

# **PLANNING REPORT**

## ***PROPOSED LICENSED QUARRY 660341 Ontario Inc.***

**PART LOT 36, CONCESSION 2  
GEOGRAPHIC TOWNSHIP OF SARAWAK  
TOWNSHIP OF GEORGIAN BLUFFS  
COUNTY OF GREY**

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## 1. **BACKGROUND**

### 1.1 **The Proposal**

660341 Ontario Inc., operating as H.S.C. Aggregates Ltd., is proposing to expand an existing quarry and is seeking the necessary approvals.

### 1.2 **Approvals Required**

In order to expand the quarry, the following approvals are required:

- an amendment to the County of Grey Official Plan;
- an amendment to the Township of Georgian Bluffs Zoning By-law; and,
- a Category 2 Class “A” license under the Aggregate Resources Act.

The amendment to the County Official Plan will identify the subject lands on Schedule B as ‘Mineral Resource Extraction’.

The amendment to the Township of Georgian Bluffs Zoning By-law will rezone the same lands from ‘A1’ (General Agricultural) to ‘M2’ (Extractive Industrial).

The Category 2 Class ‘A’ license would permit extraction of bedrock below the water table. The maximum amount of material to be extracted annually is 400,000 tonnes. The quarry expansion is being handled through a new license, separate from the existing license on the existing quarry which allows for up to 400,000 tonnes to be extracted per year. Despite there being two separate licenses, the amount of material proposed to be extracted between the existing quarry and the proposed expansion area combined will not exceed 400,000 tonnes, as stipulated in Note 18 on the Operational Plan.

To initiate the approval process, the quarry operator with the assistance of the consulting team will begin processing the quarry license application under the Aggregate Resources Act. This process involves detailed involvement with the various commenting agencies and the general public. At a later date, the applications to amend the County of Grey Official Plan and the Township of Georgian Bluffs Zoning By-law will be filed with the County and Township respectively. The approval process associated with these two applications will be in accordance with the Planning Act, which also includes involvement from the public agencies and the general public.

### 1.3 Purpose of this Report

Ron Davidson, Land Use Planning Consultant Inc. has been retained by H.S.C. Aggregates Ltd. to prepare a Planning Report that evaluates the proposed development within the context of sound land use planning principles.

## **2. SUBJECT LANDS AND SURROUNDING LAND USES**

### **2.1 Property Location and Description**

The subject property is located along the west side of County Road 1, approximately two kilometres northwest of the Cobble Beach settlement area, as illustrated on Figure 1 to this Planning Report.

The entire property owned by 660341 Ontario Inc. comprises 33.15 hectares of land. A detached dwelling and accessory building are located on the site, both approximately 50 metres back from the County Road. Approximately 18.5 hectares are currently cash-cropped. Forested areas exist in the northeast corner of the property and near the site's southwest corner, comprising 2.8 hectares and 3.6 hectares of land respectively. A few other pockets of grassland consume the remainder of the property.

The elevation of this 33.15 hectare parcel drops gradually across the site from west to east by about 4 metres.

The area to be licensed area applies to 15.55 hectares of the currently cash-cropped land of which 14.3 hectares are proposed for extraction.

Two large berms have been constructed on the subject property, outside of the eastern boundary of the license area, as illustrated on the Existing Features drawing.

The entire parcel owned by 660341 Ontario Inc. and the boundaries of the proposed license area have been superimposed on the aerial photograph provided in Figure 2 of this Planning Report.

### **2.2 Surrounding Land Uses**

The subject property is located within an area of the Township that is represented by a mix of agriculture and residential, as well by the adjacent aggregate extraction operation.

Several residential lots have been established along Grey Road 1 within this general area. A residential subdivision (Ishwar Drive) is located to the southeast. The lands to the south and west are used mostly for agricultural purposes. The applicant's existing quarry is located to the immediate north.

The adjacent land uses are depicted in the aerial photograph provided in Figure 2.

### **3. THE PROPOSED QUARRY**

#### **3.1 The Material**

The bedrock formation in this area is known as the Manitoulin Formation, which yields both Granular A and Granular B crushed stone. This material is typically used in road construction.

Whereas the County of Grey has mapped areas of known sand and gravel deposits and such areas are identified in the County Official Plan, bedrock formations have not been mapped and therefore reliance of the quality of the material is based on test hole observations and knowledge from operating the abutting quarry.

Based on an average extraction depth of six metres over an area of 14.3 hectares, a total of 2.1 million tonnes of crushable stone is available, according to the information provided in the Summary Statement.

#### **3.2 The Operation**

Of the 33.15 hectares of land comprising the subject property, 15.55 hectares will be licensed and 14.3 hectares will actually be extracted.

Extraction will occur in four phases as shown on the Operational Plan, with the first phase commencing in the northwest corner. This first phase will occur as an expansion of the existing quarry to the north. The operations will move southward and then easterly toward the County Road. Extraction will not occur within 250 metres of the County Road or within approximately 120 metres of the property to the south.

The aggregate material will be removed in a single lift to a depth of five to seven metres below existing grade. Extraction activities will involve the use of a rock drill to drill the blast pattern. Following blasting, the material will be transferred by a front-end loader to the crusher/screener, which will operate on the finished floor of the quarry. The crusher/screener will be moved as the quarry progresses. A second front-end loader will feed the crusher/screener, manage stockpiles and load outbound trucks.

Recyclable asphalt and/or concrete may be also be brought to the site for crushing and re-use.

Controlled blasting will occur in accordance with Provincial standards and the recommendations of the Blast Impact Assessment, as explained in Section 3.5.4 of this Planning Report. Blasting typically occurs no more than once per year. During the 2018 extraction season, no blasting occurred in the existing quarry.

Extraction will occur to within one metre above the established water table.

The new quarry floor will be sloped to direct stormwater from rain or snowmelt to the northwest corner of the quarry and into the existing sump pond located to the immediate north (see Existing Features Plan), at which point the water will be pumped onto the adjacent farm fields. This arrangement has served the existing quarry since its inception.

The two aforementioned berms that already exist east of the proposed license boundary will remain to provide visual and noise buffers. The height of these berms may have to be increased. If necessary, the berms will be relocated such that they are located within the license area.

Equipment used as part of the aggregate operation will include scraper, bulldozers, loaders, excavators, drill rigs, rippers, screeners, conveyers and dump trucks. Portable equipment will follow the phasing sequence and will not be located within 30 metres of the license boundary.

Dust will be mitigated onsite through the application of water. Regular visual inspections of the site will be undertaken by the quarry operator during dry weather periods to identify potential dust emissions and determine the necessary mitigation measures to be applied.

Quarry operations will occur between the hours of 7:00 a.m. to 6:00 p.m., Monday to Friday, and 8:00 a.m. to 12:00 p.m. on Saturday. There will be no processing on Saturdays.

