crop area and the water table. The PPS does provide some exceptions related to rehabilitation in Prime Agricultural Areas under specific circumstances.

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<sup>5</sup> Provincial Policy Statement, 2014, Policy 2.5.1

<sup>6</sup> Provincial Policy Statement, 2014, Policy 2.5.2.1

<sup>7</sup> Provincial Policy Statement, 2014, Policy 2.5.2.3

<sup>8</sup> Provincial Policy Statement, 2014, Policy 2.5.2.2

<sup>9</sup> Provincial Policy Statement, 2014, Policy 2.5.2.4

<sup>11</sup> Provincial Policy Statement, 2014, Policy 2.5.2.5

<sup>12</sup> Provincial Policy Statement, 2014, Policy 2.5.3.1

<sup>13</sup> Provincial Policy Statement, 2014, Policy 2.5.3.2

<sup>14</sup> Provincial Policy Statement, 2014, Policy 2.5.4.1

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### 2.1.3 Aggregate Resources Act

The Aggregate Resources Act (ARA), 2009 was enacted by the Province to manage aggregate resources, control and regulate aggregate operations, identify requirements for rehabilitation of land from which aggregates have been extracted and to minimize adverse impacts on the environment relating to aggregate operations. The Aggregate Resources Act and regulations apply to most of Ontario's pits and quarries on Crown and private land. The Region of Niagara is within the area governed by the Aggregate Resources Act.



The ARA applies to aggregate operations located on all lands including lands under water, all aggregate topsoil, private land and Crown land. The ARA establishes the requirements for licenses and permits, defines the requirements for rehabilitation and establishes the penalties for offenses. The ARA establishes an Aggregate Resources Trust (Trust) that is used by the Ministry of Natural Resources and Forestry to rehabilitate abandoned or revoked pits that require final rehabilitation. The Trust also acts as a payment mechanism to the Crown and to municipalities in accordance with the Act's regulations. The Provincial Standards under the ARA set out application standards for proposed pits and quarries. The Standards also identify the criteria for licence, permit and wayside permit applications.

#### Categories of Aggregate Licences and Permits

The ARA establishes three categories of licences and permits depending on the location, type and purpose of aggregate operation. These three categories are:

1. Licences –needed in order to operate a pit or quarry on private land in areas regulated by the Aggregate Resources Act.
2. Wayside Permits –needed in order to operate a wayside pit or wayside quarry on private land in an area regulated by the Aggregate Resources Act. A wayside pit or wayside quarry is a temporary operation that supplies aggregate to a specific road construction or maintenance project. The permit can only be obtained by the public authority or a person who has a contract with a public authority.
3. Aggregate Permits –needed in order to operate a pit or quarry on Crown land.

The following sections provide some further details on each of the three main categories of approvals under the Aggregate Resources Act.



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### Licences

Any person operating a pit or quarry on private land or land designated for aggregate use is required to have a licence and pay a fee to the Aggregate Resource Trust<sup>15</sup>. There are two classes of licences that can be granted, class A for those pits or quarries removing more than 20,000 tonnes of aggregate annually, and class B, for those pits and quarries removing 20,000 tonnes or less of aggregate annually<sup>16</sup>. In addition, there are eight categories of licences, depending on if it is a pit or quarry and whether it is above or below the groundwater table. All license categories must provide the following in accordance with the Act:

- Submit a site plan which becomes property of the Crown;
- Ensure that the site plan is prepared by either a certified engineer, land surveyor or landscape architect that is a member of his or her professional association (only class A licensees)<sup>17</sup>;
- Describe applicable zoning for the their site and for lands adjacent to their site<sup>18</sup>;
- Provide a copy of the licence and site plan to all municipalities that are located within the site; and,
- Submit an annual compliance report to the MNRF and send a copy of this report to municipalities located within the site.

Similar to the Planning Act process, the MNRF must determine that an application is complete before the application process can proceed. The Minister, at any time, has the power under the Act to revoke or change conditions of a licence, as well as amend or change a site plan at any time. Notice is given to the municipalities and a 30 day review period is provided to comment on the application.

Section 12.1 establishes the importance of local planning regulations by identifying that no licence shall be issued for a pit or quarry if a zoning bylaw prohibits the site from being used for the making, establishment or operation of pits and quarries.

### Wayside Permits

Wayside permits are granted to public authorities or anyone under contract with a public authority for a temporary project. Temporary projects must meet all of the following criteria to be eligible for consideration, as outlined in Section 23 of the ARA:

- Aggregate is required for a project of road construction or maintenance;
- Aggregate is to be obtained outside the limits of a highway right-of-way; and,
- Adequate provision can be made to ensure a method of operation and rehabilitation so as to cause only a temporary inconvenience to the public.

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<sup>15</sup> Aggregate Resource Act, 2009, Section 7 (1), (3)

<sup>16</sup> Aggregate Resource Act, 2009, Section 7 (2) a,b

<sup>17</sup> Aggregate Resource Act, 2009, Section 7 (4)

<sup>18</sup> Aggregate Resource Act, 2009, Section 10

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In considering an application for a wayside permit, the ARA establishes a number of criteria that the Minister is to take into consideration, as outlined in Section 26. Included in the criteria are any comments provided by the municipality in which the site is located.

The Niagara Region or any municipality within the area of a wayside pit or quarry can provide comments to the Minister within 30 days of issuance of a permit. The Niagara Region should note that permits are granted even if the location of the site is in contravention of a municipal zoning by-law under section 27(1) of the ARA. Therefore, the permit prevails and the zoning by-law does not apply to the site<sup>19</sup>. However, section 27(1) does not apply to all areas of the municipality. Wayside permits are not permitted in the Niagara Escarpment Planning (NEP) Area unless the site complies with the regulations of the Niagara Escarpment Planning and Development Act. A wayside permit is also not permitted in a residential zone or an area zoned for environmental sensitivity.

### Aggregate Permits

Part V of the ARA outlines the need for aggregate permits, which are required by any person wishing to operate a pit or quarry on Crown land (even if the land is under water and the surface rights are leased to another person). If the lands being proposed for pit or quarry are partially on Crown land and partially not, or designated under section 5 of the Aggregate Resources Act, then a licence is required in place of an aggregate permit. A licence may also replace an aggregate permit if the Minister directs the person in writing to obtain a licence<sup>20</sup>.

Aggregate permits require the same rehabilitation and annual compliance regulations found under licencing.

### Public Consultation

Section 11(1) to 11(4) of the ARA identifies the prescribed notification and consultation procedures for an applicant. Unlike the Planning Act application process (which outlines notification and consultation requirements for the municipality), the Aggregate Resources Act application process is proponent driven. The Aggregate Resources of Ontario: Provincial Standards, Version 1.0 provides further detail on the notification and consultation procedures including specific timelines that must be met. The notification and consultation standards include:

- Within 20 days of an application being submitted to the MNRF, the Ministry shall determine if the application is complete<sup>21</sup>;
- A 45 day public notification period shall beginning with publication in a local newspaper and include written notice (delivered personally or by registered mail) to landowners within 120

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<sup>19</sup> Aggregate Resource Act, 2009, Section 73

<sup>20</sup> Aggregate Resource Act, 2009, Section 34 (5)

<sup>21</sup> Provincial Standards 4.1.1

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metres of the licenced boundary and signage (1 metre by 1 metre) posted on the boundary of the site to be clearly seen from adjoining areas to which the public has access<sup>22</sup>;

- Specific agency notification requirements<sup>23</sup>;
- The requirements for a public information centre (PIC), within the 45 day notification period, with notice in publications 20 days prior to the PIC and comment period 10 days following the PIC to all occur within the 45 day notification period<sup>24</sup>;

The standards also include protocols for resolving objections<sup>25</sup> and the process for decision.

Niagara Region does not have notification and consultation requirements that they must meet related to the Aggregate Resources Act application process. However, it is worth acknowledging that, where a zoning by-law amendment or Official Plan amendment is required, municipal governments are responsible for ensuring that adequate and appropriate level of engagement takes place<sup>26</sup>.

### Rehabilitation

The ARA requires that every person with a licence or permit perform progressive and final rehabilitation (exception is provided for sites that are covered by water that is not the result of excavation of aggregate below the water table). Persons with a license and or a permit are also required to make rehabilitation security payments in prescribed amounts and times paid to the Aggregate Resources Trust. The details of payment and rehabilitation are not described under the Act. The municipalities are, therefore, encouraged to implement policies supporting progressive and final rehabilitation efforts and may, at their discretion, provide detailed rehabilitation policies that are consistent with the ARA, site plan and other provincial regulations and policies.

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<sup>22</sup> Provincial Standards 4.1.2

<sup>23</sup> Provincial Standards 4.1.3

<sup>24</sup> Provincial Standards 4.2

<sup>25</sup> Provincial Standards 4.3

<sup>26</sup> Chapter 12 of the ROP identifies the Region's consultation and engagement policies, which are applicable for any Regional Official Plan amendments. Chapter 12 also provides direction to local municipalities.

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### Limitations of Municipal Regulations

While Section 12.1(1) of the ARA requires zoning permissions as a precondition to the granting of a new license, Section 66 limits the operation of by-laws and many other municipal means of regulating aggregate operations. Section 66(1) outlines that, where there is an overlap in subject-matter, the Aggregate Resources Act, regulations and provisions of a license and site plans override a municipal by-law, official plan, or development agreement. Where the municipal by-law, official plan or development agreement deals with the same subject-matter as the Act, the regulations or the provisions of a licence or site plan, the by-law, official plan or development agreement is inoperative.

The Aggregate Resources Act further limits the application of the Planning Act by precluding the application of a development permit issued under the Planning Act to Aggregate Resources Act licenced sites.

It is also important to note that the Minister can relieve any licensee or permittee from compliance in whole or in part of the regulation so long as it is not contrary to the public interest. This cannot occur until municipalities provide the Minister with comments or 30 days after the service of notice, whichever is first.

### Niagara Escarpment

Section 72(1) of the ARA indicates that, despite a licence or permit, “no person shall operate a quarry nearer to the natural edge of the Niagara Escarpment than 200 metres measured horizontally.” Furthermore, if the permit holder was issued a permit under the Pits and Quarries Control Act, this measure is 90 metres horizontally. The natural edge of the Niagara Escarpment is determined by the

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Minister. This has particular relevance in Niagara Region, as the Niagara Escarpment runs through the northern portion of Region (see section 2.1.4 for more details on the Niagara Escarpment Plan).

### Conservation Authority's

The ARA also limits the role and function of Conservation Authorities for licensed pits and quarries. Section 28.1 b) and c) of the Conservation Authorities Act, which outlines an authorities ability to make regulations under its jurisdiction to prohibit, regulate or require the permission of the authority to interfere in any way with water features (river, creek, stream watercourse or wetland) or to control flooding, erosion, dynamic beaches or pollution is not applicable to an activity approved under the ARA.

### Aggregate Resource Policies and Procedures Manual

The Aggregate Resource Policies Procedures Manual was developed by Ministry of Natural Resources and Forestry staff to provide guidance on how to implement the Aggregate Resources Act, to outline MNRF administrative procedures and to support consistent decision-making. It includes supporting regulations and the Aggregate Resources of Ontario Provincial Standards. The policies help aggregate operators, members of the public, municipalities, consultants, stakeholders and government staff to understand the requirements under the ARA. The Policy Manual is not a statutory document and, therefore, should be reviewed as a provincial guidance document.

Finally, it is worth noting that the Province is in the process of reviewing and updating the ARA. To support this review, the Standing Committee on General Government issued a report outlining the focus for the review. The report is discussed further in Chapter 4 of this document, as the Committee identified a number of recommendations for improving the ARA. At the time of publication of this report, the Province released a background document (Blueprint for Change) on the proposed changes to the ARA policy framework for consultation. This report does not contemplate the information presented in the Province's Blueprint for Change: A Proposal to modernize and strengthen the Aggregate Resources Act policy framework.



### Key Facts for Niagara Region to Consider (ARA):

- The ARA restricts municipalities from regulating aggregate operations.
- The ARA also supersedes many Planning Act tools, such as municipal by laws, official plans and development permits on topics that are covered in the ARA.
- The ARA does not allow municipalities to require development permits on sites with ARA licences.
- A municipality's role in regulating aggregate operations (through licenses and permits) within their municipality is as a commenting body.
- A permit for a wayside pit or quarry does not need to conform to the municipal zoning; however, it is not permitted in a residential area nor within the Niagara Escarpment Plan Area unless it is consistent with the Niagara Escarpment Plan Act.

### 2.1.4 Niagara Escarpment Planning and Development Act & Niagara Escarpment Plan

The Niagara Escarpment includes a variety of natural, geological and ecological features spanning an area of 725 kilometres from Queenstown on the Niagara River to the Bruce Peninsula. A portion of the Escarpment is designated for Mineral Resource Extraction, while other areas are the focus of agriculture, seasonal residences, tender fruit and specialty crop areas and many archaeological and historical landscapes. The purpose of the *Niagara Escarpment Planning and Development Act* (NEPDA) and the NEP is “To provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment and to ensure only such development occurs as is compatible with that natural environment”<sup>27</sup>. The Niagara Escarpment Plan includes development policies for mineral extraction including evaluation criteria for Plan Amendment applications for new mineral extraction areas<sup>28</sup>. The Niagara Escarpment Plan must be read in its entirety with all applications meeting the purpose and objectives of the NEPDA along with any other applicable policies<sup>29</sup>.

#### Development Control

The NEP is the only provincial plan area where permissions, in the form of a development permit, must be obtained for all development. Within the area of development control established by the NEPDA, a development permit is required for all development that is not explicitly exempt, as outlined in Section 24(1) of the *Act*. Furthermore, Section 24(3) states that no building, permit, work order, certificate or licence that relates to development can be issued until such time as a development permit has been

<sup>27</sup> Niagara Escarpment Planning and Development Act, 2012, Section 2.

<sup>28</sup> Niagara Escarpment Plan, 2015, Development Policies for Mineral Extraction in Part 1.5

<sup>29</sup> Niagara Escarpment Plan, 2015, Part 1.2.1

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issued to permit that work. This regulation applies to a new *Aggregate Resources Act* licence and, in some circumstances, an amendment of an *Aggregate Resources Act* license or site plan.

O.Reg 828, 1990 identifies the restrictions to development within the development control area. Section 5 identifies the exceptions to the requirement to obtain a development permit. Of these, the two exceptions that are relevant to aggregate operations are:

- Where an aggregate operation has been continually licenced for a pit or quarry since June 10, 1975 under the *Pits and Quarries Control Act*, no development permit is required.
- Excavation of land including testing of aggregate through bore holes in an Escarpment Rural Area designation or soil testing, no development permit is required.

This second exception is particularly important for new aggregate operations, as it allows proponents to conduct preliminary studies and due diligence to determine the feasibility of aggregate extraction without having to obtain a development permit.

The NEPDA outlines penalties for offenders developing without a permit, which may include a stop work order and requirement to restore the site and fines<sup>30</sup>. The NEPDA also identifies that, in the event a Minister's order is not complied with, the Minister may conduct the necessary work and charge the offender with the cost of the work.

### Land Uses Permissions

The Niagara Escarpment Plan identifies seven land use designations including Escarpment Natural Area, Escarpment Protection Area, Escarpment Rural Area, Mineral Resource Extraction Area, Escarpment Recreation Area, Urban Area and Minor Urban Centre. **Figure 2.1** illustrates the Niagara Escarpment Plan in the Niagara context. As shown in **Figure 2.1**, there are three discrete areas in the NEP designated as Mineral Aggregate Resource Extraction. This land use designation includes licensed (under the *Aggregate Resources Act*) pits and quarries and areas where mineral resource extraction may be permitted subject to the policies of the NEP. The three areas include:

- Walker Aggregates Quarry in the Township of Lincoln
- Walker Aggregates Quarry in the City of Niagara Falls
- The Half-way Sand Pit in the City Niagara Falls

In addition to the Mineral Resource Extraction Area, the other land use designation that provides provision for aggregate extraction is the Escarpment Rural Areas designation. Generally, Escarpment Rural Areas are intended to function as a buffer for sensitive areas on and around the Escarpment. The

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<sup>30</sup> Niagara Escarpment Planning and Development Act, 2012, Section 24.

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Rural Area designation allows for extraction for new licensed pits or quarries which produce less than 20,000 tonnes annually (without an amendment to the NEP, subject to Part 2.11)<sup>31</sup>. The Rural Area designation also allows for new licensed pits or quarries which are planned to produce more than 20,000 tonnes annually (subject to an amendment to the NEP and Part 2.11 and re-designating the area to Mineral Resource Extraction Area).

Section 2 of the NEP provides development criteria to be applied to all development within the area of the Niagara Escarpment Plan. Part 2.11 of this section describes criteria for wayside pits, wayside quarries and haul routes and outlines a number of policies for mineral resource extraction in proximity to the Escarpment. Policies include requirements for screening operations, requirements for progressive rehabilitation and final rehabilitation, requirements specific to wayside pits and quarries, and special provisions. Rehabilitation policies within this section require excess topsoil or overburden to be retained for future rehabilitation, grading of excavated pits at a slope of 3 to 1 or less in regions where fill or topsoil is scarce (finished slope of 2 to 1 or less) and vegetation to be planted as soon as possible following finished grading. The NEP also sets out detailed requirements of a wayside pit or quarry applicant in addition to the requirements of the Aggregate Resources Act, which include: sketch plans, rehabilitation statement, comments of affected municipalities, opportunities for other wayside uses, conditions of wayside permit expiring 18 months after being granted, a tonnage limit based on project contracts and conditions, and terms and conditions for operations.

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<sup>31</sup> In order to support this amendment process, Part 1.5 outlines the criteria that should be considered and a Process Guide was prepared in 2010 to guide applicants through this amendment process.





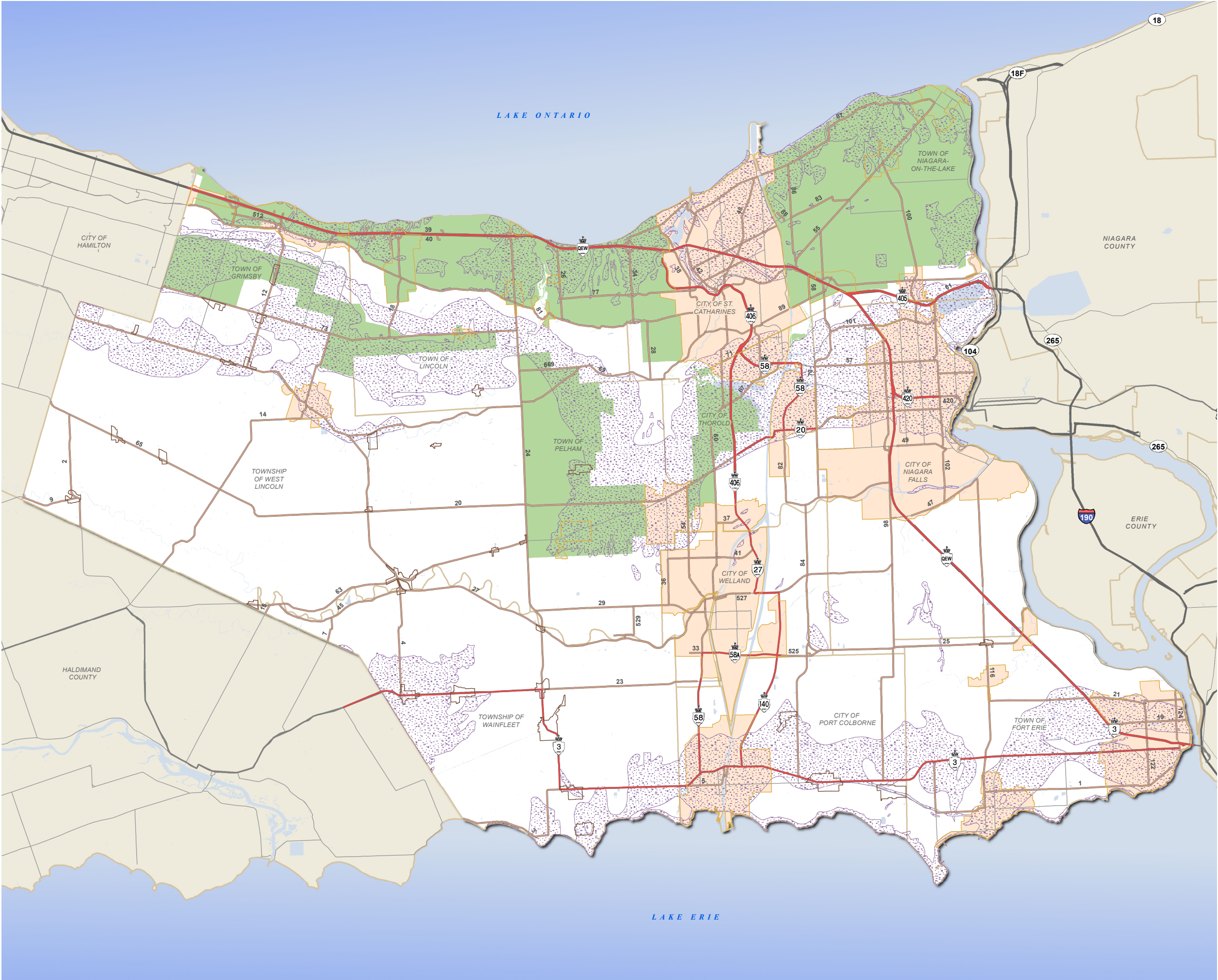
### Key Facts for Niagara Region (Niagara Escarpment Plan):

- There are three areas designated as Mineral Resource Extraction Area which permit aggregate extraction operations.
- Aggregate operations extracting less than 20,000 tonnes per year are permitted within the designated Escarpment Rural Area.
- Aggregate operations extracting more than 20,000 tonnes per year are permitted within the designated Escarpment Rural Area subject to a NEP amendment (to amend the land use designation to Mineral Resource Extraction) and meeting the development criteria outlined in the NEP section 2.11.
- In addition to the requirements of the Aggregate Resource Act, wayside pits and quarries within the Escarpment Plan area require additional Niagara Escarpment Plan requirements to be met.

