

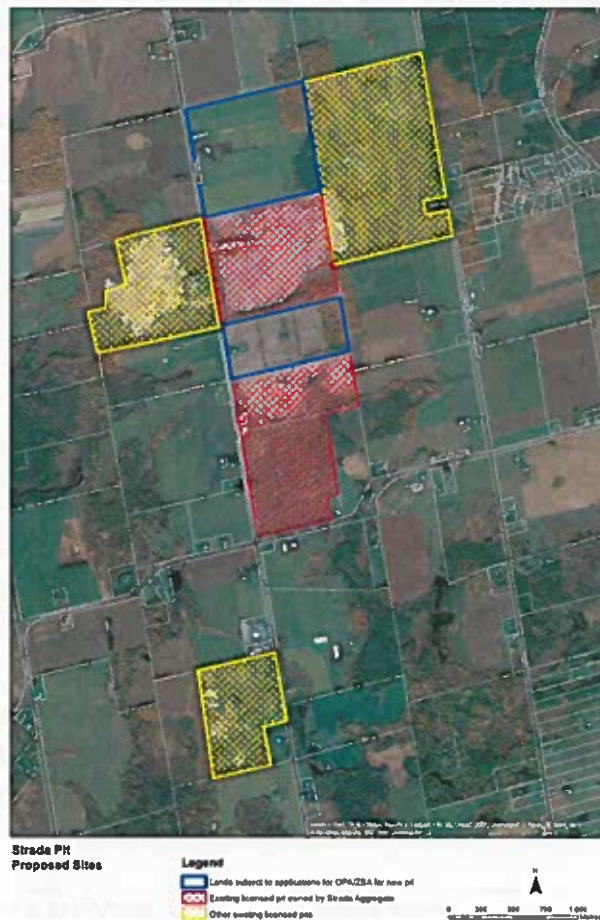
MEMORANDUM

To: Mayor White and Members of Council
Copy: Ms. Denise Holmes, CAO
From: Chris Jones MCIP, RPP
Date: July 7, 2017
Re: Application for Official Plan and Zoning By-law Amendment (Strada)

1.0 BACKGROUND

On June 21, 2017, the Township received an application from Strada Aggregates to redesignate and rezone lands located in Part of the West Half of Lots 12 and 14, Concession 3 O.S. for the purpose of establishing new mineral aggregate operations. The lands subject to the application are shown outlined in blue in Figure 1. Figure 1 also identifies other lands currently licensed for mineral aggregate extraction within the general area of the subject lands, two of which are pits owned by Strada Aggregates.

Figure 1 – Lands Subject to Application to Permit a Mineral Aggregate Operation



The purpose of this report is to provide Council with an overview of applicable Provincial, County and local planning policy concerning mineral aggregate extraction and also to summarize the technical material submitted by the proponent so Council has a sufficient background and context to proceed with the application and decision-making process. It is noted that at the time this report was prepared, I have not had an opportunity to walk the site or review the technical reports or site plans in detail.

It is noted that Strada representatives met with Township and NVCA staff on September 15, 2016 for the purpose of pre-consultation regarding the proposed amendments.

This report will recommend the application be declared complete in accordance with Section 34 (10.4) of the Planning Act and that peer reviews of the technical reports submitted with the application be undertaken. Pending completion of the peer review process and an opportunity for the proponent to provide any necessary supplemental information, a public meeting can be scheduled in accordance with Section 34 (12) of the Act.

2.0 STATUS OF LICENCE APPLICATION REQUIRED BY THE AGGREGATE RESOURCE ACT

The applicant submitted their application for a Class A License, Category 3 Pit (pit above water table) to the Ministry of Natural Resources and Forestry (MNRF) on May 29, 2017. According to documentation provided by the applicant, this application was declared complete by the MNRF on June 6, 2017. In accordance with the Aggregate Resources Act's (ARA) public consultation requirements, the applicant is now required to coordinate a 45-day public notification period.

3.0 DESCRIPTION OF SUBJECT LANDS and ARA SITE PLANS

The lands subject to the applications are two separate parcels of land, one abutting the north of an existing Strada pit (Pit 1) having a lot area of 40 hectares (100 acres) and known locally as the "Prince" property, the other located between Strada Pits 1 and 2 having an area of 20 hectares (50 acres) and known locally as the "Bonfield" property. Both sites are currently used for agricultural purposes and each has an existing dwelling and an accessory/agricultural building.

As is shown in Figure 1, surrounding land use includes other mineral aggregate operations as well as agricultural land and several rural residences.

According to information provided by the applicant, the proposed pits contain approximately 7 million tonnes of aggregate material, and the proposed license would permit annual extraction of 1.25 million tonnes amongst the four pits (two proposed pits and two existing pits).

