Proposed Miller Quarry Expansion and Permanent Asphalt Plant

Planning Report

Township of McNab/Braeside

File No.: OPA0701.11
ZB0701.10

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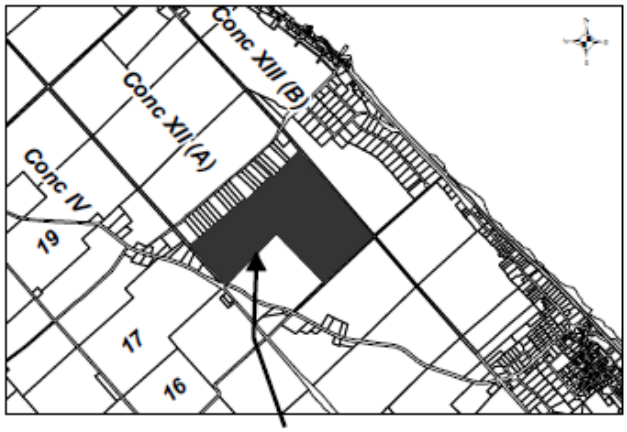
2. OFFICIAL PLAN: *Township of McNab/Braeside Official Plan 2008*

3. ZONING BY-LAW NO.: *2010-49*

4. APPLICANT: *Miller Paving Limited*

5. MUNICIPALITY: *Township of McNab/Braeside*

Township of McNab/Braeside
Key Map



Location of Amendments

6. LOT: *16 & 17* CON.: *A* STREET: *Usborne Street*

7. LEGAL DESCRIPTION: *Part of Lots 16 & 17, Concession A(12), geographic Township of McNab*

	Subject Lands
8. TOWNSHIP OF MCNAB/BRAESIDE OFFICIAL PLAN Land Use Designation(s):	*Mineral Aggregate*
9. TOWNSHIP OF MCNAB/BRAESIDE ZONING BY-LAW 2010-49 Zone Category(s):	*Extractive Industrial (EM)* *Extractive Industrial Reserve (EMR)*

10. DETAILS OF OFFICIAL PLAN AMENDMENT (See Figure 1):

The entire 132.7 Ha (328 ac) Miller property is designated Mineral Aggregate. This designation permits a quarry and associated manufacturing uses. The purpose of the proposed Official Plan Amendment is to permit an asphalt plant for permanent use on a specific portion of the property. The proposed Official Plan amendment would implement a site-specific Mineral Aggregate-Exception One designation on approximately 4.5 Ha (11 ac) of the subject property to permit a permanent asphalt plant as an additional use.

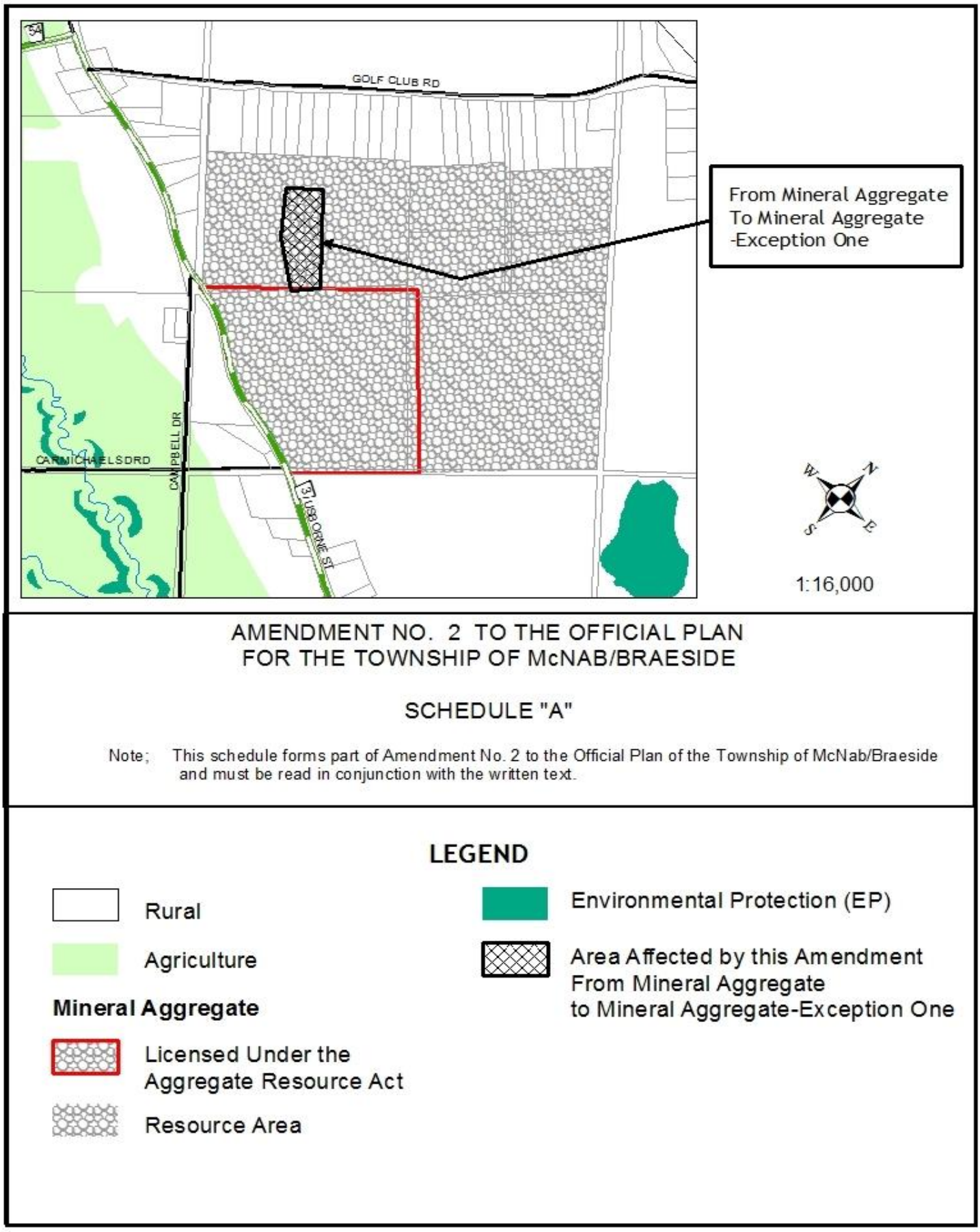


Figure 1 – Proposed Amendment to the Official Plan

11. DETAILS OF ZONING BYLAW AMENDMENT (See Figure 2):

Approximately 30 Ha (74 ac) of the Miller property is zoned Extractive Industrial (EM) and licensed for extraction as quarry. The proposed Zoning By-law Amendment is to permit the expansion of the licensed area of the existing quarry and to permit an asphalt manufacturing plant as an additional use on a specific portion of the property. The proposed amendment affects the lands beyond the existing licence and EM zone. This is about 103 Ha (254 acre) of the total Miller property. The proposed zoning amendment would rezone the property from Extractive Industrial Reserve (EMR) to Extractive Industrial (EM), Extractive Industrial-Exception One (EM-E1) and Extractive Industrial Reserve-Exception One (EMR-E1). The proposed EM Zone will permit an expansion of the existing quarry in an expanded area of approximately 68.4 Ha (169 ac) hectares of land. The EM-E1 Zone will permit an asphalt manufacturing plant on approximately 4.5 Ha (11 ac) of the expanded quarry. The proposed EMR-E1 Zone will limit approximately 24 Ha (59 ac) of the property to the conservation of wildlife in natural conditions.

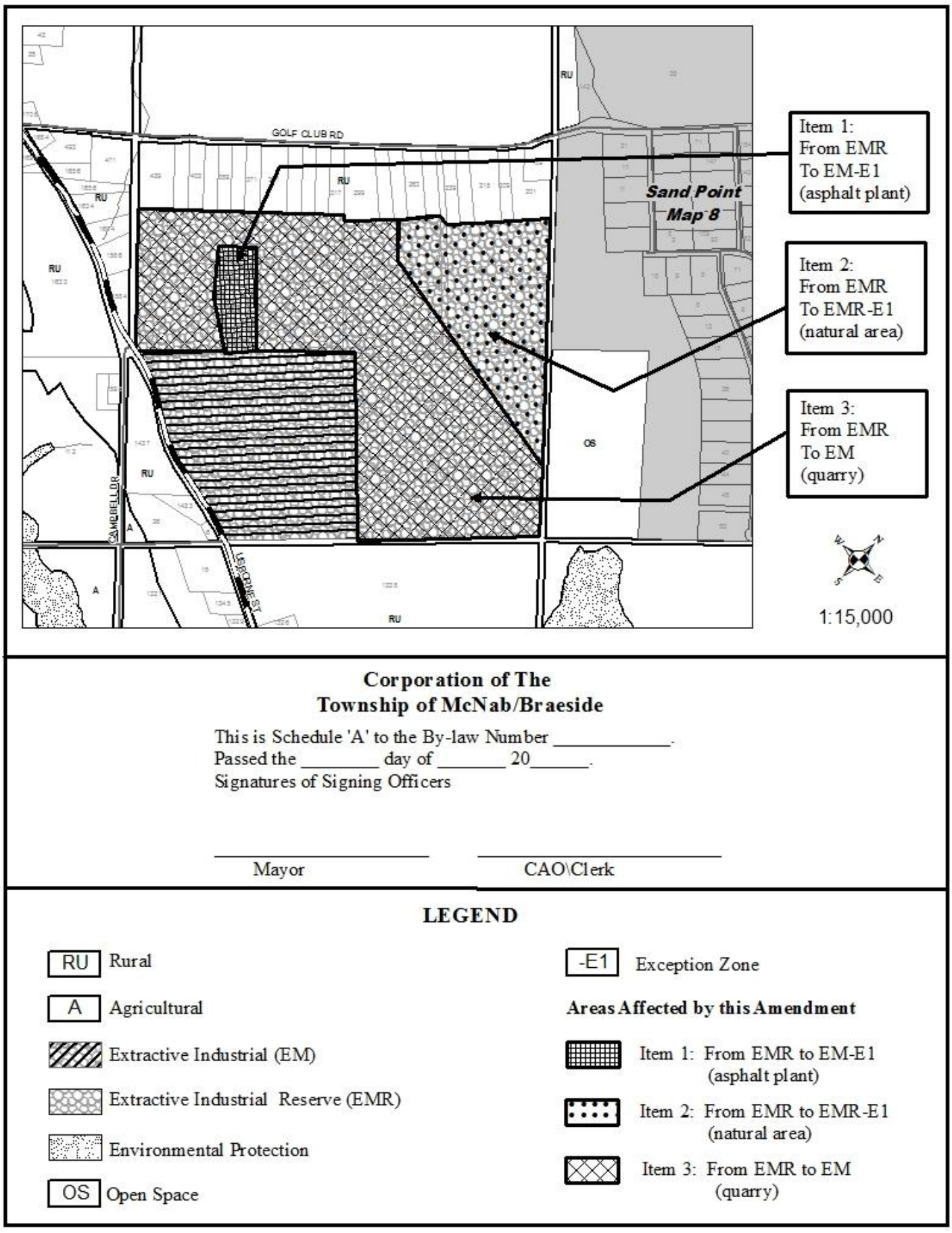


Figure 2 – Proposed Amendment to the Zoning By-law

PART B – SITE CHARACTERISTICS

12. **Area of Land:** 132.7 Hectares (328 acres)

13. **Frontage:** Approximately 700 m (337') on Usborne Street (Cty Rd 3).

In addition there is 20 m strip leading to Golf Club Rd. which is proposed to be left undisturbed.

14. **Infrastructure:** No municipal water or sewer

15. **Current Uses:** There is a scale house and an existing licensed quarry on 29.7 Ha of the site. The existing quarry is a Category 2, Class A licence with a maximum yearly extraction limit of 1,000,000 tonnes of material. A temporary asphalt plant operated on the property for a period of time.

16. **Site Description:** The property is located on what is locally known as the Braeside Ridge which is a limestone plateau that follows the Ottawa River (see Figure 3). The ridge is approximately 2,600 Ha in area and stretches from southeast of the Braeside settlement area into the Township of Horton. The Miller Paving Limited property is relatively flat and the portion not currently quarried is primarily forested. There are several access roads and trails cut through the bush. There is a small wetland located on the northeast portion of the site.

17. **Surrounding Land Uses:** The site is predominately surrounded by rural residential and agricultural uses in addition to a golf course and a Township owned 52 Ha (128 acre) open space. Surrounding natural features include wetlands, woodlands, creeks, and the Ottawa River. Within 1000 metres of the site there are 116 dwellings including the settlement area of Sand Point.

South: To the southwest of the subject site is a large wetland area, rural forested private property, and rural residential dwellings.

West: The Braeside Ridge drops off on the west side of Usborne Street where there area is predominately utilized for agricultural purposes. There are approximately 17 dwellings to the west of the site and Ryan Creek is 630 metres from the boundary of the site.

North: The north side of the subject lands abuts the rear yards of approximately 23 rural residential properties. These residential properties front on Golf Club Rd and can mostly be characterized as narrow but deep lots. The lots range from approximately 43 m to 112 m in width and are approximately 220 m deep. Of the 23 abutting properties there are 13 existing dwellings and 10 of the properties are vacant but zoned for residential use. All of the existing dwellings are located in the front portion of the lots, close to Golf Club Rd.

East: The Township of McNab/Braeside owns a 52 Ha (128 acre) property to the east of the proposed quarry. This property was acquired as parkland through a plan of subdivision application and contains trails for public use. Beyond the Township owned lands is the settlement area of Sand Point which consists of approximately 60 residential lots.

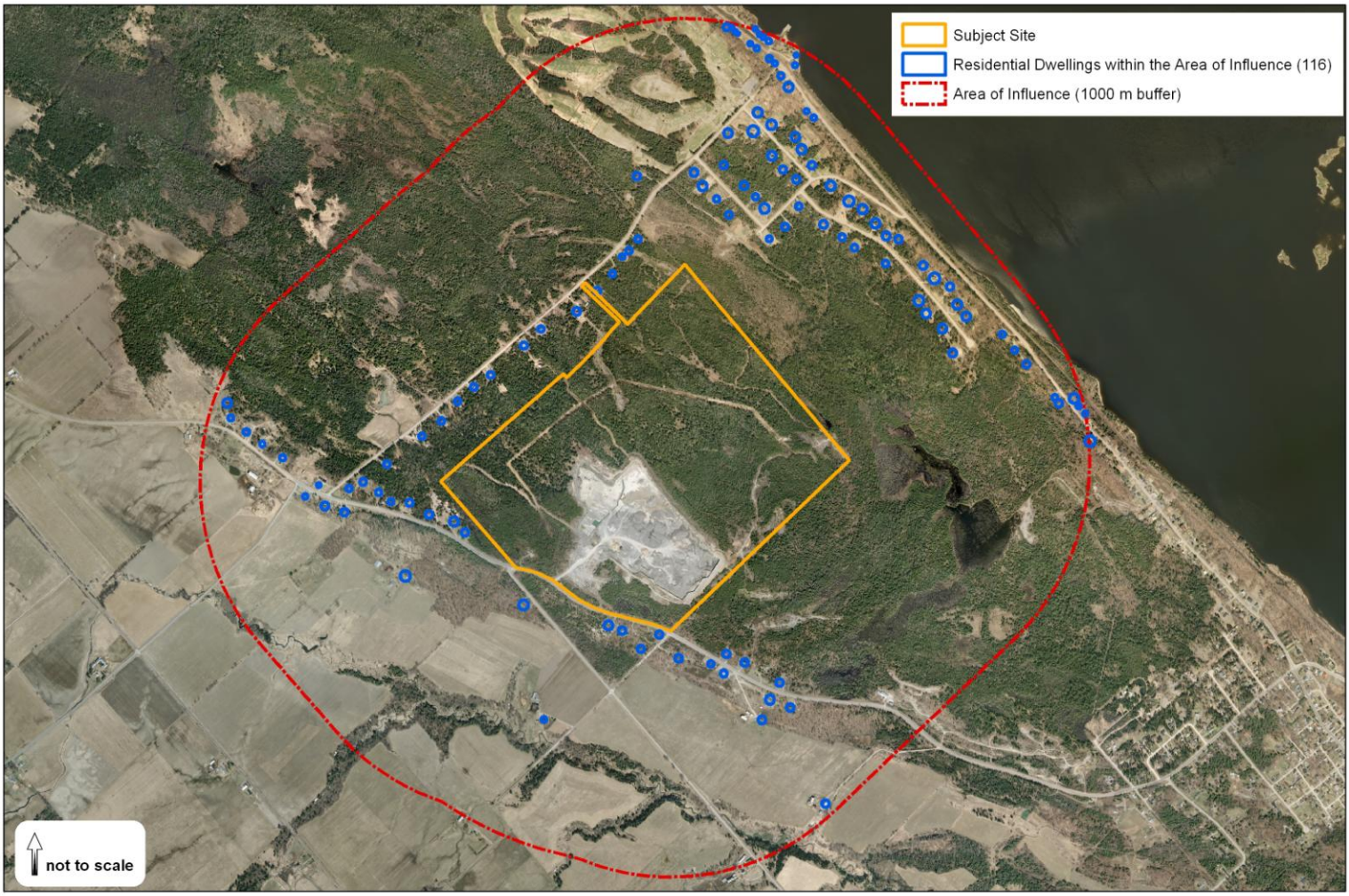


Figure 3 – Surrounding Uses within 1000m of the Quarry

PART C – PLANNING PROCESS

18. The applications to amend the Official Plan and Zoning By-law were submitted to the Township on December 11, 2007. At the same time Miller Paving Limited applied to the Ontario Ministry of Natural Resources (MNR) for a licence under the *Aggregate Resources Act* (ARA) for a Class "A", Category 2, quarry expansion below the water table. The application was deemed to be complete as of February 15, 2008.