### 2.1.5 The Greenbelt Act & Greenbelt Plan

The Greenbelt Plan is intended to ensure that a robust supply of agricultural, rural and environmental lands which generally surround the Greater Toronto Area, Hamilton and Niagara areas are protected from future urban development. The Greenbelt Area comprises of the Protected Countryside, Niagara Escarpment Plan Area and the Oak Ridges Moraine Area (see **Figure 2.2**). For Niagara Region, the Protected Countryside and Niagara Escarpment Plan Area are of particular importance. As the previous section of this report described the Niagara Escarpment Plan Area, this Greenbelt discussion will be based on the Protected Countryside Area. Within the Protected Countryside, there are geographic specific policies that relate to the Agricultural System; the Natural System, including the natural heritage system policies; Parkland Open Space and Trails; and Settlement Areas. Unlike the NEP, the Greenbelt Plan does not designate specific areas for mineral aggregate resource extraction. Rather, it includes a series of policies intended to guide development in proximity to the Greenbelt. The following subsections provide a brief overview of the applicable policies.





**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**GREENBELT AREA IN NIAGARA REGION**  
FIGURE 2.2

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE RESOURCES
- PROTECTED COUNTRYSIDE, GREENBELT PLAN NATURAL HERITAGE SYSTEM
- HAMLETS
- URBAN BOUNDARY
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDR, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\ Figure 2-2 - Greenbelt Area in Niagara Region.mxd



PROJECT: 149861  
STATUS: FINAL  
5/28/2015

# State of Aggregate Resources in Niagara Region Background Report



## Natural Resource Policies and Rehabilitation

The Greenbelt Plan identifies key natural heritage and hydrological features within the protected countryside. Aggregate operations are permitted in the Protected Countryside with conditions set out in section 4.

The Greenbelt Plan promotes close to market aggregate resources for building materials for communities and infrastructure<sup>32</sup>, recognizing the economic and environmental benefits. However, within the Natural Heritage System, no new wayside pits, quarries or mineral aggregate operations are permitted within the following environmental features<sup>33</sup>:

- Significant wetlands;
- Significant habitat of endangered species and threatened species; and,
- Significant woodlands unless the woodland is occupied by young plantation or early successional habitat (as defined by the Ministry of Natural Resources and Forestry). In this case, the application must demonstrate that the specific provisions of policy 4.3.2.5 (c), (d) and 4.3.2.6 (c) have been addressed, and that they will be met by the operation.

Impacts to other key natural heritage or hydrologic features within the Natural Heritage System are only permitted where the application demonstrates:

- How the water resource system will be protected or enhanced;
- The health, diversity and size of the features that exist at the time of application are maintained or restored and improved to promote net gain of ecological health;
- Any permitted extraction will be completed and the area rehabilitated as early as possible;
- Aquatic areas remaining after extraction are rehabilitated to aquatic enhancements that is representative of the natural ecosystem;
- Rehabilitation is implemented so that connectivity of key natural heritage features and key hydrologic features on the site and adjacent sites will be maintained or restored and if possible improved.

In addition, any application for new or expanding aggregate operations must demonstrate:

- Connectivity between key natural and key hydrologic features maintained before, during and after excavation;
- How an operator will immediately replace habitat lost with equivalent habitat on or adjacent to a site;
- How the water resource system will be protected or enhanced; and,
- Consistency with the PPS.

Beyond the Natural Heritage System within the Protected Countryside, MNRF will pursue the following under the ARA:

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<sup>32</sup> Greenbelt Plan, 2005, Section 4.3.2 (2).

<sup>33</sup> Greenbelt Plan, 2005, Section 4.3.2.(3) a)

## State of Aggregate Resources in Niagara Region Background Report



- Maximize rehabilitated area and minimize disturbed area on an ongoing basis during the life cycle of an operation;
- Ensure progressive and final rehabilitation contributes to the goals of the Greenbelt Plan;
- Only permit application for mineral aggregate operation or wayside pits and quarries where the applicant demonstrates that the quality and quantity of groundwater and surface water will be maintained as per the Provincial Standards under the ARA; and
- That the MNRF will determine the maximum allowable disturbed area of each aggregate operation. For new or expanded operations, the total disturbed area shall not exceed the established maximum allowable disturbed area. For existing operations, excess disturbed area shall be rehabilitated completely within 10 years of the date of approval of the Greenbelt Plan and 50% completed within 6 years<sup>34</sup>.

Provisions for rehabilitation of mineral aggregate operations within the Protected Countryside include:

- Aggregate industry will work with the MNRF to consider development and implementation of comprehensive rehabilitation plans for areas of high concentration of aggregate operations
- The disturbed area will be rehabilitated to a state of equal or greater ecological value and the whole site ecological integrity will be maintained, restored and to the extent possible, improved;
- The health, diversity and size of any key heritage or hydrologic features will be maintained or restored and to the extent possible restored and any permitted extraction within a feature will be completed and the area rehabilitated as early as possible;
- Aquatic areas remaining after extraction are rehabilitated to aquatic enhancements that is representative of the natural ecosystem;
- Rehabilitation is implemented so that connectivity of key natural heritage features and key hydrologic features on the site and adjacent sites will be maintained or restored and if possible improved<sup>35</sup>.

Policies detailing the timing, percentage and quality of rehabilitation needed to meet the Greenbelt Plan, the PPS and the Aggregate Resources Act are also included in the Plan. Detailed policies under section 4.3.2 contain information on operating under water or below the water table and encourage operators to provide public access to former aggregate sites.

### Policies specific to Niagara Peninsula Tender Fruit and Grape Specialty Crop Area

No new aggregate operations, wayside pits, quarries or ancillary uses are permitted between Lake Ontario and the Niagara Escarpment Plan area. Under policy 4.3.2.8, new mineral aggregate operations or wayside permits may only be considered in primary and secondary sand and gravel resources in the Fonthill Kame in the Town of Pelham<sup>36</sup> if the applicant demonstrates that:

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<sup>34</sup> Greenbelt Plan 2005, Section 4.3.2(4)

<sup>35</sup> Greenbelt Plan, 2005, Section 4.3.2(5)

<sup>36</sup> Aggregate Resources Inventory Paper #4, town of Pelham, 1980.

## State of Aggregate Resources in Niagara Region Background Report



- Rehabilitation back to the same agricultural nature and provide the same range of productivity or specialty crops in the common area; and,
- Microclimate of the site and surrounding area is maintained.

The Greenbelt Plan provides further direction for all other areas that do not have special policies within the Tender Fruit and Grape Specialty Crop Area for any new or expanding operation which would require:

- Rehabilitation of the property back to an agricultural condition that allows for the same range and productivity of the crop and the same microclimate that is required for the specialty crop production; or
- Where the same productivity of the specialty crop and microclimate are not achievable that other alternative locations are considered; and
- Where alternatives have been considered and determined unsuitable and in situations where complete agricultural rehabilitation to specialty crop is not possible due to the depth of extraction, agricultural rehabilitation in remaining areas shall be maximized to allow production of specialty crops<sup>37</sup>.

### Key Facts for Niagara Region (Greenbelt Plan):

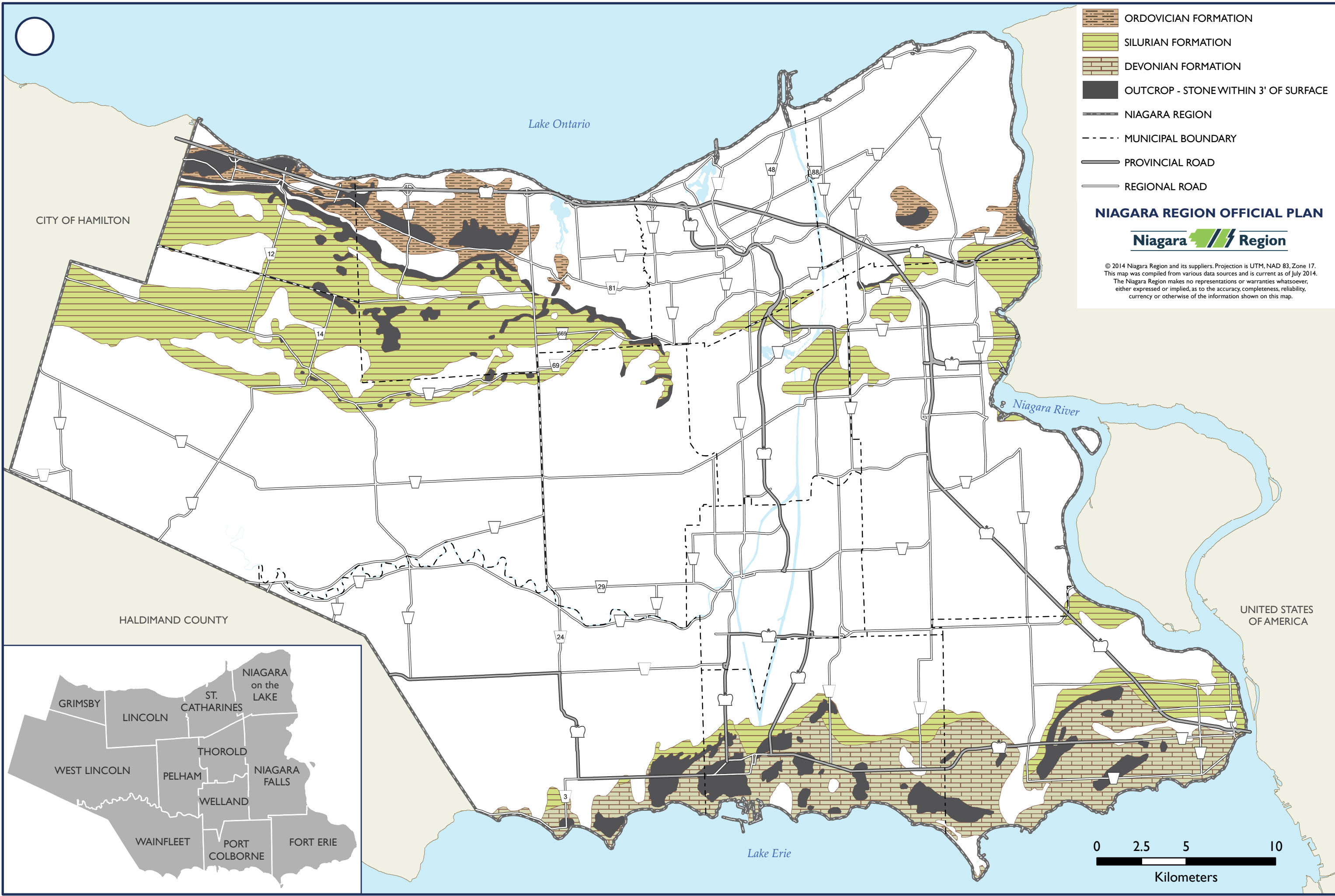
- No new aggregate operations are permitted between Lake Ontario and the Niagara Escarpment Plan Area.
- The Niagara Region is directed to ensure that progressive and final rehabilitation efforts contribute to the goals of the Greenbelt Plan for extraction within the Protected Countryside.
- The Niagara Region is directed to ensure that all land use activities related to rehabilitation of mineral aggregate operations are consistent with any relevant approved source protection plan and watershed or sub watershed plan (section 4.3.2.10).
- The Region is directed to adopt policies that support the criteria outlined in the Greenbelt Plan for extraction in the Fonthill Kame (these policies are in place).

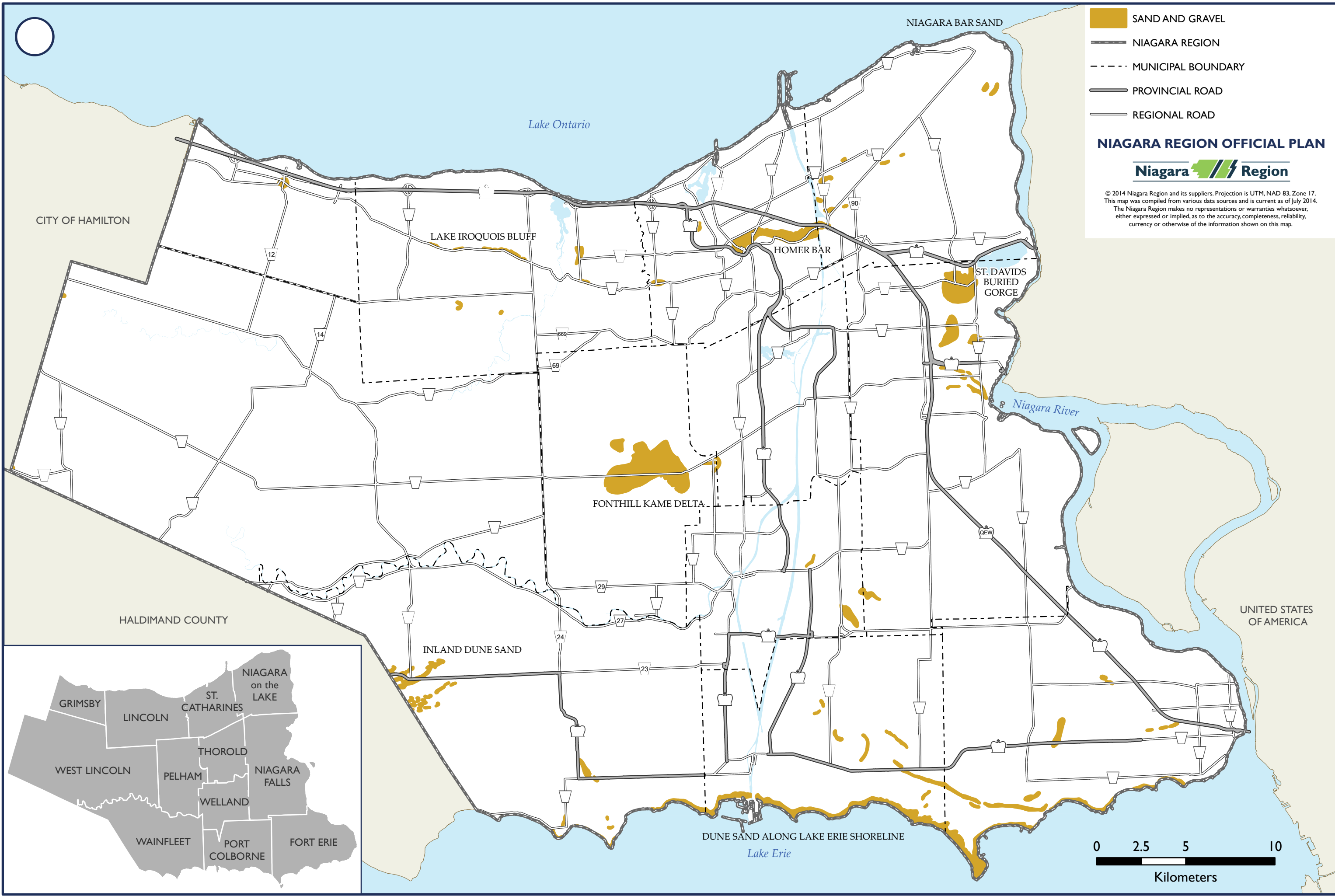
## 2.2 Regional

Presently, Niagara Region provides direction on planning for aggregate resources through section 6 of its Regional Official Plan (ROP, August 2014, office consolidation). This section includes mineral resource policies to provide direction on the Region's sand, gravel, stone and shale deposits, as illustrated on **Figure 2.3** and **2.4** (Schedules D1 and D2 of the ROP).

<sup>37</sup> Greenbelt Plan, 2015. Section 4.3.2.8c)







**NIAGARA REGION OFFICIAL PLAN**

**Niagara Region**

© 2014 Niagara Region and its suppliers. Projection is UTM, NAD 83, Zone 17. This map was compiled from various data sources and is current as of July 2014. The Niagara Region makes no representations or warranties whatsoever, either expressed or implied, as to the accuracy, completeness, reliability, currency or otherwise of the information shown on this map.



## State of Aggregate Resources in Niagara Region Background Report



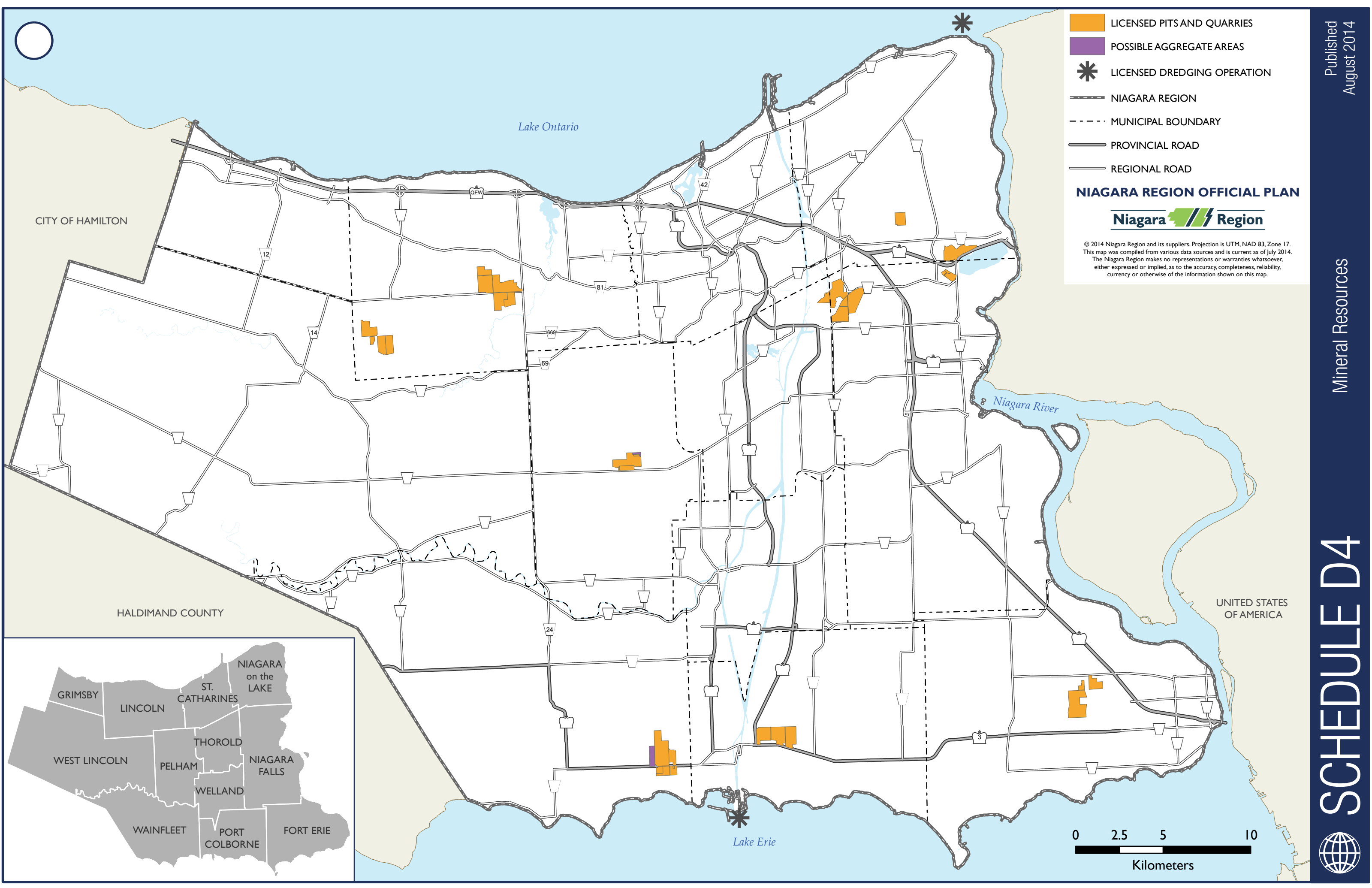
The stated ROP objectives for mineral resources are to:

- Ensure an adequate supply of mineral resources for construction, chemical and metallurgical needs within Niagara Region; and,
- Ensure a suitable location, operation and rehabilitation of mineral extraction to minimize natural and human environmental conflicts.