The proposed ARA site plans provide a general understanding of the proposed pits and their planned operation and rehabilitation. Original copies of these plans dated June 6, 2017 were provided to the Township on June 21, 2017. The following four plans have been submitted to the Township:

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- Existing Features Plan;
- Operational Plan;
- Rehabilitation Plan; and,
- Cross-Sections.

As part of the application and peer review process these plans will be reviewed in detail. Copies of the plans as well as the related technical material are available at the Township office for review by members of Council and the public.

4.0 THE PROVINCIAL POLICY STATEMENT (2014)

The Provincial Policy Statement (PPS) 2014 provides policy direction on matters of Provincial interest related to land use planning and development. According to Section 3 of the Planning Act, planning authorities are required to "be consistent with" the PPS in making decisions that affect matters of Provincial interest.

Section 1.1 of the PPS provides policy aimed at the management of land use to achieve efficient development and land use patterns. Section 1.1.1 establishes seven criteria in this regard. The two most applicable criteria to this application are provided below:

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

- a) *promoting efficient development and land use patterns which sustain the financial well being of the Province and municipalities over the long term;*
- c) *avoiding development and land use patterns which may cause environmental or public health and safety concerns;"*

The Township of Melancthon is primarily rural in character and therefore Section 1.1.4 of the PPS, which prescribes appropriate rural land use in rural areas is applicable to this application:

"1.1.4 Rural Areas in Municipalities

Rural areas are important to the economic success of the Province and our quality of life. Rural areas are a system of lands that may include rural settlement areas, rural lands, prime agricultural areas, natural heritage features and areas, and other resource areas. Rural areas and urban areas are interdependent in terms of markets, resources and amenities. It is important to leverage rural assets and amenities and protect the environment as a foundation for a sustainable economy.

Ontario's rural areas have diverse population levels, natural resources, geographies and physical characteristics, and economies. Across rural Ontario, local circumstances vary by region. For example, northern Ontario's natural environment and vast geography offer different opportunities than the predominantly agricultural areas of the southern region of the Province.

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1.1.4.1 Healthy, integrated and viable rural areas should be supported by:

- a) building upon rural character, and leveraging rural amenities and assets.
- f) promoting diversification of the economic base and employment opportunities through goods and services, including value-added products and the sustainable management or use of resources.

1.2.6 Land Use Compatibility

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

1.6.7 Transportation Systems

1.6.7.1 Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.

1.6.7.5 Transportation and land use considerations shall be integrated at all stages of the planning process.

1.6.8 Transportation and Infrastructure Corridors

1.6.8.1 Planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs.

1.6.8.3 Planning authorities shall not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose for which it was identified.

New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with, and supportive of, the long-term purposes of the corridor and should be designed to avoid or mitigate or minimize negative impacts on and from the corridor and transportation facilities."

The Provincial Policy Statement also emphasizes the importance of economic activity and investment in land use planning. Section 1.7 of the PPS provides two economic policies that have applicability to the proposed pit expansion:

1.7.1 Long-term economic prosperity should be supported by:

- a) promoting opportunities for economic development and community investment-readiness;

- b) *optimizing the long term availability and use of land, resources, infrastructure, electricity generation and transmission and distribution systems and public service facilities;*

Section 2 of the PPS deals specifically with agricultural land and the use and protection of resources. The salient Provincial policies from this part of the PPS that have applicability to this application include:

"2.0 Wise Use and Management Resources

Ontario's long term prosperity, environmental health, and social well-being depend on conserving bio-diversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral and cultural heritage and archeological resources for their economic, environmental and social benefits.

2.3 Agriculture

2.3.1 *Prime agricultural areas shall be protected for long-term use for agriculture.*

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

a) extraction of mineral aggregate resources in accordance with...2.5

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

2.5 Mineral Aggregate Resources

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

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

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

2.5.2.4 *Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*

2.5.3 Rehabilitation

2.5.3.1 *Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.*

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2.5.4 Extraction in Prime Agricultural Areas

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

Complete rehabilitation to an agricultural condition is not required if:

- a) outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;*
- b) in a specialty crop area, there is a substantial quantity of high quality mineral aggregate resources below the water table warranting extraction, and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible;*
- c) other alternatives have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 through 7 lands, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, Canada Land Inventory Class 1, 2 and 3 lands; and*
- d) agricultural rehabilitation in remaining areas is maximized".*

Section 2.1 provides policy guidance with respect to the protection of natural heritage features and Section 2.2 provides direction with respect to protection of water resources. Applicable sections of 2.1 and 2.2 of the PPS are summarized below:

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

2.1.4 Development and site alteration shall not be permitted in:

- a) significant wetlands; and*
- b) significant coastal wetlands.*

2.1.5 Development and site alteration shall not be permitted in:

- d) significant wildlife habitat;*
- e) significant areas of natural and scientific interest;*

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

- 2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.
- 2.1.7 Development and site alteration shall not be permitted in habitat of endangered or threatened species, except in accordance with provincial and federal requirements.
- 2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.4 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.
- 2.2.1 **Planning authorities shall protect, improve or restore the quality and quantity of water by:**
- b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;
 - c) identifying water resource systems consisting of ground water features, hydrologic function, natural heritage features and areas, and surface water features including shoreline areas;
 - d) maintaining linkage and related functions among ground water features, hydrologic function, natural heritage features and areas, and surface water features including shoreline areas.
- 2.2.2 Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored".