19. In accordance with the *Planning Act*, the Township issued a notice of Planning Application and circulated the application to public bodies on March 20, 2008.

20. Eight supporting studies were submitted with the planning applications. The original materials submitted with the planning applications were posted on the Township website as public information. The Township undertook a peer review process of the studies. The below table lists the studies, author and peer reviewer.

Study	Author	Township Peer Reviewer
Traffic Impact Study	Skelton Brumwell and Associates Inc.	J.L Richards
Acoustic Assessment	Hugh Williamson Associates Inc.	RWDI Air Inc.
Air Quality Assessment	Church & Trought Inc.	RWDI Air Inc.
Hydrogeological Investigation	Gorrell Resources Investigations	Golder Associates
Hydrological Investigation	Skelton Brumwell and Associates Inc.	Golder Associates
Natural Environment Report Level I & II	Skelton Brumwell & Associates Inc.	Golder Associates
Blasting Impact Assessment	Explotech	Golder Associates
Planning Report	Skelton Brumwell & Associates Inc.	

21. In addition to the studies submitted under the *Planning Act*, a Stage 1 & 2 Archaeological Assessment was submitted to MNR with the ARA application.

22. The studies underwent peer review for several years and included much correspondence back and forth between the authors and the peer review team. The final peer review sign-off was received by the Township on September 28, 2012. The Township website was updated to include the final revised version of the studies as accepted by the peer reviewers. In addition, all correspondence between the peer review team and the authors of the various studies was posted.

23. The Township held a series of three special meetings between January and March 2013 for Council to become familiar with the peer reviewed documents. At these meetings, technical questions that could not be immediately answered were recorded and answered in a staff report. The staff report was provided to Council on April 9, 2013 and posted on the Township website as public information.

24. In accordance with Sections 17, 22 and 34 of the *Planning Act*, the Township of McNab/Braeside issued notice for the holding of a public meeting. The meeting was held

on May 6, 2013 and provided all members of the public adequate opportunity to make representations to Council. Approximately 200 people attended the public meeting with 40 making oral submissions to Council.

PART D – PROVINCIAL POLICY STATEMENT

25. Section 3(5) of the *Planning Act* requires that decisions on a planning matter be consistent with the Provincial Policy Statement (PPS). The Township's planning decisions on the proposed Official Plan and Zoning By-law Amendment are to be consistent with the PPS. The PPS is more than a set of individual policies. It is intended to be read in its entirety and the relevant policies are to be applied to each situation. All of the policies should be read as if they are specifically cross-referenced with each other.

26. Where a municipality is the approval authority for a planning application, decision makers must ensure that matters of provincial interest are protected. The Municipal Plan Review (MPR) is a data sharing system that identifies matters of provincial interest from participating Ontario Ministries. The MPR review identified a primary bedrock resource and karst topography (natural hazard) for the subject site. The Natural Environment Report submitted with the applications identified a significant wildlife habitat.

27. The PPS encourages planning authorities to plan for healthy, liveable and safe communities by accommodating an appropriate range and mix of residential, employment, recreational and open space uses to meet long term needs, promote cost-effective development to minimize land consumption and servicing costs, ensure that necessary infrastructure is available to meet needs, and avoid development and land use patterns which may cause environmental or public health and safety concerns. *(Section 1.1.1)*

28. Policy related to Rural Areas state that permitted uses and activities include the management or use of resources and limited residential development. Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted and opportunities should be retained to locate new or expanding land uses that require separation from other uses. *(Section 1.1.4.1)*

29. The long-term economic prosperity policies state that long-term economic prosperity should be supported by optimizing the long-term availability and use of resources; and planning so that major facilities (such as resource extraction activities) and sensitive land uses are appropriately designed, buffered and/or separated from each other to prevent adverse effects from odour, noise and other contaminants, and minimize risk to public health and safety. *(Section 1.7.1)*

Sensitive Land Uses are defined under the PPS as buildings, amenity areas or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effect from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built environment.

Adverse Effects as defined by the PPS means one or more of the following:

- Impairment of the quality of the natural environment for any use that can be made of it;
- Injury or damage to property or plant or animal life;
- Harm or material discomfort to any person;
- An adverse effect on the health of any person;

- Impairment of the safety of any person;
- Rendering any property or plant or animal life unfit for human use;
- Loss of enjoyment or normal use of property; and
- Interference with normal conduct of business.

30. Ontario's long-term prosperity, environmental health, and social well-being depend on protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits. *(Section 2.0)*

31. The Natural Heritage policies state that the diversity and connectivity of natural features and the long term-ecological function and biodiversity of natural heritage systems should be protected and where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features, and ground water features. *(Section 2.1.2)*

32. The Natural Heritage policies also state that development and site alteration shall not be permitted in or adjacent to significant wetlands, significant woodlands or significant wildlife habitat unless the ecological function has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. *(Section 2.1.4 and 2.1.6)*

Negative impacts are defined under the PPS as, in regard to natural heritage features is defined as the degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.

33. The policies under the heading of Natural Heritage also prohibit development and site alteration in fish habitat except in accordance with provincial and federal requirements. *(Section 2.1.5)*

34. The Water policies state the quality and quantity of water shall be protected by:

a) using the watershed as a meaningful scale for planning;
b) minimizing potential negative impacts;
c) indentifying surface water features, ground water features, hydrologic functions and natural heritage features and areas which are necessary for the ecological and hydrological integrity of the watershed;
d) 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;
e) maintaining linkages and related functions among surface water features, ground water features, hydrologic functions and natural heritage features and areas;
f) promoting efficient and sustainable use of water resources, including practices for water conservation and sustaining water quality; and
g) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

(*Section 2.2)*

35. Mineral aggregate resources shall be protected for long-term use. *(Section 2.5.1)*

Mineral aggregate resources are defined as gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other materials 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*.

36. The Mineral Aggregate policies require that as much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible. Demonstrating of the need for mineral aggregate resources including any type of supply/demand analysis, is not required. *(Section 2.5.2.1)*

37. Extraction of mineral aggregate resources shall be undertaken in a manner which minimizes social and environmental impacts. *(Section 2.5.2.2)*

38. The conservation of mineral aggregate resources should be promoted by making provision for the recovery of these resources, wherever feasible. *(Section 2.5.2.3)*

39. 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. *(Section 2.5.2.4)*

40. In areas adjacent to or in known deposits of mineral aggregate resources, 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.

(Section 2.5.2.5)

41. The PPS requires that quarries be rehabilitated. 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. Final rehabilitation shall take surrounding land use and approved land use designations into consideration. *(Section 2.5.3.1)*

42. The PPS includes a policy that portable asphalt plans used on public authority contracts shall be permitted, without the need for an official plan amendment or rezoning under the *Planning Act*, in all areas except those areas of existing development or particular environmental sensitivities which have been determined to be incompatible with extraction and associated activities. *(Section 2.5.5.1)*

43. The natural hazard policies state that development shall generally be directed to areas outside of hazardous sites. *(Section 3.1.1)*

Hazardous sites are defined as property or lands that could be unsafe for development and site alteration due to naturally occurring hazards. These may include unstable soils (sensitive marine clays [leda], organic soils) or unstable bedrock (karst topography).

44. The natural hazard policies also state that development shall not be permitted to locate in hazardous lands and hazardous sites where the use is, associated with the disposal, manufacture, treatment or storage of hazardous substances. *(Section 3.1.4)*

A *hazardous substance is* defined as substances which individually, or in combination with other substances, are normally considered to pose a danger to public health, safety and the environment. These substances generally include a wide array of materials that are toxic, ignitable, corrosive, reactive, radioactive or pathological.

PART E – OFFICIAL PLAN

45. Section 16(1) of the *Planning Act* directs that an Official Plan shall contain the goals, objectives and policies established primarily to manage and direct physical change and the effects on the social, economic and natural environment of the municipality.

The policies contained within the Official Plan are required to be consistent with the PPS and Zoning By-laws are to conform to the policies of the Official Plan.

46. The Township of McNab/Braeside is within a two-tier municipal government structure. The County of Renfrew, the upper tier, is the approval authority for amendments to the local (lower-tier) Official Plan.

The County of Renfrew Official Plan was adopted in 2002 and approved by the Minister of Municipal Affairs and Housing in 2003. The County of Renfrew Official Plan was designed to replace local plans in rural and small town areas and thereby eliminate duplication and cost. Local municipalities were given the option of relying on the County Plan or developing their own. The Township of McNab/Braeside opted to develop a local Official Plan. Section 1.5 of the County Official Plan provides *"For those areas of the County shown on Schedule 'A' as being covered by a local Official Plan and not covered by this Official Plan, the policies of the local Official Plan shall apply."*

The applicable Official Plan to the proposed quarry expansion and asphalt plant is the McNab/Braeside Official Plan and therefore no amendment is necessary to the County of Renfrew Official Plan.

47. The proposed Official Plan and Zoning By-law Amendments were submitted in 2007. At the time of submission the Official Plan in effect was the 1997 Official Plan. The Township of McNab/Braeside adopted a new Official Plan in 2008 which was subsequently approved in 2009. The proposed Official Plan and Zoning By-law amendments have been processed and reviewed relative to the new 2008 Township of McNab/Braeside Official Plan.

48. The Official Plan designates a portion of the lands Mineral Aggregate – Licensed under the *Aggregate Resource Act* (See Figure 4). This designation applies to the approximately 30 hectares of land currently licensed by MNR. The remainder of the property is designated Mineral Aggregate – Resource Area.

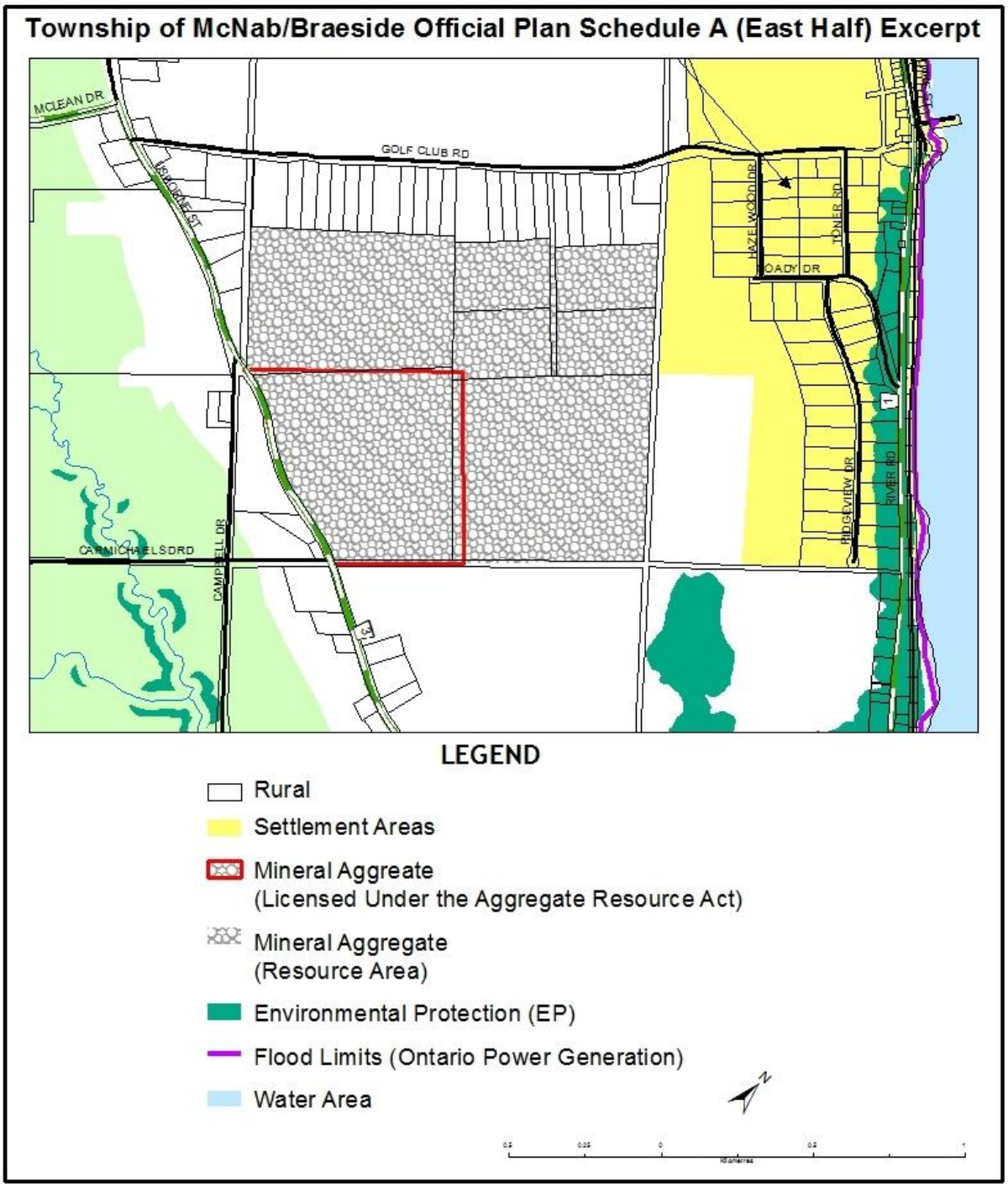


Figure 4 – Excerpt from Official Plan Schedule A

49. The Introduction to the Mineral Aggregate section of the Official Plan states that *"High quality bedrock limestone deposits associated with the old post glacial shoreline run parallel to the Ottawa River. The majority of this large resource area has had significant residential development located either on it or in close proximity. The introduction of sensitive land uses into this bedrock resource area has created some serious challenges to the Municipality, the area residents and the aggregate producers for the term of this Plan. Balancing the interests of these two competing land uses will require special policy provisions.*

The implication is that all deposits are of local significance and thus must be protected from future development. The policies of this Section are intended to ensure that wherever practical, aggregate deposits remain available for existing and future use and to minimize impacts on adjacent uses and the natural environment from extractive operations."

50. Section 11.2 of the Official Plan contains the Objectives for the Mineral Aggregate designation. These objectives include:

1) To protect deposits of aggregates for future extraction;
2) To prevent land uses that could conflict with existing quarries;
3) To regulate quarry operations so that disturbance is limited to the site, social disruption is prevented and rehabilitation to an acceptable after-use is achieved;
4) To ensure that the separation distances between new and or expanding aggregate operations and sensitive land uses are applied reciprocally; and
5) Expansion of existing aggregate operations in areas in close proximity to significant residential development must demonstrate compatibility with adjacent land uses.

51. Lands designated as Mineral Aggregate means that the predominant use of land will be for pits and quarries, along with associated manufacturing uses (e.g. crushing, screening and stockpiling). *(Section 11.3(1))*

52. The expansion of a quarry will require an amendment to the zoning by-law with full public notice and opportunities for appeal. In considering an amendment to the Official Plan or Zoning By-law, Council shall examine the following matters:

a) Landscaping and visual and physical buffering from other land uses;
b) The haulage routes and the resultant traffic density;
c) Progressive and final rehabilitation plans;
d) Evaluation of the water table, existing and proposed drainage facilities, and setbacks from watercourses;
e) Effects on adjacent land uses, nearby communities, and environmentally sensitive areas;
f) Hydrology, wildlife or such studies as may be required due to special concerns related to a specific site;
g) Issues of public health, public safety, and environmental impact are addressed; and
h) Any other matters which Council deems advisable.

(Section 11.3(4))

53. The concept of an influence area is recognized as a means of protecting against incompatible land uses in the vicinity of Mineral Aggregate designations and to protect existing quarries from the encroachment of other incompatible uses.

Influence areas, in which studies may be required to assess impacts, are generally 500 metres from the licensed area of quarries to determine the impact of noise and dust and an evaluation of potential well interference.

Applications to extract below the water table shall be discouraged, however when

an application is made, a thorough assessment of the potential impact on all wells within 500 metres of a quarry shall be carried out to the satisfaction of the Municipality.

In accordance with the concept of an influence area, incompatible land uses shall be discouraged in areas surrounding Mineral Aggregate areas by careful review of any development proposal. Council recognizes the potential for existence of an area of adverse environmental influence associated with a quarry. The municipality shall request that the proponent provide studies to demonstrate whether distance separation between a pit or quarry and sensitive land use is necessary, and establish dimensions of any needed separation area; and provide for implementation of the study results in consultation with provincial ministries. Council also recognizes that land use separations should be applied reciprocally to new pits and quarries encroaching upon sensitive land uses.
(Section 11.3(6))

54. All quarry uses must satisfy the requirements of the MOE and the Municipality with respect to pumping and de-watering, water supply, wastewater, solid and liquid waste disposal and all emissions to the atmosphere including noise and vibration. *(Section 11.3(7))*

55. Wash plants are considered a normal accessory use to a mineral aggregate operation and are permitted provided they meet all requirements of the MNR and MOE regarding the operation of the facility.

