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May 30, 2012

Via: Email (spersaud@tiny.ca) & Original Mailed

Shawn Persaud, BA, MCIP, RPP
Manager of Planning & Development
Township of Tiny
130 Balm Beach Road West
Tiny, ON L0L 2J0

Dear Shawn:

Re: Township of Tiny
K.J. Beamish Pit License Expansion Peer Review
Official Plan and Zoning Amendments
12/D09 and 12/D14 Roll #1-029-00
File No. 300031221

We have reviewed the first submission documents received April 3, 2012, for the proposed K.J. Beamish Construction Company Limited Aggregate Pit Expansion, located at 2 Darby Road (North Part Lot 80, Concession 1 Old Survey), north of Waverly in the Township of Tiny.

The following documents were included in the submission:

- Acoustic Assessment Report, dated July 2011, prepared by F. H. Theakston Environmental Control Inc.;
- Hydrogeological Assessment, dated April 12, 2011, prepared by Alpha Environmental Services Inc.;
- License Site Plans, dated January 31, 2012, prepared by C. T. Strongman Surveying Ltd., including Existing Features Plan, Operational Plan, Rehabilitation Plan, and Cross Section Plan;
- Schedule A — Land Use and Schedule B — Natural Features of the Township of Tiny;
- Official Plan as they relate to the subject lands;
- Planning Report PD-020-12, dated March 16, 2012, prepared by Township of Tiny;
- Summary Statement Report, dated November 28, 2011, prepared by Dennis C. Simmons Development and Land Management Consulting Services;
- Stage 1 and 2 Archaeological Assessment Report, dated May 2011, prepared by The Central Archaeology Group Inc. and letter dated June 24, 2011 from the Ministry

of Tourism and Culture stating that the Ministry concurs with the recommendations of the report that there are no further archaeological concerns for the subject property;
- Environmental Impact Statement and Natural Environment Level 1 and 2 Technical Report, dated September 20, 2011, prepared by The Lindsay Environmental Group to be peer reviewed by the Severn Sound Environmental Association;
- Planning Report, dated February 2012, prepared by Les C. Selby Consulting Services to be peer reviewed by Township Planning Staff.

As requested, we have provided peer review comments for the Acoustic Assessment Report, the Hydrogeological Assessment Report and the Site Plan Drawings.

We have the following comments:

Acoustic Assessment Report

1. The peer review of the acoustic report was completed by Aercoustics Engineering Limited. A copy of their peer review letter is attached for reference. The peer review letter provides detailed comments and indicates that additional information is required in order to complete a thorough review.

Hydrogeological Assessment Report

The hydrogeological letter report was prepared in support of an application for a Class A, Category 3 sand and gravel pit in accordance with the Ontario Aggregate Resources Act. Policy A.R. 2.01.06 - License Applications - Hydrogeological Report Standards provides guidance on the information to be included in a hydrogeological report. The Guiding Principle of the document is it to determine that an aggregate operation will not adversely affect the water table or ground water regime (e.g., wetlands, areas of natural and scientific interest or nearby wells). It is necessary to establish where the water table is in relation to the depth of extraction. The report must also carefully consider mitigative measures by a qualified individual. The policy goes on to indicate that the hydrogeological report should implicitly state whether it is a level 1 or level 2 report and include the supporting rationale.

The Alpha Environmental Services (AES) letter uses the information from four monitor wells along with published geological information to provide an estimate of the water table on the site.

The AES report indicates "to assist in understanding the location of the water table of the site, one well (MW1-09) was constructed on site in the overburden at the location shown in Figure 3. The locations of wells on the adjacent properties (MW1, MW4 and 16440) are shown in Figure 3. Well 16440 was drilled as a test well and was decommissioned shortly after construction because it was dry".

2. One of the wells (16440) is reportedly dry, yet the bottom of the well appears to be used as the water table elevation in Figure 3.

3. Three of the wells (MW1, MW4 and 16440) are south of the site and MW1-09 is located at the western property boundary. There is no information on the northern

portion of the site. In addition, there is no discussion on how the water levels in the pond on the property to the south compare to water levels in MW1.

The AES report states "Based on the location of the water table in MW1-09, 16440, MW1 and MW4, the water table is estimated to vary from 236.0 masl in the west portion of the site to 254.8 masl in the center to 252.2 masl in the east portion of the site as shown in Figure 3".

4. There is no indication of how many times water levels were measured. There appear to be significant topographic variations across the site, but the wells are predominantly located along the southern portion of the site and as a result, the water table variations with topography are not considered.

5. Similarly, there is no discussion on how increased infiltration within the excavation area will impact the water table.

6. The stratigraphic information for MW1 (Figure 3) suggests the well may not be completed in the same material as the other wells and as a result, water levels from this well may not represent the water table in the sand and gravel.