5.0 GROWTH PLAN

The County of Dufferin is subject to the policies of the Growth Plan for the Greater Golden Horseshoe. The following policies of the Growth Plan have applicability to this proposal:

"4.2.8 Mineral Aggregate Resources

2. Notwithstanding the policies in subsections 4.2.1, 4.2.2, 4.2.3, and 4.2.4, within the Natural Heritage System, mineral aggregate operations and wayside pits and quarries are subject to the following:
- a) no new mineral aggregate operation and no new wayside pits and quarries, or any ancillary or accessory use thereto, will be permitted in the following key natural heritage features and key hydrologic features:
 - i. significant wetlands;

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- ii. *habitat of endangered species and threatened species; and*
 - iii. *significant woodlands unless the woodland is occupied by young plantation or early successional habitat, as defined by the Province, in which case, the application must demonstrate that policies 4.2.8.4 b) and c) and 4.2.8.5 c) have been addressed and that they will be met by the operation;*
- b) *any application for a new mineral aggregate operation will be required to demonstrate:*
- i. *how the connectivity between key natural heritage features and key hydrologic features will be maintained before, during, and after the extraction of mineral aggregate resources;*
 - ii. *how the operator could replace key natural heritage features and key hydrologic features that would be lost from the site with equivalent features on another part of the site or on adjacent lands;*
 - iii. *how the water resource system will be protected or enhanced; and*
 - iv. *how any key natural heritage features and key hydrologic features and their associated vegetation protection zones not identified in policy 4.2.2.3 a) will be addressed in accordance with policies 4.2.8.4 b) and c) and 4.2.8.5 c); and*
- c) *an application requiring a new approval under the Aggregate Resources Act to expand an existing mineral aggregate operation may be permitted in the Natural Heritage System, including in key natural heritage features, key hydrologic features and any associated vegetation protection zones, only if the related decision is consistent with the PPS and satisfies the rehabilitation requirements of the policies in this subsection.*
3. *In prime agricultural areas, applications for new mineral aggregate operations will be supported by an agricultural impact assessment and, where possible will seek to maintain or improve the connectivity of Agricultural System.*

6.0 COUNTY OF DUFFERIN OFFICIAL PLAN

The County of Dufferin is the upper-tier planning authority and is the approval authority for local Official Plan Amendments. Schedule C to the County Official Plan establishes that the lands subject to the amendment are located in the Agricultural Area designation. Section 4.2.3.1 of the County's Official Plan permits mineral aggregate operations in the Agricultural Area designation, subject to development policies found in Section 4.4.2.1 d). These policies are shown below:

"In considering new mineral aggregate resource operations, or any expansion to an existing mineral aggregate resource operation, the County and local municipality will be satisfied that prior to approval of a local official plan amendment that impacts are minimized with respect to the following:

- i. *surrounding land uses and siting of extraction operation, including demonstrating compatibility with the rural character and landscape including visual impacts;*
- ii. *surrounding sensitive uses through adequate buffering, screening and other mitigation measures;*

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- iii. *transportation infrastructure, particularly as it relates to County Roads and Provincial Highways;*
- iv. *surface water and groundwater quality and quantity, provincially significant natural features, natural heritage features and areas, and the environment;*
- v. *social and community considerations;*
- vi. *cultural heritage and archaeological resources;*
- vii. *noise, dust and vibration, in accordance with Provincial Standards;*
- viii. *the removal and placement of fill, topsoil or overburden;*
- ix. *demonstration that the final rehabilitation plan is consistent with the policies of this Plan and the local municipal official plan;*
- x. *other matters identified by the Province, County or local municipality, or identified in the local municipal official plan; and,*
- xi. *requirements under the Aggregate Resources Act".*

7.0 TOWNSHIP OF MELANCTHON OFFICIAL PLAN

The subject lands are primarily designated Agricultural in the Township of Melancthon Official Plan and are also partially designated Environmental Conservation, which is an overlay designation, the purpose of which is to identify natural heritage features. In this case the feature is a significant woodlot. In order for mineral aggregate extraction to be approved on the subject lands, an Official Plan Amendment is required to designate the lands into the Extractive Industrial designation.