Permanent asphalt plants and permanent concrete batching plants are considered heavy industrial uses which potentially have negative impacts to the air, ground, and surface and ground water, and shall require an Official Plan amendment and Zoning By-law amendment to be permitted. These uses shall be adequately buffered to protected adjacent land uses, and shall meet the industrial pollution control and any other applicable standards of the MOE. A permanent asphalt batching and permanent concrete batching plant shall not be permitted unless:

a) There is no adverse impact on groundwater and surface water quality and quantity;
b) There is no adverse noise, odour, or dust impacts on nearby sensitive land uses and natural heritage features;
c) The operation of such a plant is addressed on a site plan approved by the province.

55. The General Development Policies of the Official Plan apply to all proposed development in addition to the applicable designation policies. Several of the General Development Policies are pertinent to the proposed application to enlarge the quarry and to permit the asphalt manufacturing plant.

56. Section 14(3) contains policies related to land use compatibility. Where different land uses abut, every effort shall be made to avoid conflicts between different uses. Where deemed necessary, buffering will be provided for the purpose of reducing or eliminating the adverse effects of one land use upon the other. In order to implement buffering principles, regulations may be provided for separation distances between potentially incompatible uses. The MOE document, Guideline

D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses, will be used as a guideline as applicable.
(Section 14(3))

57. In considering an amendment to the Zoning By-law to permit an industrial use, Council will consider the following:

i. The location of such a use shall ensure that the character of the adjacent residential area is not affected by obtrusive lighting, noise, odour, signs, parking and traffic;
ii. Special measures such as increased yards and parking, landscaped buffer strip, etc., can be effectively provided to protect the amenities of the surrounding residential area; and
iii. Servicing concerns.

(Section 14(4)(a))

58. Sensitive land uses should be protected from the adverse impacts of noise. Subsection 16 of the General Development Policies states that prior to permitting development that may cause or be adversely affected by noise (i.e. quarry), detailed noise studies shall be completed in accordance with Provincial guidelines. The recommendations and noise attenuation measures contained in the report are to be implemented through provisions in an Official Plan amendment, Zoning By-law amendment or site plan agreement.
(Section 14(16))

59. Lands adjacent to the site are primarily designated Rural with some areas identified as Environmental Protection.

60. Natural heritage features include wetlands, woodlands, fish habitat and wildlife habitat. The objectives of the Environmental Protection designation are to protect all natural water and natural heritage systems and to preserve the natural amenities of these features in the municipality. The policy under Section 9.5 of the Official Plan reads that, prior to planning approval, the Township may require a study to identify and protect natural heritage areas such as significant wildlife habitat or wetlands.
(Section 9)

61. The intent of the Rural designation is to conserve and protect the rural character and physical and cultural heritage of the Township. The Rural designation also focuses on the protection of the Township's natural resources. A variety of uses are permitted on lands located within the Rural designation including agricultural, forestry and low density residential.
(Section 3)

62. Since the approval of the 2008 Official Plan, the Ministry of Northern Development, Mines and Forestry (MNDMF) provided new data to the Township which included the identification of areas potentially impact by karst topography. Karst topography is identified by the PPS as a natural hazard.

Karst is a term used to describe landscapes that display distinctive features resulting from chemical dissolution and precipitation of bedrock known as carbonates (e.g., limestone,

dolostone and marble). Karst may include features such as sinkholes, caves, sinking streams and various forms of channels or furrows.

Karst landscapes are caused mainly by erosion of bedrock by surface water and groundwater over a substantial time span. This results in conduit-style groundwater flow and greater connectivity between surface waters, sinking streams, and groundwater aquifers. Therefore, groundwater aquifers in karsted terrains are more susceptible to biological and chemical contamination as water may run unimpeded, bypassing the normal filtering that occurs in a porous aquifer. Areas of exposed limestone/dolostone plain or associated areas of thin overburden cover are considered to be of "High Aquifer Vulnerability".

Karst features are affected by several factors, including overburden cover, bedrock lithology (physical composition), topography and depth to the water table. Overburden cover greatly limited the development of karst where the overburden was uniformly in excess of 0.5 to 1.0 metres in depth. Under these conditions, water infiltrating from precipitation will be neutralized as it passes through the soil porosity prior to encountering the bedrock, hence having little influence on the rock. For example, buried limestone surfaces commonly preserve the smooth, striated glacial surface in a fresh state. The sites where surface karst weathering was most developed with distinct open crevasse-like joints and channels were those areas where the rock was directly exposed at the surface.

The majority of karst topography in the province of Ontario is immature and would not pose a significant hazard for most development applications. There is no one formula for defining a hazardous area associated with karst formations. Defining the "area of provincial interest" is a site-specific process. The size, extent and severity of the hazards depend on local conditions.

The provincial karst data included a map with coloured areas representing three karst categories: Known Karst, Inferred Karst, and Potential Karst.

Known Karst: Regions coloured in red represent areas of known karst, determined either by Ontario Geological Survey (OGS) staff and/or published reports. These karst features include caves, sinkholes, and or disappearing streams and karst springs, and, to a lesser degree, various forms of karren.

Inferred Karst: Inferred karst areas are depicted on the map in orange. This represents areas that are predominantly carbonate rock where direct observations could not be made due to overburden cover or logistical challenges, but which possesses rock units that are most susceptible to karstification and should display karst features. These areas are a natural extrapolation of exposed bedrock areas that display karst and/or through various groundwater studies the aquifers appear to behave in a karstic nature.

Potential Karst: Potential Karst areas are coloured yellow on the attached map; this is the least confident category for depicting karst. Areas depicted as potential karst regions possess predominantly carbonates or mixed carbonate/evaporate successions that are susceptible to karstification but which are covered by overburden or younger stratigraphic units. These regions also lack direct observation of karst features by OGS staff and/or do not have any reported karst features.

An area of inferred karst has been identified on the subject property. The adopted protocol requires that in areas where there is generally less than 1 metre of in-situ overburden material between the surface and the bedrock, a scoped geotechnical investigation by a qualified individual shall be required. The study is required to assess the impacts and risks to surface and groundwater contamination and/or construction restrictions due to unstable bedrock conditions, and recommending mitigation measures to prevent any adverse impacts. The scoped investigation should provide a professional opinion as to whether a karst hazard exists on-site.

PART F – ZONING BY-LAW

63. At the time that the applications were submitted, the Zoning By-law in force was 99-18. Since the submission of the application, the Township completed a new comprehensive Zoning By-law which repealed the old 99-18 by-law. The new comprehensive Zoning By-law 2010-49 was adopted by the Township of McNab/Braeside on November 2, 2010.

64. Zoning By-law 2010-49 zones the licensed portion of the property Extractive Industrial (EM), while the remainder of the property is zoned Extractive Industrial Reserve (EMR) (See Figure 5).

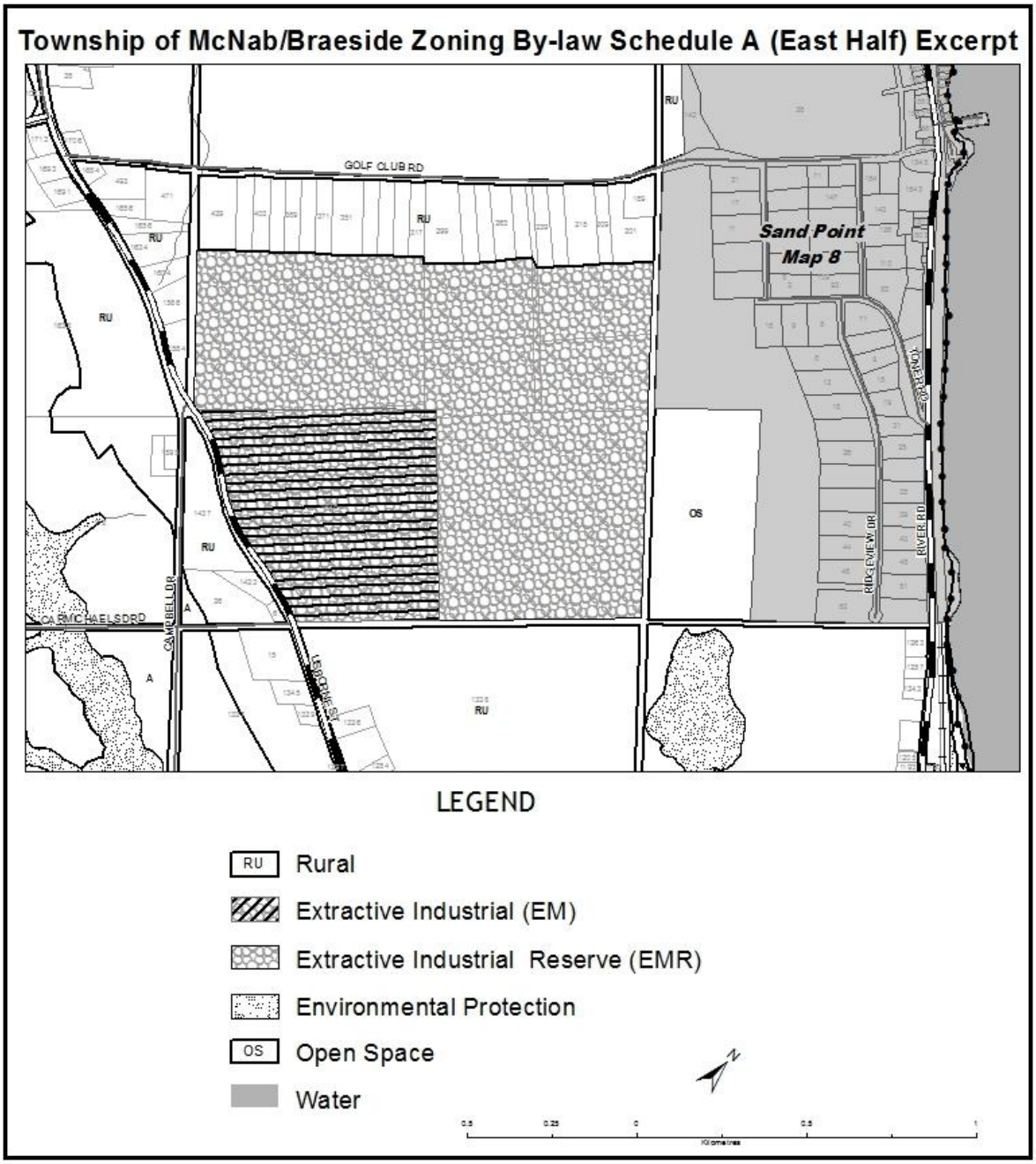


Figure 5 – Excerpt from McNab/Braeside Zoning By-law Schedule A

65. The Extractive Industrial (EM) Zone permits the following uses:

- Concrete manufacturing plant
- Extractive industrial facility
- Forestry
- Limited farm
- Gravel pit
- Quarry

The EM zone prohibits residential uses.
(Section 13.1)

The By-law defines an *"Extractive Industrial Facility"* as a building, structure or facility used for processing aggregate and includes the screening, sorting, washing, crushing, storing and other similar operations allied to an extractive industrial operation.

66. The Extractive Industrial Reserve (EMR) Zone permits the following uses:

- Non-residential uses existing on the date of passing of this By-law
- Forestry
- Limited farm
- Passive recreation
- Single detached dwelling existing at the date of passing of this By-law.

(Section 14.1)

67. The majority of the lands adjacent to the site are zone Rural (RU). A Township owned parcel to the east of the property is zoned as Open Space (OS), which prohibits residential but does permit non-residential uses such as natural area, passive recreation, private and public park, buffer strip and a golf course. A wetland to the south east is zoned Environmental Protection (EP).

68. The Rural zone permits a variety of land uses. For lots that have an area of less than 2 hectares (5 acres), the permitted uses are limited to single and semi-detached dwellings, duplex dwelling, a limited service dwelling or a group home. Lots with an area greater than 2 hectares permit several non-residential uses such as a farm, home industry, hunting/fishing camp, contractor's yard or shop, public buildings, forestry and bed and breakfast establishments.
(Section 17.1)

69. Section 3, the General Provisions of the Zoning By-law, apply to all lands. There are several general provisions that are applicable to the review of the proposed development applications.

3.10 – Gravel Pits, Quarries, Wayside Pits and Quarries and Portable Asphalt Plants
A gravel pit or quarry, with the exception of a wayside pit or quarry, shall be prohibited in all Zones, except in an Extractive Industrial (EM) Zone. Wayside pits or quarries and portable asphalt plants shall be permitted in all Zones except in a Residential Zone or an Environmental Protection Zone.

Portable asphalt plants must comply with the Ministry of the Environment separation distances and must obtain a Certificate of Approval from the Ministry of the

Environment.

3.15.7 – Undersized Lots
Where a lot with less than the minimum frontage or lot area required by the By-law was held in separate ownership from adjoining parcels on the date of passage of this By-law such undersized lot may be used for a purpose permitted in the Zone in which the said lot is located, provided that all other applicable provisions of this By-law are complied with; and written approval for the water supply and sewage disposal systems are obtained.

3.22 Separation Distances
(a)(ii) No dwelling, senior citizens home, nursing home, school or hospital shall be erected within 150 metres of any extractive Industrial or Extractive Industrial Reserve Zone.

(a)(iv) No dwelling, senior citizen home, nursing home, school or hospital shall be erected within 300 metres of a quarry.

(b)(i) No land identified as a buffer strip in a licence or permit under the *Aggregate Resources Act* shall be used for any other purpose.

(b)(ii) No concrete or asphalt manufacturing plant or extractive industrial facility shall be located within 50 metres of any high water mark.

(b)(iii) No concrete or asphalt manufacturing plant shall be located within 300 metres of a dwelling, a school, an institution with a residential component or land restricted to residential use in a by-law passed under Section 34 of the *Planning Act*. Notwithstanding the foregoing, where an operator possesses a valid Certificate of Approval for a particular asphalt plant, the required separation distance shall be as established by that Certificate.

(b)(v) No quarry shall be located within 300 metres of an existing dwelling.

PART G – TECHNICAL STUDIES

70. Eight technical studies were submitted to the Township in support of the proposed Official Plan and Zoning Amendment application. The purpose of the studies is to address the potential impacts of the proposed quarry expansion and asphalt plant in accordance with the policies of the PPS and Official Plan and to ensure that the development can comply with provincial guidelines and regulations. The studies included recommended measures to avoid, reduce or mitigate the effects to provincially accepted levels. The recommended measures are implemented through the site plan under the *Aggregate Resources Act* with MNR.

71. Acoustic Assessment - Hugh Williamson Associates Inc

The purpose of the Acoustic Assessment is to assess potential noise impact from the proposed Braeside Quarry Expansion on nearby receptors in accordance with MOE guidelines. The study covers all aspects of noise, except those due to blasting. The study was peer reviewed by RWDI Consulting Engineers & Scientists who accepted and agreed with the final study which is dated May 28, 2012.

The Assessment considered seven noise sources that included a portable crushing plant, a portable rock drill, a hot-mix asphalt plant, a ready-mix concrete plant, a washing & screening plant, on-site truck movements, and loaders. Noise levels were predicted at sensitive receptors in the area surrounding the quarry. According to MOE guidelines, the sound level limits are permitted to be a maximum of 45 dBA (07:00 - 19:00) and 40 dBA (19:00 - 07:00). The Assessment clarifies that this does not mean noise won't be heard at receptors but will be within MOE acceptable limits and will vary depending on background noise, sensitivities, etc. The Acoustic Assessment concludes that with the proposed mitigation measures, the quarry will operate in compliance with MOE sound level limits under normal operating conditions.

Section 5 of the Acoustic Assessment includes required mitigation measures to ensure that the operation is in compliance with MOE standards. The mitigation measures range from hours of operation, plant location and operations, shielding, tree cover, berms, and truck movement.

At the time of implementation, the report states that the information will be reviewed and updated. Where necessary, mitigation measures will be modified in order to ensure that MOE noise guidelines are satisfied at sensitive receptors. The report also recommends that at the commencement of any operation that is new to the site, noise source levels for the new operation are to be investigated by a qualified acoustical consultant.

72. Air Quality Assessment Report - Church & Trought Inc.

The purpose of the Air Quality Assessment is to assess potential impacts from particulate matter and nitrogen oxides emissions from the proposed Braeside Quarry Expansion on nearby receptors in accordance with MOE guidelines. RWDI Consulting Engineers & Scientists were contracted on behalf of the Township of McNab/Braeside to carry out a peer review of the Church and Trought Inc. Air Quality Assessment. RWDI agrees with the findings and recommendations of the final Air Quality Assessment dated March

2010, provided that the maximum hourly production and shipping rates do not exceed that specified in the original report and that the recommended Best Management Plan mitigation measures are implemented.