### 2.2.1 Permissions for New Aggregate Operations or Expansions

Figure 2.5 (Schedule D4 of the ROP) illustrates the existing Licensed Pits and Quarries and Possible Aggregate Areas. The lands identified as Possible Aggregate Areas are very limited (35.38 hectare parcel adjacent to the Waterford Sand & Gravel Limited operation and 5.57 hectare parcel adjacent to the Lafarge Canada Inc. operation). The ROP states that Possible Aggregate Areas are required to conform to the Niagara Escarpment Plan. A ROP amendment is required to develop a new or expansion to an existing aggregate operation outside of a Possible Aggregate Area, see policy 6.C.13.

It is unclear as to why these two resource areas were identified as Possible Aggregate Areas. The layer was established under different legislative documents and will need to be reviewed prior to being part of the new ROP aggregate policies.



## State of Aggregate Resources in Niagara Region Background Report



### 2.2.2 Restricting Adjacent Land Use

Policy 6.C.3 provides protection to Possible Aggregate Areas by preventing other conflicting uses from being established. The Regional Official Plan provides direction for adjacent lands, stating that only the uses permitted under the Agricultural policies<sup>38</sup> and within the Niagara Escarpment Plan Area should be considered adjacent to a licenced pit, quarry or Possible Aggregate Area. If an area is deemed a Possible Aggregate Area, no other land use shall be permitted, unless it can be proven that:

- Resource extraction would otherwise not be feasible;
- Resource extraction would otherwise impact human health and safety and environmental; and,
- There is a greater long-term public good.

### 2.2.3 Application Considerations

Considerations when reviewing an application for a new or expanded pits and quarries include, but are not limited to, the Niagara Escarpment Plan policies, compliance with the policies of the ROP<sup>39</sup>, compatibility with surrounding land uses, impacts to the natural environment, proposed manner of operation, proposed haulage roads and the possible effects on roadways and adjacent development<sup>40</sup>.

### 2.2.4 Areas That Prohibit or Restrict Aggregate Operations

In addition to the application considerations, the ROP provides direction on a number of areas where aggregate resource extraction is not permitted. This includes the land between Lake Ontario and the Niagara Escarpment Plan Area, which is identified as Tender Fruit and Grape Speciality Area and is prohibited for aggregate extraction in the Greenbelt Plan. Also, a new or expansion to a mineral aggregate operation or wayside permit is only permitted on primary and secondary selected sand and gravel on the Fonthill Kame.



The Regional Official Plan also includes several site specific policies related to the Fonthill Kame and a few other areas. For extraction uses on the Fonthill Kame, rehabilitation policies mandate that an

<sup>38</sup> Niagara Regional Official Plan, Office Consolidated Aug 2014, Chapter 5.B.

<sup>39</sup> Niagara Regional Official Plan, Office Consolidated Aug 2014, Policy 7.B.1.31 to 34.

<sup>40</sup> Niagara Regional Official Plan, Office Consolidated Aug 2014, Policy 6.C.5.

## State of Aggregate Resources in Niagara Region Background Report



applicant replace land uses back to original agricultural state, which would allow the same range of tender fruit or grape crops and a common microclimate which can maintain these crops. New applications for aggregate operations in Unique Agricultural Areas must follow several strict requirements including, but not limited to, the ability to rehabilitate land to a stage where agricultural productivity is possible.

Specific policies are provided in 6.C.5.2 for the Reeb Quarry also called the M.A.Q. Aggregates Quarry. Any expansion in this quarry<sup>41</sup> is not permitted and will not be considered without a ROPA and Township OP amendment. Expansion in this area comes with specific conditions including: Amendments (ROPA and OPA), independent peer review, a Woodland restoration plan, and the satisfaction of the MNRF.

### 2.2.5 Consultation

Chapter 12 of the ROP outlines the Region's consultation and engagement policies. For aggregates, the ROP describes its desire to have full consultation among area municipalities, the Ministry of Natural Resources and Forestry, the Region and the applicant before a license is issued. The policies identify the role of local official plan policies and local municipal comments as part of the Region's decision-making process.

### 2.2.6 Rehabilitation

Progressive rehabilitation is encouraged under policies 6.C.7 - 6.C.9 of the ROP. Continuous and harmonious rehabilitation is encouraged ensuring compatibility with surrounding land uses.

### 2.2.7 Wayside Pits and Quarries

The ROP permits wayside pits and quarries under public authority or under an agent of a public authority except for in areas of environmental sensitivity, as per policy 6.C.10. The ROP requires conformity with the NEP and direct local municipalities to establish land use designations and by-laws for pits and quarries that conform to ROP policies and schedules.

### 2.2.8 Other Regional Policies

In addition to the Region's aggregate resource policies within section 6 of the plan, there are other policies of the ROP that have an impact on aggregate operations and must be considered when reviewing any application for an expansion or new aggregate operation. These include (but are not limited to) the Rural and Agricultural policies outlined in section 5 of the ROP, the Natural Environment policies outlined in section 7 of the ROP and the Transportation policies outlined in section 9 of the ROP.

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<sup>41</sup> Quarry is located 425 metres east of Bessey Road, on the northwestern part of Concession 1, Lot 2 in the township of Wainfleet.



### 2.3 Local

In a two-tiered planning system, local area official plans are intended to implement Regional policy. At the local level, official plans are used to provide detailed land use planning direction related to local and site-specific issues. Of the 12 municipalities within the Region of Niagara, all except St Catharines have specific aggregate planning policies (Thorold's Official Plan under Regional Review includes policies, while Grimsby, Lincoln, Pelham, Niagara-on-the-Lake, Niagara Falls, Welland, Port Colborne, West Lincoln, Wainfleet and Fort Erie all have a range of aggregate resource policies in force and effect). For aggregate resources in Niagara Region, the area municipal official plan policies have a number of similarities in the framework, policy topics and directions. A few important observations from the area municipal official plan policies include:

- Most local official plans identify the importance of aggregate extraction to the local economy.
- All municipalities require an amendment to their official plan and zoning by-law for any establishment of new or expansions of existing pits and quarries which are beyond the extent of currently designated lands. Most municipalities have policies in their official plans identifying the requirements for studies as part of an official plan amendment associated with a new or expansion to an aggregate operation and the considerations for the municipality when reviewing the application.
  - All municipalities that have aggregate operations identify them on their land use map, recognizing the extent of active pits and quarries:
  - Fort Erie, Wainfleet and Niagara Falls- extractive industrial;
  - NOTL – extractive;
  - Pelham – Mineral Aggregate Resource Area;
  - Lincoln – Licenced Pits and Quarries;
  - Port Colborne – Mineral Aggregate Operation.
  - Thorold – Aggregate Extraction Area (adopted Official Plan)
- This is particularly important as it provides clarity in the application of policies and allows for proactive management of land use change in the vicinity of licensed pits and quarries.
- Only Wainfleet identifies the location of lands which may have potential for extraction in addition to all lands that have aggregate resources.
- Most of the area municipal Official Plans promote progressive rehabilitation (Port Colborne, Fort Erie, Pelham, Niagara Falls, Lincoln, and Niagara-on-the-Lake but only relating to the Queenston Quarry).
- Pelham's Official Plan includes policies protecting mineral aggregate resources. One particular policy requires applicants within 300m of a known deposit to complete a special Mineral Aggregate Resource Study. The Study, which is undertaken by the applicant, would need to demonstrate that:
  - The aggregate area is not be feasible for development

## State of Aggregate Resources in Niagara Region Background Report



- That the proposal serves a greater public interest
- Any issues of public health and safety and environmental impacts have been addressed, and that it does not affect the availability of mineral aggregate resources in adjacent areas.

Fort Erie requires a similar study and identifies that Council may request additional setbacks. Lincoln and Niagara Falls identifies that the municipality/Council may establish increased setbacks to those identified in the *Aggregate Resources Act*.

- Lincoln has lands zoned to permit new extraction uses (with a holding provision).
- Pelham promotes rehabilitation being supportive of cultural heritage resources.
- Niagara-on-the-lake included policies for permitted end uses on a specific site within their official plan.
- Port Colborne permits mineral aggregate operations in provincially significant ANSIs if it has been demonstrated that there will be no negative impact to the natural feature or its ecological function.
- Niagara Falls protects for future extractive industries by identifying Potential Mineral Aggregate Areas (bedrock and gravel resource areas), but has limited area identified.
- Wainfleet identified that, when reviewing a development application outside of the Hamlets within an Aggregate Resource Area, Council shall give consideration to the potential for interference with the continuation or expansion existing aggregate operations, the future aggregate operations, the need for and alternate location for the proposed use, the extent to which other existing uses would limit extraction in the area and the extent of licenced reserves in the Township.
- Niagara Falls permits wayside pits and quarries in all land use designations except for Environmental Protection Area and Residential areas without an amendment to the OP or zoning by-law.

## 3 AGGREGATES IN NIAGARA REGION

### 3.1 Importance of Aggregate Resources

Aggregates are a fundamental element of the economy. As one might expect, they are used in the construction of homes, roads, highways, subways, bridges, trails and airports. They are also used to manufacture a number of products, including glass, coated paper, paint, fertilizers, health care products and pharmaceuticals. The Ontario Stone, Sand and Gravel Association estimates that each Ontario resident consumes 14 tonnes of stone, sand and gravel (on average, per year). Some examples which help to illustrate how much aggregate is required for a few everyday applications are listed below:

- 250 tonnes for a 185 square metre (2,000 square foot) house;
- 18,000 tonnes per kilometre of a two-lane highway in Southern Ontario; and,
- 114,000 tonnes per kilometres of a subway line.<sup>42</sup>

Primary aggregate produced in Ontario accounts for approximately \$1.3 billion<sup>43</sup>. Considering direct, indirect and induced effects, the aggregate industry generates approximately \$1.3 billion in GDP, \$827 million of labour income and 16,600 full time jobs<sup>44</sup>. The aggregate industry is an important industry to support the economy and an essential resource for this growing Province.

### 3.2 Demand for Aggregates in Niagara

The Growth Plan for the Greater Golden Horseshoe (the Growth Plan) provides long range population and employment projections for upper and single tier municipalities in the Greater Golden Horseshoe. The Growth Plan is projecting robust growth for Niagara Region, as the Region is expected to grow to 610,000 people and 265,000 jobs by 2041. This growth represents an increase of 179,000 people (42%) over the 2011 census count of 431,000 people.

Using the average aggregate use per person (14 tonnes annually), indicates a current demand of approximately 6 million tonnes<sup>45</sup> and a projected demand of approximately 8.5 million tonnes by 2041. And while there are a number of more complex models for projecting long term demand, this crude approach is useful for generally quantifying the potential long term needs in the Region by 2041. The underlying implication is that, so long as the Region continues to grow, there will be an increasing demand for locally sourced aggregates and, hence, the need for a clear set of policies to manage land use change.

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<sup>42</sup> Ministry of Natural Resources and Forestry SAROS, 2010.

<sup>43</sup> In 2007 based on the Ministry of Natural Resources and Forestry SAROS, 2010.

<sup>44</sup> Ministry of Natural Resources and Forestry SAROS, 2010.

<sup>45</sup> Based on Statistics Canada 2011 census data.

### 3.3 Niagara's Aggregate Resources

#### 3.3.1 Bedrock

The Region of Niagara has a substantial amount of quality bedrock resources and is underlain by a succession of shale, sandstone, limestone and dolostone. **Figure 3.1** presents the bedrock aggregate resources based on the Ministry of Northern Development and Mines (MNDM) Aggregate Resources Inventory Program for Niagara Region municipalities<sup>46</sup>.

Niagara has a number of large formations of bedrock that have been evaluated and identified by the MNDM in both the north and south portions of the Region. Generally, the selected areas either are areas of exposed bedrock partially covered by a thin veneer of drift (less than 3 feet) or bedrock covered by drift, with a thickness of 3 to 25 feet.

The Selected Resource Area along the north portion of the Region covers the Town of Grimsby, the Town of Lincoln and a very small portion within the Town of Pelham. This Selected Resource Area includes the Lockport and Queenston Formation. The Selected Resource Area along the south portion of the Region follows north shore of Lake Erie within the Township of Wainfleet, City of Port Colborne and Town of Fort Erie. This Selected Resource Area includes the Salina, Bertie, Bois Blanc and Onondaga Formations. In addition, within the Town of Pelham, there is an area that was evaluated and not selected by the MNDM. This is due to the large amount (3 to 25 feet) of overburden (topsoil or waste rock) in this area.

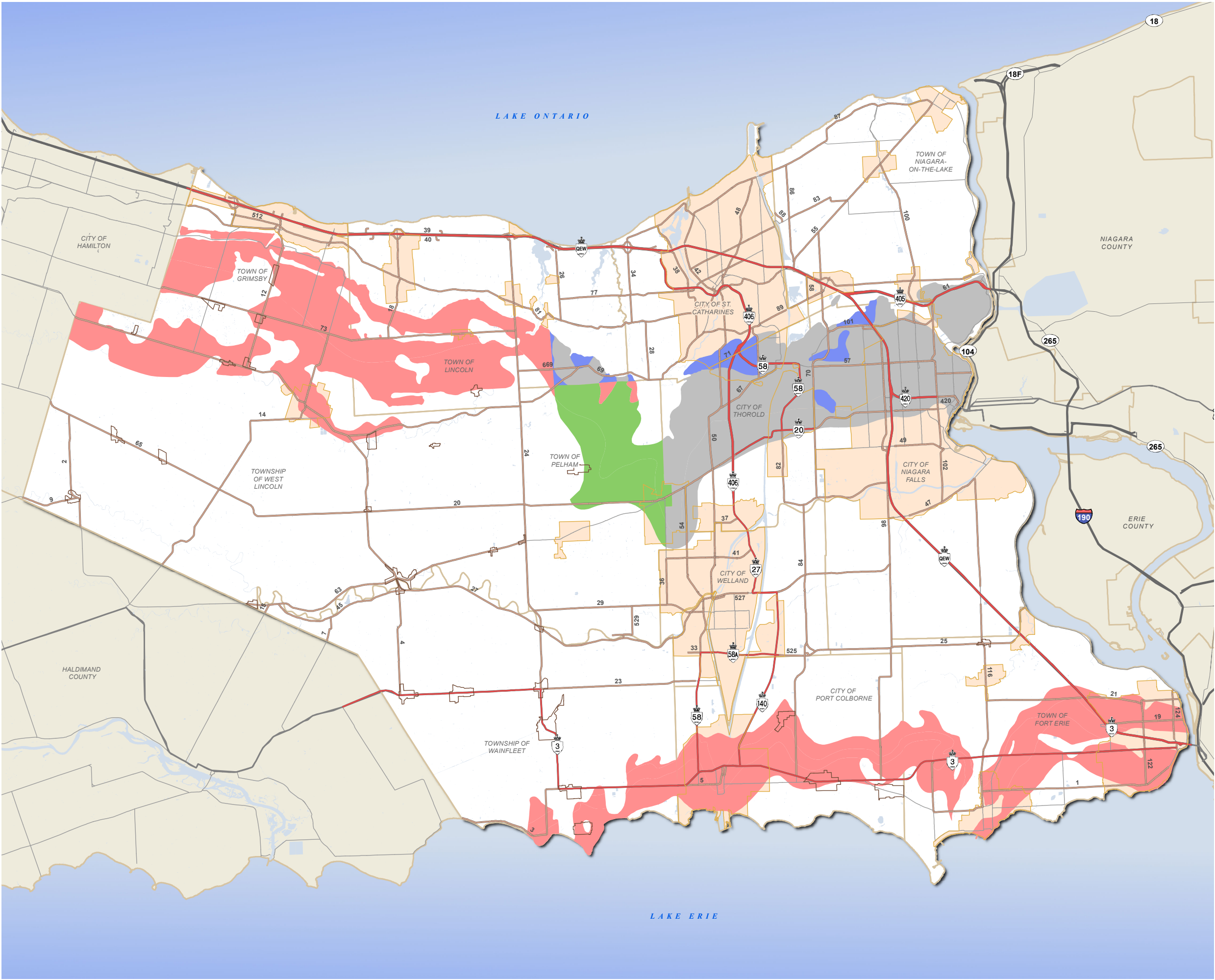
There are also a number of bedrock formations that were not evaluated by the MNDM that cover the City of Thorold, south portion of the City of St. Catharines, north portion of the City of Niagara Falls and the southern portion of the Town of Niagara-on-the-Lake, see blue hatch area on **Figure 3.1**. Within this area, there are a number of smaller areas that were determined to have high quality bedrock<sup>47</sup>.

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<sup>46</sup> Reports were dated 1980 and 1985.

<sup>47</sup> Niagara Sheet, Southern Ontario, Drift Thickness Series, 1969.





**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**BEDROCK AGGREGATE RESOURCES  
INVENTORY**  
FIGURE 3.1

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- HAMLETS
- URBAN BOUNDARY
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES
- BEDROCK - EVALUATED (ARIP REPORTS)**
  - SELECTED RESOURCE AREA
  - NOT SELECTED
- BEDROCK - NOT EVALUATED**
  - UNDETERMINED (NO REPORT)
  - HIGH QUALITY AGGREGATE BEDROCK (1969 REPORT)

**Evaluation of Bedrock Resource Areas (ARIP Reports)**

Selection of bedock resource areas has been restricted to a single level of signifiacnce, based on site specific criteria and regional considerations.

Selected Bedrock Resouce Areas shown on the map are not permanent, single land use units which must be incorporated in an official planning document. Such resource areas may be reserved wholly or partially for extractive development and/or resource protection within the context of the official plan.

0 1 2 4 km

SCALE 1:220,000



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\  
Figure 3-1 - Bedrock.mxd



PROJECT: 149861  
STATUS: FINAL  
5/28/2015

## State of Aggregate Resources in Niagara Region Background Report



### 3.3.2 Sand and Gravel

In general, Niagara Region has limited granular resources. **Figure 3.2** presents the sand and gravel aggregate resources based on the Ministry of Northern Development and Mines (MNDM) Aggregate Resources Inventory Program for Niagara Region municipalities (dated 1980 and 1985).

Niagara Region has only a few selected primary resource areas for sand and gravel resources, the largest is located on the Fonthill Kame. The Fonthill Kame is a geologic feature composed of sand and gravel resulting from extensive glacial activity which took place from approximately 23,000 to 12,500 years ago<sup>48</sup>. The Fonthill Kame rises approximately 75 metres above the surrounding area and has one of the highest elevations in the Niagara Region. This primary resource area is surrounded by a larger secondary resource area<sup>49</sup> covering a large portion of the Town of Pelham. There is also a small amount of primary sand and gravel resource in Fort Erie and Port Colborne. In addition, there is a small area in the Township of Wainfleet along the border of Haldimand County that is selected as a secondary resource area. The rest of the resources are restricted in quality, thickness and extent and have, therefore, been classified as tertiary resources<sup>50</sup>. These tertiary resources exist along the south bank of Lake Ontario in the Town of Grimsby and Town of Lincoln, along the north shore of Lake Erie in the Township of Wainfleet, City of Port Colborne and Town of Fort Erie, and around the secondary resource area in the Township of Wainfleet. These may be suitable for local extraction of low-specification aggregate<sup>51</sup>.

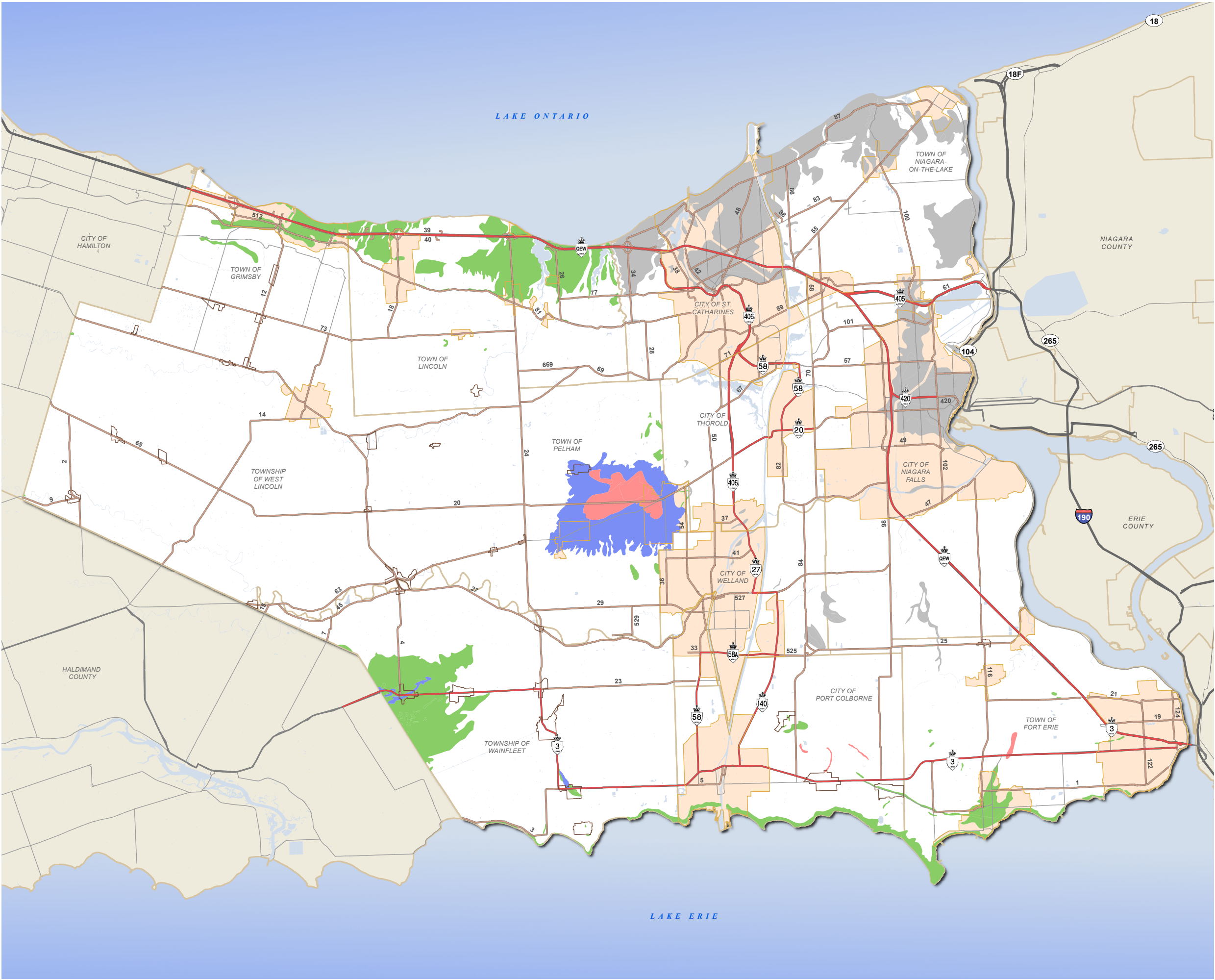
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<sup>48</sup> Ministry of Natural Resources and Forestry, Aggregate Resources Inventory Program, Town of Pelham, 1980

<sup>49</sup> Secondary resource areas are believed to contain significant amounts of sand and gravel and should be considered as part of the aggregate supply (Ministry of Northern Development and Mines).