Schedule H to the Township Official Plan is a schedule derived from the Aggregate Resources Inventory Paper (ARIP) that identifies the location of primary and secondary aggregate resources. The subject lands are located in a primary sand and gravel resource area according to this schedule.

As part of the pre-consultation discussions, the applicant was provided with a summary of Official Plan policies applicable to the establishment or expansion of mineral aggregate operations.

8.0 SUMMARY OF TECHNICAL INFORMATION SUBMITTED TO DATE

The applicant has submitted the following technical information to the Township in support of the proposed zoning amendment:

1. Natural Environment Level 1 & 2 Technical Reports (*Natural Resource Solutions*)
2. Hydrogeological Assessment Level 1 & 2 (*Whitewater Hydrogeology*)
3. Noise Impact Analysis (*Aerocoustics*)
4. Stage 1 and 2 Archaeological Assessment (*ASI*)
5. Cultural Heritage Impact Assessment (*MHBC*)
6. Agricultural Impact Assessment (*MHBC*)
7. Planning Report and ARA Summary Statement (*MHBC*)
8. Traffic Review (*HDR*)

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The following is an overview of the technical documents received with the application, but it is noted that this section is intended only to generally summarize the analyses, conclusions and/or recommendations of the technical reports.

8.1 Natural Environment Assessment and Environmental Impact Study

This report documents the assessment of natural heritage features on-site in accordance with Provincial protocol and provided a series of recommendations aimed at avoiding, minimizing or otherwise mitigating impacts that may occur through creation of the proposed pits on the subject properties. These recommendations are summarized below:

1. *Implement 10 metre buffers from the retained woodland edges, which will be allowed to be renaturalized and supplemented with targeted native species plantings. Machinery and materials must be maintained outside of the woodland buffers.*
2. *Complete updated habitat assessments for the Species at Risk Barn Swallow, Bobolink and Eastern Meadowlark prior to site alteration. If it is determined that there is habitat for these species, habitat removal activities must be registered with the MNRF through a Notice of Activity and Mitigation Plans must be prepared according to the Regulation. The Mitigation Plans must identify the means by which impacts to the species will be effectively mitigated, and describe the strategy for habitat compensation, management and monitoring that is required by the Regulation.*
3. *All vegetation clearing shall occur outside of the bird nesting period between April 15 and August 15. Identified cavity trees shall be removed outside the bird active season (April 30-September 1) or as determined by the MNRF.*
4. *Structures that may provide bat habitat shall be removed outside the bat active season (April 30-September 1) or as determined by the MNRF.*
5. *Truck haul routes, and materials and soils stockpiling shall not be located immediately adjacent to the retained woodland features or their buffers.*
6. *Dust impacts will be mitigated according to Provincial standards.*
7. *Artificial lighting shall be shielded or directed away from adjacent natural features.*
8. *Silt fencing shall be established along the limits of the 10m woodland buffers in accordance with an Erosion Sediment Control Plan.*
9. *Inspect all Erosion Sediment Control measures according to an Erosion Sediment Control Plan and complete repairs when required.*
10. *Operate and store all materials and equipment in a manner that prevents any deleterious substance from leaving the site.*
11. *Vehicles and equipment must be re-fueled in the designated area away from the retained natural features and buffers.*

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12. Develop and implement a Spill Response Plan as required under the Aggregate Resources Act.
13. Develop and implement a monitoring program, pre- and during extraction operations, that includes the following components:
 - a) Groundwater monitoring in conjunction with ongoing monitoring at the Melancthon Pit #1 and #2 sites;
 - b) Surface water level monitoring and amphibian breeding monitoring within the Bonfield property wetland, in conjunction with ongoing monitoring at Melancthon Pit #2;
 - c) Inspect the woodland buffers during pit operation to ensure disturbances are not occurring; and,
 - d) Inspect the health and survival of buffer plantings.

8.2 Hydrogeological Assessment – Level 1 and 2

8.2.1 Water Balance

This report, prepared by Ms. Tecia White, M.Sc. P. Geo, constitutes an impact assessment of the proposed Bonfield and Prince Pits to ensure that the site operations will not have an adverse impact on groundwater and surface water regimes. To determine the differences in the pre and post-extraction conditions, the changes in the water balance components were assessed, with the specific focus on impacts to local groundwater recharge and surface water runoff conditions.

The report explained that a water balance is a quantitative expression that describes the relationship between inflows (into) and outflows (out of) a hydrogeology system over a specified time period.

The report determined the annual water budget for the study area which indicated that the mean annual precipitation for the area is 890 mm, while the mean water surplus was 390 mm. The report also estimated that the average infiltration rate (IF) based on the existing site characteristics was 273 mm/year.