The AES Remedial Plan consists of one line "If there is a well interference complaint (water quality and/or water quality), Cedarhurst should be notified immediately and an investigation should be undertaken to determine the cause of the problem".

7. MOE well records and a door to door survey should be used to locate domestic wells in the vicinity of the site. These data should be used to develop an appropriate remediation plan.

Summary

There is insufficient data to allow for a reliable interpretation of water table elevations to be made. Given the topography of the site, it is likely that water table elevations will vary significantly across the site. As a result, Burnside recommends the following:

8. Additional monitoring wells be drilled along the northern property boundary at a minimum of 3 Locations.

9. Detailed borehole logs be provided for all monitoring wells.

10. The domestic wells within 500 m of the site be identified so that baseline water level and water quality data can be obtained and a more detailed remediation plan developed.

11. Water level monitoring be undertaken on a monthly basis and compared with precipitation so variations in the water table can be predicted.

Site Plan Drawings

12. The Aercoustics peer review letter identifies several items related to the Site Plan Drawings. These have not been repeated here.

13. The notes included on the Operational Plan drawing and in the Planning Report indicate that a maximum of 600,000 tonnes of aggregate may be removed from the proposed pit in any given year. The Planning Report further indicates that this will be the maximum quantity transported onto Darby Road from both the proposed pit and the existing Teedon Pit (p.16). The Operational Plan indicates that other aggregate materials (reclaimed concrete and asphalt) may also be imported, processed and exported from the site. The proponent should clarify precisely what limits will be placed on the quantities of all materials to be hauled and the proposed conditions to be placed on both pit licenses and the Site Plan Agreement to ensure compliance.

14. The Operational Plan drawing indicates that the proposed pit will utilize the existing Teedon Pit access to Darby Road. As these are two separate parcels, some form of registered easement should be obtained to ensure future access and define maintenance responsibilities. It is possible that the parcels could eventually have separate ownership.

15. The Operational Plan drawing indicates an area for stockpiling of imported materials within the Phase 1 area of the pit. Limits on the stockpile area should be indicated.

16. Note #6 on the Rehabilitation Plan drawing should be revised. The Summary Statement Report indicates that surface drainage of undisturbed areas will remain largely unchanged and that surface drainage of excavated areas will be directed to the pit floor.

17. The Cross Section Plan drawing includes static water levels on cross sections A-A and B-B. Static water levels should also be indicated on cross section C-C.

18. It would be helpful to include maximum and minimum water elevations for the existing pond on all drawings.

We trust the above comments will be of assistance. Should you have any questions, please call our office.

Yours truly,

R.J. Burnside & Associates Limited

Ron Kerr, MPA, P.Eng.
RK:sj
Enc.

120530 Persaud Beamish Site Plan Comments
2012-05-30 4:00 PM

aercoustics
engineering limited

Acoustics
Noise
Vibration

May 1, 2012

R. J. Burnside & Associates Ltd.
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Collingwood, Ontario
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Attn: Mr. Ron Kerr

RE: Peer review of Cedarhurst Quarries and Crushing Ltd. Sibthorpe Pit
Acoustic Assessment Report prepared by F. H. Theakston Enviro. Control.

Aercoustics Engineering Ltd. (Aercoustics) was retained by R.J. Burnside to conduct a peer review of the Acoustic Assessment Report for Cedarhurst Quarries & Crushing Ltd.'s Sibthorpe Pit, prepared by Theakston Environmental (Theakston) dated July 2011. The purpose of our peer review was to provide our opinion if the report satisfactorily addresses the environmental noise impact issues.

The Theakston report was a noise study in support of a Category 3 application for an aggregate license. The purpose of the report was to:

1. Identify the potential noise sources;
2. Outline the sound exposure levels expected at surrounding neighbours; and
3. Provide recommendations for mitigation measures to satisfy the Ministry of Natural Resources.

In order to conduct the review, the following additional documents were referenced:

1. Operational Plans prepared by C.T. Strongman Surveying Ltd., dated January 2012;
2. Existing Features Plans prepared by C.T. Strongman Surveying Ltd., dated January 2012;
3. Rehabilitation Plan prepared by C.T. Strongman Surveying Ltd., dated January 2012; and
4. Summary Statement prepared by Dennis C. Simmons (unsigned) dated November 2011.

The Theakston report does not provide sufficient information on the potential noise impact of this proposed pit. The purpose of a noise study is to demonstrate the feasibility of the proposed operation to comply with the applicable noise guidelines. We recommend a revised report to address our concerns.

More detailed comments are provided below.

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1. No calculations have been provided in the report. The only data provided is plots of Cadna software which does not allow for a proper review. Calculations are required for a peer review and should be included in the noise study.

2. The sound power level of the equipment provided in the report should be confirmed as they are lower than Aercoustics' experience. In addition, no spectral data was provided, nor was it clear if spectral data was used in the calculations.