Along with the air quality assessment an Emission Summary and Dispersion Modeling Report was prepared that will form part of a future application to the MOE for a Environmental Compliance Approval (ECA). The air quality assessment considered 5 major operations:

- Hot-Mix Asphalt Plant
- Ready-Mix Concrete Plant
- Aggregate extraction and crushing
- Fugitive dust emissions from quarry roads and storage piles, and
- Miscellaneous ancillary activities

Based on the model assessment of all particulate matter and nitrogen oxides emissions sources on the site, the report found that impact on air quality from the site operations would not constitute an adverse effect. A dust management plan was prepared and includes mitigation measures to be implemented at the quarry to reduce the potential impacts of dust.

Based on the results of the air quality assessment, the following conclusions were made:

1. Based on the results of the Regulation 346 dispersion model all air emissions meet MOE criteria and therefore it is appropriate for approval.
2. MOE Guideline D-6 classifies the quarry site as a Class III industrial facility. The minimum separation distance for Class III facilities is 300 metres and the potential influence area is 1000 m. The separation distance between the area of extraction at the expanded quarry and the existing residences is 300 metres or greater.
3. Based on the AERMOD model assessment of the particulate matter emission sources, the 24-hour MOE POI limit for particulate matter is met at the property line and closest residences. No further mitigation is required beyond the requirements of the Dust Management Plan, included in Appendix C.
4. Based on the AERMOD model assessment of all nitrogen oxides emission sources on the site, the one-hour and 24-hour MOE POI limits for nitrogen oxides is met at the closest residences.
5. The impact on air quality from the site operations would not constitute an adverse effect at the property line, at the residences, within or beyond the 1000 metre area of influence.

73. Blasting Impact Assessment – Explotech Engineering Ltd.

Golder Associates was contracted on behalf of the Township of McNab/Braeside to carry out Peer Review of the Explotech Blasting Impact Assessment for the proposed Braeside Quarry Expansion. Golder is satisfied that all issues have been satisfactorily addressed in the final report dated May 29, 2009.

The Assessment was prepared based on the Ministry of the Environment (MOE) Model Municipal Noise Control By-law (NPC 119) with regard to Guidelines for Blasting in Mines and Quarries. The assessment considered three main factors related to blasting at the expanded quarry:

1. ground vibration (pressure wave or shock front correlated with cosmetic cracking) for which the MOE limit is 12.5mm/sec (Peak Particle Velocity -PPV).
2. overpressure (air vibrations) for which the MOE limit is 128dB (Peak Sound Pressure Level - PSPL).
3. compliance with MOE guidelines for ground and air vibrations within the minimum separation distance of 300 m as required by the Township's Official Plan from the proposed extraction limits to the nearest sensitive receptor in any direction.

It was determined that the planned blasting required for extraction can be carried out safely and within MOE guidelines. The following recommendations were made:

1. A vibration and overpressure attenuation study monitoring a minimum of four (4) blasts be undertaken by a qualified independent engineering firm with specialization in explosives and blasting prior to entry into the extension lands in order to obtain sufficient quarry data for the development of site specific attenuation relations. This initial monitoring program will be used to confirm the applicability of the initial guideline parameters and to assist in developing future blast designs. It is acknowledged that overpressure attenuation equations are highly dependent on climatic conditions; the fallibility of the equation must be considered when incorporating into blast design.
2. All blasts shall be monitored for both vibration and overpressure at the closest privately owned sensitive receptors adjacent the site with a minimum of one (1) digital seismograph. Monitoring shall be performed by an independent third party engineering firm with specialization in blasting and monitoring.
3. Orientation of the mineral extraction operation will be designed and maintained so that the direction of the overpressure propagation and flyrock from the face will be away from structures as much as possible. To this end, extraction has assumed a retreat towards the North and Northeast (i.e. propagation of overpressure towards the South and Southwest).
4. Blast designs shall be continually reviewed with respect to fragmentation, ground vibration and overpressure. Blast designs shall be modified as required to ensure compliance with applicable guidelines and regulations. Decking, reduced hole diameters and sequential blasting techniques will be used to ensure minimal explosives per delay period initiated.
5. Minimum collar will be 1.5m on body holes and 2.7m on face holes. In the event of the application of boreholes greater than 100mm in diameter, collars will be increased accordingly.
6. Clear crushed stone will be used for stemming.
7. Primary and secondary dust collectors will be employed on the rock drills to keep the level of rock dust to a minimum.
8. Blasting procedures such as drilling and loading shall be reviewed on a yearly basis and modified as required to ensure compliance with industry standards.
9. Detailed blast records shall be maintained, following MOE recommendations regarding information requirements.

All blasts will be monitored and blast designs will be reviewed and modified to ensure compliance with applicable guidelines and regulations.

74. Hydrogeological Assessment - Gorrell Resources Investigations

The purpose of the Hydrogeological Investigation is to study the groundwater and to provide an impact analysis of the proposed operation. Golder Associates were contracted on behalf of the Township of McNab/Braeside to carry out a peer review of the hydrology, hydrogeology and natural environment studies. The three reports were reviewed together as the areas of study are interrelated. The review focused on whether or not the hydrology, hydrogeology and natural environment reports address the requirements of the Township's Official Plan and Provincial Standards for a quarry below the established water table. Golder Associates agrees with the findings and recommendations of the final report dated July 2012, as it adequately addresses the potential for adverse impacts to groundwater resources.

The analysis concluded that proposed excavation will not impact the local groundwater setting due to the natural topography and geology. The expansion of the quarry will remain at least 5 metres above the significant water bearing zones in the area and will not have additional impact. The study found that the water-bearing zones are not directly connected to the local surface, but are recharged through more regional basis. The continued management of discharge from the quarry in the manner currently used at the site will maintain the natural surface water and shallow groundwater flow regime.

The predicted drawdown effects on local wells due to quarry dewatering under the worst case scenario are insignificant and can be readily mitigated, if needed. A groundwater monitoring program is proposed that will provide protection to surrounding groundwater users against perceived or actual impact from the proposed quarry operation, even though no additional impacts are predicted. Water level measurements taken every other month in site wells will be evaluated annually and compared to historical results. An annual report will provide any recommendations on changes required, mitigation or remediation. The comprehensive hydrogeological assessment will be re-evaluated on a 10-year cycle and will be updated based on the prediction of the next 10-year operation.

The hydrogeological study included the following recommendations to be implemented through the site plan process with MNR under the *Aggregate Resources Act*.

a. The quarry floor should extend no lower than 125 m ASL.

b. A regular groundwater monitoring program will be continued. The details of the program will be amended as necessary based on an annual review and interpretation of the data with input from a qualified professional representing the operator, and the regulatory agency or agencies.

c. An annual review (of the groundwater monitoring program) will be completed by a qualified professional. Any predicted problems identified will be addressed before they occur.

d. If an unexpected complaint regarding water supply is received, an investigation will be conducted by a qualified professional, and if the problem is attributed to the quarry operation, remediation or compensation will be offered by the operator as soon as possible.

e. Every 10 years, an update of the hydrogeology report will be prepared. The analysis will be based on the projection of the next 10-years' operations and will include an updated well inventory for at least 500 m around the excavation, or for the predicted area of influence if it is greater. The first review should be conducted a year before the Permit to Take Water expiry date.

f. The depth of the pump chamber installed in the lower lift should not extend below 123 m ASL. The chamber should be constructed with a hoe-ram or comparable equipment to minimize disturbance to the underlying bedrock.

g. The lower lift pump chamber should be located at the northeast corner of the existing quarry excavation to maximize the distance from local wells.

h. The quarry discharge should continue to be managed in the current pattern to maintain existing flows on the west, north-west part of the Miller properties.

i. An emergency spills plan should be regularly reviewed by Miller and revised as necessary to meet regulatory requirements. The plan should be posted at the site with pertinent company and MOE telephone numbers. A supply of appropriate materials for containment and absorption should be maintained in a convenient location.

j. The operation should include best management practices with regard to water discharge management and water conservation at the quarry.

75. Hydrological Assessment – Skelton Brumwell & Associates Inc.

The purpose of the Hydrological Investigation is to assess surface water impacts of the proposed quarry expansion and primarily, the impacts of the quarry de-watering operations on Ryan Creek. Golder Associates were contracted on behalf of the Township of McNab/Braeside to carry out a peer review of the hydrology, hydrogeology and natural environment studies. The three reports were reviewed together as the areas of study are interrelated. The review focused on whether or not the hydrology, hydrogeology and natural environment reports address the requirements of the Township's Official Plan and Provincial Standards for a quarry below the established water table. Golder Associates agrees with the findings and recommendations of the final report dated July 2012, as it adequately addresses the potential for adverse impacts to surface water resources.

Six surface water features including nearby wetlands, Ryan Creek and the Ottawa River, were assessed for potential impacts from the proposed quarry operation. The hydrology study concluded that seepage entering the quarry was found to be immeasurable and the quarry expansion would not result in under-draining of surface water features. The quarry expansion will result in negligible reduction in the drainage area (runoff and base flow). The ultimate quarry dewatering operations will not result in thermal enhancement deemed to be a harmful alteration or destruction of fish and aquatic habitat, and will not result in the flooding of local or county roads.

The hydrology study included the following recommendations to be implemented through the site plan process with MNR under the *Aggregate Resources Act* and

approvals from MOE.

a. Implement the Sediment and Control Measures Plan for the quarry dewatering system;

b. Implement site erosion and sediment control improvements through the Industrial Sewage Works Certificate of Approval;

c. Implement the Ryan Creek Monitoring Plan to measure the flow rate and water temperature of Ryan Creek and dewatering discharge every two weeks from July 1 to September 15 to confirm compliance with the maximum annual water temperature objective of 22 ◦C;

d. Implement the Ryan Creek Contingency Plan, if monitoring events are in non-compliance with the aquatic ecosystem objectives;

e. Install a ball valve on the pump discharge line behind the flow meter to facilitate reducing pump capacity;

f. Complete a Storm Water Management report to address stormwater quality control measures (outlined in Section 5.8 of the report);

g. The Industrial Sewage Works Certificate of Approval should be revised to incorporate the proposed surface water monitoring and contingency plans, when the quarry expansion has been approved.

h. Limit dewatering operations in July, August and September at 2,160 LPM to minimize any potential impacts on Ryan Creek fisheries and aquatic habitat;

i. Inspect and maintain the 460 mm CSP culvert crossing Usborne Street before pumping commences in April, to ensure that no blockage of snow and ice exists during any springtime dewatering operation minimizing any potential roadway flooding.

j. Maintain the existing heavily treed area between the sediment basin and the Usborne Street outlet for protection against thermal enhancement;

k. Install a weather station which includes a rain collector, temperature, humidity and barometric sensors, anemometer, a rain collector heater and a data logger with optional internet protocol address.

l. A data logger should be installed to interface between the automatic flow meter and the scale house computer.

m. Eliminate beaver dams on the site to ensure discharge reaches the Usborne Street 450 mm CSP culvert.

76. Natural Environment Report – Skelton Brumwell and Associates Inc.

The submitted report included a Natural Environment Report Level 1 and Level 2. Level

1 of the report identifies natural heritage features and Level 2 identifies potential impacts and mitigation measures for those identified natural heritage features. Golder Associates were contracted on behalf of the Township of McNab/Braeside to carry out a peer review of the hydrology, hydrogeology and natural environment studies. The three reports were reviewed together as the areas of study are interrelated. The review focused on whether or not the hydrology, hydrogeology and natural environment reports address the requirements of the Township's Official Plan and Provincial Standards for a quarry below the established water table. Golder Associates agrees with the findings and recommendations of the final report dated December 2011.

The study identified three natural heritage features within the proposed expansion area and adjacent lands; Significant Wildlife Habitat (relative to species of concern, rare vegetation communities [alvar] and deer wintering area), Significant Woodlands and contribution to Fish Habitat. Mitigation measures were recommended to address potential impacts as a result of the proposed quarry expansion. The study concluded that through the implementation of mitigation measures in the Level 2 report, the proposed quarry expansion and asphalt plant will have no anticipated negative impacts on natural heritage features and functions.

The following monitoring and mitigation measures are recommended to be implemented on site through the site plan process approved by MNR under the *Aggregate Resources Act*.

a. A pre-monitoring survey of potentially invasive weed species along the edge of the Significant Wildlife Protection Area shall be conducted to provide baseline information for monitoring and interpretation of results.

b. An annual ground level photographic documentation from pre-determined GPS (Global Positioning System) points along the boundary of the protection area. A review of this documentation should be conducted every five years by a qualified person to determine if degradation is occurring as a result of the quarry expansion and if invasive species are becoming established along the edge of the protection area within the alvar.

   In the event that the extent of the protection area has declined, it is recommended that drought tolerant native conifers be planted along the edge to provide a protective screen against further loss. Similarly, should significant populations of invasive species become established, it is recommended these be physically removed.

c. To monitor significant features within the significant wildlife protection area, population counts of two key provincially rare species (Ram's-Head Ladyslipper and Cooper's Milkvetch) be undertaken biannually for a period of ten years. If two consecutive declines in populations of 33% are detected, the MNR or equivalent will be contacted to develop population mitigation measures. Should populations remain stable over the period of 10 years (5 biannual counts), monitoring would then cease. One final population count will occur three years after the final land clearing operation adjacent to boundary of the Significant Wildlife Protection Area.

77. Traffic Impact Study – Skelton Brumwell & Associates Inc.

The Traffic Impact Study addresses Official Plan Policy 9.3(3)(b), as well as the Reports Standards of the Provincial Standards of the *Aggregate Resources Act*, and reviews impacts resulting from changes in truck traffic associated with the quarry expansion and the addition of the permanent asphalt plant and concrete plant. J.L. Richards was contracted on behalf of the Township of McNab/Braeside to carry out peer review of the Skelton Brumwell Traffic Impact Study for the proposed Braeside Quarry Expansion. JL Richards advised the Township that they are satisfied with the findings of the final Traffic Impact Study dated June 19, 2009.

The traffic study examined:

- The area of the proposed expansion and the annual extraction of aggregate.
- The current and proposed market areas for the aggregate.
- The entrance for the quarry and site lines from the entrance.
- Haul routes east and west from the quarry and the number of residences along the routes
- Historical traffic counts for Hwy 17, McLean Drive (County Rd 54) and Campbell Drive to determine changes in traffic volumes, peak traffic hours, directional splits and critical traffic movements.
- Site generated traffic information for deliveries to and from the quarry site.

The Study also evaluated the impact of the traffic related to the proposed quarry expansion, considering volume versus capacity at intersections and potential delays. A method described in the Highway Capacity Manual and a program called Intercap was used to do the calculations. It was concluded that the quarry expansion and addition of a concrete and asphalt manufacturing plant will not significantly change the traffic volume or patterns of the existing operation.

The County of Renfrew Public Works Department reviewed the traffic study and determined that entrance improvements are required to improve traffic flow. The improvements include a “slip around lane” for south bound traffic and a right turn taper lane for north bound trucks on Usborne Street. Miller agreed to submit a revised Entrance Permit for the improvements within 2 years of issuance of an expanded quarry license.

PART H – PUBLIC COMMENTS

78. This section is a summary and discussion of the issues and concerns raised by the public throughout the review of the applications to amend the Official Plan and the Zoning By-law. The Township of McNab/Braeside provided notice of the applications and notice of the public meeting in accordance with the *Planning Act*. Under the *Planning Act*, if a person or public body does not make oral submissions at a public meeting or make written submissions to the Township of McNab/Braeside before the proposed Official Plan amendment is adopted or the Zoning By-law is passed by the Township of McNab/Braeside, the person or public body is not entitled to appeal the decision of the County of Renfrew (the approval authority), to the Ontario Municipal Board. The statutory public meeting was held on May 6 where over 200 people attended, and 37 people made oral submissions to Council. At the time of the writing of this report, the Township received over 210 written submissions. The public can continue to make written submissions to the municipality up until the decision is made to adopt/refuse the proposed Official Plan Amendment and pass/refuse the proposed Zoning By-law Amendment.

79. **Technical Questions –** Some of the submitted written correspondence included detailed questions related to the technical studies. The Township conducted a peer review of the submitted technical studies, a process which took several years. The outcome of this process was the peer review consultants, working on behalf of the Township, were satisfied with the methodology, results and recommendations contained within the documents. The peer reviewers found no areas of disagreements with the final versions of the reports.

80. **Process –** Some of the written submissions included concerns with the Township's processing of the *Planning Act* applications. Ratepayers felt that their opinions/concerns were not being heard and that the only information being received by Council was in support of the applications.

The Township's application review process followed the requirements of the *Planning Act*. When the applications were received by the Township, notice of the applications was advertised in the paper. All information submitted in support of the application, including the technical studies was available for public review at the Township Office, and digital versions were posted on the website. The Township undertook a thorough peer review process of each of the technical studies. Once the peer review was finalized, the complete documentation including the back and forth correspondence between the experts was posted on the Townships website as public information.