The assessment applied the average infiltration rate to areas of the property that are not internally drained, where surface water will runoff site into roadside ditches and adjacent lands, before recharging off-site. Recharge within the internally drained basins will be equal to the mean water surplus (390 mm/year), while an infiltration rate of 273 mm/year was applied to the areas that do not drain internally into the proposed pit basins.

On the basis of this analysis the report determined that pre-extraction annual groundwater recharge across the sites is approximately 182,794 m³, while post-extraction groundwater recharge would be 189,540 m³. Based on this assessment, the proposed new pits would maintain or slightly enhance groundwater recharge across the pit floor by 4% (or 6,746 m³).

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8.2.2 Potential Interference with Local Groundwater Regime

The report indicated that the proposed extraction of aggregate will occur at an elevation of at least 1.5 m above the established high water table elevation. The report also indicated that the change in land use will maintain or slightly enhance groundwater recharge across the pit floor by 4%. This small increase will likely result in no measurable change in water table elevations across the site and therefore will have no impact on off-site domestic water wells. The report also noted that the comprehensive groundwater monitoring database for the existing Strada pits have shown that the extraction of aggregate from above the water table at these sites has had no measurable influence on the local groundwater conditions on-site

8.2.3 Potential Interference with Surface Water Features

The report identified a small wetland and vernal pool, both of which were located within the forested area approximately 100 metres from the proposed extraction boundary for the Bonnefield Pit. The report indicated these features were perched approximately 4 metres above the water table and therefore were isolated from the groundwater regime. The only potential impacts that could affect surface water levels are changes to the water balance.

The report found that both features are located within the forested area on the Bonnefield property and will be preserved with a buffer, thereby maintaining the majority of the natural and localized catchment area for these features.

8.2.4 Mitigation Measures

The report recommended the following operational practices to further protect groundwater quality:

- *Refueling of machinery should not be conducted in areas of the excavation that are within 1.5 m of the water table (i.e., on the pit floor).*
- *Operator training should include understanding and ability to implement the preventative measures provided above, in addition to Strada's corporate Spill Contingency Plan (as per prescribed conditions on the Site Plans)*

8.2.5 Recommended Compliance Monitoring Program

The report referred to the existing compliance groundwater monitoring networks, which were developed to characterize the local groundwater conditions at each individual property in addition to allowing for the ongoing monitoring of potential adverse impacts from the two operating pits. The report indicated that a detailed review of the monitoring networks has been completed and a proposed, more streamlined program was developed with a focus on the on-going monitoring of background conditions (up-gradient locations) in both the overburden and bedrock aquifers and the monitoring of potential influences from the aggregate operation on down-gradient locations.

The report recommended that a single annual groundwater monitoring report for the existing pits as well as the proposed Bonnefield and Prince Pits be prepared and submitted to the MNRF prior to March 31st of each year and include the monitoring data for the 12-month period ending December 31st of the previous year. The report recommended that the program include, but not be limited to, the following:

1. *Monitoring data collected as per Table 6 and Table 7;*
2. *Data in tabulated and graphical formats;*
3. *Interpretation of the collected data including discussions of any observed trends in groundwater levels and groundwater quality (analytical) results;*
4. *Recommendations on and justification for the need for making changes to monitoring locations, monitoring frequency, type of monitoring, pumping patterns and/or the need for mitigation; and,*
5. *Summary and documentation of any water well complaint(s) and their resolution(s).*

8.3 Noise Impact Study

The Noise Impact Study, prepared by Mr. Nicholas Sylvestre-Williams, M. Eng. P. Eng. provided the following recommendations:

8.3.1 Site Preparation/Rehabilitation

During site preparation, equipment working at or near the surface will receive minimal acoustical shielding. A similar scenario may occur during rehabilitation. In order to minimize the noise impact associated with these activities, it is recommended that:

- *The sound emissions of all construction equipment involved in site preparation and rehabilitation activities shall comply with the sound level limits specified in MOECC publication NPC-115 "Construction Equipment". Site preparation and rehabilitation operations shall be restricted to 07:00-19:00; and,*
- *Property line berms in Phase 4 should be constructed as soon as possible during site preparation so as to provide the surrounding residences with some acoustical shielding of the remaining overburden stripping operations. Property line berms in Phase 5-7 should be construction prior to entry into those lands.*

8.3.2 Extraction

In order to ensure that the noise impact from the extraction of aggregate will comply with the guidelines set forth by the MOECC, noise control measures must be incorporated into the operation. The recommended noise controls shall be incorporated into the site and operating plans. The operation shall be consistent with the site and operating plans in terms of:

- *Restrictions on the numbers and types of extraction equipment, the noise emissions of the equipment, and the areas of operation;*

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- The extraction, processing and transport equipment operating are specified and limited; and,
- Berming and local shielding requirements.