<sup>50</sup> Areas of tertiary significance are not considered to be important resources areas because of their low available resources or because of possible difficulties with extraction. These areas may be useful for local needs but are unlikely to support large-scale development (Ministry of Northern Development and Mines).

<sup>51</sup> Ministry of Natural Resources and Forestry, Aggregate Resources Inventory Program, 1980 and 1985



**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**SAND AND GRAVEL AGGREGATE  
RESOURCE INVENTORY**  
FIGURE 3.2

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
  - TRANSPORTATION CORRIDOR - REGIONAL ROAD
  - FREEWAY
  - EXPRESSWAY / HIGHWAY
  - ARTERIAL ROAD
  - HAMLETS
  - URBAN BOUNDARY
  - URBAN AREAS
  - NIAGARA REGION MUNICIPALITIES
  - OTHER MUNICIPALITIES
- SAND & GRAVEL - EVALUATED (ARIP REPORTS)**
- PRIMARY SIGNIFICANCE (SELECTED RESOURCE AREA)
  - SECONDARY SIGNIFICANCE
  - TERTIARY SIGNIFICANCE
- SAND & GRAVEL - NOT EVALUATED**
- OTHER GRANULAR DEPOSITS (NOT FULLY EVALUATED)

**Evaluation of Sand & Gravel Resource Areas (ARIP Reports)**

The selected sand and gravel resource areas are first delineated by geological boundaries and then classified into three levels, based on site specific criteria and regional considerations.

- Primary Significance:  
Represent areas in which major resource is known to exist. Assessed as to its probable relative value as a resource in the municipality.
- Secondary Significance:  
Believed to contain large amounts of sand and gravel. Although deposits are not considered to be the "best" resource in the report area.
- Tertiary Significance:  
Not considered to be important resource area because of their low available resources, or because of possible difficulties for extraction.

Selected Aggregate Resource Areas of Primary Significance are not permanent, single land use units which must be incorporated in an official planning document. Such resource areas may be reserved wholly or partially for extractive development and/or resource protection within the context of the official plan.

0 1 2 4 km  
SCALE 1:220,000

MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDR, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\Figure 3-2 - Sand & Gravel.mxd



PROJECT: 149861  
STATUS: FINAL  
5/28/2015



## State of Aggregate Resources in Niagara Region Background Report



The Fonthill Kame's primary resource areas are approximately 820 hectares (2,030 acres) in size and contain an estimate of 86 million tonnes of sand and gravel, suitable for a range of road-building and construction aggregates. It provides a very important regional source of road and construction material<sup>52</sup>.

### 3.4 Existing Operations

Niagara Region is strategically located, with good transportation access to Ontario and US markets. In Niagara Region, there are a number of aggregate operations as identified on **Figure 3.3**. A number of the operators have been active in Niagara for a long time, some dating back to the 19<sup>th</sup> century. The following briefly summarizes a number of the major existing operations in Niagara:<sup>53</sup>

**Lincoln Quarry** (Nelson Aggregates Co.), located in the Town of Lincoln and started in 1969. Its resources were depleting, Nelson purchased an additional 200 acres and obtained a license on the property in 2002, allowing the life of the quarry to extend for another 60 years.

**Spring Creek Aggregates** (Walker Aggregates Inc.) located south of the Niagara Escarpment in the Township of Lincoln. This licenced resource has been reserved since 1974 until the QEW corridor reconstruction project in the mid-nineties. At this location they extract resources suitable for asphalt, concrete and granular supply for the construction industry.

**Vineland Quarries & Crushed Stone** (Walker Aggregates Inc.), located just south of the village of Vineland in the Town of Lincoln. In operation since 1958 and predominantly processes high quality limestone into concrete stone and manufactured sands. This location also recycles concrete and asphalt from local infrastructure reconstruction for the purpose of reuse in the market.

**Lafarge Fonthill** (Lafarge Canada Inc.) pit, located in Fonthill within the Town of Pelham. The existing site is nearing depletion and Lafarge is interested in expanding the operation to 27 hectare parcel immediately east of the site and intends to submit an application to the Town, Region and Province for this expansion<sup>54</sup>.



<sup>52</sup> Ministry of Natural Resources and Forestry, Aggregate Resources Inventory Program, Town of Pelham, 1980

<sup>53</sup> These details were obtained through operator's websites.

<sup>54</sup> Expansion plans as noted on Lafarge's website [www.lafargefonthill.ca/proposals](http://www.lafargefonthill.ca/proposals) at the time the report was written

## State of Aggregate Resources in Niagara Region Background Report



**Law Crushed Stone** (Waterford Sand and Gravel Limited) located in Wainfleet. Quarry first opened in 1937 and has reserves of over 40 million tonnes. There is also an asphalt production supply service onsite.

**Walker Brothers Quarries** (Walker Aggregates Inc.), located on the border of Niagara Falls and Thorold. Started in 1887 and extracts high quality stone used to supply the large demand for local road construction projects. This location also recycles concrete and asphalt from local infrastructure reconstruction for the purpose of reuse in the market.

**Niagara-on-the-lake Quarry** (Hanson Brick Ltd.), located in Niagara-on-the-Lake.

**Allen's Half-Way Sand Pit** (Half-Way Sand Pit Limited), located in Niagara Falls.

**Ridgemount Quarries** (Walker Aggregates Inc.), located in the Town of Fort Erie, just east of Stevensville. In operation since 1960s and extracts various rock members to supply the large demand for local road construction projects. This location also recycles concrete and asphalt from local infrastructure reconstruction for the purpose of reuse in the market.

There are also licenses for Queenston Quarry, Reeb Quarry, 1712028 Ontario Inc. (Port Colborne Quarry), 1251600 Ontario Ltd. and McKeil Marine.



**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**AGGREGATE OPERATIONS WITHIN  
THE REGION OF NIAGARA**  
FIGURE 3.3

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE OPERATIONS BASED ON MNR 2015 DATA
- AGGREGATE OPERATIONS BASED ON ROP SCHEDULE D4, PUBLISHED AUGUST 2014
- POSSIBLE AGGREGATE AREAS BASED ON ROP SCHEDULE D4, PUBLISHED AUGUST 2014
- HAMLETS
- URBAN BOUNDARY
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

0 1 2 4 km SCALE 1:220,000

MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDR, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\ Figure 3-3 - Aggregate Operations.mxd



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## 4 POLICY ISSUES, OPPORTUNITIES, CONSIDERATIONS & DIRECTIONS

As noted in the previous chapter, aggregate resources are an important part of our everyday lives; however, the extraction of aggregates can have environmental, economic and social impacts. Although aggregate extraction is considered to be an interim use, the effects of the use (particularly if not appropriately managed), can have lasting impacts on the landscape, environmental features, surface water and groundwater conditions. This underlines the importance of siting aggregate operations and managing the impacts through planning. **Figure 4.1** presents a summary of the constraints relating to aggregate resource extraction in Niagara<sup>55</sup>. The intention of **Figure 4.1** is to provide context for understanding how much of Niagara's aggregate resource areas are constrained. Resource Areas shown (on **Figure 4.1**) include all bedrock and sand and gravel resources as depicted previously on **Figures 3.1** and **3.2** including primary, secondary or tertiary significance sand and gravel resources and selected, not selected, undetermined, and high quality aggregate bedrock. All resource areas have been included; however, some of these resource areas may not be feasible for extraction due to the resource quality or quantity. Also note that Resource Areas within settlement areas have been netted out.

The Halton Official Plan's mineral resource extraction areas identifies evaluation criteria for new aggregate development including adverse impacts on and proposed measures to minimize or address adverse impacts on any cultural heritage resources.

For the purpose of this report, the following outlines the methodology used to classify "Resource Areas with No Potential for Extraction", "Resource Areas with Identified Constraints for Extraction" and "Resource Areas with Few Known Constraints". This section is meant to provide an overview of some of the constraints to aggregate resource development, but is not intended to be an exhaustive list. The mapping was prepared using the best available data; however site level analysis may result in changes to the features identified in this analysis. Some information on constraints was not available and has not been included in this analysis, such as significant or endangered species, key hydrologic features or consideration for adjacent land uses. Those lands identified as "Resource Areas with Few Known Constraints" may not be appropriate for extractive industries for other reasons outside of the categories identified here within such as compatibility, existence of urban areas or other policy constraints.

<sup>55</sup> This figure summarizes the resources and constraints. All resource areas have been included in the resource layer, including primary, secondary and tertiary sand and gravel resources and evaluated (selected and not selected) and unevaluated bedrock resources. The constraints mapping does not consider prime agricultural land as a constraint (please refer to Section 4.5 of this report).

## State of Aggregate Resources in Niagara Region Background Report



### Resource Areas with No Potential for Extraction

The “No Potential for Extraction” category is intended to show resource areas that are significantly constrained in our current policy regime, resulting in resource extraction being unfeasible on these lands. The significant constraints include:

- Intake Protection Zone (IPZ)-1 Source Water Protection Areas;
- Escarpment Protection Areas (Niagara Escarpment Plan), including Provincially Significant Wetlands and Provincially Significant Areas of Natural and Scientific Interest (ANSIs);
- Escarpment Natural Area (Niagara Escarpment Plan);
- Environmental Protection Area (Niagara’s Regional Official Plan); and,
- Unique Agricultural Areas (Niagara’s Regional Official Plan) north of the Niagara Escarpment.

### Resource Areas with Identified Constraints for Extraction

The “Identified Constraints for Extraction” category is intended to show resource areas that have identified constraints based on our current policy regime, but can often be refined through an Environmental Impact Statement, which may allow some areas to be used for extraction. The lands with limited potential include:

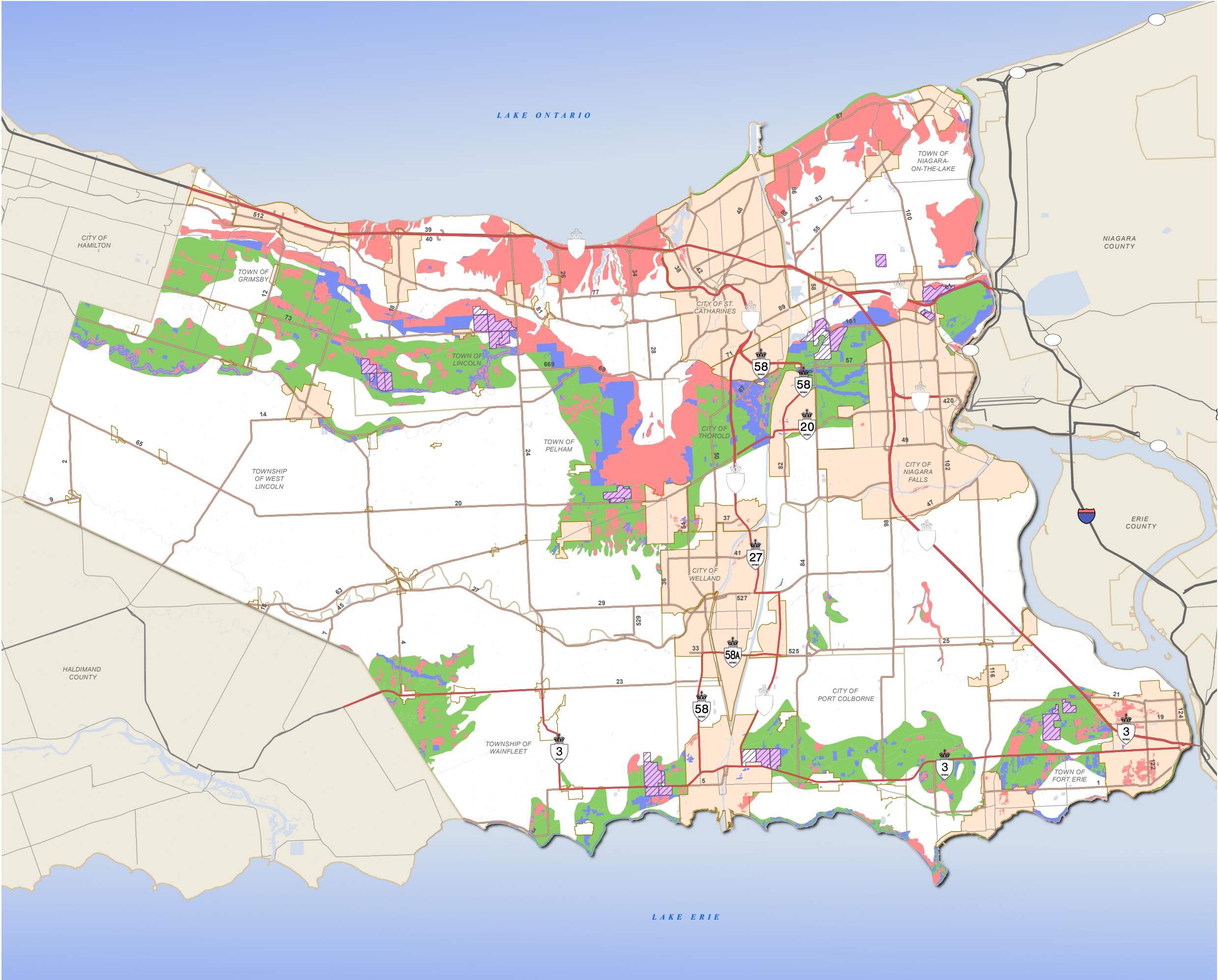
- IPZ-2 Source Water Protection;
- Escarpment Rural Area (Niagara Escarpment Plan); and,
- Environmental Conservation Area (Niagara’s Regional Official Plan) including Regionally Significant Wetlands and Regionally Significant Areas of Natural and Scientific Interest (ANSIs).

### Resource Areas with Few Known Constraints

This “Few Known Constraints” category is intended to show resource areas that have few known constraints and could be considered for resource extraction provided it is appropriate based on the outcome of the required studies. The lands with few known constraints include the following features/areas after netting out the other environmental features outlined above:

- Mineral Resource Extraction (Niagara Escarpment Plan):
- Possible Aggregate Areas (Niagara’s Regional Official Plan);
- Sand & Gravel (MNDM, Aggregate Resources Inventory Program);
- Sand & Gravel Not Evaluated (MNDM, Aggregate Resources Inventory Program);
- Niagara Bedrock (MNDM, Aggregate Resources Inventory Program); and
- Resources with Less Than 8m of Overburden (Draft Thickness 1969).

Note that Fish Habitat areas have not been mapped.



**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**RESOURCE AREA CONSTRAINTS**  
FIGURE 4.1

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- RESOURCE AREAS WITH NO POTENTIAL FOR EXTRACTION
- RESOURCE AREAS WITH LIMITED POTENTIAL FOR EXTRACTION
- RESOURCE AREAS WITH FEW KNOWN CONSTRAINTS
- LICENSED PITS & QUARRIES BASED ON MNR 2015 DATA
- LICENSED PITS & QUARRIES BASED ON ROP SCHEDULE D4, PUBLISHED AUGUST 2014
- HAMLETS & SETTLEMENT AREAS
- URBAN AREA
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

RESOURCE AREAS WITH NO POTENTIAL FOR EXTRACTION:

- IPZ-1 SOURCE WATER PROTECTION
- ESCARPMENT PROTECTION AREA (NEP)
- ESCARPMENT NATURAL AREA (NEP)
- ENVIRONMENTAL PROTECTION AREA BASED ON ROP PUBLISHED AUGUST 2014
- ENVIRONMENTAL PROTECTION AREA BASED ON MNR 2015 DATA
- UNIQUE AGRICULTURAL AREAS (ROP) NORTH OF NIAGARA ESCARPMENT
- SETTLEMENT AREAS (HAMLET AND URBAN AREAS)

RESOURCE AREAS WITH LIMITED POTENTIAL FOR EXTRACTION:

- IPZ-2 SOURCE WATER PROTECTION
- ESCARPMENT RURAL AREA (NEP)
- ENVIRONMENTAL CONSERVATION AREA BASED ON ROP PUBLISHED AUGUST 2014
- ENVIRONMENTAL CONSERVATION AREA (ECA) BASED ON MNR 2015 DATA

RESOURCE AREAS WITH FEW KNOWN CONSTRAINTS:

- MINERAL RESOURCE EXTRACTION (NEP)
- LICENSED PITS & QUARRIES (ROP)
- POSSIBLE AGGREGATE AREAS (ROP)
- SAND & GRAVEL (MNDM, ARIP)
- SAND & GRAVEL NOT EVALUATED (MNDM, ARIP)
- NIAGARA BEDROCK (MNDM, ARIP)
- LESS THAN 8 m OF OVERBURDEN (DRIFT THICKNESS 1969)



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\149861 - Niagara Aggregate Resource Policies Update\Mxd\ Figure 4-1 - Constraints\_AB.mxd



PROJECT: 149861  
STATUS: FINAL  
6/16/2015

## State of Aggregate Resources in Niagara Region Background Report



The following section outlines the relevant issues and opportunities, policy considerations and provides further detail on the constraints to aggregate resource extraction relating to the following key themes:

- Natural heritage;
- Water resources;
- Transportation;
- Cultural heritage;
- Agriculture;
- Compatibility;
- Recycling; and,
- Rehabilitation and after use.

This section draws on a range of source materials, including policy and legislation, reports and studies, findings from interviews with key stakeholders and the public, along with innovations uncovered from a best practices review.



# State of Aggregate Resources in Niagara Region Background Report



## 4.1 Natural Heritage

### 4.1.1 Issues & Opportunities

Impacts on the natural heritage environment can be one of the most common points of conflict and concern when contemplating proposals for new aggregate operations and expansions. Geography determines the location of available aggregate deposits; however, much of the resources are also located in areas of natural heritage significance. Many of the same reasons the land is environmentally significant is directly related to the subsurface aggregate resource (for example, Earth Science Areas of Natural and Scientific Interest are protected as they contain significant bedrock, fossils, landforms or ongoing geological processes, however bedrock is also an aggregate resource).

### 4.1.2 Policy Considerations

The Niagara Regional Official Plan outlines Core Natural Heritage System policies within Section 7B to satisfy the requirements of the Greenbelt Plan and other provincial policies and plans. While there is no specific section for natural heritage policies relating to new aggregate operations or expansions, the policies of Section 7B apply to aggregate proposals<sup>56</sup>.

In addition to the lands identified within the Niagara Escarpment Plan and Greenbelt Act for preservation (refer to Section 2.1 for a more detailed description of NEP and Greenbelt Plan policies), the Region, through its Official Plan, identified the Core Natural Areas classified as either Environmental Protection Areas (EPAs) or Environmental Conservation Areas (ECAs). EPAs include the following features:

- Provincially significant wetlands;
- Provincially significant Life Science and Earth Science ANSIs;
- Significant habitat of threatened and endangered species; and,
- Greenbelt Natural Heritage System wetlands, significant valleylands, significant woodlands, significant wildlife habitat, habitat of species of concern, publically owned conservation lands, savannahs and tallgrass prairies and alvars.

Haldimand County's Official Plan land use schedules include **Mineral Aggregate Resource Areas in the same figure as natural heritage** and land use. This **overlay allows easy interpretation** of potential conflicts relating to the mineral aggregate resource areas and natural heritage features, as well as land use.

The **Hamilton Rural Official Plan** has specific natural heritage system policies for mineral aggregate operations. No other natural heritage policies of the plan apply to new aggregate operations, expansions to an existing aggregate operation or a new wayside pit or quarry. The Plan also identifies what **policies take precedence when a policy conflict arises** and summarizes in a table format the conditions for a policy to apply.