Due to the length of time that had passed between the submission date of the applications and the completed peer review process, the Township Council decided to hold a series of committee meetings to become familiar with the finalized technical documents. These meetings were held between January and March 2013, and the information was presented by the municipal planning representative. The meetings were open to members of the public and the applicant but neither was able to participate in the meetings. Technical questions raised by Council at these meetings were obtained by a panel of experts including the applicant's experts, the peer review team, MNR, MOE, Township staff and County staff. The answers were assembled by municipal planning staff in a document presented to council on April 9, 2013.

Members of the public are able, and have been submitting written submissions to Council. These written submissions form part of the public record for Council's consideration. In accordance with the *Planning Act*, written submissions can continue to be submitted up until a decision is made on the applications.

The applicant held the statutory open house under the ARA during the day of May 6, 2013. The Township held public meetings which were advertised in accordance with the *Planning Act* during the evening of May 6, 2013. At the public meeting, members of the public were able to provide oral submissions, which form part of the public record, for Council's consideration.

81. **Property Values –** Residents from around the quarry have expressed their concern that there will be a loss of property value if the applications for quarry expansion and asphalt plant are approved. Several residents requested that a study on property value be completed. The written submissions included the following issues that the residents claimed could cause loss of property value:

- toxic emissions from the asphalt plant
- potential contamination of the groundwater (from asphalt plant, a spill, or a fire)
- potential loss of quantity of groundwater
- noise impacts
- traffic impacts
- health risks
- environmental risks

Land value is a concern frequently introduced during the review of planning applications. Land owners want to ensure that the approval of any development application will not negatively impact the worth of their property. The *Planning Act*, the PPS and OP do not require consideration of property value in decision making. Instead the policies of the PPS and OP focus on potential land use impacts. The issues and concern raised by nearby neighbours listed in the bullet points above are legitimate land use concerns. As part of the development applications, it is the responsibility of the applicant to demonstrate that the proposed development will not have adverse land use impacts.

82. **Risk Assessment –** Members of the public raised the concern that a Risk Assessment was not completed and that there is no plan for risk management or risk mitigation. The public concerns include the potential for fire, earthquake of other catastrophic event that would result in environmental impacts. The public is concerned that the environmental impacts from such an event would include the contamination of groundwater where the impacts would be magnified as the site is on karst topography.

Safety, emergency response planning, and risk assessment in the context of an extraordinary industrial or natural disaster are not studies normally included in land use planning. Some consideration of safety and risk are part of regular land use planning. Examples are the design of roadways and intersections, flooding, contaminated sites, leda clays, and so on. The operation of the any industrial facility is required to be in accordance with provincial requirements. These include obtaining necessary permits such as Environmental Compliance Approval (ECA) from MOE, and meeting the bulk fuel requirements of the Technical Standards and Safety Authority (TSSA), who work to

protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. Part of the review of the planning applications is to determine whether the site is suitable for a major industrial facility. However a study on the assessment of risk is not a requirement in the *Planning Act*, PPS, or Official Plan.

83. **Vandalism –** One concern received by the Township was that "there are no impenetrable fences around the quarry to prevent people with guns deciding to use fuel storage tanks for target practice on a weekend when the quarry is not in operation. Also arson would not only destroy private property, but it could cause pollution mentioned above. No policy of security is mentioned in the studies or Miller Site Plans."

The site plan for the proposed quarry does include post and wire fencing along the north and south licensed boundary. However, protection against sabotage or criminal activity is not a land use planning concern for the municipality to take into consideration.

84. **Earthquake Zone –** Some residents brought to the Township's attention that the area is within an Earthquake Zone, and an earthquake could damage the asphalt plant and result in contamination of the groundwater. According to Natural Resources Canada, each year approximately 450 earthquakes occur in eastern Canada. Of this number, perhaps four will exceed magnitude 4, thirty will exceed magnitude 3, and about twenty-five events will be reported felt. Figure 6 illustrates the location of the earthquakes. A decade will, on average, include three events greater than magnitude 5. A magnitude 3 event is sufficiently strong to be felt in the immediate area, and a magnitude 5 event is generally the threshold of damage. The Western Quebec Seismic Zone constitutes a vast territory that encloses the Ottawa Valley from Montreal to Temiscaming, as well as the Laurentians and the Eastern Ontario. The urban areas of Montreal, Ottawa-Gatineau and Cornwall are located in this zone. There are building codes and requirements for the safe handling and storage of fuel. The proposed asphalt plant and associated fuel storage is required to meet these requirements. A study on the possibility of an earthquake is not a land use planning concern for the municipality to take into consideration.

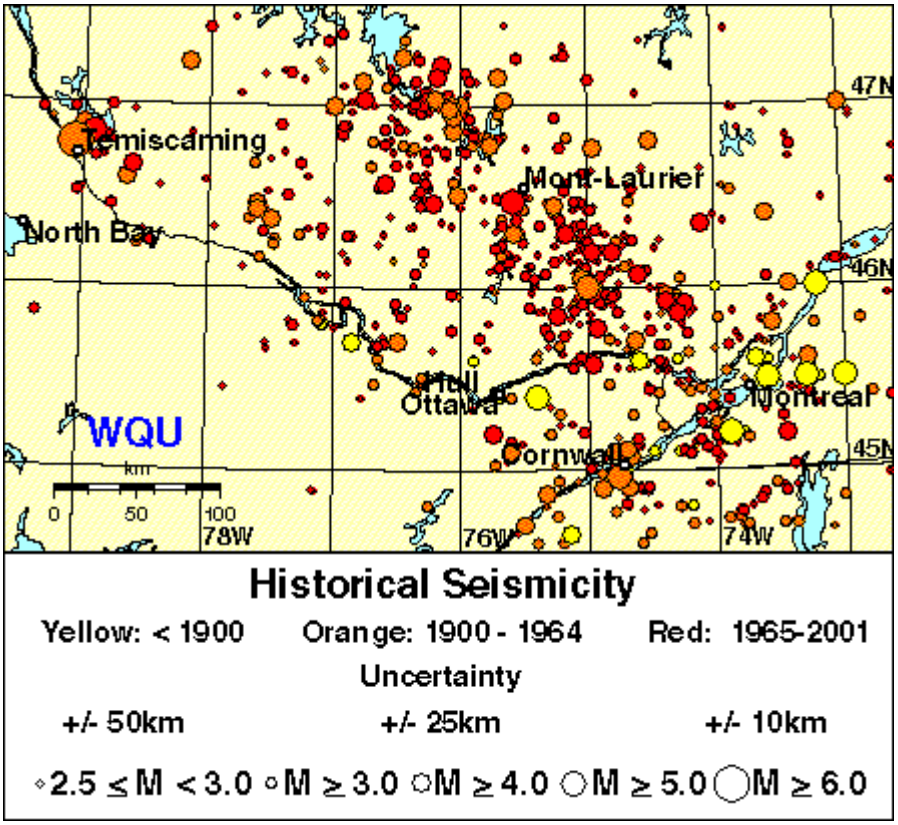


Figure 6 – Earthquake Activity – Source: Natural Resources Canada (website April 2013)

85. **Karst Topography -** Several residents have objected to the asphalt plant and related fuel storage because of the possibility of groundwater contamination. The community's fear is that a fuel leak, or an event like a fire, would release the chemicals. Groundwater aquifers in karsted terrains are more susceptible to biological and chemical contamination as water may run unimpeded through the rock, bypassing the normal filtering that occurs in a porous aquifer. A spill or accident would have more impacts in a karst landscape compared to a location with more soil/clay base which would have a better chance of containing contamination to the site. This topic will be further discussed under Part I, item number 99.

86. **Performance Compliance Record –** The submitted technical studies concluded that the quarry and asphalt plant could operate in accordance with Provincial regulations. However, due to past operation of the quarry and temporary asphalt plant, the community does not have confidence that the owner will comply with the requirements or that the Ministries will adequately enforce the regulations. The residents listed several operational issues that have occurred in the past as a basis for this concern. These issues included: illegal storage of Recycled Asphalt Product (RAP), improper blasts that sent flyrock on an adjacent property and a municipal road, adverse effect from noise and smell from the temporary asphalt plant.

Township staff understands that the MOE managed the first two issues (storage of RAP and improper blasts) after they occurred and were brought to the Ministry's attention. However, despite many complaints, the community's concerns regarding noise and smell from the operation of the temporary asphalt plant were not addressed to the residents' satisfaction. Several nearby residents initiated a small claims court action against the

quarry. Despite not being charged for any infractions under the *Environmental Protection Act* by MOE, and operating in accordance with the Certificate of Approval for the asphalt plant, the neighbors were successful in their claim. The judge found that the operation of the asphalt plant had created an adverse effect for the residents and issued financial compensation in favour of the plaintiffs. The owner of the quarry has appealed that decision; however the outcome of the appeal has not yet been decided.

It is recognized that the quarry has had previous operational compliance issues. The technical studies submitted with the *Planning Act* applications demonstrate that the quarry expansion and asphalt plant can be operated in accordance with provincial requirements. The studies do not guarantee against infractions occurring, but if future infractions do occur, the Provincial Ministries have enforcement mechanisms available to them. The assumption of future compliance issues for the operation of the asphalt plant or quarry are not land use considerations.

87. **Alvar –** Concerns were raised regarding the protection of alvar habitat. Alvars are ecosystems of special biological diversity and conservation interest. The Braeside alvar is the most northerly example of alvar habitat associated with the Ottawa River with its own unique microclimate and adaptations. The alvar is open or treed in areas of thin soil over flat limestone, and is characterized by a mosaic of vegetation communities and plant species adapted to extreme environmental conditions throughout the year (very wet conditions to very hot and dry). Most of the vegetation communities associated with alvars in Ontario are considered rare in both Ontario and throughout the world

The Natural Environment studies identified an alvar on the subject property which is considered to be a Significant Wildlife Habitat under the PPS. Two different alvar habitats were identified; an Alvar Glade and Pavement (open alvar and shrub alvar), and an Alvar Conifer Forest (treed alvar). The proposed development would destroy areas of Significant Wildlife Habitat while including protection area of approximately 24.3 Ha. The Natural Environment study states that alvar habitat has been found to be tolerant of adjacent natural disturbance and resistant to nonnative influences. This was confirmed as several of the provincially and regionally significant plants were found within close proximity to the existing quarry. The study found that the proposed protection area is large enough to provide for self-sustaining alvar habitat. This topic will be further discussed under Part I, item number 98.

88. **MOE Minimum Distance Separation –** An asphalt plant is categorized as a Class III industrial facility by the MOE Guideline D-6, Compatibility Between Industrial Facilities and Sensitive Land Uses. The Ministry has identified a 1000 metre potential influence areas for a Class III facility. These are the areas within which adverse effects may be experienced. The guideline recommends a minimum 300 metre separation distance between the industrial facility and a sensitive use (i.e. residential). The Township has received written submissions which question the implementation of the guideline. The proposed asphalt plant is 300 metres to the closest dwelling, but not to the residential property line. This topic is further discussed under Section I, item number 101.

89. **Noise/Hours of Operation –** The site plan has specific notes for night time operation. Residents have noted that night operation would be in violation of the Township's Noise By-law 2011-47. By-law 2011-47 prohibits noise that is clearly audible at a point of reception from the manufacturing of construction material or the operation of any

construction or manufacturing equipment in connection with construction or any construction related activity, including those activities that use explosive devices may not operate between 21:00 and 7:00 or Sundays and Statutory holidays. Notwithstanding, exemptions may be granted by Council.

The hours of operation notes on the site plan includes recommendations to limit noise when operating outside of the normal hours of operation (07:00-19:00). These notes in the site plan do not allow the operator of the quarry/asphalt plant to contravene the Township's noise by-law.

90. Complaint Response - Several ratepayers were concerned that there is not a developed mechanism to deal with complaints regarding noise, dust, or smell.

Complaints regarding a potential violation of the Township's noise by-law can be made to the Township. A complaint form can be filled out (found on the Township website) and sent in to the Township. The Township will then contact the By-Law enforcement officer for investigation. The By-Law Enforcement Officer will investigate and speak to both parties and report back to the Township with his resolution to the complaint and/or recommendation.

Complaints regarding noise/smell/dust from a manufacturing plant such as the asphalt plant or concrete plant should be submitted to MOE Ottawa District office. They are the one window for public interaction regarding any concerns, complaints the public may have regarding adverse environmental affects being experienced. Ottawa District office phone number is (613) 521 – 3450 or Toll Free 800 860 – 2195

Complaints regarding noise/dust/smell from the quarry should be submitted to MNR. Complaints can be sent to the aggregate officer responsible for the specific operation. In the case of Miller's McNab/Braeside operations, complaints can be direct to either by email at michael.machin@ontario.ca or by phone at (613)732-5516. The aggregate officer then responds to the complaint accordingly or forwards the complaint to the appropriate agency.

91. Incomplete/Inadequate Studies – The surrounding community is concerned about potential negative impacts to their public health and enjoyment of their property. Several submissions to Council raised concerns about air emissions, noise, truck traffic and water impacts as potential adverse impacts. One community group (FACT-MB), brought two experts to the *Planning Act* public meeting; Wilf Ruland a hydrogeologist, and Henry Cole, air emissions. These two experts, along with many residents questioned the adequacy and results of the hydrogeology, hydrology, noise, and air emissions reports.

The Township hired a peer review team specializing in the various fields of study required to evaluate the supporting documentation. The peer review team agreed with findings of the Miller experts who authored the reports. It was found that the final versions of the studies satisfied the applicable provincial standards.

92. Proposed Type of Asphalt Plant - The surrounding community raised the concern that details regarding the proposed asphalt plant had not been provided. For example, the residents questioned whether the proposed asphalt plant uses fuel or electricity to heat up the asphalt. In addition, there were few details provided regarding the site where the

plant would operate.

In a letter dated May 1, 2013, Miller provided the following information to clarify the proposal.

"In addition to meeting the regulatory requirements of the Ministry of the Environment and Technical Standards and Safety Authority, the plan, when approved will additionally require the following: Page 5 Note B-15 of the proposed site plan describes that the surface of the hot Mix Asphalt Plant area will be paved, and the surface will be sloped so that any runoff from the area is collected and contaminants contained in a lined holding pond. Contaminants will be removed by a licensed waste management company.

In addition to installing the asphalt plant on an impervious surface with storm water management, Miller provided the following additional information about the equipment to be used, and Miller's Risk Control Requirements: The permanent asphalt plant will be powered by electricity. There will therefore be no fuel storage associated with the Hot Mix Asphalt Plant. Hydraulic systems used by Miller have auto shut-off capabilities. In case of hose failure, the volume of oil lost is very low. For the above referenced holding pond the appropriate measures will be used in design stage, to safeguard any potential for leakage to protect the underlying ground water sources, and will have capacity for fire control water runoff. The fire capacity is necessary to meet regulatory approvals for the asphalt plant. The drainage will be controlled and treated as required to meet MOE water quality regulations before discharge. Alternatively, as noted above, any contaminated water will be removed by a licensed waste management company."

93. **Rural Character** – The surrounding community is predominately in an area designated and zoned Rural. In addition there is a rural settlement (Sand Point) located to the north-east, and within a radius of 1000 metres of the site there are approximately 116 dwellings. Residents cited policies of both the PPS and Township Official Plan which promotes protecting the rural landscape and rural character of an area. This topic will be further discussed under Part I, item number 102.

PART I – PLANNING ANALYSIS AND RECOMMENDATIONS

94. The purpose of the PPS and Official Plan are to provide direction for new growth and development. These documents support a managed and effective land use planning system. The policies within these documents provide for appropriate development while protecting resources, the environment, and public health and safety. On the Braeside Ridge there are competing land uses. There is a good, primary source of aggregate material located adjacent to many residential dwellings which are sensitive receptors. The *Planning Act* makes the local municipal council the decision making authority on the proposed applications and they have the responsibility for balancing the competing interests.

95. Aggregate extraction has occurred on the site since the 1940s. This predates the majority of the dwellings and lots surrounding the property. Many of the lots were created in two distinct periods of time. Several lots were created in 1978, and the second period of time is from 1984-1989 which is when the majority of new lot creation occurred. These two time periods predate the PPS and the 1997 McNab/Braeside Official Plan.

96. The residential development that has occurred around the quarry and specifically along Golf Club Rd. is a form of growth that the current Official Plan discourages. An objective in the Rural designation as stated in Section 3.2(3) of the Official Plan is to prohibit ribbon development along all roads outside of the settlement area designation. The surrounding residents have complained, and in the case of the small claims court decision, demonstrated adverse impacts from the operation of a temporary asphalt plant which operated in the quarry for a couple of years. Ideally these residential lots would not be located in such a close proximity to the quarry and the identified aggregate resource. Both the PPS and Official Plan contain policies for the protection of resource areas from the encroachment of residential uses. The purpose of these policies is to prevent situations exactly like the present scenario; there is a good resource of aggregate materials, but the proposed extraction is hindered because of the proximity of the surrounding sensitive uses.

97. Where competing land uses do abut, the policies of the PPS and Official Plan place the burden of proof on the applicant to demonstrate that there will not be adverse impacts on the adjacent land uses or negative impacts to the environment. The applicant prepared several technical studies to demonstrate that the proposed quarry expansion and asphalt plant would not create noise, air emission, dust, vibration, traffic, ground water, surface water or environmental impacts. The reports all supported the proposed development and concluded that the quarry and asphalt plant could be operated in compliance with provincial standards in a manner that is compatible with the surrounding residential uses.