Any proposed changes to the aspects of the extraction operations dealt with above as relating to noise control should be reviewed by a qualified acoustical consultant for compliance with the relevant noise criteria.

The report noted that the noise impact of the proposed extraction operations has been predicted at the representative residences assuming incorporation of the recommended noise control measures. The report also noted that the predicted noise levels are based on the scenarios that are expected to produce maximum noise impact. These predicted worst-case noise impacts from extraction and on-site shipping operations at the representative residences are listed in Table 1 and are compared with threshold limits referenced in MOECC guidelines.

Table 1: Predicted Worst-Case Pit Noise Levels - One Hour LEQ (dBA)

Residence	07:00-19:00 Extraction & Shipping	
	Predicted	Allowable
R1	44	45
R2	44	45
R3	46	50
R4	45	50
R5	41	45
R6	43	45
R7	50	50
R8	43	50
R9	42	50
R10	50	50
R11	45	50
R12	44	50
R13	48	50
R14	42	50
R15	42	50
R16	41	50
R17	46	51
R18	45	51
R19	53	53
R20	44	45

On this basis, the report concluded that the aggregate extraction operations in the two (2) proposed pits will comply with the MNRF and MOECC guidelines for noise from stationary sources.

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8.4 Stage 1 and 2 Archaeological Assessment

8.4.1 The Bonnefield Property (Madill Site)

This report, prepared by Ms. Beverly Garner, Hons. BA and colleagues, involved a Stage 1 Background Assessment and Stage 2 Field Assessment.

The report was prepared in accordance with Section 2.2 of the 2011 Standards and Guidelines for Consultant Archaeologists, each archaeological resource was evaluated for cultural heritage value or interest (CHVI) to meet the definitions of "artifact" and "archaeological site" under the Ontario Heritage Act. Applicable criteria are detailed under Standard 1, and these were used to identify artifacts, groups of artifacts or archaeological sites that meet the criteria and require Stage 3 site-specific assessment. The applicable standards that apply to the project results are:

Std. 1.c Post-contact archaeological sites containing at least 20 artifacts that date period of use to before 1900. Further guidance for evaluating the potential cultural heritage value or interest of post-1830 post-contact domestic sites is provided in the S&G, Section 3.4.2, Standard 1.a.: In southern Ontario: most (80% or more) of the time span of occupation of the archaeological site dates to before 1870.

The subject site was found to contain a tightly-dated deposit ca. 1830-1870. The artifact assemblage therefore meets the criteria of the above standard.

In light of these findings, the following recommendation were provided in the report:

1. *The Madill site (BaHb-17) represents a mid-nineteenth occupation of the property. As such, this site represents an archaeological resource where the level of cultural heritage value or interest will result in a recommendation to proceed to Stage 4 mitigation. Therefore, it is recommended that the site be subject to comprehensive Stage 3 assessment in order to more fully identify the character, extent and significance of the archaeological deposits, in accordance with the Ministry of Tourism, Culture and Sport's 2011 Standards and Guidelines for Consultant Archaeologists.*
 - a) *The Stage 3 archaeological assessment should commence with the creation of a recording grid on a fixed datum, the position of which has been recorded using a GPS. Then, a controlled surface collection must be conducted to precisely define the nature and extent of the site. This work will require that the site area be re-ploughed and allowed to weather for a least one substantial rainfall prior to commencing this work. The location of each artifact should be mapped with the aid of a tape measure and transit, and a surface map produced for the site.*
 - b) *A series of one metre by one metre units will then be excavated across the entire site area at ten metre intervals within an established grid in order to determine the nature and extent of the cultural deposits. An additional 40% of the total number of units excavated on the grid will be strategically excavated at 10 metre intervals throughout the site, around units of high artifact counts or other significant areas of the site. The test units should be excavated five cm into the sterile subsoil and soil fills screened through six millimetre wire mesh to facilitate*

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artifact recovery. The sterile subsoil should be troweled and all soil profiles examined for undisturbed cultural deposits.

- c) *The results of the Stage 3 assessment will be used to evaluate the significance of the site and to develop a series of recommendations concerning any further mitigative options that may be necessary.*
2. *Approximately 20% of the subject property was not assessed, as these lands are situated outside of the limit of extraction. These lands consist of wooded areas along the east limit which retain potential for archaeological resources. Therefore, for areas formally prohibited from alteration the following documentation must be provided to the Ministry of Tourism, Culture and Sport in accordance with Section 7.8, Standard e. of the 2011 Standards and Guidelines of Consultant Archaeologists.*
- a) *A map depicting the exact limits of the area.*
 - b) *Documentation describing how the limit of the area was determined during the survey and confirming that the area included enough overlap to ensure that all adjacent impacted lands were surveyed.*
 - c) *A copy of the formal condition, zoning by-law or easement agreement confirming prohibition of alteration.*
 - d) *A copy of a statement from the approval authority that it has implemented or is about to implement the constraint (in writing, by letter or e-mail, submitted as part of the supplementary documentation).*
 - e) *A copy of confirmation from the proponent regarding the manner in which "no-go" instructions to construction crews will be implanted (in writing, by letter or e-mail, submitted as part of the supplementary documentation).*
3. *Should the limit of extraction change for any reason, then further Stage 2 Archaeological Assessment must be conducted on the remaining 20% of the subject property prior to any land-disturbing activities in accordance with the Ministry of Tourism, Culture and Sport's 2011 Standards and Guidelines for Consultant Archaeologists.*