**Waterloo Region** identifies specific policies on **habitat loss** stating any loss will be replaced with equivalent habitat on the property or adjacent land and no less than 35% of the licences area remaining after extraction will be rehabilitated to natural self sustaining woodland habitat representative of the area in which it is located (Waterloo Region Official Plan is currently under appeal).

<sup>56</sup> ROP policies pertain to all forms of "site alteration and development". Proposals for aggregate operations would fall under this definition.

## State of Aggregate Resources in Niagara Region Background Report



Aggregate resource extraction is not permitted within EPAs except in accordance with the Greenbelt Plan, 2005.

ECAs include the following features:

- Significant woodlots;
- Significant wildlife habitat;
- Significant habitat of species of concern;
- Regionally significant Life Science ANSIs;
- Other evaluated wetlands;
- Significant valleylands;
- Savannahs and tallgrass prairies;
- Alvars; and,
- Publically owned conservation lands.

Development and site alteration may be permitted within ECAs with an amendment to the ROP, subject to an Environmental Impact Study (EIS) demonstrating that, over the long term, there will be no significant negative impact on the Core Natural Heritage System component or adjacent lands and the proposed development is not prohibited by other policies of the ROP. EPAs and ECAs have been identified in relation to the aggregate resources in Niagara Region on **Figure 4.2**.

Natural Heritage Feature (NP = Not Permitted) (PS = Permitted, Subject to Meeting EIS Standards)	Greenbelt Plan		Niagara Escarpment Plan		Elsewhere in Niagara (outside of NEP & Greenbelt Plan)	
	New Aggregate Operations	Expansions to Existing	New Aggregate Operations	Expansions to Existing	New Aggregate Operations	Expansions to Existing
Provincially Significant Wetland	NP	NP	NP	NP	NP	NP
Provincially Significant Life Science and Earth Science ANSI	NP	NP	NP	NP	NP	NP
Significant Habitat of Threatened or Endangered Species	NP	NP	NP	NP	NP	NP
Significant Woodlands	NP	NP	PS	PS	PS	PS



## State of Aggregate Resources in Niagara Region Background Report



Natural Heritage Feature (NP = Not Permitted)  (PS = Permitted, Subject to Meeting EIS Standards)	Greenbelt Plan		Niagara Escarpment Plan		Elsewhere in Niagara (outside of NEP & Greenbelt Plan)	
	New Aggregate Operations	Expansions to Existing	New Aggregate Operations	Expansions to Existing	New Aggregate Operations	Expansions to Existing
Local or Unevaluated Wetlands	NP	NP	PS	PS	PS	PS
Significant habitat of species of concern;	NP	NP	PS	PS	PS	PS
Regionally significant Life Science ANSIs;	NP	NP	NP	NP	PS	PS
Significant valleylands;	NP	NP	PS	PS	PS	PS
Savannahs and tallgrass prairies;	NP	NP	PS	PS	PS	PS
Alvars;	NP	NP	PS	PS	PS	PS
Publically owned conservation lands	NP	NP	PS	PS	PS	PS

Section 7B of the ROP introduces the concept of “net environmental gain”. Net gain is the principle whereby some disruption to a natural feature may be permitted, provided that improvements and enhancements are implemented and that overall, there is a net improvement within the ecosystem. Policy 7B.1.33.b applies the net gain principle to a specific rehabilitation scenario. An excerpt of the policy is provided below:

When operators are undertaking rehabilitation of mineral aggregate operation sites within the Unique Agricultural Areas in the Greenbelt Area the following provisions apply:

## State of Aggregate Resources in Niagara Region Background Report



a) The disturbed area of a site will be rehabilitated to a state of equal or greater ecological value, and for the entire site, long-term ecological integrity will be maintained or restored, and to the extent possible, improved;

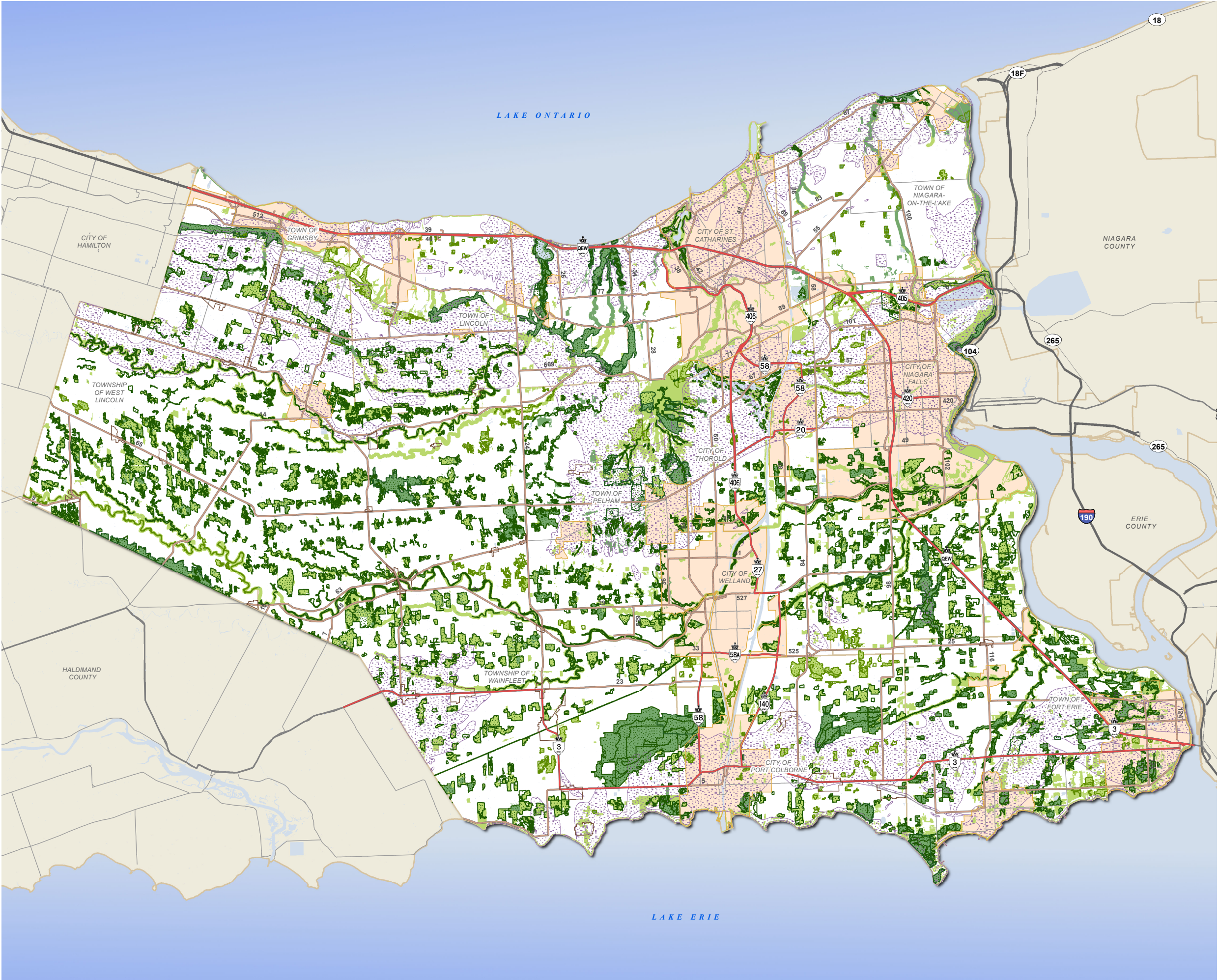
b) If there are Core Natural Heritage System features or key hydrologic features on the site, or if such features existed on the site at the time of application:

i. The health, diversity and size of these features will be maintained or restored and, to the extent possible, improved to promote a net gain of ecological health; and

ii. Any permitted extraction of mineral aggregates that occurs in a feature will be completed, and the area rehabilitated, as early as possible in the life of the operation.

There may be other opportunities to further explore the principle of net environmental gain more broadly to address other aspects of aggregate resource planning. The application of net environmental gain will need to be considered in the context of the PPS policy 2.1.5 describing “no negative impacts” on the natural features and their ecological functions for sites and adjacent lands and policy 2.1.6-7 which identified no development or site alteration in fish habitat or habitat of endangered species and threatened species except in accordance with provincial and federal requirements.





**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**NATURAL HERITAGE**  
FIGURE 4.2

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE RESOURCES
- ENVIRONMENTAL PROTECTION AREA BASED ON MNR 2015 DATA
- ENVIRONMENTAL CONSERVATION AREA BASED ON MNR 2015 DATA
- ENVIRONMENTAL CONSERVATION AREA BASED ON ROP SCHEDULE C, PUBLISHED AUGUST 2014
- ENVIRONMENTAL PROTECTION AREA BASED ON ROP SCHEDULE C, PUBLISHED AUGUST 2014
- HAMLETS
- URBAN BOUNDARY
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\Figure 4-2 - Natural Heritage.mxd



PROJECT: 149861  
STATUS: FINAL  
6/9/2015

### 4.1.3 Policy Directions

The following summarizes our policy recommendations for the natural heritage theme related to the impacts of aggregate operations:

- **Provide clear direction on which policies apply:** Niagara Region should consider preparing natural heritage policy direction specific to aggregate operations in order to provide a clear indication of the policies that apply and those that do not, as well as the prevailing policies in the case of a conflict. Niagara may also want to consider including a table which clearly indicates when a policy applies to each type of application<sup>57</sup>. There may be a need to provide some enhanced mapping and corresponding policies so that readers can easily understand how the policies apply based on geography.
- **Provide opportunities for net environmental gain:** It is understood that, from time to time, there will be competing interests and expectations to manage. There is a need to introduce some additional policy tools into the decision-making process on aggregates, which better allow the Region and others to manage environmental impacts in an environmental, economic and socially responsible manner. A holistic/integrated watershed management approach should be considered while addressing critical issues such as the current and future impacts of rapid growth and climate change. The Region should consider including policies that explicitly identifies opportunities for net environmental gain, while managing the need for “no negative impacts” on natural features and their ecological functions on a site or adjacent lands, as described by the PPS. The policies should be placed within a broader hierarchy, where the priority is to avoid, minimize, mitigate and compensate for impacts through net environmental gain (where provincial policy allows for flexibility). As net environmental gain can be subjective, the Region will need to establish a clear definition for net environmental gain and prepare criteria for use in defining the net environmental impact of a proposal and how to measure a gain.

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<sup>57</sup> similar to Table C.2.6.1 and C.2.6.2 of the Hamilton Rural Official Plan.



### 4.2 Water Resources

#### 4.2.1 Issues & Opportunities

Most aggregate proposals will involve water. Water is used in the day to day operation of aggregate operations to manage and control dust impacts and also for washing extracted materials. Extraction of resources may also involve impacts on water systems in and the around the site. For example, extraction may require discharging where extraction is below the water table. Accordingly, proponents may require a permit to take water from the Ministry of the Environment and Climate Change as part of the license application process. A myriad of concerns typically arise when contemplating aggregate extraction impacts on water systems, such as:



- Impacts on groundwater levels in the immediate vicinity of the extraction area, including impacts on the water well supplies of adjacent land owners;
- Impacts on nearby surface water features, such as reduction of water levels of streams and hydroperiod and wetlands;
- The potential for cumulative impacts of multiple aggregate operations on groundwater levels across the watershed and subwatershed; and,
- The potential for contamination of surface water systems resulting from on-site activities (e.g. fuel storage) or alterations to established drainage patterns (e.g. introduction of an aggregate operation typically would result in changes to the established overland run-off patterns; new patterns may introduce new potential contaminants and impacts to habitat).

## State of Aggregate Resources in Niagara Region Background Report

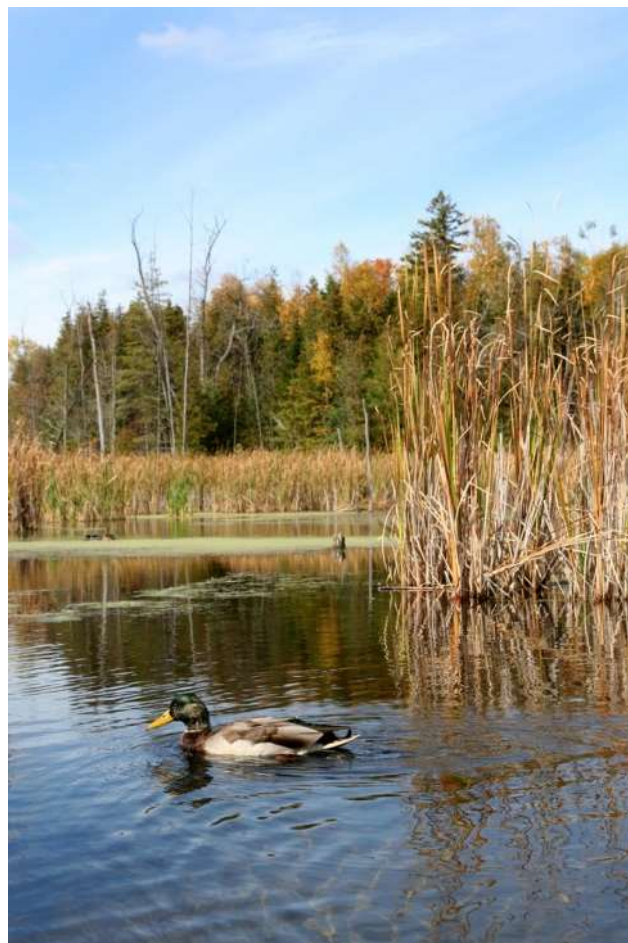


### 4.2.2 Policy Considerations

The Ontario Water Resources Act is administered by the Ministry of the Environment and Climate Change and provides for conservation, protection and management on Ontario's water for efficient and sustainable use in order to promote long-term environmental, social and economic well-being. While there are number of concerns related to water, in general, the ARA process provides the main vehicle for proponents and governments to quantitatively assess and understand potential impacts and propose mitigation strategies and measures to deal with any foreseen consequences.

The current version of the ROP includes a high-level policy direction on managing water impacts associated with aggregate proposals. Policy 6.C.5 of the ROP indicates that applications for licenses to open new pits or quarries or changes to or expansions to existing licenced pits or quarries must consider the impact on the natural environment including surface watercourses and groundwater.

The Clean Water Act (2006) is also administered by the Ministry of Environment and Climate Change and, while the process and protocols for dealing with traditional impacts on water quantity and quality are well established, less well-understood are the interplay between source water protection plans and aggregate operations. Source Water Protection Plans (SPP) are administered by conservation authorities and consider and assess the existing and potential threats to drinking water supplies. The Source Protection Plan for the Niagara Peninsula Source Protection Area was approved by the Minister of Environment and Climate Change in 2013 and is in force and effect. The Clean Water Act identifies 21 potential threat categories which were modelled and assessed around sources of drinking water by the Conservation Authorities<sup>58</sup>. It is important to note that aggregate operations are not explicitly listed as a threat; however, some activities and characteristics which may be part of aggregate operations are listed as threats (such as the handling and storage of fuel and the taking of water from an aquifer).



<sup>58</sup> There are no municipal wells in Niagara. Approximately 80% of residents in Niagara receive drinking water from the 6 Water Treatment Plants (Welland Water Treatment Plant; DeCew Falls Water Treatment Plant; Port Colborne Water Treatment Plant; Niagara Falls Water Treatment Plant; Grimsby Water Treatment Plant; and Rosehill (Fort Erie) Water Treatment Plant). The other 20% of Niagara's residents get drinking water from private wells (Source Water Protection for the Niagara Peninsula Source Protection Area, December 17<sup>th</sup>, 2013).



## State of Aggregate Resources in Niagara Region Background Report



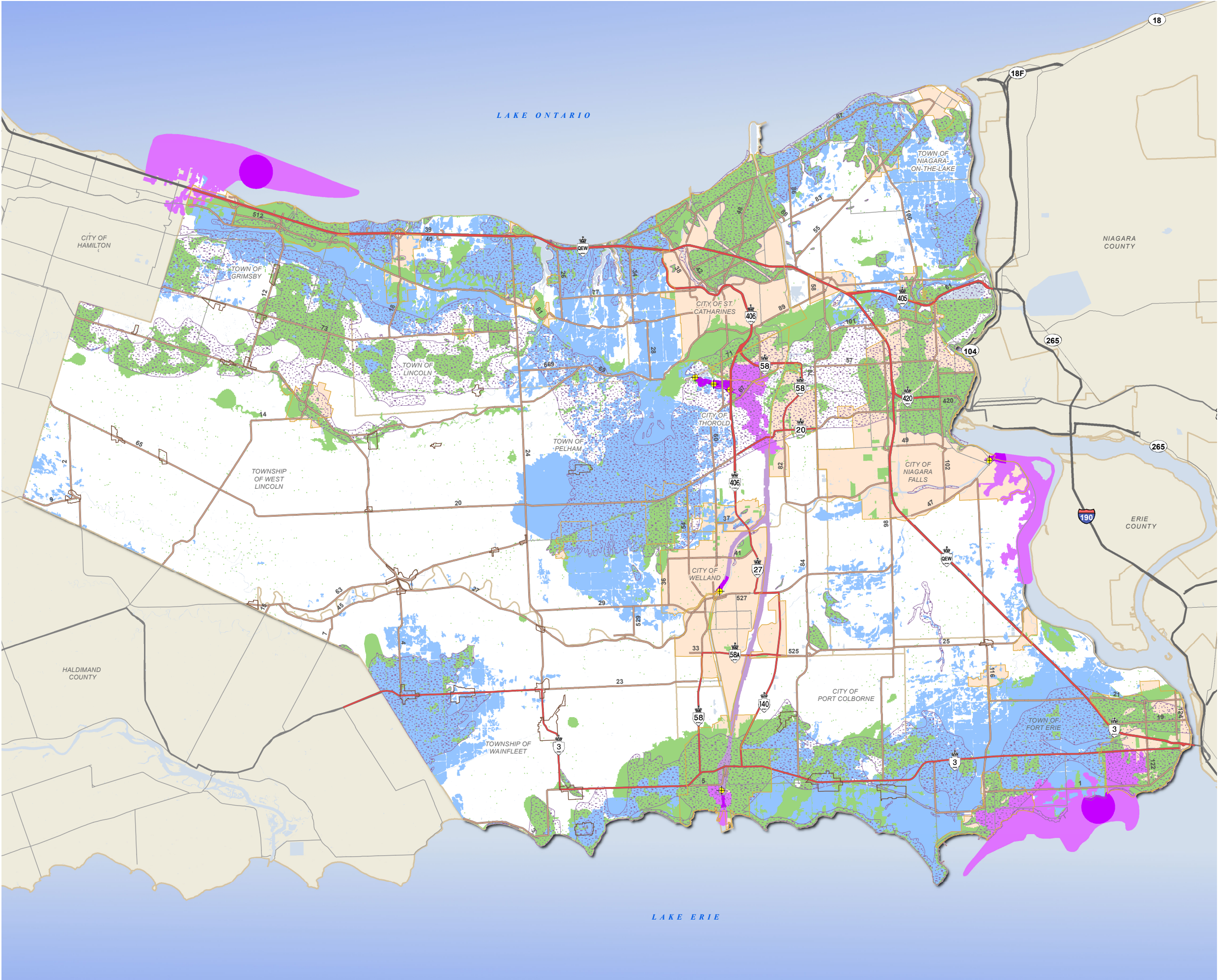
Regional Official Plan Amendment 5 provides policies for regulating land uses in the IPZ's that have been identified to have potential threats associated with them. **Figure 4.3** compares aggregate resource areas against the IPZ mapping within the Region, even where significant threats have not been identified. In comparing IPZ mapping with aggregate resource areas it is apparent that there is limited potential for concern. Most of the IPZs are located in urban areas and would not be subject to new aggregate license applications. Furthermore, the existing policies that address any existing or potential future threats for three of the Intake Protection Zones would be triggered where appropriate. Any additional policies related to the IPZ's would be beyond the requirement of the Source Protection Plan for the Niagara Peninsula Source Protection Area.

The Regional Official Plan does not include policies and mapping for highly vulnerable aquifers and significant groundwater recharge areas, as the Source Water Protection Plan did not develop policies related to them<sup>59</sup>. A "highly vulnerable aquifer" is an aquifer on which external sources have or are likely to have a significant adverse effect, and includes the land above the aquifer<sup>60</sup>. Typically, highly vulnerable aquifers can have characteristics which also make the lands attractive for resource extraction (such as sand and gravel deposits with low overburden). "Significant groundwater recharge areas" are areas within which it is desirable to regulate or monitor drinking water threats that may affect the recharge of an aquifer. As such, it is important that these features are assessed in relation to new or expanding aggregate operations. Additional ground research and analysis needs to be undertaken to better refine the mapping for these two elements; however, the existing information provided by the Ministry of Natural Resources and Forestry should be used as a screening tool at the time of a new application too, if additional study requirements are necessary. **Figure 4.3** illustrates how the existing mapping compares to the aggregate resource mapping and, as discussed, there is a significant correlation between these two elements.