98. The Natural Environment report identified Significant Wildlife Habitat on the subject lands. The features of this habitat include a deer yard and alvar habitat. Section 2.1.4 of the PPS states that "*development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological function."* Ecological function is defined as *"the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions."*

The proposed quarry extraction would occur in a portion (approximately 50%) of the identified significant wildlife habitat. This would include the removal of many provincially and regionally rare plants. The study concluded that, despite the destruction of a portion of the alvar and associated plants and deer wintering area, the proposal is consistent with the PPS because the protected area of 23.4 Ha was large enough for the continued, self-sustaining representation of all of the ecological features and functions. The peer reviewer on behalf of the Township agreed with this conclusion.

Planning staff requested that the MNR review the Natural Environment report for technical comments, and specifically requested that MNR confirm whether the significant wildlife habitat would meet the provincial requirements for protection. After 6 years of review, MNR provided the following comments for the Township's consideration when making a decision on the *Planning Act* applications. The three comments are:

1. MNR supports a balanced approach to addressing provincial interests. There are several competing interests which are challenging to balance.
2. There are a number of natural heritage features identified on the property. Under the purview of the *Aggregate Resources Act (ARA)*, the MNR is considering if the proposed mitigation approach meets the intent of the PPS.
3. Lands proposed to be extracted within a licensed pit or quarry must be appropriately zoned at the time of licensing. There is also merit for including sensitive heritage features within the licensed boundary to protect the feature through the requirements of the site plan. This adds additional protection. The municipality must be in agreement with the feature being included in the licensed boundary.

MNR will determine if the studies, mitigation, site plan, etc. to protect the alvar and other natural heritage meet provincial requirements through their review of the ARA application. It is recommended that the Township support the entire site being licensed under the ARA which would include the extraction area, buffer areas, and natural heritage area. Including the buffer areas and natural heritage areas in the license will make these areas subject to the requirements of the site plan under the regulations of MNR. This will provide additional protection for these areas to ensure that they are appropriately maintained and that the recommended mitigation measures (i.e. maintaining tree cover in the buffer areas) are implemented.

It is recommended that the Significant Wildlife Habitat area be protected as proposed in the Natural Environment Report, and that the recommended protected natural area and buffer areas be included within the ARA licensed area.

99. As discussed under Part E, item 62, the entire Braeside Ridge has been identified by the Ministry of Northern Development and Mines (MNDM) as an area of Inferred Karst. Figure 7 illustrates the MNDM karst mapping for the Braeside Ridge area. Karst landscapes are considered a hazardous site under the PPS. The Township adopted a Karst protocol for handling planning applications within areas of karst identified by MNDM. The description of karst topography was sourced from the document *Karst of Southern Ontario and Manitoulin Island: Groundwater Resources Study 5* prepared by the Ontario Geological Survey and the *Supplementary Report to Groundwater Resources Study 5: 3-D Field Investigation of Paleozoic Bedrock and Boreholes in Thin-Drift Limestone-Dolostone Plains of Southern Ontario* prepared by Golder Associates Ltd.

and Ontario Geological Survey.

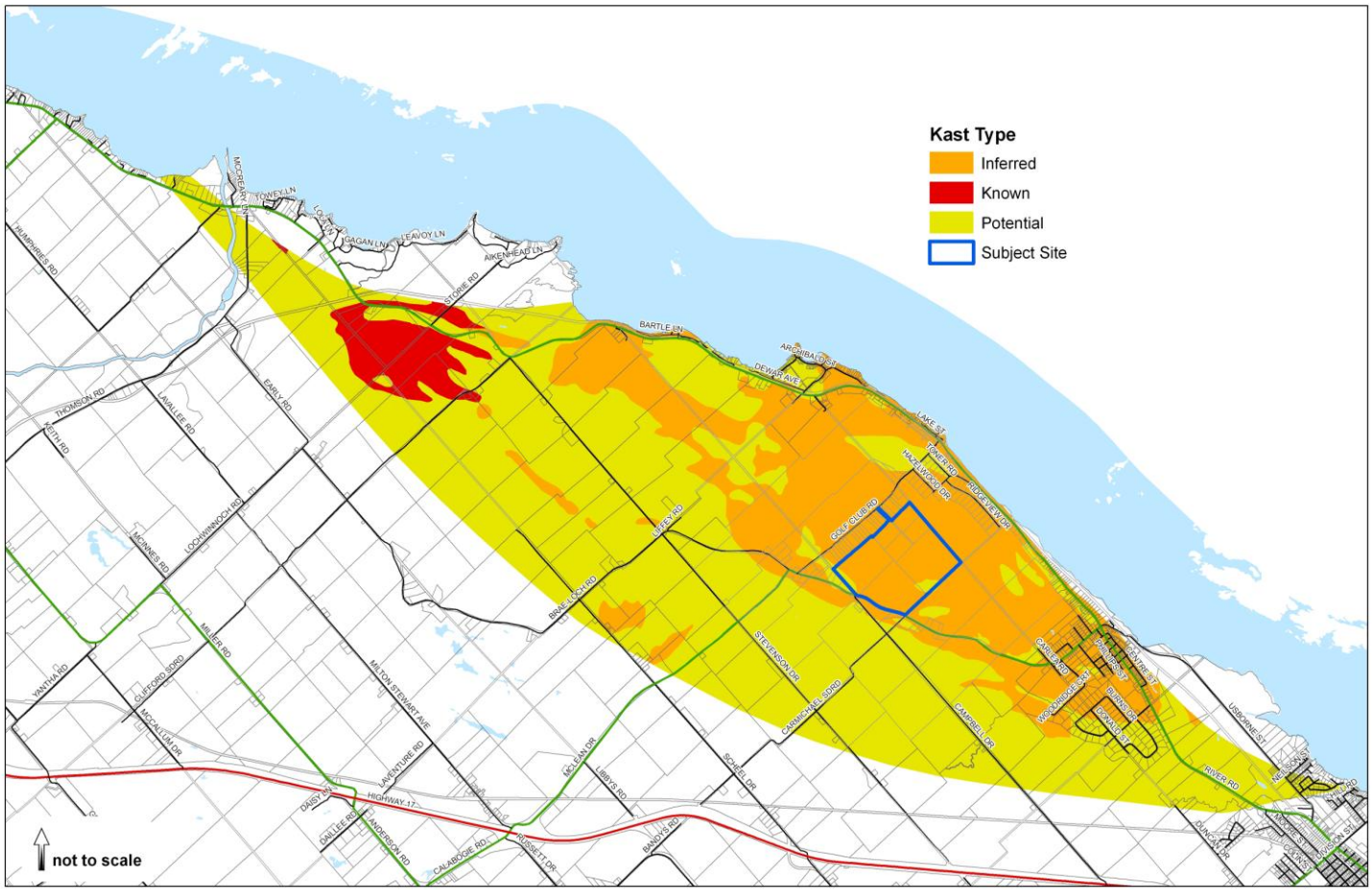


Figure 7 – Karst Topography, Source: MNDM

From these documents, the Township's Karst Protocol describes karst as landscapes that display distinctive features resulting from chemical dissolution and precipitation of bedrock. Karst landscapes are caused mainly by erosion of bedrock by surface water and groundwater over a substantial time span. This results in conduit-style groundwater flow and greater connectivity between surface waters, sinking streams, and groundwater aquifers. Therefore, groundwater aquifers in karsted terrains are more susceptible to biological and chemical contamination as water may run unimpeded, bypassing the normal filtering that occurs in a porous aquifer. Areas of exposed limestone/dolostone plain or associated areas of thin overburden cover are considered to be of "High Aquifer Vulnerability".

Karst features are affected by several factors, including overburden cover, bedrock lithology (physical composition), topography and depth to the water table. Overburden cover greatly limited the development of karst where the overburden was uniformly in excess of 0.5 to 1.0 metres in depth. Under these conditions, water infiltrating from precipitation will be neutralized as it passes through the soil porosity prior to encountering the bedrock, hence having little influence on the rock. For example, buried limestone surfaces commonly preserve the smooth, striated glacial surface in a fresh state. The sites where surface karst weathering was most developed with distinct open crevasse-like joints and channels were those areas where the rock was directly exposed at the surface.

The description of karst is quite varied, from weathered bedrock with joints and channels (immature), to caves and sink holes (mature). The PPS identifies unstable bedrock (karst topography) as a natural hazard. This does not mean that all karst is a necessarily a hazard. It is possible to have immature karst and not have the risk of unstable bedrock.

The hydrogeological study submitted with the applications describes the topography as "weathered geology… to create an interconnected surface water – shallow groundwater flow system… surface water drains into the dissolution fractures and flows below surface" (section 1.4, pg 3.) "the existing quarry is completely within a part where the weathered bedrock zone occurs… fractures extend from the surface down to the gull river formation" (Section 1.3 (pg.2)

Although not called "karst" in the hydrologeological study, compared to the description of karst in the Township's protocol, the description of the weathered bedrock topography in the hydrogeological study is consistent with the Township's definition of "immature karst".

In 2003, Golder Associates prepared a Groundwater Study for the Renfrew County – Mississippi – and Rideau area. This study identifies the Braeside Ridge as a "Less than -5m potential Recharging" area The report states in the summary of *Appendix C "hydrogeological and Aquifer Analysis* that "there are several types of bedrock aquifers in the study area and include a mixed Shale and Limestone Aquifer (Rockcilffe, Verulam, Gull River Formations). Vertical fractures are expected to predominate in the Precambrian aquifer, while horizontal fractures are more common is sedimentary rock aquifers (shale/limestone). Fractured aquifers are most susceptible to contamination where the aquifer is not protected by a confining soil or unfractured (tight) rock layer." The Golder study identifies the Braeside Ridge as an area of "High Aquifer Vulnerability" (See figure 8).

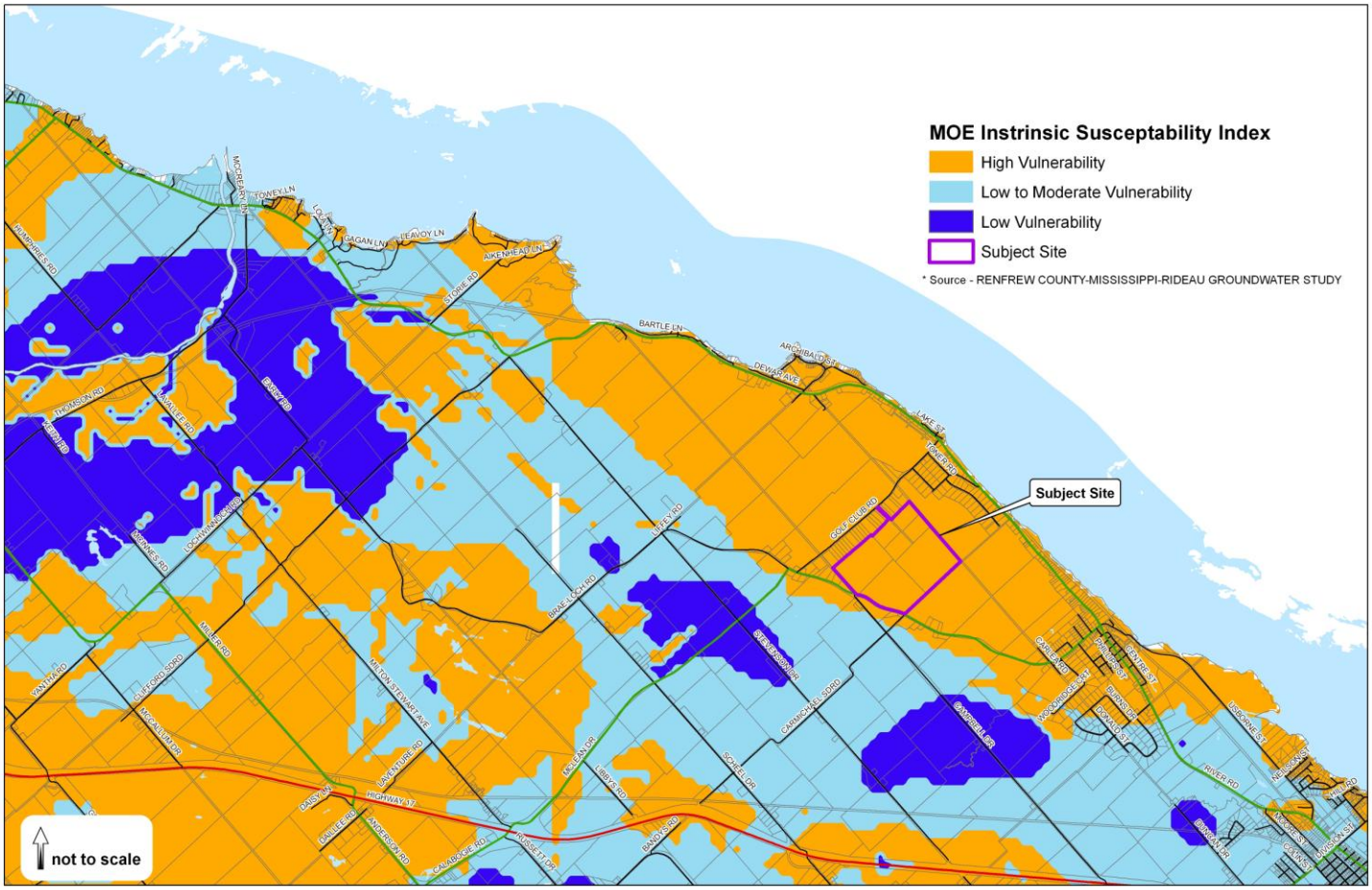


Figure 8 – Areas of Aquifer Vulnerability

A fractured bedrock aquifer is composed of solid rock, but where most water flows through cracks and fractures in the rock instead of thorough pore spaces. Flow through fractured rock is typically relatively fast, magnifying the impacts from any contamination from a spill or accident.

According to the hydrogeological study submitted in support of the *Planning Act* applications, there is a weathered bedrock area that has developed on both the flanks of the plateau. Section 1.3 describes the geology of the site and indicates that on the west side of the Miller property, the upper surface is weathered primarily on the west to south-west side. The existing quarry is completely within a part of the properties where the weathered bedrock zone occurs. In the quarry, fractures extend from the surface to the contact between the Bobcaygeon Formation down to, but no lower than the contact with the Gull River Formation.

The Hydrogeological study in Section 1.4 states that the topography and competent and weathered geology combine to create an interconnected surface water – shallow groundwater flow system on the plateau and surrounding area that includes runoff, surface water accumulations on upper competent bedrock areas and two levels of springs on the both the east and west side of the upland escarpment faces. Surface water drains into the dissolution fractures and flows below surface to emerge at the base of the dissolution as springs at two distinct levels. There were three potential aquifers identified; an overburden aquifer, a weathered bedrock aquifer and a competent bedrock aquifer. There is also an upper competent bedrock zone which is an aquiclude/aquitard.