Additional information regarding the operation of the proposed quarry is provided on the Operational Plan.

### **3.3 Haulage Route**

The entrance of the existing quarry will also serve as the entrance to the proposed quarry, even after the license for the existing quarry has been surrendered. No additional entrance will be necessary.

Trucks leaving the site will travel either north or south on Grey Road 1, depending on the destination of the aggregate.

The number of trucks leaving the site is dependent on the market; however, the number of truck trips should not change significantly since the annual tonnage limit for the new quarry and existing quarry combined will not exceed the current limit (i.e. 400,000 tonnes) of the existing quarry.

### **3.4 Rehabilitation**

The final rehabilitation use is proposed to be a large pond area.

As the quarry progresses from phase to phase, the side slopes will be progressively rehabilitated to a 2:1 slopes. Certain tree plantings, rocks piles and boulders could be provided along the top edges of the rehabilitated quarry to provide wildlife habitat.

### **3.5 Information Available Regarding The Proposed Quarry**

A series of Site Plans has been prepared by William Bradshaw, P. Eng. showing existing conditions, proposed operations, consultants' recommendations, progressive and final rehabilitation, and cross-sectional views of the site. The Site Plans form the basis of the quarry license application under the Aggregate Resources Act. The Site Plans also form an integral part of the review process of the applications to amend the County Official Plan and the local Zoning By-law. The Site Plans include:

- i) Existing Features Plan (Drawing 1);
- ii) Operational Plan (Drawing 2);
- iii) Consultant Recommendations (Drawing 3); and,
- iv) Progressive Rehabilitation and Final Rehabilitation Plans (Drawing 4)

The Site Plans were prepared taking into consideration the requirements of the Aggregate Resources Act, the County of Grey Official Plan, the Provincial Policy Statement and the recommendations of the experts retained on behalf of the intended quarry operator.

In addition, a Summary Statement had been prepared by Dave Munro on behalf the H.S.C. Aggregates Ltd. to provide an overview of the proposed development as required by the Aggregate Resources Act.

Furthermore, the following studies have also been prepared:

- Combined Level 1 and 2 Hydrogeological Study (Whitewater Hydrogeology Ltd.)
- Natural Environment Technical Report: Level I & II (AWS Environmental Consulting Ltd.)
- Noise Impact Assessment (HGC Engineering);
- Blast Impact Assessment (DST Consulting Engineers);
- Karst Hazard Assessment (Daryl W. Cowell); and,

- Stage 1 - 2 Archaeological Assessment (AMICK Consultants Limited);

The following is a summary of the above-noted studies:

### **3.5.1 Level 1 and 2 Hydrogeological Study**

Whitewater Hydrogeology Ltd. conducted this study to address potential impacts of the proposed below water quarry expansion on groundwater surface water resources in accordance with Provincial standards.

As part of the study, six groundwater observation wells were drilled on the expansion lands and a survey was conducted of the five domestic wells located within 500 metres of the site. The consultant also took into consideration the existence of any municipal water supplies and Wellhead Protection Areas located within the general proximity of the subject lands. Furthermore, the study reviewed all surface water features in the area.

The Hydrogeological Study concluded that there will be no adverse impacts on the domestic water wells in the area as no wells are located within the estimated area of influence. Given the considerable separation distance between the quarry and closest municipal water supply / Wellhead Protection Area, the quarry operations will have no impact on any such water source. Furthermore, the Study also states that there is no potential interference with surface water as there are no significant features reliant upon hydrology functions within 500 metres of the site. Despite these conclusions, the Hydrogeological Study has recommended a series of preventative operational practices to further protect groundwater quality including the monitoring of the onsite wells and the domestic wells within 500 metres of the subject lands.

The recommendations of the Assessment have been incorporated into the design of the site plans and stated in the notes of these drawings.

For more detailed information regarding the findings of Whitewater Hydrogeology Ltd., please refer to the Hydrogeological Assessment.

### **3.5.2 Natural Environment Technical Report: Level I & II**

AWS Environmental Consulting Inc. was retained to prepare a Natural Environment Technical Report (NETR) to meet the requirements under the Aggregate Resources Act for establishing new quarries. The Report also serves as an Environmental Impact Study for the purposes of addressing the environmental policies of the Provincial Policy Statement and the County of Grey Official Plan.

The Provincial Policy Statement and the County Official Plan identify natural heritage features that are to be protected. The objective of the NETR was to determine whether any of these features exist on or within 120 metres of the site, and if so, to further

address the nature of these identified heritage features and determine the anticipated impact of the proposed operation on these features. The NETR discovered the following within the study area:

- Habitat of Threatened and Endangered Species; and,
- Significant Wildlife Habitat.

The following summarizes the findings and recommendations of Natural Environment Report with regard to these natural heritage features:

## 1. Habitat of Threatened or Endangered Species

### A. Butternut (Endangered)

Three mature Butternut trees have been identified in the woodlot located near the southwest corner of the subject property, outside of the proposed license area as illustrated on Figure 8 to the NETR. All three trees, however, have significant canker advancement and are deemed non-retainable. As such, no mitigation measures are required.

### B. Barn Swallow (Threatened)

Barn swallows were observed foraging over the proposed license area. No nesting activity or nesting habitat, however, was identified within the proposed license area or within the adjacent 120 metre study area. The only confirmed nesting/rearing habitat within the broader search coverage area was a barn located 800 metres north of the site. Given the considerable separation distance between the proposed quarry and this identified barn swallow habitat, no mitigation measures are necessary.

## 2. Significant Wildlife Habitat

### A. Eastern Wood-peewee (Special Concern)

This bird species was identified in three locations in the woodland located near the southwest corner of the property, outside of the license area. A 20 metre no-disturbance area adjacent to the woodland will ensure that no impact to this bird habitat occurs.

## Conclusion

The Natural Environment Technical Report concluded that the proposed quarry operations would not create any negative impacts on any natural heritage features or their functions provided the mitigative measures stated above are followed.

The recommendations of the Report have been incorporated into the design of the site plans and stated in the notes of these drawings.

For more detailed information regarding the findings and recommendations of AWS Environmental Consulting Ltd., please read the NETR.

### **3.5.3 Noise Impact Assessment**

HGC Engineering conducted a Noise Impact Assessment to ensure that the predicted sounds levels of the proposed quarry expansion comply with the applicable noise limits of the Ministry of the Environment, Conservation and Parks. To ensure this occurs, the noise expert provided a series of recommendations which have been incorporated into the design of the quarry operation as shown on the series of Site Plans. The recommendations include:

- restrictions on the hours of operation;
- erecting a berm on the east side of the property;
- limitations on the use of processing equipment; and,
- shielding of rock drilling and processing equipment.