3. The Operation Plan's notes should include the equipment types and numbers as well as their noise emission levels.

4. The Theakston report lists a total of four (4) receptors. It is not clear if the report only addressed the receptors within 120m (or 150m) however an aerial and Existing Features plan does show a number of receptors well within an area that may be impacted by noise from the pit. The impact at these receptors should be provided.

5. Section 2 of the report states that facility will generally operate between the hours of 0700 to 1900, Monday to Friday. The Operational Plan states that the facility's hours are limited to 6:00 am to 7:00 pm Monday to Friday, and 7am to 12pm on Saturdays. In addition, it states that crushing and screening (processing) is limited to Monday to Friday (6:00am to 7:00pm). This is a significant discrepancy since operation prior to 7:00am would require the facility to meet the night-time MOE limits. Confirmation of the hours of operation should be provided, and the noise impact should be assessed for the actual hours of operation.

6. Section 2 of the report lists equipment that can operate on site as follows: one generator, one primary and one secondary crusher, four (4) conveyors, one screen and one loader. The Operational Plans, under "*Equipment to be used on site*" lists significantly more equipment and does not limit the amount of equipment to be used e.g. the Operational Plans allow for a bulldozers, excavators, dump trucks, and more than the single use of any piece of equipment. This is very significant since the noise study shows the equipment just meeting the MOE's noise limits, and any additional or missed equipment will result in exceedences. The noise study should reflect the actual equipment that will operate on site, and if there are limits to the number of equipment that can operate, this limit should be listed on the Operational Plan.

7. The Operational Plans, under Processing / Stockpiling of Aggregate, states that processing operations will be located as close as possible to pit faces. The Theakston report also requires the portable crushing plant to be "close to the face" as possible. No maximum distance set-back is provided in either the Operational Plan or the report. Given this is a required noise control measure, a value for this maximum setback distance should be provided and included in the Operational Plan.

8. As details were not provided, it is not clear where exactly the equipment was located within the pit when determining the worst-case location; however it appears that the equipment was located very close to the operating face in order to benefit from maximum face shielding. Confirmation should be provided as to the set-back possible from the face, particularly when the equipment approaches the licensed extraction boundary and property line.

9. Construction activity is not included in a noise study for a pit or quarry. Regardless, the report does not address site preparation i.e. berm construction, rehabilitation, etc. The equipment used

for this construction activity must satisfy NPC-115 and should be stated in the Operational Plans.

10. The facility description in Section 2 and the impact assessment in Section 7 do not address any on-site trucks that may be used to ship material. Given the Operational Plan allows for aggregate material to be imported onto the site, and material must be shipped off-site, and as these sources may operate at grade, they should be addressed in the study as they are a noise source.

11. Only some of the berm requirements outlined in Theakston's report are included in the Operational Plan. Given that all other controls (equipment numbers & limits, setbacks, berm progression) are critical to the operation of the facility, all noise control measures should be included in the site's Operational Plan.

12. There are no specific guidelines or regulations for haul routes from pits or quarries. However, in many applications, haul route noise has been examined. The Summary Statement does state that the proposed entrance/exist for the site is onto the existing Teedon pit, and use the Teedon pit's entrance on Darby Road so it is expected that the current haul route will remain.

13. Table 2d – Point of Reception Noise Impact Phase 4, for POR1, shows a setback between 150m to 165m, and impacts from equipment at 45 dBA. Given the close location of the receptor, confirmation should be provided for the barrier attenuation and other mitigation measures. In addition, confirmation should be provided that equipment not well shielded by the pit face will still meet the MOE noise limits.

14. The Cadna plots show a significant area of foliage. Confirmation should be provided if foliage attenuation was used, and the values of this attenuation.

15. It is not clear from the report whether the existing Teedon pit to the south will continue operation, or have any equipment operating within the site. This should be addressed and if equipment will be operating at both sites, a discussion on the impacts should be provided.

16. The Theakston report includes a Ministry of the Environment (MOE) Checklist (PIBS 5356e). A noise study for an aggregate facility is governed by the Ministry of Natural Resources (MNR) and this is not an MOE process. The memorandum of understanding between the MNR & MOE does require that the facility meet the appropriate MOE noise guidelines, however it is not required to provide a MOE checklist.

17. The Ontario Provincial Policy Statement 2.2.7 requires that "*each* [technical] *report shall state the qualifications and experience of the individual(s) that have prepared the report(s)*". Industry practice has been to include Curriculum Vitae in all noise studies. This should be provided.

Closure

The report is missing vital information required before Aercoustics can provide a thorough review. In addition, there are serious inconsistencies between the report and the Operational Plan which need to be corrected. In its current state, Aercoustics cannot support the aggregate licence proceeding.

Yours truly,

AERCOUSTICS ENGINEERING LIMITED

Nicholas Sylvestre-Williams, M.Eng., P.Eng.