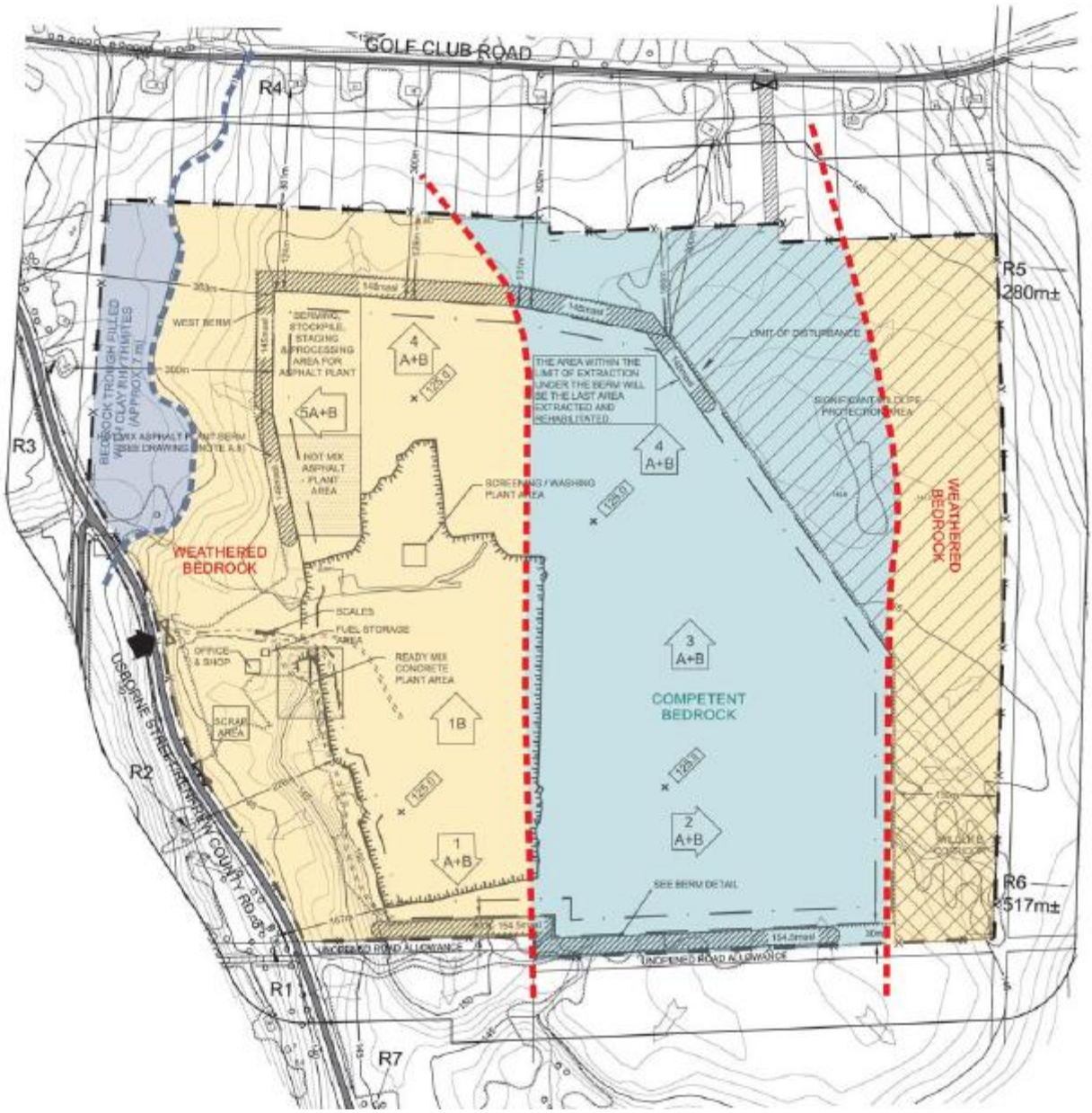


Figure 9 – Areas of Weathered Bedrock and Competent Bedrock

Figure 2 in the Hydrogeological Study illustrates the locations of the upper weathered bedrock zones and the competent upper bedrock zone. The proposed location for the asphalt manufacturing plant is within the weathered (karst) bedrock zone (see figure 9). Because of the weathered bedrock any contamination, whether it be from a fuel storage leak, fire, leaks from fuel tanks/hydraulics on heavy equipment, would flow and spread quickly through the fractures and emerge at the base of the springs. The fractured topography would facilitate the quick dispersal of the contamination and would make the containment and clean-up difficult with the potential for wide spread environmental impacts.

The asphalt plant is proposed to be constructed on an impervious platform with spill containment and fire containment. The applicant has indicated that the asphalt plant will

be powered by electricity; therefore no fuel storage would be associated with the plant. There are proposed mitigation measures and the submitted site plan includes an emergency spills procedure. The Braeside Ridge with the weathered bedrock (karst) topography is an area of high aquifer vulnerability however it is not a hazardous site with unstable bedrock. The policies of the PPS, under Section 2.2.1 d) requires that planning authorities shall implement necessary restrictions on development and site alteration to protect, improve or restore the quality and quantity of vulnerable surface and groundwater features.

The proposed site plan includes measures to prevent against oil spills/leaks, impervious surfaces, and storm water management. The construction and operation of the asphalt plant will be required to meet provincial requirements. The proposed containment systems protect against an event such as a fire and meet the PPS requirements for a planning authority to implement necessary restriction to protect vulnerable groundwater features.

100. The existing licensed area of the quarry is zoned Extractive Industrial (EM) while the remainder of the site is zone Extractive Industrial Reserve (EMR). The General Provisions of the Zoning By-law implement a 300 metre setback to the EM zone (from the existing quarry) and a 150 meter setback from the resources (EMR zone). The proposed zoning amendment would rezone the proposed protected portion of the significant wildlife habitat Extractive Industrial Reserve Exception One (EMR-E1), the

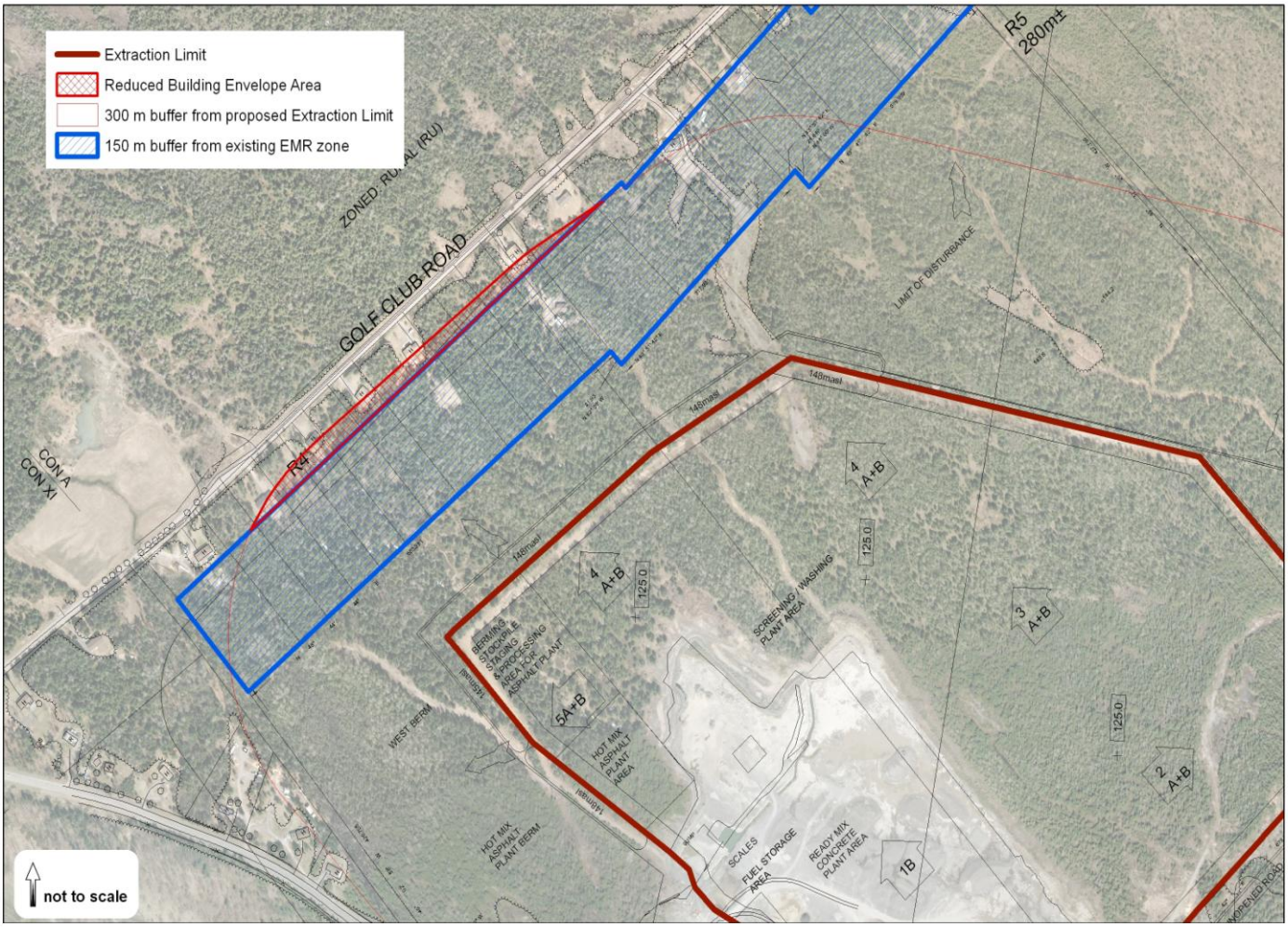


Figure 10 – Buffer from Quarry on Abutting Residential Lands

proposed asphalt plant site Extractive Industrial (EM-E1), and the remainder of the site Extractive Industrial (EM).

The proposed expansion to the quarry would almost be exactly 300 metres from the rear of the existing dwellings. The General Provisions, Section 3.22(a)(iv) would still implement a 300 metre setback for a new dwelling to the quarry. Along Golf Club Rd. are many lots which are narrow but deep; 10 of these lots are still vacant but zoned to permit a new dwelling. Section 3.22(a)(iii) of the By-law already implements a 150 buffer (from the EMR zone) from the rear yard lot line. Within the buffer a dwelling cannot be constructed. The expansion of the quarry will increase the buffer from the rear yard, reducing the building envelope by up to 26 m in depth on the remaining vacant parcels (see figure 11). Given that the area is within a karst landscape with thin overburden, as much flexibility as possible is desirable for locating new dwellings on the existing lots. Reducing the potential building envelope by up to 26 m will result in dwellings (and associated wells and septics) to be located in closer proximity to each other.

The production of aggregate and the protection of as much resources as possible for future extraction are both a provincial and Township objective. However, the owners of the vacant lots also have a right to construct a dwelling on their vacant properties and as much flexibility as possible is desirable.

Figure 11 - Buffer from Quarry on Abutting Residential Lands (zoomed in)

It is recommended that the proposed quarry be located no closer than 150 m from the rear property line of the lots on Golf Club Road. This will result in half of the 300 metre buffer from a quarry locating on the Miller property, and the other 150 metres in the already existing buffer on the adjacent residential lots. This will maintain the same building envelope as currently exists, allow greater flexibility for future dwelling locations, and will allow for greater separation between adjacent wells and septic systems on the karst topography.

101. The operation of the quarry and proposed facilities require several permits in addition to the *Planning Act* applications and *Aggregate Resources Act* application. Approval for sewage works, permits to take water, and Environmental Compliance Approval for the operation of an asphalt and concrete plant require MOE approval. The air and acoustic studies submitted and peer reviewed by the Township will also be submitted to MOE as part of an application for the Environmental Compliance Approval (ECA) for the manufacturing facilities. The application for the ECA would be required at a later date; one of the requirements for a successful ECA is that the appropriate zoning is in effect.

As discussed under the public comments section, an asphalt plant is categorized as a Class III industrial facility by the MOE Guideline D-6, Compatibility Between Industrial Facilities and Sensitive Land Uses. The minimum setback of 300 m for a Class III industrial facility is measured from the nearest lot line of the industrial use to the nearest lot line of the sensitive use. However, the distance may include lands that are within the industrial property if any legal controls preclude the use of the setback for any activity associated with the industrial use.

Guideline D-6 also states that the actual influence area (where adverse effect would be experienced) is site-specific. It states that air quality, noise, and dust studies should be provided by the proponent, presumably to help define the site-specific zone of influence. Miller Paving has provided such studies. The studies indicate that air quality and dust levels will be within applicable MOE standards at the property line and at the nearest residences. RWDI, the Township's peer reviewer, reviewed the information and concluded that the results are of the right order of magnitude and potential air quality issues can be addressed by prescribed mitigation measures if properly implemented.

As D-6 is a guideline, as opposed to a standard, this does not preclude MOE's Environmental Approval Branch from granting ECA approvals on a case by case basis where it can be demonstrated that air quality, noise and vibration will be within MOE standards even though the minimum separation distance per D-6 is not met. The ECA application will go to Toronto; the Approvals Branch will typically call the local district office to see if there are any issues with a particular site, as they are the ones with the hands on knowledge of the site and circumstances. For the current application, the district may indicate that the proposal does not meet the minimum separation distance per D-6. Approvals will evaluate the package based on its own merits and supporting documentation, paying particular attention to those relevant studies to ensure the potential for adverse effects is minimized and that the mitigation measures proposed are effective.

Section 4.10.5 of Guideline D-6 includes the following requirement for Public Consultation. It states, "Where development is proposed at less than the minimum distances identified in section 4.3, the approving authority is encouraged to require public

consultation with all landowners within the influence area or potential influence area of the industrial facility /facilities." The public have received notices of the proposed development applications, and a public open house (ARA process) and public meeting (*Planning Act* process) have been held. Council was informed through this public consultation that the surrounding property owners do not support any reduction to the 300 metre separation distance.

The issuance of an ECA for the operation of a manufacturing facility does not guarantee against an adverse effect. The *Environmental Protection Act* allows the MOE to deal with situations where adverse effects result even where an Environmental Approval is complied with. Nothing guarantees a resident from experiencing something that they may determine as an adverse effect since some aspects of the definition of adverse effect are subjective (e.g. loss of normal use of property) – if someone smells a whiff of asphalt for a split second and had to close their window, they may feel as though they are experiencing adverse effects from the operation. However, MOE would have to assess and make determinations based on this claim. The MOE air standards are expressed as a point of impingement and the maximum is limited at the property boundary.

Several residents successfully demonstrated an adverse impact in small claims court from the operation of a temporary asphalt plant located at the quarry which was operating with an ECA. Although the technical studies on air and acoustic emissions show that the proposed asphalt plant could meet all provincial standards for emissions at the property line, the residents are opposed to any asphalt plant, and at a minimum would like the 300 metre separation as outlined in Guideline D-6 maintained.

Section 11.3(9) of the Official Plan contains the following policies for a proposed asphalt to be located within an aggregate operation. "Permanent asphalt batching plants and permanent concrete batching plants are considered heavy industrial uses which potentially have negative impacts to the air, and surface and ground water, shall require an Official Plan amendment and Zoning By-law amendment to be permitted. These uses shall be adequately buffered to protect adjacent land uses, and shall meet the industrial pollution control and any other applicable standards of the Ministry of the Environment. A permanent asphalt batching plant and permanent concrete batching plant shall not be permitted unless:

a) there is no adverse impact on groundwater and surface water quality and quantity;
b) there is no adverse noise, odour, or dust impacts on nearby sensitive land uses and natural heritage features;
c) the operation of such a plant is addressed on a site plan approved by the province."

Section 6 of the Township's Official Plan contains policies for guiding the development of new industrial facilities. The Industrial designation acknowledges that it is not possible to predict the precise nature and extent of development within the Municipality within the next ten year time frame. New industrial uses or existing industrial uses looking to re-locate are encouraged to develop within the industrial designation. The proposed asphalt and concrete plant are industrial uses which are proposed to be located within the Aggregate designation. Section 6.3(12) states that "the minimum separation distances for industries classified by the Ministry of Environment in their Guideline D-6,

as Class I will be 20 metres; Class II will be 70 metres and Class III will be 300 metres."

The General Development Policies under Section 14.2(3) includes policies regarding land use compatibility. These policies promote making every effort to avoid conflicts between different land uses. "In implementing policies of this section, the following MOE documents will be used as guideline as applicable... Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses."

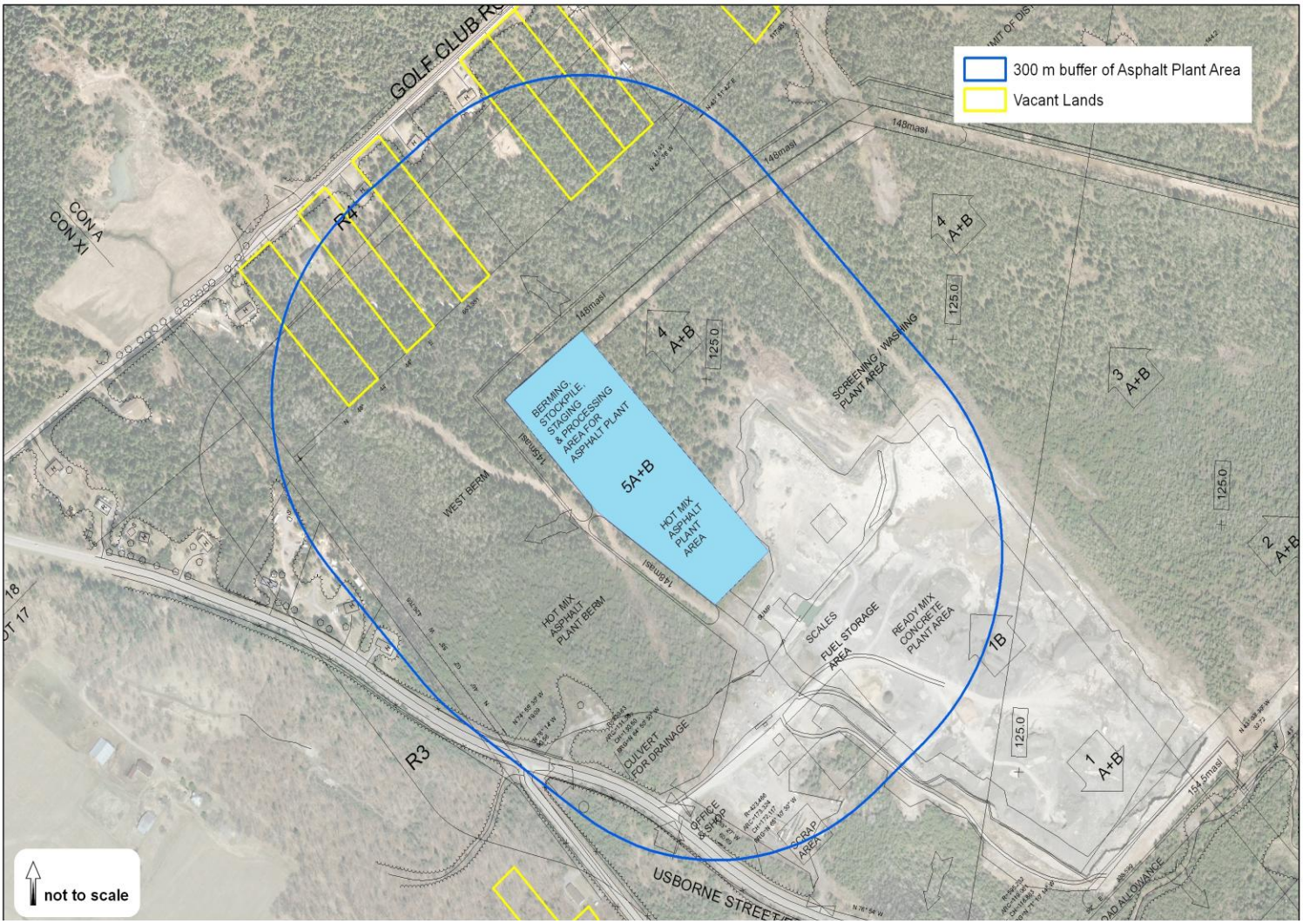


Figure 12 – Asphalt Plant 300 Metre Separation Distance

Section 3.22(b) of the General Provisions section of the Townships Zoning By-law contains the following provisions for the separation of manufacturing uses and facilities associated with an aggregate operation. "No concrete or asphalt manufacturing plant shall be located within 300 metres of a dwelling, a school, an institution with a residential component **or land restricted to residential use** *(emphasis added)* in a by-law passed under Section 34 of the *Planning Act*. Notwithstanding the foregoing, where an operator possesses a valid Certificate of Approval for a particular asphalt plant, the required separation distance shall be as established by that Certificate."