For more detailed information regarding the findings and recommendations of HGC Engineering, please read the Noise Impact Assessment.

### **3.5.4 Blast Impact Assessment**

DST Consulting Engineers Inc. carried out the Blast Impact Assessment to ensure that: blasting operations are conducted in a safe and productive manner; no possibility of damage exists to the receptors in the area, including the water wells; and, Provincial guidelines and regulations regarding vibration and overpressure are met. In this regard, the blasting expert provided a series of recommendations that have been carried forward onto the Consultant Recommendations drawing.

More detailed information regarding the findings and recommendations from DST Consulting Engineering is provided in the Blast Impact Assessment.

### **3.5.5 Karst Hazard Impact Assessment**

Daryl W. Cowell, P. Eng. conducted a Karst Hazard Impact Assessment due to the County Official Plan mapping which identifies the 'Special Policy Area (Karst)' constraint immediately east of the license boundary.

No significant karst features were observed on the subject property or adjacent lands. The Assessment concluded that the quarry expansion lands are not considered to be a karst hazardous site.

### **3.5.6 Stage 1 – 2 Archaeological Assessment (AMICK Consultants Limited)**

AMICK Consultants Limited conducted a Stage 1 - Stage 2 Archaeological Assessment to identify any archaeological sites of cultural heritage value or interest on the subject property. No such sites were found during the field investigations and therefore the Assessment recommended that no further archaeological review t be required.

For more detailed information regarding this matter, please read the Stage 1 - 2 Archaeological Assessment.

## 4. LAND USE POLICY ANALYSIS OF THE APPLICATION

The subject lands fall within the Planning jurisdiction of the County of Grey Official Plan. No local Official Plan applies to this area of the Township.

This Report will evaluate the proposed extraction operation within the context of the County Plan as well as the Provincial Policy Statement.

### 4.1 County of Grey Official Plan

#### 4.1.1 Existing Land Use Designation

The lands proposed to be licensed are designated 'Agricultural' on Schedule A to the County of Grey Official Plan, as shown on Figure 3 to this Planning Report

The 'Agricultural' policies permit agriculture, forestry and conservation type uses and small-scale commercial and industrial uses, as well as aggregate extraction operations where the subject lands are shown entirely as 'Aggregate Resource Area' on Schedule B to the County Official Plan. In this regard, the 'Aggregate Resource Area' does not apply to the subject lands and therefore an amendment to the Official Plan is required.

#### 4.1.2 Official Plan Policies Pertaining to Extractive Industrial Operations

Section 2.7 *Mineral Aggregate Resources* of the County of Grey Official Plan states the following:

##### 2.7.3 *Development Criteria Policies:*

- (1) *It shall be a policy of this Plan that an applicant who wishes to undertake a mineral aggregate operation other than a wayside pit and quarry must, if requested to do so by the local municipality, enter into a Development Agreement with the local municipality. The Agreement shall be entered into prior to local Council's enactment of the implementing Zoning By-law Amendment. Such an Agreement may include:*
  - (i) *Capital arrangements regarding improvements beyond the boundary of the applicant's land, as they may be required by reason of the operation of that extractive industry, e.g. widening and improving roads; and*
  - (ii) *Routes to be used by trucks carrying aggregate.*

Comment: Given that the new quarry will be utilizing the existing quarry's entrance onto the County Road and that the amount of material being extracted on

an annual basis will not be increasing, it is unlikely that the Township will require a Development Agreement.

- (2) *All mineral aggregate operations shall comply with the Aggregate Resources Act and its regulations as amended from time to time.*

Comment: The Site Plans, which will form the basis of the quarry license, have been prepared in accordance with the Aggregate Resources Act and the associated regulations.

- (3) *All mineral aggregate operations shall satisfy the legal requirements of the Ministry of Environment or the authority having jurisdiction as to water supply and disposal of liquid wastes.*

- (4) *All mineral aggregate operations shall satisfy the legal requirements of the Ministry of Environment, Air Management Branch, as to the control of air pollution.*

Comment: Extraction will occur in accordance with all relevant Provincial standards.

- (5) *When an extractive area has been depleted and is rehabilitated in accordance with the Licence, a Zoning By-law Amendment will be required for any use not permitted in Section 2.7.2. Upon passing of the Zoning By-law Amendment, the policies of the applicable land use designation for the subject property identified on Schedule A shall apply. The lands identified as Mineral Resource Extraction on Schedule B shall then be removed at the time of the next five year review of the County Official Plan.*

Comment: Upon the material within the quarry being depleted and the site being rehabilitated in accordance with the Site Plans, the license will be surrendered and the property will be rezoned to the appropriate zoning category.

- (6) *Non-farm lot creation shall not be permitted within lands identified as Aggregate Resource Area on Schedule B.*

Comment: No lot creation is proposed.

- (7) *Asphalt plants and concrete batching plants may be permitted as accessory uses to a licensed extractive operation subject to the following items being addressed through the Aggregate Resources Act site plan amendment process:*

- (i) *it is a non-permanent use and will cease to operate once the aggregate material has been completely removed or the operator stops removing material from the site on a regular basis;*

- (ii) *a traffic impact study is provided to the satisfaction of the County and the local municipality; and,*
- (iii) *the applicant must demonstrate that the proposed location is appropriate and that impacts to the social and natural environment as defined in Section 2.8 of this Plan within a defined study area can be minimized.*
- (iv) *noise, odour and dust studies are provided which satisfy the Ministry of the Environment's standards.*

Comment: Neither an asphalt plant nor a concrete plant is proposed for this site.

- (8) *An Official Plan Amendment will be required for asphalt plants and concrete batching plants proposing to locate outside of the Mineral Resource Extraction areas identified on Schedule B.*

Comment: Neither type of plant is proposed.

- (9) *In Special Policy Areas identified on Appendix A, an Environmental Impact Study will not be required. Precautionary measures shall be included in the licensed operational plan to ensure that any chemical or gas spills from equipment shall be prevented. Should a spill occur, clean-up procedures shall be identified within the licensed operational plan.*

Comment: The 'Special Policy Area (Karst)' constraint applies to the easterly portion of the subject property, but outside of the proposed license area, as shown on Figure 5 to this Planning Report. A Karst Hazard Assessment was conducted and concluded that the site contained no karst hazard lands.

- (10) *Within areas identified as Significant Woodlands as shown on Appendix B, cutting of the woodland to facilitate a mineral aggregate operation may be permitted where it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. If this can be demonstrated, cutting of the woodland should be minimized and the woodland area cleared for extraction shall be progressively rehabilitated back to a woodland use in accordance with Section 2.7.4(5) of this Plan. Permitted mineral aggregate operations must be carried out in a manner which is environmentally sensitive to the remaining portions of the Significant Woodland in accordance with the recommendations from the Environmental Impact Study as required under section 2.8.4(1) of this Plan.*

Comment: No portion of the subject lands or adjacent lands is identified as 'Significant Woodland's on Appendix B, as illustrated on Figure 6 to this Planning Report.