8.4.2 The Prince Property (James Hamilton Site)

This assessment was also undertaken by Beverly Garner in accordance with Section 2.2 of the 2011 Standards and Guidelines for Consultant Archaeologists.

The report concluded that the James Hamilton (BaHb-18) site did not meet the Std. 1 c) criteria as the span of occupation began after 1870. Furthermore it was not possible to use the artifacts to determine CHVI since the sample of 135 artifacts is relatively small, and grading has affected the ability to collect a more sizeable sample.

In light of this conclusion, the following recommendations were provided:

- 1. *The James Hamilton (BaHb-18) does not represent a significant cultural heritage resource and may be considered clear of further archaeological concern.*

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2. Approximately 15% of the subject property, within the limit of extraction, has not been subject to Stage 2 Archaeological Assessment. The unassessed areas comprise a cattle paddock to the east of the large barn and the pine plantation in the southeast corner of the property. Prior to any land disturbing activities within the subject property, a Stage 2 Archaeological Assessment must be conducted in accordance with the Ministry of Tourism, Culture and Sport's 2011 Standards and Guidelines for Consultant Archaeologists.
 - a) The Stage 2 Archaeological Assessment must be carried out on all undisturbed lands remaining within the limit of extraction by means of a test pit survey. All test pits must be excavated at least five cm into sterile subsoil, with all soils being screened through six mm mesh to facilitate artifact recovery. All test pits must be at least 30 cm in diameter and backfilled upon completion. Test pits must be excavated within one metre of all built structures. The test pits must be excavated at five metre transect intervals.

3. Approximately 15% of the subject property was not assessed, as these lands are situated outside of the limit of extraction. These lands consist of wooded areas along the east limit which retain potential for archaeological resources. Therefore, for areas formally prohibited from alteration the following documentation must be provided to the Ministry of Tourism, Culture and Sport in accordance with Section 7.8, Standard e. of the 2011 Standards and Guidelines of Consultant Archaeologists.
 - a) A map depicting the exact limits of the area.
 - b) Documentation describing how the limit of the area was determined during the survey and confirming that the area included enough overlap to ensure that all adjacent impacted lands were surveyed.
 - c) A copy of the formal condition, zoning bylaw or easement agreement confirming prohibition of alteration.
 - d) A copy of a statement from the approval authority that it has implemented or is about to implement the constraint (in writing, by letter or e-mail, submitted as part of the supplementary documentation).
 - e) A copy of confirmation from the proponent regarding the manner in which "no-go" instructions to construction crews will be implanted (in writing, by letter or e-mail, submitted as part of the supplementary documentation).

4. Should the limit of extraction (as indicated on Figure 7) change for any reason, then further Stage 2 Archaeological Assessment must be conducted on the remaining 15% of the subject property prior to any land-disturbing activities in accordance with the Ministry of Tourism, Culture and Sport's 2011 Standards and Guidelines for Consultant Archaeologists.

8.5 Cultural Heritage Impact Assessment

This report, prepared by Mr. Dan Currie, RPP, CAHP and Mr. Nicholas Bogaert, RPP, CAHP, provided a summary of the background research and historical development of the subject lands. The report includes an identification of the cultural heritage resources present on the subject lands, as well as recommendations for the conservation of the cultural heritage resources onsite.

The report noted that the existing one-and-one-half storey Ontario Gothic Revival Cottage farmhouse on the northern (Prince) property will be retained as part of the development, and will remain occupied for as long as possible. The report noted that the tree-lined driveway, roadside vegetation and a yard space around the house will also be retained in order to provide context for the dwelling, while the barn located on the Prince property is proposed to be removed. The report also noted that all buildings located on the southern (Bonfield) property will be removed or dismantled.