When read together, the policies of the Official Plan and the provisions of the Zoning By-law have the intent of using the D-6 guideline of 300 metre separation distance to the

property line as a Township standard. Figure 12 illustrates a 300 metre buffer from the proposed asphalt plant. The Zoning By-law states that there shall be no asphalt manufacturing plant located within 300 metres of a dwelling or land restricted to residential use. Although the technical studies demonstrate that compliance with MOE air and noise standards can be met at the asphalt plant's proposed location, the Township standard is 300 metre to the property line. In accordance with Section 4.10.5 of Guideline D-6, the adjacent rural community when consulted were opposed any proposed reduction to that standard.

The proposed asphalt plant would encroach upon the lands zoned for residential use for the lots on Usborne Street. The minimum 300 metre setback to the property line for the lots on Usborne Street should not be reduced.

The residential lots fronting on Golf Club Road are already restricted by a 150 m buffer from the existing EMR zone. In the report submitted to Council dated April 9, 2013, in response to questions raised by Council, RWDI who peer reviewed the air emissions study stated that "in the present case, some of the residential lots are relatively deep. In practice, the area of greatest concern with respect to air quality and noise impacts is the part of the property that is most often used, i.e., the area close to the dwelling. As such, it would make more sense to measure the distance to a point that is closer to the dwelling than the lot line, say 30 m from the dwelling."

There are many vacant lots along Golf Club Road where a dwelling is permitted to be constructed 150 metres from the EMR zone. Given RWDI's opinion that the area of greatest concern is the part of the property that is most often used, a further 30 m buffer from the asphalt plant to the lands zoned for the residential use is appropriate. This would mean that the lands for the asphalt plant would be required to be setback 180 metres from the property line from Golf Club Road.

The recommended reduced area for the asphalt plant would total approximately 3.5 Ha, whereas the application requested an area of 4.5 Ha be designated and zoned to permit an asphalt plant.

It is recommended that the proposed Official Plan and Zoning By-law amendment to permit a permanent asphalt plant not be approved as proposed. A 300 metre buffer should be maintained between the asphalt plant and the lot lines located on Usborne Street, and a 300 metre buffer should be maintained from a point measured 30 metres back from the lands zoned for residential use on Golf Club Road.

102. Briefly discussed under the Part H - Public Comments, item number 93, many residents opposed the proposed asphalt plant as a way of protecting the rural character and rural landscape. Residents referred to policies contained in the PPS and the Official Plan which promote a rural lifestyle. In the introduction to the Township Official Plan, Section 1.2 includes a statement that "many residents of the Township have been attracted to the rural areas by the beauty and peacefulness of the natural surroundings and Council intends to ensure that development occurs in harmony with the natural, social and financial resources of the Municipality."

The objectives of the Rural designation include:

- To preserve the open space, rural character, topography and landscape of the Rural area;
- To promote rural living in a manner sensitive to the natural environment and the farming community; and
- To maintain economic and social stability in the Township by considering factors such as municipal servicing limitations, environmental factors, compatibility of land uses and land capability when reviewing development proposals.

Residents are concerned that the introduction of a Class III industrial facility is not compatible with the rural nature of the community surrounding the subject site. They are concerned about adverse effects from odour, noise and other contaminates produced by the production of asphalt and that there is a risk to public health. The technical studies on air emissions and noise conclude that an asphalt plant can operate in the proposed location without having an adverse impact according to the *Environmental Protection Act*, and that all provincial standards can be met. The technical studies and the required Environmental Compliance Approval from MOE do not guarantee that the surrounding residents will not hear or smell the asphalt plant; just that the plant can operate within provincially acceptable limits.

The residents have advised the Township that the reason why many chose to live in the area was due to the private, quiet, clean air and water. Any impacts from noise and smell, even within provincial standards is not acceptable, associated with the proposed asphalt plant is not acceptable. Residents repeatedly brought to the Township's attention that through the small claims court process, that they had suffered adverse impacts from the operation of a temporary asphalt plant and that the operation of a permanent plant is not compatible with the surrounding residences or rural character of the area.

The PPS and Official Plan recognize rural areas as residential, farming, resource use, and where appropriate, industrial areas. Farming, forestry, and aggregate extraction all produce noise and potential odour. The standard of zero noise or odour go beyond the provincial requirements of what is determined to be acceptable impacts in a rural area. The submitted technical studies demonstrate that the quarry and asphalt plant can operate within the provincially acceptable limits for noise and air emissions. MOE is responsible for enforcement in the situation that emissions beyond provincial standards occur.

103. Office and shop facilities are proposed to be constructed in the future to support the quarry and related aggregate processes and uses. An office and shop would be a permitted accessory use to the quarry operation, however an expansion of the office/shop beyond what is required for the quarry would be considered a construction yard and would require a further zoning amendment application. Section 2.4 of the Zoning By-law defines Accessory as *"when used to describe a use, building or structure, means a use, or a detached building or structure, that is naturally and normally incidental, subordinate and exclusively devoted to supporting the principle use, building or structure and located on the same lot therewith. This does not include an accessory residence unless otherwise specified."*

104. There are many hectares of land on the property that are not proposed for extraction on the site plan, but are proposed to be rezoned to an Extractive Industrial (EM) zone. These lands include the wildlife travel corridor, and the open space/buffer between the quarry and residential lots on Usborne Street and Golf Club Rd. For the purposes of

implementing the by-law and ensuring appropriate buffers and setbacks are applied, it is proposed that these lands, and the identified significant wildlife protection area (proposed as EMR-E1), not be re-zoned and remain as Extractive Industrial Reserve (EMR). This will keep in place the 150 metre buffer for any new dwellings to the EMR zone, and the 300 metre setback to the extraction limit of the quarry (the EM zone) can easily be scaled off the zoning maps. The entire site can be licensed, but as these mentioned lands are not proposed for extraction, an Extractive Industrial (EM) zone is not necessary and could cause future interpretation issues for the Chief Building Official.

It is recommended that the proposed zoning amendment be revised so that the significant wildlife habitat, wildlife corridor area and buffer area between the expanded quarry and Golf Club Road properties and Usborne Street properties remain in the current Extractive Industrial Reserve (EMR) zone.

105. The operation of the quarry is implemented through the site plan under the *Aggregate Resources Act*. The peer reviewed studies included many recommendations and mitigation measures to be included in the site plan.

It is recommended that the Township meet with MOE and MNR representatives to review the site plan and ensure the necessary mitigation and recommendations contained in the peer reviewed technical studies are appropriately implemented in the *Aggregate Resources Act* Site Plan.

PART J – CONCLUSIONS AND SUMMARY

106. The protection and extraction of resources such as aggregates are promoted within the rural areas of the Province. The subject lands have been recognized as a primary source of aggregate and have been quarried for decades. Across Ontario asphalt plants are commonly located within pits and quarries, close to the source of some of the materials required for manufacturing the asphalt. The limestone quarried on-site will be mixed with asphalt cement and other imported aggregate products to create the hot mix asphalt.

Both the policies of the PPS and Official Plan require buffering and separation between industrial uses and sensitive receptors to avoid land use conflicts and potential impacts such as noise and smell. The technical studies submitted with the applications demonstrated compliance with provincial standards. While there may be noise and smell experienced off-site, with the appropriate mitigation measures, they will be within acceptable provincial limits. The applicant has demonstrated that the requirements of the PPS and Official Plan to balance the interests between the sensitive residential uses and industrial facility can be satisfied.

The Ontario Ministry of the Environment has strict and site specific environmental requirements for hot-mix asphalt plants that must be met by any proponent. The obtaining of an Environmental Compliance Approval and the operation of the asphalt plant must be in accordance with the Ontario *Environmental Protection Act*. The *Environmental Protection Act* can be used, and is used, to ensure that any public concerns with specific plant operations and/or emissions are dealt with.

107. It is not recommended that the Official Plan and Zoning By-law Amendment be adopted as proposed. The following changes are recommended to the proposed amendments.

1. **A 300 metre separation distance be maintained between the lands zoned and designated for the asphalt plant and the residential properties along Usborne Street.**

2. **A 180 metre separation distance be maintained between the lands zoned and designated for the asphalt plant and the abutting rear residential properties lines along Golf Club Road.**

3. **It is recommended that the zoning for the proposed quarry (EM zone) be located no closer than 150 m from the rear property line of the lots on Golf Club Road.**

4. **That the significant wildlife habitat, wildlife corridor area, and buffer area between the expanded quarry and Golf Club Road properties and Usborne Street properties remain in the current Extractive Industrial Reserve (EMR) zone.**

5. **That the Exception Zone to permit an asphalt manufacturing plant be amended to specifically permit only an Asphalt Plant powered by electricity.**

108. Appendix A to this report is a revised Official Plan Schedule and Zoning By-law Schedule. The revisions are consistent with the recommendations made in this section.

The Official Plan Amendment would permit an asphalt plant with the above noted buffers from the adjacent neighbouring residential properties. The Zoning By-law Amendment would rezone a portion of the lands from Extractive Industrial Reserve (EMR) to Extractive Industrial (EM) to permit the quarry expansion. A portion of the lands would be rezoned from Industrial Reserve (EMR) to Extractive Industrial Exception One (EM-E1) to permit a permanent asphalt plant. The revised by-law would allow for an expanded extraction area and permit the ongoing operation of the quarry with an asphalt plant. The revised by-law would balance the interests of the quarry with the surrounding rural residential community. It is my opinion that the revised by-law is consistent with the PPS, conforms to the Township's Official Plan, and is good planning.

It is recommended that the revised Official Plan and Zoning By-law Amendment (Appendix A) to permit an expansion to the Miller Quarry and a permanent asphalt plant be approved.

109. It is recommended that the Township meet with MOE and MNR representatives, at a later date (to be determined), to review the site plan and ensure the necessary mitigation and recommendations contained in the peer reviewed technical studies are appropriately implemented under the *Aggregate Resources Act* Site Plan.

Date: May 21, 2013
Planner: Bruce Howarth, MCIP RPP

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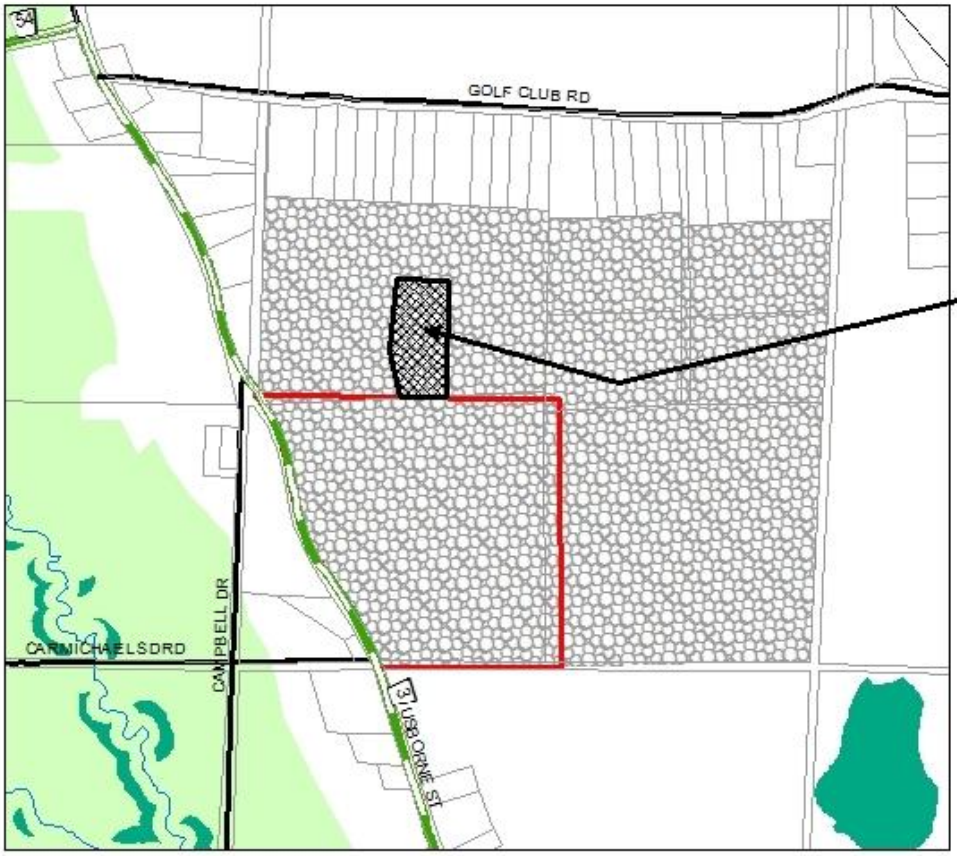
Appendix A – Recommended Revised Official Plan and Zoning Amendment



AMENDMENT NO. 2 TO THE OFFICIAL PLAN
FOR THE TOWNSHIP OF McNAB/BRAESIDE

SCHEDULE "A"

Note; This schedule forms part of Amendment No. 2 to the Official Plan of the Township of McNab/Braeside and must be read in conjunction with the written text.

LEGEND

- Rural
- Agriculture

Mineral Aggregate

- Licensed Under the Aggregate Resource Act
- Resource Area
- Environmental Protection (EP)
- Area Affected by this Amendment From Mineral Aggregate to Mineral Aggregate-Exception One

THE CORPORATION OF THE
TOWNSHIP OF MCNAB/BRAESIDE

BY-LAW NUMBER _____

A By-law to amend By-law Number 2010-49, being the Comprehensive Zoning By-law of the Corporation of the Township of McNab/Braeside, as amended.

PURSUANT TO SECTION 34 OF THE PLANNING ACT, THE TOWNSHIP OF McNAB/BRAESIDE HEREBY ENACTS AS FOLLOWS:

1. THAT By-law Number 2010-49, as amended, be and the same is hereby further amended as follows:

   (a) Schedule "A" (Map 2) to By-law 2010-49 is amended by rezoning those lands described as part of Lots 16 and 17, Concession A, in the geographic Township of McNab, from Extractive Industrial Reserve (EMR) to Extractive Industrial (EM) and Extractive Industrial-Exception One (EM-E1) as shown on the attached Schedule "A".

   (b) By adding the following subsection 13.3(a) Extractive Industrial-Exception One (EM-E1) to SECTION 13.0 – REQUIREMENTS FOR EXTRACTIVE INDUSTRIAL (EM) ZONE, immediately following subsection 13.3 EXCEPTION ZONES:

   "(a) Extractive Industrial-Exception One (EM-E1)

   Notwithstanding Section 13.1 to the contrary, for those lands described as part of Lot 17, Concession A, in the geographic Township of McNab and delineated as Extractive Industrial-Exception One (EM-E1) on Schedule "A" (Map 2) to this By-law, an asphalt manufacturing plant powered by electricity shall be an additional permitted use."

2. THAT save as aforesaid all other provisions of By-law 2010-49, as amended, shall be complied with.

3. This By-law shall come into force and take effect on the day of final passing thereof.

This By-law given its FIRST and SECOND reading this _____day of_____2013.

This By-law read a THIRD time and finally passed this _____day of _____2013.

_____
MAYOR

CORPORATE
SEAL OF
MUNICIPALITY

_____
CAO

Corporation of The
Township of McNab/Braeside

This is Schedule 'A' to the By-law Number _____.
Passed the _____ day of _____ 20_____.
Signatures of Signing Officers

_____ _____
Mayor CAO\Clerk

LEGEND

RU Rural

A Agricultural

Extractive Industrial (EM)

Extractive Industrial Reserve (EMR)

Environmental Protection

OS Open Space

-E1 Exception Zone

Areas Affected by this Amendment

Item 1: From EMR to EM-E1 (asphalt plant)

Item 2: From EMR to EM (quarry)