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<sup>59</sup> The mapping for Highly Vulnerable Aquifers and Significant Recharge Areas is currently being reviewed by the NPCA. Mapping for these features is provided for illustration purposes, and should not be considered as the definitive boundaries for these features.

<sup>60</sup> Ontario Regulation 287/07



**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**SOURCE WATER PROTECTION**  
FIGURE 4.3

- SURFACE WATER INTAKE
- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE RESOURCES
- IPZ-1
- IPZ-2
- IPZ-3
- SIGNIFICANT GROUNDWATER RECHARGE AREA
- HIGHLY VULNERABLE AQUIFER
- HAMLETS
- URBAN BOUNDARY
- URBAN AREA
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

0 1 2 4 km

SCALE 1:220,000



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

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PROJECT: 149861  
STATUS: FINAL  
5/28/2015

### 4.2.3 Policy Directions

The following summarizes our policy recommendations for the water resources theme related to the impacts of aggregate operations:

- **Provide water resources policy direction in the ROP:** The ARA provides a framework for addressing water quality and quantity concerns and the Region may wish to include a brief policy which frames how issues related to water impacts are to be assessed in the decision-making process for expansions to existing aggregate operations and/or new operations. The policy should distinguish between proposals which are below the water table (and those which are not).
- **Identify how to address overlapping geographies through policy:** Where there are overlapping geographies between IPZs and aggregate resource areas, the Region should consider providing some additional policy direction. While most of the IPZ areas fall within urban areas, there are a few select places where they overlap with the potential resource area mapping outside of urban areas. Accordingly, the ROP should provide policy direction for any future extraction within IPZ areas to ensure that potential negative impacts are properly assessed and mitigated. The approach should distinguish between the different levels of significance for the IPZ areas (1, 2 and 3).
- **Provide clear guidance on highly vulnerable aquifers and significant groundwater recharge areas in relation to aggregate resources:** The Region should use the existing data related to highly vulnerable aquifers and recharge areas as a screening tool to provide some direction related to study requirements. When the mapping is more accurately reflected, it should be used to ensure that clear guidance is provided through policy for lands which are classified as “highly vulnerable aquifers” and “significant groundwater recharge areas”. These elements generally correspond with the potential aggregate resource area mapping and represent another area where competing provincial interests need to be carefully balanced and where clear policy guidance is warranted.



### 4.3 Transportation

#### 4.3.1 Issues & Opportunities

Presently, the most cost-effective way to move aggregate materials from extraction sites to the market is by truck. Perhaps equivalent only to noise and water, traffic is often cited as the main concern brought forward by affected landowners when a new aggregate operation is being proposed. Landowners concerns include early-morning queuing, braking/accelerating on steep hills, increased congestion, traffic infractions and straying from the designated haul route. Municipalities also tend to raise concerns around the haulage of aggregates, as the movement of heavy vehicles can impact the condition of roads and the need for increased maintenance. While levies for haul route maintenance can be used to capture some of the maintenance costs, they are only applicable to host municipalities (and those municipalities which are on haul routes but outside of the host area may be challenged to pay for road maintenance for wear and tear relating to large haul vehicles)<sup>61</sup>.

*The County of Simcoe established a policy within its Official Plan which may be applied during municipal site plan control review to determine the appropriate use and maintenance of County roads as haul routes for aggregate operations (s4.4.8 pg 40).*

Aggregates are extracted from the ground, sometimes processed onsite and then are trucked to their next destination. In most circumstances travel costs are the largest part of the cost of aggregate materials. In Niagara Region, the majority of aggregates are being used for local consumption and, therefore, the haul routes are based on locations of processing facilities and end users. Over the course of a year, the Region accommodates approximately 250,000 truck round trips<sup>62</sup> per year (based on 4.6 million tonnes being produced in Niagara Region<sup>63</sup>). The bulk of these trips occurs on Regional Roads, but can include provincial highways and local roads for connections.



<sup>61</sup> Standing Committee on General Government, Report on the Review of the Aggregate Resource Act

<sup>62</sup> Assuming a truck capacity of 18 metric tonnes based on the Mineral Aggregate Transportation Study Final Report (Peat, Marwick and Partners and MM Dillon Limited). This estimate is conceptual.

<sup>63</sup> Aggregate Resource Statistics in Ontario, production statistics 2013 [http://www.toarc.com/pdfs/Stats\\_2013\\_Prelim.pdf](http://www.toarc.com/pdfs/Stats_2013_Prelim.pdf)

### 4.3.2 Policy Considerations

Haul routes are considered in the ARA process; however, they lie outside of the licensed area for the quarry and, accordingly, there is a limit on the level of regulation that can be applied to haul routes. Typically, haul routes are identified as part of the licensing process under the ARA, but there are no noise limitations of trucks considered as part of this process. In addition, because the licensing process is with the Ministry of Natural Resources and Forestry, enforcement of individuals who don't abide by the haul route stipulations identified as part of the licence process is difficult.

Existing infrastructure can sometimes require improvements in order to function as a haul route. These improvements may necessitate an approval under the Municipal Class Environmental Assessment (EA) Act, which is municipally initiated. In municipalities where there is opposition to a particular application, the Class EA process can sometimes become drawn out, stalled or even cancelled (resulting in unresolved infrastructure issues).

The Region identifies the importance of haul routes in reviewing aggregate applications within Policy 6.C.5 of the ROP, which indicates that applications consider the proposed haulage roads and the possible effect on the roads concerned and on adjacent development. The policies within section 9 of the ROP outline the Region's policies for transportation and Regional roads. They include supporting opportunities for goods movement, the establishment of priority routes and considering increased opportunities for goods by rail, where appropriate. The ROP does not present a roads classification system, nor a figure identifying priority goods movement corridors or haul routes.

As noted in Chapter 2, the ARA is currently under review. One of the areas of concern raised in the Provincial Review was the importance of haul routes and the need for greater municipal involvement in route planning. The Committee recommended that all municipalities with active or potential aggregate production apply sound planning principles to the studies of haul routes to minimize disruption and tension with current or future non-aggregate land uses. The report also identified that increased use of marine transport and the possible use of rail transport in the aggregate and related-cement and asphalt industries would be advantageous both for both community and environmental perspectives. The Committee recommended that the Ministry of Natural Resources and Forestry, the Ministry of Transportation and the Ministry of Infrastructure study the opportunities available in Ontario to utilize alternative water and rail modes of transport to move aggregate materials and promote opportunities.

### 4.3.3 Policy Directions

The following summarizes the policy recommendations for the transportation theme related to the impacts of aggregate operations:



## State of Aggregate Resources in Niagara Region Background Report



- **Identify existing haul routes:** The Region should identify the existing haul routes on a ROP Schedule or appendix map<sup>64</sup> in order to provide transparency and minimize land use conflicts for the community and aggregate operators. Identifying all approved haul routes might also help to manage the potential for cumulative impacts associated with the transport of aggregates.
- **Establish criteria for selection of new haul routes and promote alternative transportation modes:** The ROP should include policies which define an appropriate hierarchy (i.e. identify the types of roads that are suitable for haul routes). The Region should also identify criteria for selecting new haul routes (which might include hierarchy of roads preferred for haul routes, condition/function of road, avoidance of sensitive land uses, cumulative impacts and utilization of existing haul routes). The ROP could also promote opportunities for the transport of aggregate other than by truck (i.e. rail or water).
- **Evaluate alternative haul routes:** As part of the complete application requirements, the Region should consider a transportation and haul route study that evaluates alternative haul routes (and where appropriate, alternative transportation modes) based on the criteria suggested above and identifies the haul route(s) with the least impact on Regional roads, provincial highways, residents and businesses.
- **Allow flexibility in haul routes:** Provide policy provision for designated haul routes to change over time to provide opportunities for more suitable routes as there are changes in haulage patterns, highway and road improvements, measures to manage dust and recent municipal development.

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<sup>64</sup> Mapping of haul routes on ROP schedules implies that the mapping change would be included as part of a ROP amendment. By contrast, appendix maps would not require an amendment to the ROP. Maps of haul routes included in an appendix could be reviewed and updated periodically to reflect new road infrastructure, changing market conditions or other new information which may of relevance.

### 4.4 Cultural Heritage

#### 4.4.1 Issues & Opportunities

Most applications require an investigation of potential impacts on existing built heritage features, cultural heritage landscapes and archaeological resources. The following section outlines the policy framework for assessing impacts on cultural heritage resources.

#### 4.4.2 Policy Considerations

The PPS recognizes the importance of cultural heritage and directs municipalities to conserve significant aspects of built heritage, cultural heritage landscapes and archaeological resources. Cultural heritage landscapes are areas which have “been modified by human activity and is identified by having cultural heritage value of interest by a community. The area may include features such as structures, spaces, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association<sup>65</sup>”. Typical examples of cultural heritage landscapes can include village and neighbourhoods, battlefields, cemeteries and important views and vistas. A built heritage feature is a “building, structure, monument, installation or any manufactured remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Aboriginal community. Built heritage resources are generally located on property that has been designated under Parts IV or V of the Ontario Heritage Act, or included on local, provincial and/or federal registers<sup>66</sup>”.

The **Hamilton Rural Official Plan** in an effort to preserve the scenic beauty and amenity of rural Hamilton and that the City will **encourage and coordinate with owners** to existing licences aggregate operations it provide **landscaping, screening and buffering**, provide adequate off street parking facilities and well designed access points to minimize danger to both vehicle and pedestrian traffic and **create berms and vegetative screens** (that incorporate the natural topography and vegetation of the area).

The OP also indicates that development of mineral aggregate resource extraction areas **shall not adversely impact significant cultural heritage resources either directly or indirectly** unless suitably conserved or mitigated to the satisfaction of the City.

The ROP does not include explicit policies for cultural heritage resources within the aggregates section of the Plan. However, Section 10 of the ROP describes the Creative Niagara policies, which cover the role and function of cultural heritage resources in Niagara. The policies identify the importance of cultural assets as essential to maintaining a high quality of life in the Region. The policies of Section 10 are applicable to any existing or future aggregate resource operation within Niagara Region.

<sup>65</sup> Provincial Policy Statement, Section 6.0 Definitions page 40, 2014.

<sup>66</sup> Provincial Policy Statement, Section 6.0 Definitions page 39, 2014.

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These policies identify that cultural heritage landscapes shall be preserved and encourage local municipalities to develop policies to designate cultural heritage landscapes and heritage conservation districts; however, the Plan does not specifically identify the assets that require preservation (beyond the specific references to heritage landscapes and built heritage resources). There is also no policy direction specific to new aggregate operation or expansion to existing aggregate operations (although the implication is that an aggregate operation represents a form of “development” and, hence, the policies in Section 10 would apply).

### 4.4.3 Recommendations

The following summarizes the policy recommendations for the cultural heritage theme related to the impacts of aggregate operations:

- **Protect cultural heritage resources:** Ensure that there is a clear linkage between the Region’s Creative Niagara policies and the aggregate resource policies. Identify the basic requirements and conditions to ensure that significant built heritage resources and significant cultural heritage landscapes are conserved. The policies could be linked to land use compatibility policies, which would provide direction for screening, buffering and strategic landscaping which is context sensitive.
- **Identity the tools for assessing the potential for impact:** ROP should identify the need for a cultural heritage impact assessment as part of the review for aggregate proposals. While this type of study is required to satisfy aspects of the ARA, the expectation is that the Region, as a commenting agency and approval authority, would also require an assessment. A cultural heritage assessment is currently included in the requirements for a complete application; however, it should be included in the aggregate section as a standard study requirement. Assessments should examine impacts on the immediate site as well as adjacent lands.

### 4.5 Agriculture

#### 4.5.1 Issues & Opportunities

Niagara Region's climate and soil conditions allow it to support a variety of agricultural uses. Niagara has one of the Province's most vibrant and diverse agricultural sectors, home to over 2,000 farms and generating over \$725,000,000 in farm receipts<sup>67</sup> (42% of all gross farm receipts across the GGH). In addition to this, the sector employs over 17,000 people in the Region (direct and indirect employment). While agriculture remains an important part of the regional economy, one of major issues facing the sector is the continued loss of prime agricultural land. Over the last fifteen years, both the total number of farms and the total area of land farmed declined by approximately 3% (from 93,000 hectares in 1996 to 90,000 hectares in 2011). The loss of agricultural land is driven by a myriad of factors including, but not limited to urban development and settlement area expansion, as well as other forms of non-agricultural development, including the development of pits and quarries<sup>68</sup>.

Accordingly, one of primary objectives for the Region is to support agriculture across Niagara. However, as illustrated in **Figure 4.4**, a large portion of the areas which have potential for aggregate resource extraction are also identified as prime agricultural lands. One of the key challenges for the Region is managing the occasions where the objectives of agricultural and aggregate policy conflict. In circumstances where significant aggregate resources are located on prime agricultural lands, the policy framework needs to provide clear direction as to how the conflict in objectives should be addressed. The next subsection provides an overview of the policy considerations.

#### 4.5.2 Policy Considerations

The ROP identifies two types of agricultural lands:

1. Unique Agricultural Areas;
2. Good General Agricultural Areas.

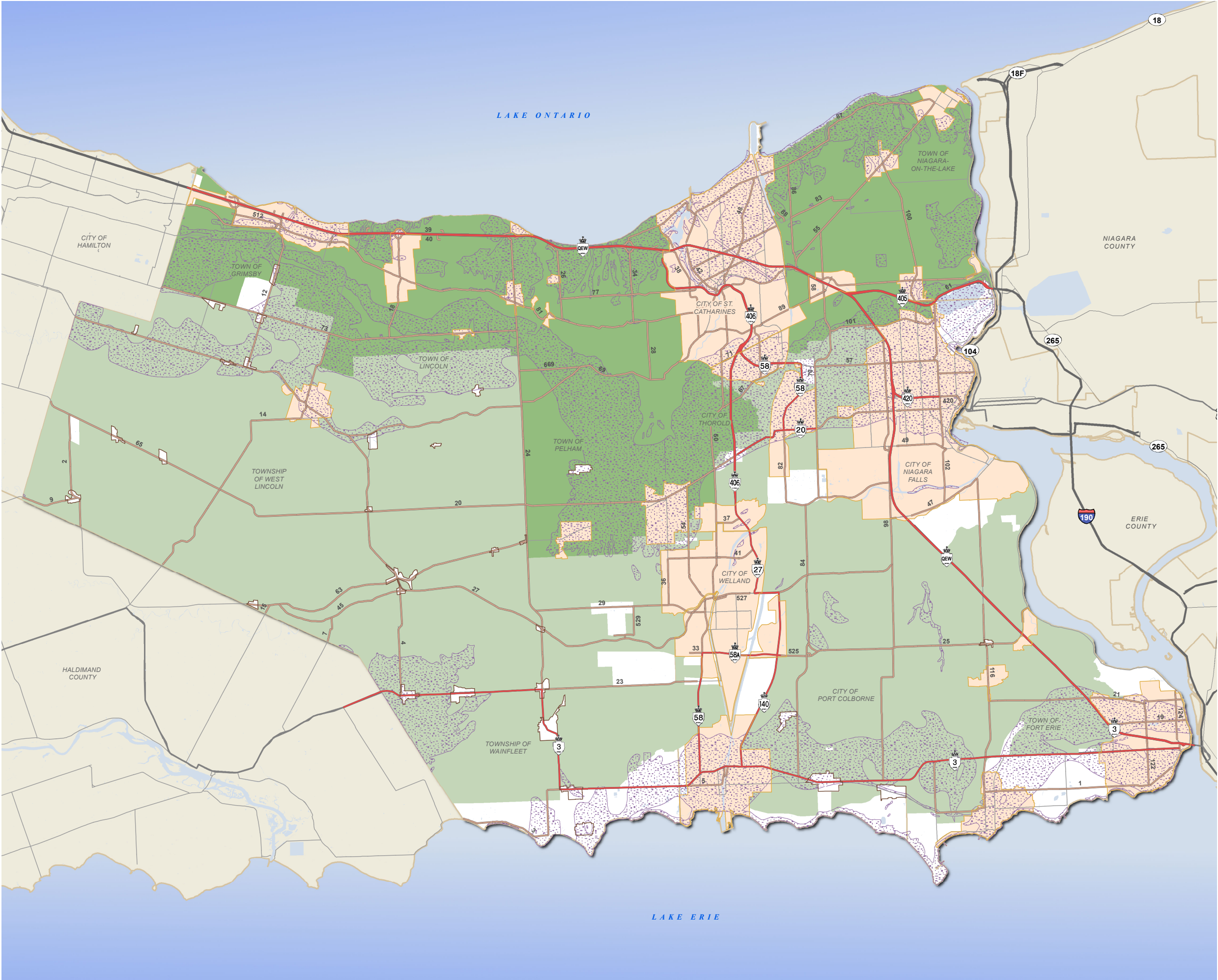
The Unique Agricultural Areas are suitable for tender fruits and grapes and have the highest priority for preservation, with the Good General Agricultural Areas having the second highest priority for protection. The boundary of the Unique Agricultural Area is intended to reflect the Greenbelt Plan Protected Countryside lands and the Niagara Escarpment Plan area. As indicated in the Greenbelt Plan and mentioned previously, no new aggregate operations, wayside pits, quarries or ancillary uses are permitted between Lake Ontario and the Niagara Escarpment Plan area. In general, the ROP discourages the establishment on new non-agricultural uses in all Agricultural Areas. There are two specific places in the current ROP which provide direction for making decisions on non-agricultural applications in agriculture areas:

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<sup>67</sup> Regional Agricultural Economic Impact Study, 2014, Planscape. Figures are estimated for 2011.

<sup>68</sup> It's worth noting that, in general, aggregate resource extraction accounts for a small percentage of the overall loss of prime agricultural lands. None the less, on a case by case basis, the need to protect prime agricultural lands can emerge as a significant hurdle for aggregate proposals.





**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**AGRICULTURAL**  
FIGURE 4.4

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE RESOURCES
- UNIQUE AGRICULTURAL AREA
- GOOD GENERAL AGRICULTURAL AREA
- HAMLETS
- URBAN BOUNDARY
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

0 1 2 4 km

SCALE 1:220,000



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\104135 - Niagara Nodes and Corridors\Mapping\  
Figure 4-4 - Agricultural.mxd



PROJECT: 149861  
STATUS: FINAL  
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- Policy 5.B.7 (Agriculture section of the Plan) states that “Non-agricultural uses should not be located in Agricultural Areas”. However, the policy goes on to provide a few exceptions where non-agricultural uses may be considered. The following aspects are noted in the Plan:
  - Non-agricultural uses are not permitted in Unique Agricultural Areas;
  - Tender Fruit and Good Grape Areas;
  - There are no reasonable alternatives in Rural Areas or in Urban Areas;
  - There are no reasonable alternative locations in other Good General Agricultural Areas with lower priority agricultural land; and,
  - Conflicts with surrounding agricultural activities can be managed and mitigated.
- Policy 6.C.5.1 (Aggregates section of the Plan) states that a new mineral aggregate operation or the expansion of an existing operation shall only be Permitted in Unique Agricultural Areas where the applicant demonstrates the following:
  - Physical characteristics of the site allow for rehabilitation back to an agricultural condition allowing the same range and productivity of tender fruit and grape crops common to the areas;
  - If this condition cannot be met, the applicant must look for alternative locations;
  - If alternative locations have been considered unsuitable, agricultural rehabilitation in the remaining licenced area must be maximized as a first priority to allow for the production of tender fruit and grape crops.

In addition to the above, the recent review of the ARA provides some relevant recommendations for Niagara. Specifically, the ARA review recommended that the Ministry of Natural Resources and Forestry incorporate requirements for monitoring and recording agricultural capabilities or actual agricultural production at aggregate sites where there are opportunities for rehabilitation that restores agricultural capability. Monitoring should take place at the initial site plan review stage and progress should be recorded in annual compliance reports as required by the ARA. The ARA review also recommended aggregate applications on prime agricultural land be filed with the Ministry of Agriculture, Food and Rural Affairs to review and evaluate the rehabilitation plan and potential reduction of local agricultural capacity.



## State of Aggregate Resources in Niagara Region Background Report



### 4.5.3 Policy Directions

The following summarizes our policy recommendations for the agriculture theme related to the impacts of aggregate operations:

- **Clarify restrictions on Good General Agricultural Lands and Unique Agricultural Areas:** The ROP's policies in section 6.C.5.1 and 5.B.7 should be harmonized to avoid misinterpretation. Recall that 6.C.5.1 provides policy for Unique Agricultural Areas and 5.B.7 provides guidance for Good General Agricultural Lands. A comprehensive and clear set of policies should be provided in one location of the Plan, with appropriate references.
- **Recognize the potential for conflict:** Based on the review of mapping, it is apparent that the vast majority of all aggregate resource lands are also mapped as prime agricultural lands. As a result, it is likely that any application for a new or expansion to an existing aggregate operation could result in the loss of prime agricultural lands. The PPS allows for the removal of prime agricultural land for the purposes of aggregate extraction under certain conditions. Accordingly, the Region's Official Plan should provide some policy guidance for decision-makers based on the PPS directions which allow for extraction, provided that extraction is identified as an interim use and that the lands will ultimately be rehabilitated to an agricultural use. Complete rehabilitation to an agricultural use is not required where:
  - Outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;
  - In a specialty crop area, there is a substantial quantity of high quality mineral aggregate resources below the water table warranting extraction, and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible;
  - Other alternatives have been considered and are found unsuitable; and,
  - Agricultural rehabilitation in remaining areas is maximized.