- (11) *Existing licensed mineral aggregate extraction operations are permitted and shall be recognized in local zoning by-laws. Licensed mineral aggregate extraction*

*operations are identified on Schedule B of this Plan as Mineral Resource Extraction.*

Comment: The existing, adjacent quarry is identified on Schedule B as Mineral Resource Extraction, as shown on Figure 4.

#### *2.7.4 Policies for the Establishment of New Mineral Resource Extraction Operations*

- (1) The following proposed mineral aggregate extraction operations will require an amendment to the County Official Plan except for those proposed within the Niagara Escarpment Plan Area as shown on Schedule A-Maps 1, 2 and 3:*
  - (a) All new or expanding quarry operations proposed within the County of Grey;*
  - (b) All new sand and/or gravel operations proposed outside of the areas identified as an Aggregate Resource Area shown on Schedule B; and,*
  - (c) All proposed expansions beyond the areas identified as an Aggregate Resource Area on Schedule B*

Comment: This expanding quarry requires an amendment to the Official Plan.

- (2) For new or expanding sand and/or gravel operations proposed within the Aggregate Resource Area identified on Schedule B, a County Official Plan Amendment and a local official plan amendment will not be required. Should the proposed operation receive a license under the Aggregate Resources Act, the Mineral Resource Extraction area will be identified on Scheduled B without an amendment to this Plan. A Zoning by-law amendment shall be required.*

Comment: An Official Plan Amendment is required for the intended quarry expansion.

- (3) The following studies/reports must be provided in order to support the proposed mineral aggregate operations identified in Section 2.7.4(1) and Section 2.7.4(2):*
  - (a) Submission of copies of all documentation provided to the Ministry of Natural Resources as required for licensing, pursuant to the Aggregate Resources Act;*
  - (b) A Planning Report prepared by a qualified individual indicating whether or not the proposed mineral aggregate operation is consistent with the Provincial Policy Statement and conforms to the policies of the County of Grey Official Plan, as well as conformity to the Local Official Plan should one exist. The Planning Report shall also address the policies identified in Section 6.3(1) of the County Plan. With respect to Section 6.3(1)(a), the demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required;*

- (c) *A Noise Impact Study prepared by a qualified individual which satisfies the Ministry of the Environment's standards. Any noise impacts generated from an extraction operation should be minimized to the greatest extent possible. If a Noise Impact Study is not required, information should be provided demonstrating how potential noise impacts will be mitigated.*
- (d) *A Traffic Impact Study prepared by a qualified individual is required for all new mineral aggregate operations. The Traffic Impact Study must demonstrate that the movement on existing streets or roads will not be unduly obstructed or interfered with by aggregate carrying vehicles during the operation of the pit or quarry. Information should be provided estimating the average number of trucks per day, the proposed haul route, identifying the potential impacts to traffic, an assessment of the road conditions on the proposed haul route, as well as a cost estimate for any necessary upgrades required to the proposed haul route. Where the haul route has existing deficiencies and has existing traffic, cost-sharing will be considered. Costs to upgrade the haul road that are directly attributable to the proposed operation shall be the responsibility of the Applicant and will be based on use of the haul route. During pre-submission consultation the County may exempt a proposed mineral aggregate application from the requirement of a Traffic Impact Study after consultation with the local municipality(ies), the County Transportation & Public Safety Department, and/or the Ministry of Transportation. Where an existing mineral aggregate operation exists, and the proposal is to expand the existing licensed area, a Traffic Impact Study is not required so long as the annual tonnage limit on the proposed area of expansion is the same as the existing annual tonnage limit and a condition is placed on the site plan indicating that extraction will not occur on the expanded area until such time as the aggregate from the existing operation has been extracted. A Traffic Impact Study may be required in cases where the area of expansion is to be extracted concurrently with the existing licensed area.*
- (e) *For mineral aggregate operations proposing to remain above the established water table level identified in the Aggregate Resources of Ontario: Provincial Standards, a letter of opinion shall be provided by a qualified individual estimating the current water table level and determining whether the proposed operation will have any impacts to the quality or quantity of the surface or groundwater resources;*
- (f) *A Hydrogeological Study, prepared by a qualified individual, shall be required for proposed aggregate operations which are proposing to proceed below the established water table level identified in the Aggregate Resources of Ontario: Provincial Standards.*
- (g) *An Environmental Impact Study is required if the proposed licensed area is within or adjacent to a natural heritage feature. A Level 2 – Natural*

*Environment Report required under the Aggregate Resources Act can act as a substitute for an Environmental Impact Study (refer to Section 2.8.7 of this Plan);*

- (h) A Stage 1 Archaeological Assessment prepared by a qualified individual is required. The findings of the Stage 1 Assessment may identify the need for further study.*
- (i) The County requires that the proponent consult with the County and the local municipality prior to submitting any application to determine the studies/reports that are required in accordance with Section 6.18.*

Comment: The following studies have been conducted in support of this quarry expansion proposal: Planning Report; Level 1 and 2 Hydrogeological Study; Natural Environment Technical Report Level I & II; Noise Impact Assessment; Blast Impact Assessment; Karst Hazard Assessment; Stage 1 - 2 Archaeological Assessment.

During the preconsultation discussions with the County and Township staff, the County Transportation Department advised that a Traffic Impact Study was not required given that the quarry entrance location is not changing and that an increase in truck traffic will not result from this quarry expansion.

- (4) Mineral aggregate operations may be permitted on Agricultural and Special Agriculture lands as identified on Schedule A, so long as rehabilitation of the site will be conducted in order to restore substantially the same areas and the same average soil quality for agriculture. In such cases complete rehabilitation will not be required if the following occurs:*
  - (a) a substantial quantity of the aggregate is below the water table warranting extraction; or*
  - (b) the extraction is at a depth which would make restoration of pre-extraction agricultural capability unfeasible; and*
  - (c) other alternatives have been considered and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 to 7 soils, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, Canada Land Inventory Classes 1, 2 and 3; and*
  - (d) agricultural rehabilitation in remaining areas will be maximized.*

Comment: The proposed license area is designated 'Agricultural' on Schedule A, as illustrated on Figure 3. Rehabilitating the site to an agricultural use is not possible, as this below-water quarry will end up filling with water once extraction is complete.