In order to ensure that the cultural heritage resources onsite are conserved, the following recommendations were provided by the report:

- a) *The potential for the use of the barn and outbuildings as salvage materials should be explored. This could occur as part of onsite activities or through other means.*
- b) *A conservation plan for the house is recommended to be prepared in order to ensure that the heritage attributes of the house are retained. It is recommended that this occur at the commencement of site operations on the Prince property.*
- c) *Site rehabilitation is recommended in order to provide additional context and yard area surrounding the house. This will assist in a viable long-term after-use for the house.*

8.6 Agricultural Impact Assessment

This report, prepared by Mr. Pierre Chauvin, B.Sc, RPP, and Sandy Little, RPP, concluded that the proposed mineral aggregate extraction on the subject lands was not anticipated to have a significant negative impact on the long term agricultural uses and operations on the subject lands and within the primary / secondary study areas.

This basis for this opinion was premised on the following determinations:

- *Provincial and local planning policies recognize that mineral aggregate extraction operations are an interim land use. Mineral aggregate extraction is a permitted use within prime agricultural areas in accordance with provincial policy.*
- *The subject properties are not within a specialty crop area.*
- *Although the subject properties are within a prime agricultural area, the properties will be rehabilitated back to agriculture with the same average soil capability that currently exists.*

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- *There are limited areas within the Primary Aggregate Resource Area in the Township that would avoid prime agricultural soils. Non-prime agricultural lands within the Primary Aggregate Resource Area are either constrained by environmental conservation protection features, removed from other aggregate operations and/or are not located on established haul routes.*
- *The proposed expansion of the existing pit on the subject properties is within an area of established and concentrated mineral aggregate operations.*
- *No new haul routes are being created and existing truck traffic to/from the existing aggregate operations is not changing as a result of the proposed expansions.*
- *Extraction is proposed to be above the water table and no water taking is proposed. As a result, no impacts are anticipated on the availability of groundwater resources for the continued operation of surrounding agricultural uses.*
- *Impacts from dust, noise and visibility will be mitigated through implementation of prescribed conditions and technical requirements / recommendations and berming.*
- *The net loss of available agricultural land from the subject lands is marginal and largely attributed to side slopes created in the final landform. This marginal loss of agricultural land is offset by the additional land made available to rehabilitate back to agriculture as a result of the comprehensive rehabilitation plan that includes the existing adjacent licensed pits.*
- *Implementation of the recommended rehabilitation plan including the recommended best practices in the report will ensure a successful agricultural rehabilitation process.*

8.7 Traffic Review

A traffic review was prepared by Mr. Adam Beasoleil, P. Eng and concluded the following:

- a) *Road network improvements from the previous studies have implemented correctly and remain in good functioning condition;*
- b) *There are no operational or safety concerns with the network;*
- c) *The pavement condition along County Road 17 is acceptable and it is recommended that the pavement condition along the 4th Line be monitored and that potholes south of the northerly driveway be fixed; and,*
- d) *The southbound stop bar at Bounty Road and 4th Line, as well the trailing northbound left-turn arrow at County Road 17 and County Road 124 should be repainted.*

8.8 Planning Report

This report, prepared by Mr. James Parkin, RPP and Mr. David Barrett, RPP, reviewed the Dufferin County Official Plan and the Township of Melancthon Official Plan and concluded the following:

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- a) *The lands proposed for redesignation are recognized for containing significant aggregate resources in a location that is close to market and is located on a designated haul route;*
- b) *The operational design of the pit incorporates the recommendations of the technical reports prepared for the application so the proposed pits will operate in a manner compliant with Provincial standards and also in a manner that will serve to minimize social and environmental impacts; and,*
- c) *The proposed pit extension represents the wise use and management of significant aggregate resources and is consistent with the Provincial Policy Statement and conforms with the Dufferin County Official Plan and Township of Melancthon Official Plan.*

It is further noted that the applications for Official Plan Amendment and Zoning By-law Amendment, prepared by Mr. David Barrett, RPP, identified that the proposed amendments conform with the Provincial Growth Plan.

9.0 CONCLUSION

The application submitted by Strada Aggregates to redesignate and rezone lands located in the West Half of Lots 12 and 14, Concession 3 O.S, in the Township of Melancthon for the purpose of a Class A, Category 3 pit, fulfills the general submission requirements of the Township's Official Plan as well as Schedule 1 to O. Regs. 543/06 and 545/06.

In my opinion, the application can be declared complete to allow for public notification, review and analysis by the County, Township and the Nottawasaga Valley Conservation Authority as well as the undertaking of peer reviews.

A public meeting should not be scheduled until peer reviews are complete and the proponent has had an opportunity to consider and respond to any further technical matters.

10.0 RECOMMENDATION

If Council concurs with the conclusion of this report the following recommendations are provided for consideration:

1. *That the application for Official Plan and Zoning By-law Amendment submitted by Strada Aggregates be received together with this report and declared complete and that the Township of Melancthon coordinate the completion of peer reviews of the technical reports and site plans submitted with the application.*

-original signed-

Chris Jones MCIP, RPP

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