The above-note decision-making hierarchy needs to be reflected in the Region's Official Plan.

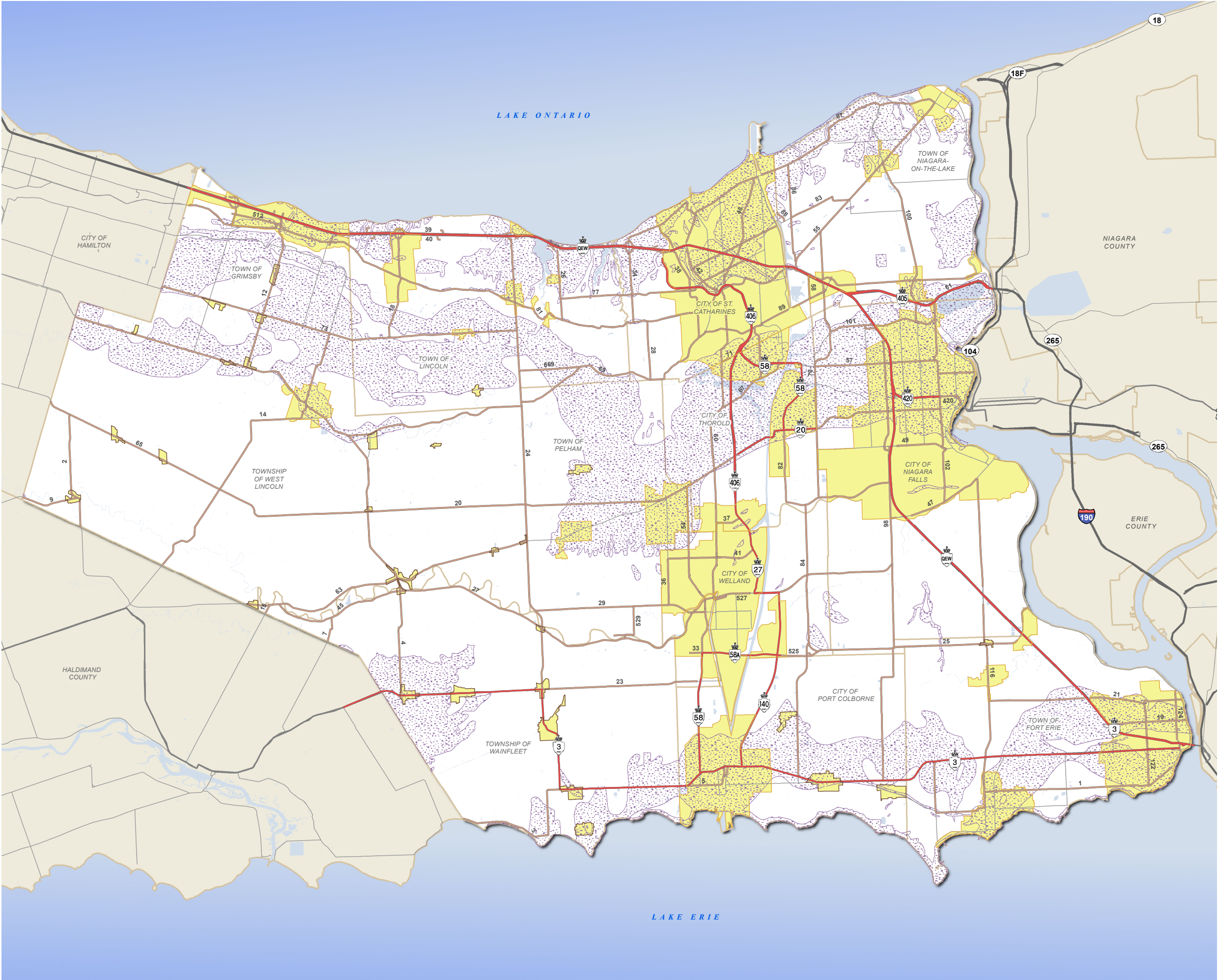


### 4.6 Compatibility

#### 4.6.1 Issues & Opportunities

Aggregate resource extraction is a form of industrial development and can result in compatibility issues with adjacent activities. Typical impacts include noise, dust, vibration, traffic, impacts on views and vistas and private wells. The potential for conflict can arise in both urban and rural settings, although typically conflict is magnified when operations are close to a large number of residents and/or businesses. Proactive land use planning seeks to minimize and mitigate potential conflicts between non compatible land uses. This is done through the policies prescribed in official plans and zoning by-laws, including the use of setbacks, establishment of buffers, landscaping guidelines and other planning techniques.

**Figure 4.5** illustrates Niagara's settlement areas in relation to the aggregate resource areas. The mapping illustrates that there are a number of potential aggregate resource areas which are located within established urban areas.



**NIAGARA REGION**  
AGGREGATE RESOURCE POLICIES

**SETTLEMENT AREAS**  
FIGURE 4.5

- TRANSPORTATION CORRIDOR - PROVINCIAL HIGHWAY
- TRANSPORTATION CORRIDOR - REGIONAL ROAD
- FREEWAY
- EXPRESSWAY / HIGHWAY
- ARTERIAL ROAD
- AGGREGATE RESOURCES
- HAMLETS
- URBAN BOUNDARY
- SETTLEMENT AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

0 1 2 4 km

SCALE 1:220,000



MAP DRAWING INFORMATION:  
DATA PROVIDED BY NIAGARA REGION, NPCA, MNDM, MNR AND ESRI

MAP CREATED BY: PFM  
MAP CHECKED BY: PK  
MAP PROJECTION: NAD 1983 UTM Zone 17N

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Figure 4-5 - Settlement Areas.mxd



PROJECT: 149861  
STATUS: FINAL  
5/28/2015

### 4.6.2 Policy Considerations

The ARA considers land use compatibility through its licencing process as it requires applicants to describe the zoning by-laws applicable to the site<sup>69</sup> and does not permit the issue of a licence where the zoning by-law prohibits the use<sup>70</sup>, except for wayside permit where zoning can be overridden<sup>71</sup>; however, compatibility with adjacent lands must be considered in the rehabilitation plans<sup>72</sup>. A Niagara Escarpment Plan Amendment and Development Permit must be obtained prior to any other application where the subject lands are located within the Niagara Escarpment Development Control Area. As described in the policy section previously, the ARA limits the Planning Act approvals available to regulate aggregate resource operations<sup>73</sup>, and does not allow development permits to be required for an aggregate resource operation.

The PPS deals with land use compatibility by stating:

*“Major facilities and sensitive land uses should be planned to ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety and to ensure the long-term viability of major facilities.”<sup>74</sup>*

Major facilities are defined in the PPS as:

*“facilities which may require separation from sensitive land uses, including but not limited to airports, transportation infrastructure and corridors, rail facilities, marine facilities, sewage treatment facilities, waste management systems, oil and gas pipelines, industries, energy generation facilities and transmission systems, and resource extraction activities.”<sup>75</sup>*

The PPS further discusses land use compatibility in the Mineral Aggregate Resources policies, where it requires progressive and final rehabilitation for subsequent land uses to promote land use compatibility<sup>76</sup>.

In addition, the Environmental Protection Act ensures no adverse effects are caused to sensitive land uses or the public at large. The Ministry of Environment and Climate Change regulates noise and dust through its regulations (i.e. NPC-300, O.Reg 419-05) and its D-series guidelines, which provide guidance and direction to municipalities when assessing land use compatibility.

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<sup>69</sup> Aggregate Resource Act, Part II, 10

<sup>70</sup> Aggregate Resource Act, Part II, 12.1

<sup>71</sup> Aggregate Resource Act, Part III, 27 (1)

<sup>72</sup> Aggregate Resource Act, Part III, 26 (g)

<sup>73</sup> Aggregate Resource Act, Part IX, 66(1)

<sup>74</sup> Provincial Policy Statement, 2014 Section 1.2.6

<sup>75</sup> Provincial Policy Statement, 2014 Definitions, pg 44

<sup>76</sup> Provincial Policy Statement, 2014 Section 2.5.3.1

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The ROP identifies the importance of land use compatibility for aggregate operations within Policy 6.C.5, indicating that applications for licenses to open new pits or quarries or changes to or expansions to existing licenced pits or quarries must consider the compatibility with surrounding land uses. The ROP identifies Licenced Pits and Quarries, and Possible Aggregate Resources on Schedule D4. Licenced Pits and Quarries refers to the existing aggregate operation with active licences, while Possible Aggregate Resources includes two areas identified for possible aggregate extraction, which include:

- A small parcel at the south west corner of Tice Road and Effingham Street adjacent to the Lafarge Fonhill pit in Fonhill, Pelham; and,
- A site north of Highway 3 adjacent to the west of the Law Crushed Stone Quarry, operated by Waterford Sand and Gravel Limited in Wainfleet.

We understand that the Possible Aggregate Resources layer is out of date and requires revisiting. However, based on the policies as they are currently presented, the Possible Aggregate Resource areas still require a ROP amendment to permit aggregate resource extraction. Therefore, the process is no different than an aggregate application anywhere in the Region; however, this layer provides some direction for specific lands that may be suitable for aggregate extraction.

While the ROP provides general direction on land use compatibility, it does not reflect the specific requirements set out in neither the MOECC's D-series guidelines nor the general municipal practices for managing compatibility. The ROP needs to provide more specific direction on buffering and mitigation of potential impacts (noise, dust, vibration, view/vistas) and preservation of land for licenced aggregate extraction expansion in order to proactively manage land use compatibility.

### 4.6.3 Policy Directions

The following summarizes the policy recommendations for the compatibility theme related to the impacts of aggregate operations:

- **Review "Possible Aggregate Resources" designation in ROP Schedule D4:** Schedule D4 identifies two small areas as "Possible Aggregate Resources" area; however, future development would require a ROPA similar to all other license proposals. The Region should confirm the validity of the designation and update (i.e. remove areas from ROP or add policies and/or include additional areas) ROP policies based on the outcomes of the review.
- **Ensure new development does not impact viability for aggregate expansion:** Include a policy which requires development applications within 1000m or 500m of an existing pit or quarry, as part of the application process, to demonstrate that the proposed development application will not negatively impact the ability of the existing licenced area to maintain its existing operation or future expansion. The area of influence of 1000m is indicated in the Ministries D-series Guidelines for Class 3 industries, while 300m for sand and gravel and 500m for bedrock resources is the distance recommended in the Aggregate Reference Manual (2001).



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- **Ensure new development does not restrict future aggregate resource extraction opportunities:** Provide a process for the Region and area municipalities to review any development application on lands within or adjacent to the aggregate resource area, which would include comment on whether the development application will have any adverse effect on the viability of aggregate resource extraction. Rural development forms are not anticipated to undermine the ability to undertake future aggregate extraction operations. Forms of development which could impact the viability of future aggregate resource extraction includes: urban boundary expansions, hamlet expansions, rural subdivisions, waste management sites, golf courses, etc.
- **Provide policies on land use compatibility:** The ROP should be updated to include a general policy which implements the D-Series guidelines for managing the impacts related to noise, dust and vibration. The ROP should also include policies which limit the siting of new facilities in close proximity to sensitive land uses, such as schools, daycares and hospitals (and vice versa).
- **Community engagement to proactively minimize land use compatibility issues:** Conduct robust engagement with landowners who own land outside of settlement areas that have been identified as aggregate resource areas with limited to no constraints for extraction. This engagement could be done through the ROPA process, to ensure that all landowners are aware that the lands have aggregate capability.
- **Study land use to proactively minimize land use compatibility issues:** The Region could consider preparing a detailed land use study for lands in proximity to existing licenced aggregate resource areas to identify opportunities and barriers to expansion of extraction operations on adjacent parcels. While this type of assessment is typically done at the licensing stage, for policy development purposes, the Region might find this type of assessment beneficial (as an indicator of the effectiveness of current planning policies).

### 4.7 Recycling

#### 4.7.1 Issues & Opportunities

According to the World Business Council for Sustainable Development, concrete is the second most consumed material after water<sup>77</sup>.

The utilization of waste materials as a secondary raw material provides a solution to the problem of excess waste. Recycling aggregates reduces natural resource exploitation, associated transportation costs and waste going to the landfill<sup>78</sup>. In Ontario, there is significant waste from construction and demolition that is not yet fully being reused. The SAROS Paper 4 identifies that, although the use of recycled materials in road construction grew substantially between 1991 and 2006 (from approximately 6 million tonnes to 13 million tonnes annually), this represents only 18 to 19 percent of the total aggregates used for transportation infrastructure construction and only seven percent of all aggregates used<sup>79</sup>. Barriers to further use of recycled aggregates include resistance by public agencies to the use of unfamiliar materials or construction technology, liability for failed technologies or materials, a lack of funding for new research and development, the physical properties of some forms of industrial waste and by-products, costs associated with the collection, storage and processing of materials and the location and transportation costs relative to where the markets exist<sup>80</sup>.



The cities of Toronto, Hamilton, Guelph and Regional Municipality of York accept the use of recycled aggregate in their municipal construction projects.

Notwithstanding the above, there are a number of governments who have embraced the use of recycled materials in aggregates. For example, in Europe, the Netherlands achieves complete recovery of waste

<sup>77</sup> World Business Council for Sustainable Development, Recycling Concrete Report

<sup>78</sup> World Business Council for Sustainable Development, Recycling Concrete Report

<sup>79</sup> Standing Committee on General Government, Report on the Review of the Aggregate Resource Act, page 9

<sup>80</sup> Canadian Institute for Environmental Law and Policy, Aggregate Extraction in Ontario: A Strategy for the Future, March 2011

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concrete and have banned concrete from landfills. Locally, a number of municipalities are promoting the use of recycled aggregates, including:

- Ontario Hydro;
- Town of Markham;
- Town of Oakville;
- Town of Richmond Hill;
- Ontario's Ministry of Transportation;
- City of Sudbury;
- City of Brampton;
- City of Toronto;
- City of Hamilton;
- City of Ottawa; and,
- Region of York<sup>81</sup>.

There are, however, a number of considerations that need to be made when promoting recycling of aggregates, including outlining appropriate recycled product to raw material ratios for different uses and monitoring procedures to avoid contamination from incoming waste products. Many of the guidelines on materials quality is provided by the Ontario Provincial Standards Specifications and the Ministry of Labour and Ministry of Environment and Climate Change (MOECC) standards.

### 4.7.2 Policy Considerations

The ARA does not currently contain specific provisions regarding the recycling or conservation of aggregates, however the Provincial Standards indicate the need to identify existing and proposed location of aggregate stockpiles including any recyclable materials on the site as part of the Site Plan. The Aggregate Resources Policies and Procedures Manual Policy A.R. 5.00.15 includes a guiding principle and policy to encourage the reduction, reuse and recycling of aggregate materials in all facets of its partnerships with the public, the aggregate industry and other key ministries. Recycling was also an important topic of focus for the Standing Committee on General Government report on the review of the ARA, as they indicated this topic needs to be better addressed by the ARA. This report suggested that, as part of the annual compliance reports to the Ministry of Natural Resources and Forestry, operators report on the use of recycled aggregate materials. It also suggested revising the ARA to promote conservation and wider use of recycled aggregate, while defining the requirements for use of

York Region, Halton Hill and Town of Caledon have specific policies that encourage the use of recycled aggregate in their official plans (York Region OP Section 6.5.11, Halton Hills OP Section A2.10.2(h), Caledon OP Section 5.11.2.9.7).

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<sup>81</sup> The ABC's of Recycled Aggregates, Ontario Hot Mix Producers Association, 2010.

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recycled aggregate materials<sup>82</sup>. Finally, the Report recommended that the ARA's Licensees Compliance Assessment Report could be an important tool in monitoring recycling activities for a licenced pit and quarry. Currently, the report refers to site access, site protection, operational details, rehabilitation, Niagara's Regional Official Plan is silent on the permissions for or policies on the use of recycled aggregate or establishment of aggregate recycling facilities. Niagara does, however, promote a sustainable urban vision which includes the encouragement of the collection and storage of recyclable waste on site to support environmental sustainability<sup>83</sup>. Some of the local municipalities within Niagara specifically permit recycled aggregate materials in conjunction with processing aggregate operations, such as Pelham. Others are silent on the permission for on-site recycling.

Niagara Region is one of the primary consumers of aggregates within the Region of Niagara and is in a position to directly impact the market for recycled aggregates. While it is understood that, over the long term, there will be demand for expansions and new aggregate operations; however, a policy shift which embraces more opportunities for the use of recycled aggregates should, slow the pace of expansion (thereby reducing the potential for land use conflict, environmental impacts, loss of prime agricultural land, etc.).

### 4.7.3 Policy Directions

The following summarizes the policy recommendations for the recycling theme related to aggregate operations:

- **Encourage the use of recycled aggregates in appropriate locations in the ROP policies:** The ROP policies should promote the use of recycled aggregate for public and private applications. The policy framework should be directed both internally, at Regional projects and also towards external users/consumers of aggregates.
- **Permit recycling facilities on licenced aggregate sites:** The ROP is currently silent on the permissions for recycling activities on existing or future aggregate extraction sites. In order to promote recycling of aggregates, the ROP policies should specifically identify that recycling facilities are permitted on licenced pits and quarries sites. The ROP should provide direction on site planning guidance (e.g. need to protect views, vistas, location of stock piles, increased truck traffic, potential for dust impacts and consideration of wind conditions, etc.) and monitoring that would be required to avoid contamination from incoming products.

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<sup>82</sup> Standing Committee on General Government, Report on the Review of the Aggregate Resource Act, page 11

<sup>83</sup> Niagara Regional Official Plan Section 4.G.3



### 4.8 Rehabilitation and After Use

#### 4.8.1 Issues & Opportunities

Rehabilitation of aggregate sites refers to the activities undertaken to bring the land back into use for non-aggregate purposes. Recognizing the interim nature of aggregate extraction, the ARA requires operators to prepare a rehabilitation plan that outlines both progressive rehabilitation and final rehabilitation efforts. Progressive rehabilitation refers to the rehabilitation done sequentially while the aggregate is being excavated, and normally involves the storage and gradual return of topsoil, seeding and grading for the transformation of the site, while final rehabilitation refers to the rehabilitation of the site after the excavation of aggregate and the progressive rehabilitation have been completed.

There are many examples of successful rehabilitations projects which put value back into lands previously used for aggregate extraction. In considering the final use of aggregate sites, OSSGA commissioned a survey of 337 rehabilitated sites in southern and eastern Ontario to look at what the final use of the sites were after rehabilitation (Study of Aggregate Site Rehabilitation in Ontario 1971-2009, 2011). The study found that 32% of the sites were restored to a natural state; 15% residential; 13% recreational; 11% water; 11% open space; and the remaining uses were accounted for as industrial, agriculture, commercial, institutional and other land uses.

#### 4.8.2 Policy Considerations

Prior to the ARA being enacted, there were a number of challenges for rehabilitation. Many of the sites that predate the ARA licencing requirements need rehabilitation intervention. The Ontario Aggregate Resources Corporation, in the administration of the Management of Abandoned Aggregate Properties Program (MAAP), have assisted in the rehabilitation of almost 3,000 former pits or quarry sites across Ontario that were in operation prior to the area of the Province being designated under the ARA.

For all operations requiring licencing under the ARA, Part 6 of the Act outlines the requirements for progressive and final rehabilitation of aggregate sites. In addition, this part of the Act outlines the provisions for rehabilitation security payments. Once extraction activities cease on a portion of the site and the land has been rehabilitated, the Ministry of Natural Resources and Forestry permits partial



*BEFORE: Don Valley Brickworks Quarry, May 1977*



*AFTER: Don Valley Brickworks/Evergreen Brickworks today*

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surrender of aggregate licences. This minor licence and site plan amendment process promotes the accelerated transition of rehabilitated areas to its future uses, where it is compatible with nearby aggregate extraction.

The report on the ARA review recommends the Ministry of Natural Resources and Forestry develop expedited rehabilitation standards and requirements for aggregate operations in locations surrounded by higher population densities, or in the vicinity of settlement areas.

The Region identifies its desire to be part of the licence review process in Policy 6.C.6, where it explains the importance of full consultation among the Ministry of Natural Resources and Forestry, the Region, area municipalities and pit and quarry applicants to ensure rehabilitation plans are found suitable to all parties involved. The Region further supports rehabilitation through ROP policy 6.C.7, which encourages progressive rehabilitation compatible with surrounding land uses.

The ROP provides specific rehabilitation requirements for new mineral aggregate operations or an expansion of an existing operation within Unique Agricultural Areas where extraction is permitted. The ROP specifies that a site be rehabilitated back to an agricultural condition which allows for the same range and productivity of tender fruit and grape crops common to the area and maintenance of the microclimate.