(5) *Progressive and final rehabilitation shall be required to:*

- *accommodate subsequent land uses;*
- *to promote land use compatibility; and*
- *to recognize the interim nature of extraction, in accordance with the rehabilitation plans as part of the license.*

*Progressive rehabilitation shall be required where possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration. On lands previously not designated as Agricultural, or where agricultural rehabilitation is not required as identified in Section 2.7.4(4), rehabilitation plans should consider opportunities for enhancing the natural heritage features/functions in the area. Where an Environmental Impact Study/Natural Environment Report Level 2 is required, the Study must investigate the opportunities for enhancing the natural heritage features/functions.*

Comment: Because this is a below water quarry, the final rehabilitation use is proposed to be a large pond area. As the quarry progresses from phase to phase, the side slopes will be progressively rehabilitated to 2:1 slopes. Certain tree plantings, rocks piles and boulders could be provided along the top edges of the rehabilitated quarry to provide wildlife habitat. This natural land use will be consistent with the rehabilitated quarry to the north and should not create a land use conflict with any other land use in the area.

#### **4.1.3 Official Plan Policies Pertaining to the Natural Environment**

Section 2.8 *Natural Environment* of the Grey County Official Plan provides policies aimed at protecting various aspects of the environment, including the following:

##### *2.8.5 Special Policy Area*

*The Special Policy Area is a development constraint that is shown on Appendix A attached hereto and forming part of the Plan. The Special Policy Area consists of shallow overburden with karst topography. The depth of soil is generally less than one metre over fractured bedrock (karst).*

*In areas identified as Special Policy Area on Appendix A it will be necessary for the proponent of any planning application to address the need of providing an Environmental*

*Impact Study. The objective of the Environmental Impact Study shall be twofold; to determine if in fact that the Special Policy Area (shallow overburden with karst topography) does exist. This may be accomplished simply by on-site test holes.*

*The proponent shall dig two test holes in the location of a proposed dwelling or business (e.g. in the northwest and southeast corners), one test hole in the location of the proposed sewage system and one test hole in the proposed location of each accessory structure. The test holes shall be inspected by a qualified municipal official or qualified third party consultant capable of determining karst topography. A brief report of the findings shall then be prepared and submitted to the County of Grey and the local Municipality. If the Special Policy Area does exist, a study by a qualified individual shall be prepared to assess the impacts and mitigation measures on the surface and groundwater supply of the planning application. This study will also address the potential hazard associated with unstable bedrock conditions as a result of karst features. The study shall be to the satisfaction of the County of Grey, the local municipality and the appropriate authority designated under the Ontario Building Code for sewage systems.*

*Notwithstanding the requirements of Section 2.8.5, in areas where full municipal water and sewer services are already installed, the special policy area requirements shall not apply for new fully serviced development.*

Comment: Appendix A shows the easterly portion of the subject property – although outside of the actual area to be licensed – as ‘Special Policy Area (Karst)’, as illustrated on Figure 5 to this Planning Report. Because of this mapping, a karst expert was retained to undertake an assessment which concluded that the quarry expansion lands are actually not considered to be a karst hazardous site.

### *2.8.6 Natural Function*

*The Natural Function policies address specific significant natural areas within the County for which mapping is generally not available or is incomplete at present, including threatened and endangered species habitat, fish habitat, valleylands, and wildlife habitat. Provincially significant Areas of Natural and Scientific Interest are shown on Appendix B. In general development and site alteration that is incompatible with significant natural features and areas will not be permitted.*

- (1) In the absence of more specific mapping showing significant natural areas and functions, the Hazard Lands, and the Provincially Significant Wetlands designations shall be used, in conjunction with Appendices A and B. Development and site alteration shall not be permitted within valleylands, wildlife habitat, and their adjacent lands, unless it has been demonstrated through an acceptable Environmental Impact Study is completed in accordance with Section 2.8.6(4) of this Plan that there will be no negative impacts on the natural features or their ecological functions. Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*

- (2) *No development or site alteration shall be permitted within areas of significant threatened and endangered species as identified by the Ministry of Natural Resources. No development or site alteration may occur within the adjacent lands to areas of significant threatened and endangered species unless it has been demonstrated through an Environmental Impact Study that there will be no negative impacts on the natural features or their ecological functions. The adjacent lands are defined in section 6.19 of this Plan.*
- (4) *Where it is allowed by this Plan, development and site alteration may be permitted provided it is demonstrated by an acceptable Environmental Impact Study, prepared by a qualified individual, that there will be no negative impacts on the natural features or on the ecological function for which the area is identified.*
- (6) *No development or site alterations are permitted within other identified wetlands, shown on Appendix B, unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*
- (7) *No development or site alterations are permitted within the 30 metre adjacent lands to other identified wetlands unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*

Comment: The Natural Environmental Technical Report – which also serves as an Environmental Impact Study – identified the adjacent forested area to the south of the license area as Significant Wildlife Habitat for the Eastern Wood-peewee (Special Concern). A 20 metre no-disturbance area adjacent to the woodland will ensure that no impact to this bird habitat occurs.

The Report also identified the same forested area as Habitat of Threatened and Endangered Species for Butternut trees (Endangered) and Barn Swallows (Threatened). The field investigations determined that the three identified Butternut trees are dying and therefore require no protection. With regard to the Barn Swallows, no nesting activity or nesting habitat were identified within the proposed license area or within the adjacent 120 metre study area. The only confirmed nesting/rearing habitat within the broader search coverage area was a barn located 800 metres north of the site, and therefore the Report determined that no mitigation measures are necessary.

Appendix B to the County Official Plan shows an ‘Other Identified Wetland’ located approximately 150 metres southwest of the proposed license area, as illustrated on Figure 6. This setback exceeds the required minimum setback of 30 metres, as noted in the policy above.

#### 4.1.4 Official Plan Review Summary

Based on the foregoing, the proposed quarry is in compliance with the relevant policies of the County of Grey Official Plan.

#### 4.2 The Provincial Policy Statement

Section 3 of the Planning Act requires all decisions made under the Act by an approval authority to “be consistent with” the Provincial Policy Statement (PPS).

The PPS provides a number of policies that are designed to protect planning matters of interest to the Ontario Government. The following is an evaluation of the proposed development within the context of the PPS policies that are relevant to a pit or quarry operation:

##### 4.2.1 Healthy Communities

Section 1.1 provides general statements that encourage sound land use planning decisions, including:

1.1.1 *Healthy, livable and safe communities are sustained by:*

- a) *promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;*
- c) *avoiding development and land use patterns which may cause environmental or public health and safety concerns;*
- d) *avoiding development and land use patterns that would prevent the efficient expansion of settlement areas in those areas which are adjacent or close to settlement areas;*

Comment: A properly planned aggregate operation - as is being proposed - can represent an appropriate and efficient use of land. In this location and with the implementation of the experts' recommendations, the quarry should have no environmental or public health and safety concerns, nor should it interfere with any larger plans within the municipality to expand an existing settlement area.

##### 4.2.2 Prime Agricultural Lands

The subject lands are recognized in the County Official Plan as prime agricultural lands by their 'Agricultural' designation. The PPS serves to protect prime agricultural lands.

Permitted uses on such lands are agricultural uses, agriculture-related uses and on-farm diversified uses. In addition to these land uses, Section 2.3.6 *Non-Agricultural Uses in Prime Agricultural Areas* states:

2.3.6.1 *Planning authorities may only permit non-agricultural uses in prime agricultural areas for:*

- a) *extraction of minerals, petroleum resources and mineral aggregate resources, in accordance with policies 2.4 and 2.5;*

Comment: An aggregate operation may be considered on prime agricultural lands, according to this policy.

Section 2.4 pertains to minerals and is not relevant to the proposed quarry operation. An evaluation of the proposed quarry within the context of policy 2.5 of the PPS is provided below.

### **4.2.3 Mineral Aggregate Resources**

Section 2.5 states:

2.5.2 *Protection of Long-term Resource Supply*

2.5.2.1 *As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.*

*Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.*

Comment: This policy speaks to the recognized importance of pits and quarries in Ontario.

2.5.2.2 *Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.*

Comment: The extraction of the aggregate will occur in accordance with the approved Site Plans. These drawings take into account the recommendations of the Natural Environment Technical Report, the Hydrogeological Assessment, the Noise Impact Assessment and the Blasting Impact Assessment, as well as the requirements of the Aggregate Resources Act and the various policies of the County Official Plan that are intended to minimize the social, environmental and economic impacts of a quarry.

- 2.5.2.3 *The conservation of mineral aggregate resources should be promoted by making provision for the recovery of these resources, wherever feasible.*
- 2.5.2.3 *Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*
- 2.5.2.4 *Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing mineral aggregate operations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. When a license for extraction or operation ceases to exist, policy 2.5.2.5 continues to apply.*
- 2.5.2.5 *In known deposits of mineral aggregate resources and on adjacent lands, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:*
- a) *resource use would not be feasible; or*
  - b) *the proposed land use or development serves a greater long-term public interest; and*
  - c) *issues of public health, public safety and environmental impact are addressed.*

Comment: The County's aggregate mapping does not include bedrock resources and therefore this area of the County is not considered from the perspective of the County Official Plan to have a known deposit of mineral aggregate.

### 2.5.3 *Rehabilitation*

- 2.5.3.1 *Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.*
- 2.5.3.2 *Comprehensive rehabilitation planning is encouraged where there is a concentration of mineral aggregate operations.*
- 2.5.3.3 *In parts of the Province not designated under the Aggregate Resources Act, rehabilitation standards that are compatible with those under the Act should be adopted for extraction operations on private lands.*

Comment: Because this is a below water quarry, the final rehabilitation use is proposed to be a large pond area. At the quarry progresses from phase to phase, the side slopes will be progressively rehabilitated to a 2:1 slopes. Certain tree plantings, rocks piles and boulders could be provided along the top edges of the rehabilitated quarry to provide wildlife habitat.

#### 2.5.4 *Extraction in Prime Agricultural Areas*

2.5.4.1 *In prime agricultural areas, on prime agricultural land, extraction of mineral aggregate resources is permitted as an interim use provided that the site will be rehabilitated back to an agricultural condition.*

*Complete rehabilitation to an agricultural condition is not required if:*

- 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 preextraction 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 preextraction agricultural capability unfeasible;*
- c) *other alternatives have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 through 7 lands, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, Canada Land Inventory Class 1, 2 and 3 lands; and*
- d) *agricultural rehabilitation in remaining areas is maximized.*

Comment: Because this a below water quarry, the final rehabilitation use is proposed to be a large pond area and therefore reverting the site to agriculture following extraction is not possible. Given that the intent is to expand the existing quarry, exploring alternatives is not feasible.

#### 4.2.4 Natural Heritage

Section 2.1 states:

2.1.1 *Natural features and areas shall be protected for the long term.*

2.1.2 *The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.*

2.1.3 *Natural heritage systems shall be identified in Ecoregions 6E and 7E<sup>1</sup>, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and agricultural areas.*

2.1.4 *Development and site alteration shall not be permitted in:*

- a) *significant wetlands in Ecoregions 5E, 6E and 7E<sup>1</sup>; and*
- b) *significant coastal wetlands.*

2.1.5 *Development and site alteration shall not be permitted in:*

- a) *significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E<sup>1</sup>;*
- b) *significant woodlands in Ecoregions 5E, 6E and 7E<sup>1</sup> (excluding islands in Lake Huron and the St. Marys River)<sup>1</sup>;*
- c) *significant valleylands in Ecoregions 5E, 6E and 7E<sup>1</sup> (excluding islands in Lake Huron and the St. Marys River)<sup>1</sup>;*
- d) *significant wildlife habitat;*
- e) *significant areas of natural and scientific interest; and,*
- f) *coastal wetlands in Ecoregions 5E, 6E and 7E<sup>1</sup> that are not subject to policy 2.1.4(b);*

*unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*

2.1.6 *Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*

- 2.1.7 *Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*
- 2.1.8 *Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*
- 2.1.9 *Nothing in policy 2.1 is intended to limit the ability of existing agricultural uses to continue.*

Comment: AWS Environmental Consulting Inc. conducted the Natural Environment Technical Report for the proposed quarry which identified the following natural heritage features existing on the subject property and/or adjacent lands:

- Habitat of Threatened and Endangered Species; and,
- Significant Wildlife Habitat.

The details pertaining to the identified features are provided in Section 3.5.2 of this Planning Report. In short, the Natural Environment Technical Report concluded that no measurable negative impacts or cumulative negative impacts should occur to the natural heritage features or ecological functions identified offsite provided the recommended mitigation measures are implemented. In this regard, the recommendations of the Report have been incorporated into the Site Plans.

#### **4.2.5 Water**

Section 2.2 states:

2.2.1 *Planning authorities shall protect, improve or restore the quality and quantity of water by:*

- using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;*
- minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;*
- identifying surface water features, ground water features, hydrologic functions and natural heritage features and areas, and surface water*

*features including shoreline areas, which are necessary for the ecological and hydrological integrity of the watershed;*

- d) *maintain linkages and related functions among ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas;*
- e) *implementing necessary restrictions on development and site alteration to:*
  - 1. *protect all municipal drinking water supplies and designated vulnerable areas; and*
  - 2. *protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;*
- f) *planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality;*
- g) *ensure consideration of environmental lake capacity, where applicable; and,*
- h) *ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.*

2.2.2 *Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored.*

*Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.*

Comment: The Hydrogeological Assessment concluded that the proposed extraction operation should have no impact on any groundwater or surface water feature in the area. Although there are no anticipated impacts associated with this quarry operation, the Hydrogeological Study has recommended a series of preventative operational practices to further protect groundwater quality including the monitoring of the on-site wells and the domestic wells within 500 metres of the subject lands.