*BEFORE*

*Sand and gravel was extracted from the site between 1920 and 1965.*



*AFTER: East Park Golf Gardens, London  
Today a waterpark, splash pad, go-kart track, batting cages, rock climbing, bumper cars, video arcade, 18 hole golf course, driving range with two mini-golf courses.*



One of Niagara's best known success stories for rehabilitation comes from the Lafarge sand pit in Pelham. Lafarge completed an award winning progressive rehabilitation project by transforming old sections of their pit into pear, peach, plum and sour cherry orchards.

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<sup>84</sup> <http://www.wellandtribune.ca/2009/06/28/lafarge-wins-major-ward>

### 4.8.3 Policy Directions

The following summarizes the policy recommendations for the rehabilitation and after use theme related to the impacts of aggregate operations:

- **Promote rehabilitation:** Through the ROP policies, the Region should promote expedited rehabilitation. The ROP should also articulate the preferred types of after use for rehabilitation.
- **Encourage public access and ownership where feasible:** Through the ROP policy, the Region should encourage, where possible, and appropriate, public access to former aggregate sites upon final rehabilitation. Public access would be encouraged where the proposed re-use of the site is intended to natural, open space or a recreational use. In addition, public ownership could be explored where feasible and desirable.
- **Clarify the process:** The ROP should identify the process for how lands will be re-designated once an aggregate operation has ceased. In most cases, an official plan amendment is required to facilitate the change in use.
- **Provide flexibility for future land use change where appropriate:** Recognizing the rehabilitation plan is reviewed and agreed to during the licensing process and that conditions may change overtime, the Region should allow for some flexibility in the process where appropriate. The policy framework should give priority to the original rehabilitation plan, but allow for deviation where market conditions change. The policy should include reference to appropriate tools for managing change, such as land use study, market study, etc.

The **Hamilton Rural Official Plan** indicates the **process that the City will undertake to re designate land** once an operation ceases and a license has been surrendered.



### 4.9 Implementation Tools

#### 4.9.1 Issues & Opportunities

One of the major obstacles that the industry cited is the uncertainty surrounding the planning process. Planning for a new operation or an expansion requires significant upfront capital investment in testing, studies, concept plans and approvals. This sentiment was articulated throughout the consultation phases of this project and there was clear support for a transparent and reliable planning process. While the ARA provides a relatively clear process for licensing (from an industry perspective), there are also a number of Planning Act tools which can be used to ensure a clear and transparent process is articulated from the municipal perspective.

#### 4.9.2 Policy Considerations

The ARA defines the process for licencing and operating aggregate resource operations in Ontario. The ARA limits the available Planning Act tools that a municipality might use to manage land uses related to aggregate resources. The Region's Official Plan is the primary Planning Act tool for guiding land use changes, although it is understood that the Region also provides direction into the approvals process through its role as a commenting body during the ARA licencing process. If a NEP Plan Amendment or Development Permit is required the Region would be a commenting agency.

The Region is a commenting body as part of the ARA licencing process. In order to better streamline the agency review process for mineral aggregate applications, the Region has established a Joint Agency Review Team (JART). Protocol for the JART includes the establishment of a team of processional staff for each associated agency depending on the location of the application (Region, area municipality, Niagara Peninsula Conservation Authority and Niagara Escarpment Commission). The members of the JART are responsible for coordinating the technical

The **Haldimand County** Official Plan has **pre designated land for extraction** (any land where Mineral Aggregate Resource has been identified) and does **not require an official plan amendment** once a zoning by law amendment has been approved and an ARA license has been obtained.

The **County of Brant** has **separate policies** on those lands designated for resource development (existing operations) and those lands with aggregate resources (lands that potentially might accommodate an expansion or new aggregate operation).

The **County of Brant** **allows applications to expand** legally existing pits or quarries in the Resource Development designation on the same lot **without an amendment** to their Official Plan, but requires a Zoning By law Amendment.

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review of all matters related to the aggregate application<sup>85</sup>. This group does not make a recommendation on the application, but rather ensures the required range of studies and work is completed by the applicant and that they are sufficient, while managing the process for reviews and issuing a technical report once all reviews are complete. The JART process is intended to manage the complexity of the applicants in a manner that achieves a common technical understanding, provide a single point of contact for the applicant, respect the independent decision making authority of agencies and municipalities, and promote consistency and efficiency in the process<sup>86</sup>.

The Region also has the ability to guide planning for aggregate resources through its official plan policies. The current ROP policies provide limited direction to Regional staff when reviewing an ROP amendment for a new aggregate resource operation or expansion to an existing operation. The current framework requires an ROP Amendment for any expansions or new aggregate areas<sup>87</sup> and that any approvals must align with the policies of applicable provincial plans and legislation (Niagara Escarpment Planning and Development Act<sup>88</sup> and Pits and Quarries Control Act<sup>89</sup>), as well as limiting some locations for extraction<sup>90</sup>, promoting progressive rehabilitation<sup>91</sup>, encouraging the removal of all economically viable material<sup>92</sup>, and setting out a short list of items that should be considered<sup>93</sup> (compatibility with surrounding uses, impacts to natural environment including surface watercourses and groundwater, manner of operation, site plan and rehabilitation, proposed haulage roads and possible effects on the roads concerned and on adjacent development). The policies also restrict the use of land in Possible Aggregate Areas and adjacent to a licenced pit or quarry<sup>94</sup>.

Existing policy direction to area municipalities is limited to the following:

- Confirming their role as part of the consultation process for licensing<sup>95</sup>;
- Confirming that they will be notified of wayside pits and quarries and their comments will be responded to<sup>96</sup>; and,
- Direction for area municipalities to establish land-use designations and by-laws for aggregate operations to conform with the Regional policies<sup>97</sup>.

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<sup>85</sup> Niagara Region Staff Report, ICP 85-2013, September 11, 2013

<sup>86</sup> Niagara Region Staff Report, ICP 85-2013, September 11, 2013

<sup>87</sup> Niagara Regional Official Plan, Policy 6.C.13

<sup>88</sup> Niagara Regional Official Plan, Policy 6.C.2

<sup>89</sup> Niagara Regional Official Plan, Policy 6.C.11. Note that the ROP still references the older Pits and Quarries Act which was superseded by the ARA.

<sup>90</sup> Niagara Regional Official Plan, Policy 6.C.5.1

<sup>91</sup> Niagara Regional Official Plan, Policy 6.C.7

<sup>92</sup> Niagara Regional Official Plan, Policy 6.C.8 and 9

<sup>93</sup> Niagara Regional Official Plan, Policy 6.C.5

<sup>94</sup> Niagara Regional Official Plan, Policy 6.C.3 and 4

<sup>95</sup> Niagara Regional Official Plan, Policy 6.C.6

<sup>96</sup> Niagara Regional Official Plan, Policy 6.C.10

<sup>97</sup> Niagara Regional Official Plan, Policy 6.C.12

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The Engagement policies within Section 12 of the ROP outline the typical tools and processes for engagement and consultation for all forms of development.

### 4.9.3 Policy Directions

The following summarizes the policy recommendations for the implementation tool theme related to the impacts of aggregate operations:

- **Recognize provincial, regional and area municipal roles in aggregate planning:** As the planning framework is complex for aggregate resources in Ontario, the ROP should acknowledge the roles and responsibilities of each level of government and the framework set out by the ARA.
- **Update to recognize the Aggregate Resources Act:** The current ROP policies refer to the Pits and Quarries Control Act, which has been replaced by the ARA. The policies should be updated to reflect the ARA.
- **Provide up-to-date resource mapping:** Request the Province update the aggregate resource mapping for the Region of Niagara. This should include an assessment of the unevaluated bedrock resources within Thorold, Niagara Falls and the south portion of Niagara-on-the-lake. Establish a process to update the ROP mapping to ensure the most up-to-date information on the quality and quantity of mineral aggregate resources is available.
- **Clearly articulate the Region's role in pre-consultation process:** The Region should outline its role within the pre-consultation process for both Planning Act applications, as well how the Region expects to be engaged as part of any ARA license applications.
- **Limit ROP amendments:** Identify what components of the ROP aggregate policies can be changed by the Region without an amendment to the ROP (i.e. mapping of licenced pits and quarries, reference to provincial legislation).
- **JART process:** Recognize in policy, the intent of the Region's JART process. Ensure the JART process is implemented in a manner that meets the intent to streamline reviews. Monitor the implementation of the JART process to ensure it continues to meet the intended purpose for a streamlined approach.
- **Direction to area municipalities:** Provide clear direction, for local municipalities to implement, related to appropriate local policies for protecting the resource, supporting aggregate extraction, adequate mitigation measures such as buffering and screening, and minimizing adverse impacts on surrounding land uses.

## 5 KEY RECOMMENDATIONS

The section provides a short summary of our recommendations. For organizational purposes, our recommendations are divided in the following two categories:

1. Policy Recommendations to be considered in Phase 2: ROP Amendment
2. Other Recommendations to be considered in Phase 3: Implementation

### 5.1 Policy Recommendations to be considered in Phase 2: ROP Amendment

1. **Provide clear direction on which policies apply:** Niagara Region should consider preparing natural heritage policy direction specific to aggregate operations in order to provide a clear indication of the policies that apply and those that do not, as well as the prevailing policies in the case of a conflict. Niagara may also want to consider including a table which clearly indicates when a policy applies to each type of application. There may be a need to provide some enhanced mapping and corresponding policies so that readers can easily understand how the policies apply based on geography.
2. **Provide opportunities for net environmental gain:** It is understood that, from time to time, there will be competing interests and expectations to manage. There is a need to introduce some additional policy tools into the decision-making process on aggregates, which better allow the Region and others to manage environmental impacts in an environmental, economic and socially responsible manner. The Region should consider including policies that explicitly identifies opportunities for net environmental gain, while managing the need for “no negative impacts” on natural features and their ecological functions on a site or adjacent lands, as described by the PPS. The policies should be placed within a broader hierarchy, where the priority is to avoid, minimize, mitigate and compensate for impacts through net environmental gain (where provincial policy allows for flexibility). As net environmental gain can be subjective, the Region will need to establish a clear definition for net environmental gain and prepare criteria for use in defining the net environmental impact of a proposal and how to measure a gain.
3. **Provide water resources policy direction in the ROP:** The ARA provides a framework for addressing water quality and quantity concerns and the Region may wish to include a policy which frames how issues related to water impacts are to be assessed in the decision-making process for expansions to existing aggregate operations and/or new operations. The policy should distinguish between proposals which are below the water table (and those which are not).
4. **Identify how to address overlapping geographies through policy:** Where there are overlapping geographies between IPZs and aggregate resource areas, the Region should consider providing



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some additional policy direction. While most of the IPZ areas fall within urban areas, there are a few select places where they overlap with the potential resource area mapping outside of urban areas. Accordingly, the ROP should provide policy direction for any future extraction within IPZ areas to ensure that potential negative impacts are properly assessed and mitigated. The approach should distinguish between the different levels of significance for the IPZ areas (1, 2 and 3).

5. **Identify existing haul routes:** The Region should identify the existing haul routes on a ROP Schedule or appendix map, in order to provide transparency and minimize land use conflicts for the community and aggregate operators. Identifying all approved haul routes might also help to manage the potential for cumulative impacts associated with the transport of aggregates.
6. **Establish criteria for selection of new haul routes and promote alternative transportation modes:** The ROP should include policies which define an appropriate hierarchy (i.e. identify the types of roads that are suitable for haul routes). The Region should also identify criteria for selecting new haul routes (which might include hierarchy of roads preferred for haul routes, condition/function of road, avoidance of sensitive land uses, cumulative impacts and utilization of existing haul routes). The ROP could also promote opportunities for the transport of aggregate other than by truck (i.e. rail or water).
7. **Allow flexibility in haul routes:** Provide policy provision for designated haul routes to change over time to provide opportunities for more suitable routes as there are changes in haulage patterns, highway and road improvements, measures to manage dust and recent municipal development.
8. **Protect cultural heritage resources:** Ensure that there is a clear linkage between the Region's Creative Niagara policies and the aggregate resource policies. Identify the basic requirements and conditions to ensure that significant built heritage resources and significant cultural heritage landscapes are conserved. The policies could be linked to land use compatibility policies, which would provide direction for screening, buffering and strategic landscaping which is context sensitive.
9. **Identify the tools for assessing the potential for cultural heritage impact:** ROP should identify the need for a cultural heritage impact assessment as part of the review for aggregate proposals. While this type of study is required to satisfy aspects of the ARA, the expectation is that the Region, as a commenting agency and approval authority, would also require an assessment. A cultural heritage assessment is currently included in the requirements for a complete application; however, it should be included in the aggregate section as a standard study requirement. Assessments should examine impacts on the immediate site as well as adjacent lands.
10. **Clarify restrictions on Good General Agricultural Lands and Unique Agricultural Areas:** The ROP's policies in section 6.C.5.1 and 5.B.7 should be harmonized to avoid misinterpretation. Recall that 6.C.5.1 provides policy for Unique Agricultural Areas and 5.B.7 provides guidance for

Good General Agricultural Lands. A comprehensive and clear set of policies should be provided in one location of the Plan, with appropriate references.

**11. Recognize the potential for conflict:** Based on the review of mapping, it is apparent that the vast majority of all aggregate resource lands are also mapped as prime agricultural lands. As a result, it is likely that any application for a new or expansion to an existing aggregate operation could result in the loss of prime agricultural lands. The PPS allows for the removal of prime agricultural land for the purposes of aggregate extraction under certain conditions. Accordingly, the Region's Official Plan should provide some policy guidance for decision-makers based on the PPS directions which allow for extraction, provided that extraction is identified as an interim use and that the lands will ultimately be rehabilitated to an agricultural use. Complete rehabilitation to an agricultural use is not required where:

- a. Outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;
- b. In a specialty crop area, there is a substantial quantity of high quality mineral aggregate resources below the water table warranting extraction, and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible;
- c. Other alternatives have been considered and are found unsuitable; and,
- d. Agricultural rehabilitation in remaining areas is maximized.

The above-note decision-making hierarchy needs to be reflected in the Region's Official Plan.

**12. Review "Possible Aggregate Resources" designation in ROP Schedule D4:** Schedule D4 identifies two small areas as "Possible Aggregate Resources" area; however, future development would require a ROPA similar to all other license proposals. The Region should confirm the validity of the designation and update (i.e. remove areas from ROP or add policies and/or include additional areas) ROP policies based on the outcomes of the review.

**13. Ensure new development does not impact viability for aggregate expansion:** Include a policy which requires development applications within 1000m or 500m of an existing pit or quarry, as part of the application process, to demonstrate that the proposed development application will not negatively impact the ability of the existing licenced area to maintain its existing operation or future expansion. The area of influence of 1000m is indicated in the Ministries D-series Guidelines for Class 3 industries, while 300m for sand and gravel and 500m for bedrock resources is the distance recommended in the Aggregate Reference Manual (2001).

**14. Provide policies on land use compatibility:** The ROP should be updated to include a general policy which implements the D-Series guidelines for managing the impacts related to noise, dust and vibration. The ROP should also include policies which limit the siting of new facilities in close proximity to sensitive land uses, such as schools, daycares and hospitals (and vice versa).

- 15. Encourage the use of recycled aggregates in appropriate locations in the ROP policies:** The ROP policies should promote the use of recycled aggregate for public and private applications. The policy framework should be directed both internally, at Regional projects and also towards external users/consumers of aggregates.
- 16. Permit recycling facilities on licenced aggregate sites:** The ROP is currently silent on the permissions for recycling activities on existing or future aggregate extraction sites. In order to promote recycling of aggregates, the ROP policies should specifically identify that recycling facilities are permitted on licenced pits and quarries sites. The ROP should provide direction on site planning guidance (e.g. need to protect views, vistas, location of stock piles, increased truck traffic, potential for dust impacts and consideration of wind conditions, etc.) and monitoring that would be required to avoid contamination from incoming products.
- 17. Promote rehabilitation:** Through the ROP policies, the Region should promote expedited rehabilitation. The ROP should also articulate the preferred types of activities for rehabilitation.
- 18. Encourage public access and ownership where feasible:** Through the ROP policy, the Region should encourage, where possible and appropriate, public access to former aggregate sites upon final rehabilitation. Public access would be encouraged where the proposed re-use of the site is intended to natural, open space or a recreational use. In addition, public ownership could be explored where feasible and desirable.
- 19. Clarify the process to re-designate lands following aggregate operations:** The ROP should identify the process for how lands will be re-designated once an aggregate operation has ceased. In most cases, an official plan amendment is required to facilitate the change in use.
- 20. Provide flexibility for future land use change where appropriate:** Recognizing the rehabilitation plan is reviewed and agreed to during the licensing process and that conditions may change overtime, the Region should allow for some flexibility in the process where appropriate. The policy framework should give priority to the original rehabilitation plan, but allow for deviation where market conditions change. The policy should include reference to appropriate tools for managing change, such as land use study, market study, etc.
- 21. Recognize provincial, regional and area municipal roles in aggregate planning:** As the planning framework is complex for aggregate resources in Ontario, the ROP should acknowledge the roles and responsibilities of each level of government and the framework set out by the ARA.
- 22. Update to recognize the Aggregate Resources Act:** The current ROP policies refer to the Pits and Quarries Control Act, which has been replaced by the ARA. The policies should be updated to reflect the ARA.
- 23. Clearly articulate the Region's role in pre-consultation process:** The Region should outline its role within the pre-consultation process for both Planning Act applications, as well how the Region expects to be engaged as part of any ARA license applications.
- 24. Limit ROP amendments:** Identify what components of the ROP aggregate policies can be changed by the Region without an amendment to the ROP (i.e. mapping of licenced pits and quarries, reference to provincial legislation).

- 25. JART process:** Recognize in policy, the intent of the Region's JART process. Ensure the JART process is implemented in a manner that meets the intent to streamline reviews. Monitor the implementation of the JART process to ensure it continues to meet the intended purpose for a streamlined approach.

### 5.2 Other Recommendations for consideration in Phase 3: Implementation

The following list of recommendations relates to processes and additional study requirements and should be considered as part of the implementation of the ROP Amendment, and as part of Phase 3 of this project:

- 1. Provide clear guidance on highly vulnerable aquifers and significant groundwater recharge areas in relation to aggregate resources:** The Region should use the existing data related to highly vulnerable aquifers and recharge areas as a screening tool to provide some direction related to study requirements. When the mapping is more accurately reflected, it should be used to ensure that clear guidance is provided through policy for lands which are classified as "highly vulnerable aquifers" and "significant groundwater recharge areas". These elements generally correspond with the potential aggregate resource area mapping and represent another area where competing provincial interests need to be carefully balanced and where clear policy guidance is warranted.
- 2. Evaluate alternative haul routes:** As part of the complete application requirements, the Region should consider a transportation and haul route study that evaluates alternative haul routes (and where appropriate, alternative transportation modes) based on the criteria suggested above and identifies the haul route(s) with the least impact on Regional roads, provincial highways, residents and businesses.
- 3. Ensure new development does not restrict future aggregate resource extraction opportunities:** Provide a process for the Region and area municipalities to review any development application on lands within or adjacent to the aggregate resource area, which would include comment on whether the development application will have any adverse effect on the viability of aggregate resource extraction. Rural development forms are not anticipated to undermine the ability to undertake future aggregate extraction operations. Forms of development which could impact the viability of future aggregate resource extraction includes: urban boundary expansions, hamlet expansions, rural subdivisions, waste management sites, golf courses, etc.
- 4. Community engagement to proactively minimize land use compatibility issues:** Conduct robust engagement with landowners who own land outside of settlement areas that have been identified as aggregate resource areas with limited to no constraints for extraction. This engagement could be done through the ROPA process, to ensure that all landowners are aware that the lands have aggregate capability.



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5. **Study land use to proactively minimize land use compatibility issues:** The Region could consider preparing a detailed land use study for lands in proximity to existing licenced aggregate resource areas to identify opportunities and barriers to expansion of extraction operations on adjacent parcels. While this type of assessment is typically done at the licensing stage, for policy development purposes, the Region might find this type of assessment beneficial (as an indicator of the effectiveness of current planning policies).
6. **Provide up-to-date resource mapping:** Request the Province update the aggregate resource mapping for the Region of Niagara. This should include an assessment of the unevaluated bedrock resources within Thorold, Niagara Falls and the south portion of Niagara-on-the-lake. Establish a process to update the ROP mapping to ensure the most up-to-date information on the quality and quantity of mineral aggregate resources is available.
7. **Direction to area municipalities:** Provide clear direction, for local municipalities to implement, related to appropriate local policies for protecting the resource, supporting aggregate extraction, adequate mitigation measures such as buffering and screening, and minimizing adverse impacts on surrounding land uses.

### 5.3 Next Steps

This State of Aggregate Resources in Niagara Region report is intended to document and analyse the existing mineral aggregate resources and policy framework in order to provide recommendations to inform a Regional Official Plan (ROP) amendment. The next steps in this project will be to prepare a draft ROP amendment. At this point, the Region will seek to obtain comments and feedback on the draft ROP amendment. The Region will present the ROP amendment at a Statutory Public Meeting planned for early 2016, to meet the requirements of the Planning Act. Following the Statutory Public Meeting, there will be a 90-day public review period of the ROP amendment. Following the public review period and any changes to the ROP amendment, the ROP amendment will be brought to Council for final recommendation and adoption.

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