#### **4.2.6 Cultural Heritage and Archaeology**

Section 2.6 states:

- 2.6.1 *Significant built heritage resources and significant cultural heritage landscapes shall be conserved.*
- 2.6.2 *Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.*
- 2.6.3 *Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.*
- 2.6.4 *Planning authorities should consider and promote archaeological management plans and cultural plans in conserving cultural heritage and archaeological resources.*
- 2.6.5 *Planning authorities shall consider the interests of the Aboriginal communities in conserving cultural heritage and archaeological resources.*

Comment: AMICK Consultants Limited conducted a Stage 1 - 2 Archaeological Assessment. The Stage 2 Assessment did not result in the identification of any archaeological site of cultural heritage value or interest and therefore recommended that no further archaeological assessment be required.

#### **4.2.7 Provincial Policy Statement Evaluation Summary**

Based on the foregoing, the proposed quarry can be deemed consistent with the Provincial Policy Statement.

## 5. ZONING BY-LAW

The lands to be licensed are currently zoned entirely 'A1' (General Rural) in the Township of Georgian Bluffs Zoning By-law, as shown on Figure 7 to this Planning Report.

The requested Zoning By-law Amendment would place the license area in the 'M2' (Extractive Industrial) zone, which would allow for proposed quarry operation.

It should be noted that the 'M2' zone provisions prohibit extraction within 200 metres of a residential dwelling, 30 metres of a road allowance, 50 metres of body of water and 120 metres of significant wetland. The proposed quarry will comply with all of these standards.

## 6. CONCLUSION AND RECOMMENDATION

660341 Ontario Inc. c/o H.S.C. Aggregates Ltd. retained the services of several experts to properly plan the expansion of an existing quarry. The team of experts, which included a wildlife expert, hydrogeologist, noise expert, blasting engineer, karst expert, aggregate specialist and archaeologist, studied the subject lands and surrounding area and collectively designed a quarry proposal that would:

- be as compatible with the adjacent properties as possible;
- have no noticeable impact on the natural environment;
- have a minimal impact on the social environment of the area;
- maintain the intent and purpose of the County of Grey Official Plan; and,
- be consistent with the Provincial Policy Statement.

Based on the foregoing, it is evident that this proposed aggregate operation, as specifically proposed on the site plans, will represent appropriate land use planning.

Respectfully submitted,



Ron Davidson, BES, MCIP, RPP

Acknowledgements:

William Bradshaw, P. Eng.  
AWS Environmental Consulting Ltd.  
HGC Engineering  
DST Consulting Engineers  
Daryl W. Cowell  
AMICK Consultants Limited

## APPENDIX A

Figure 1: Location Map

Figure 2: Aerial Photograph (2015)

Figure 3: County of Grey Official Plan Schedule A (GIS Version)

Figure 4: County of Grey Official Plan Schedule B (GIS Version)

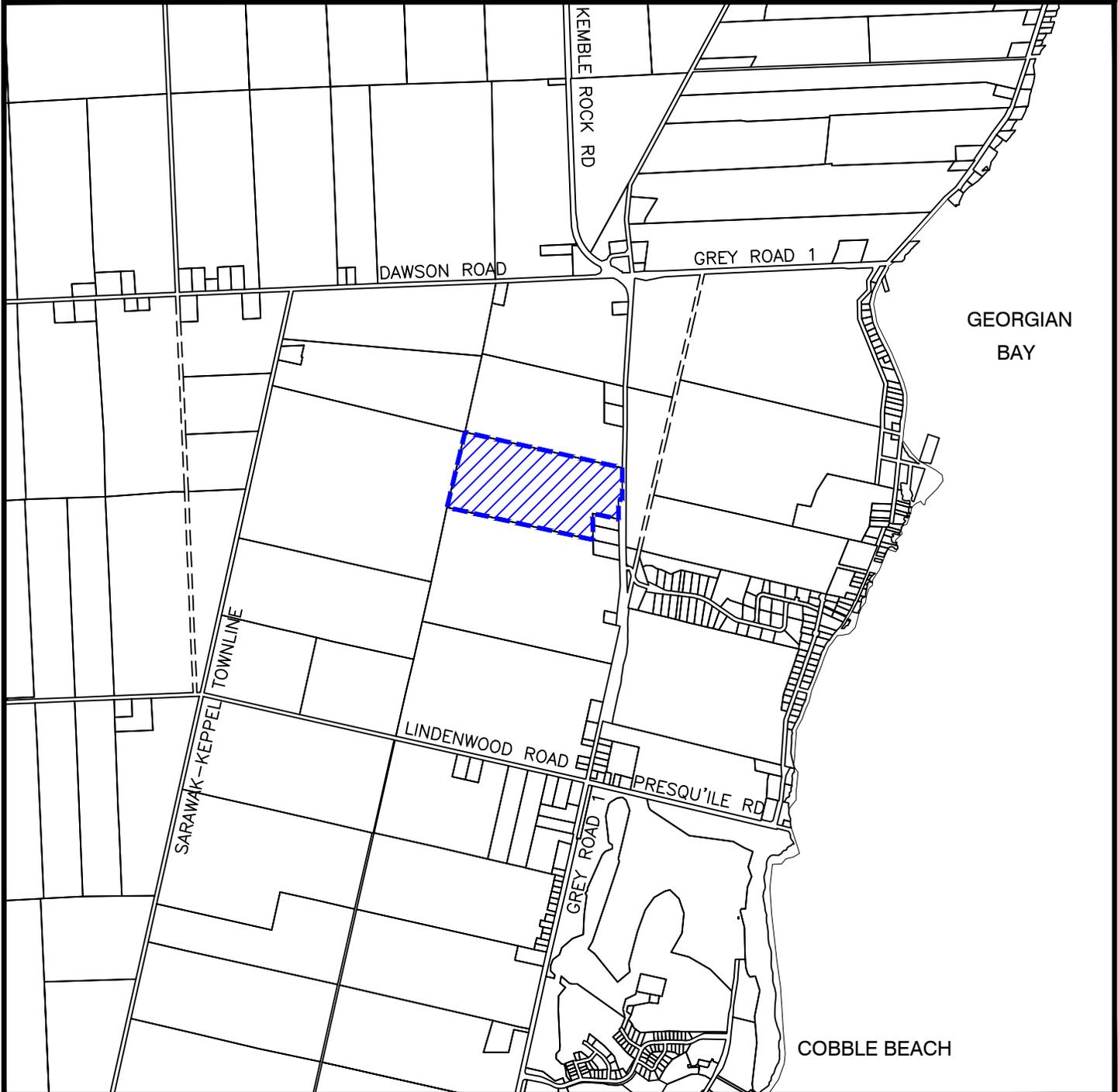
Figure 5: County of Grey Official Plan Appendix A (GIS Version)

Figure 6: County of Grey Official Plan Appendix B (GIS Version)

Figure 7: Township of Georgian Bluffs Zoning By-law (GIS Version)

Figure 1: Location Map

 Lands owned by 660341 Ontario Inc.



Proposed Quarry  
660341 Ontario Inc.  
319600 Grey Road 1  
Geographic Township of Sarawak  
Township of Georgian Bluffs

**RD** RON DAVIDSON  
LAND USE PLANNING CONSULTANT INC  
OWEN SOUND, ONTARIO  
SCALE 1:30 000

Figure 2: Aerial Photograph (2015)

-  Lands to be Licensed
-  Lands owned by 660341 Ontario Inc.



Proposed Quarry  
660341 Ontario Inc.  
319600 Grey Road 1  
Geographic Township of Sarawak  
Township of Georgian Bluffs

**RD** RON DAVIDSON  
LAND USE PLANNING CONSULTANT INC  
OWEN SOUND, ONTARIO  
SCALE 1:30 000

Figure 3: County of Grey Official Plan Schedule A (GIS Version)

 Lands to be Licensed  
 Agricultural

 Rural  
 Hazard Lands



Proposed Quarry  
660341 Ontario Inc.  
319600 Grey Road 1  
Geographic Township of Sarawak  
Township of Georgian Bluffs

**RD** RON DAVIDSON  
LAND USE PLANNING CONSULTANT INC  
OWEN SOUND, ONTARIO  
SCALE 1:30 000

Figure 4: County of Grey Official Plan Schedule B (GIS Version)



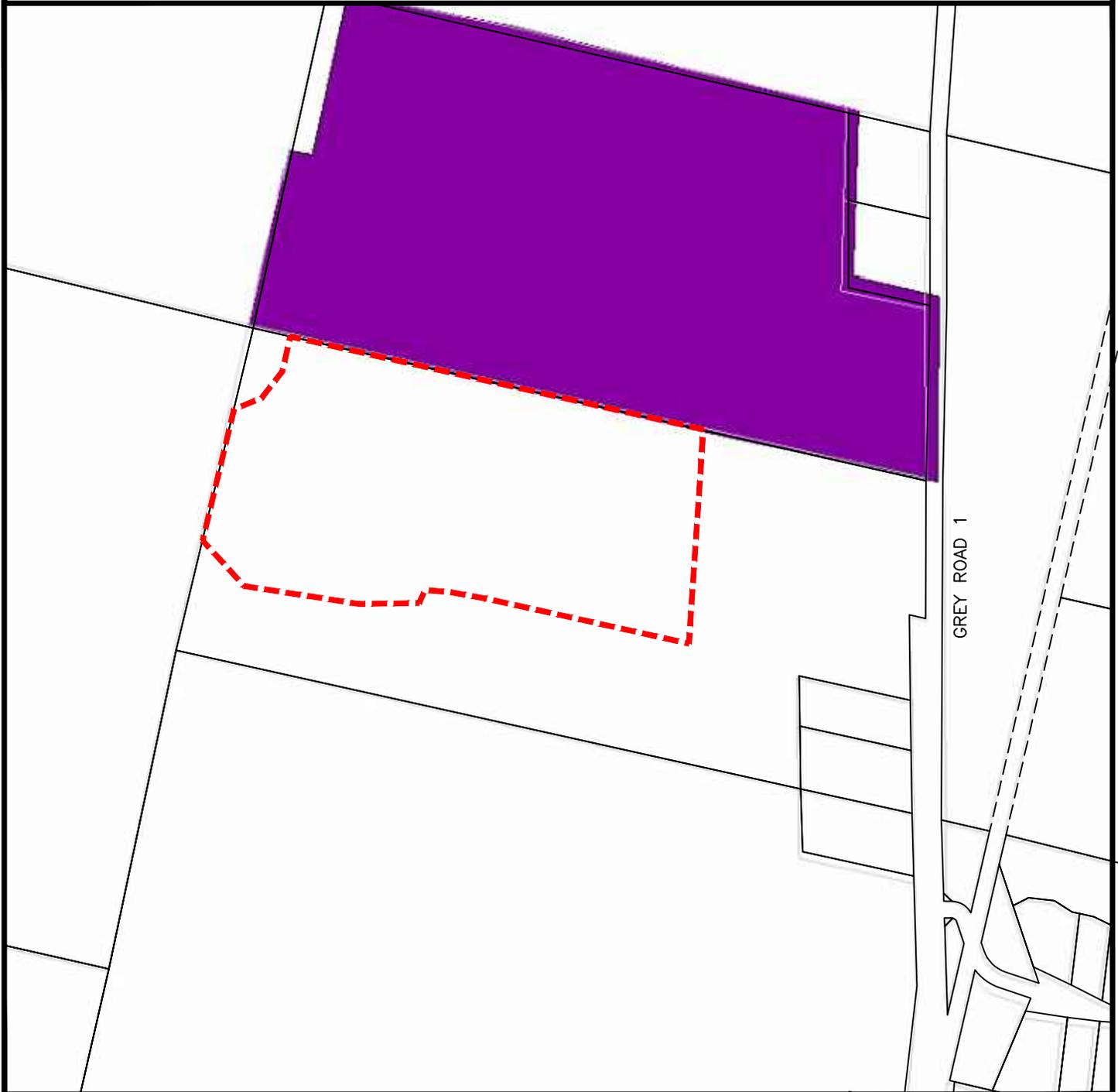
Lands to be Licensed



Mineral Resource Extraction



Aggregate Resource Area



Proposed Quarry  
660341 Ontario Inc.  
319600 Grey Road 1  
Geographic Township of Sarawak  
Township of Georgian Bluffs



RON DAVIDSON  
LAND USE PLANNING CONSULTANT INC  
OWEN SOUND, ONTARIO  
SCALE 1:30 000

Figure 5: County of Grey Official Plan Appendix A (GIS Version)

 Lands to be Licensed  
 Special Policy Karst

 Intake Protection Zone 1  
 Intake Protection Zone 2



Proposed Quarry  
660341 Ontario Inc.  
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Township of Georgian Bluffs

**RD** RON DAVIDSON  
LAND USE PLANNING CONSULTANT INC  
OWEN SOUND, ONTARIO  
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Figure 6: County of Grey Official Plan Appendix B (GIS Version)

 Lands to be Licensed

 Significant Woodlands

 Other Identified Wetlands



Proposed Quarry  
660341 Ontario Inc.  
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Township of Georgian Bluffs

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OWEN SOUND, ONTARIO  
SCALE 1:30 000

Figure 7: Township of Georgian Bluffs Zoning By-law (GIS Version)

 Lands to be Licensed and Zoned 'M2'



Proposed Quarry  
660341 Ontario Inc.  
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