



May 10, 2011

Mrs. Keri Martin Vrbanac
c/o Conestogo-Winterbourne
Residents Association (CWRA)
174 Golf Course Road
Conestogo, ON, N0B 1N0

**Re: Peer Review, Hunder Development Ltd. – Hunsberger Pit Acoustical Study
Field Study Report (Final)
Novus Project No. 11-0006**

Novus Environmental was retained by the Conestogo-Winterbourne Residents Association (CWRA) to conduct a peer review of the noise assessment work conducted for the proposed Hunder Development Ltd. "Hunsberger Pit". This letter presents the results of our findings, and includes the results of additional noise measurements conducted along Golf Course Road.

In conducting our assessment the following documents have been reviewed:

- Three versions of the "Hunder Development Ltd., Hunsberger Pit Acoustical Study" prepared by IBI Group, dated October 2008, May 2010, and December 2010
- The peer review comments from Valcoustics, dated February 2010
- The response to peer review comments from IBI, dated May 2010 and January 2011.

We agree with Valcoustics, the Township's peer reviewer, concerning the significant issues in the first versions of the IBI Group analysis and report. In our opinion, there remain significant outstanding issues in the "final" December 2010 analysis conducted by IBI, which have not been addressed. These issues are discussed below.

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1.0 Area Classification and Applicable Guideline Limits

The primary issues with the analysis, and one which has been raised since the first peer review by Valcoustics, is the area classification and the resulting applicable guideline limits. In the final report, IBI has identified some receptors as “Class 3” areas, which have the strictest rural area guidelines under Ministry of the Environment Publication NPC-232. These limits are 45 dBA during the daytime, and 40 dBA during the night-time.

However, for receptors within the village of Conestogo, they have adopted “Class 2” guidelines, from Publication NPC-205, which set out limits which are 5 dB higher – namely, 50 dBA during the daytime, and 45 dBA during the night-time. This selection has been repeatedly questioned by Valcoustics. We also believe that it is inaccurate.

In NPC-205 and NPC-232, the definition of Class 3 area is:

“Class 3 Area” means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:

- a small community with less than 1000 population;
- agricultural area;
- a rural recreational area such as a cottage or a resort area; or
- a wilderness area.”

In the final report, IBI rationalizes its selection by stating that since the area has a population of 1,235 (versus 1,000) and “will realize daytime noise such as cars, lawn mowers, air conditioning and other human activity”, it is a Class 2 area.

This is a misinterpretation of the Guideline requirements and the definition. The key factor in determining the area class is that the environment be “*dominated by natural sounds*” and “*having little or no road traffic*”. The items in the bullet list are examples of Class 3 areas, and are not criteria for determining the area class. The Annex to Publication NPC-232 states that “while examples of a rural setting, described in Publication NPC-232 provide some general guidelines, any classification of a point of reception as being in a Class 1, 2 or 3 Area should be made on an individual basis.”. In addition, the draft version of Publication NPC-300, which when finalized will replace both NPC-205 and NPC-232, the examples are stricken, and an emphasis on measurements to determine the area classification is provided.

In addition, NPC-205, NPC-232, and NPC-300 all require that a “predictable worst-case impact” be assessed for compliance. For the majority of the day, there will be little or no vehicle traffic at the key “Conestogo Village” receptors along Golf Course Road.

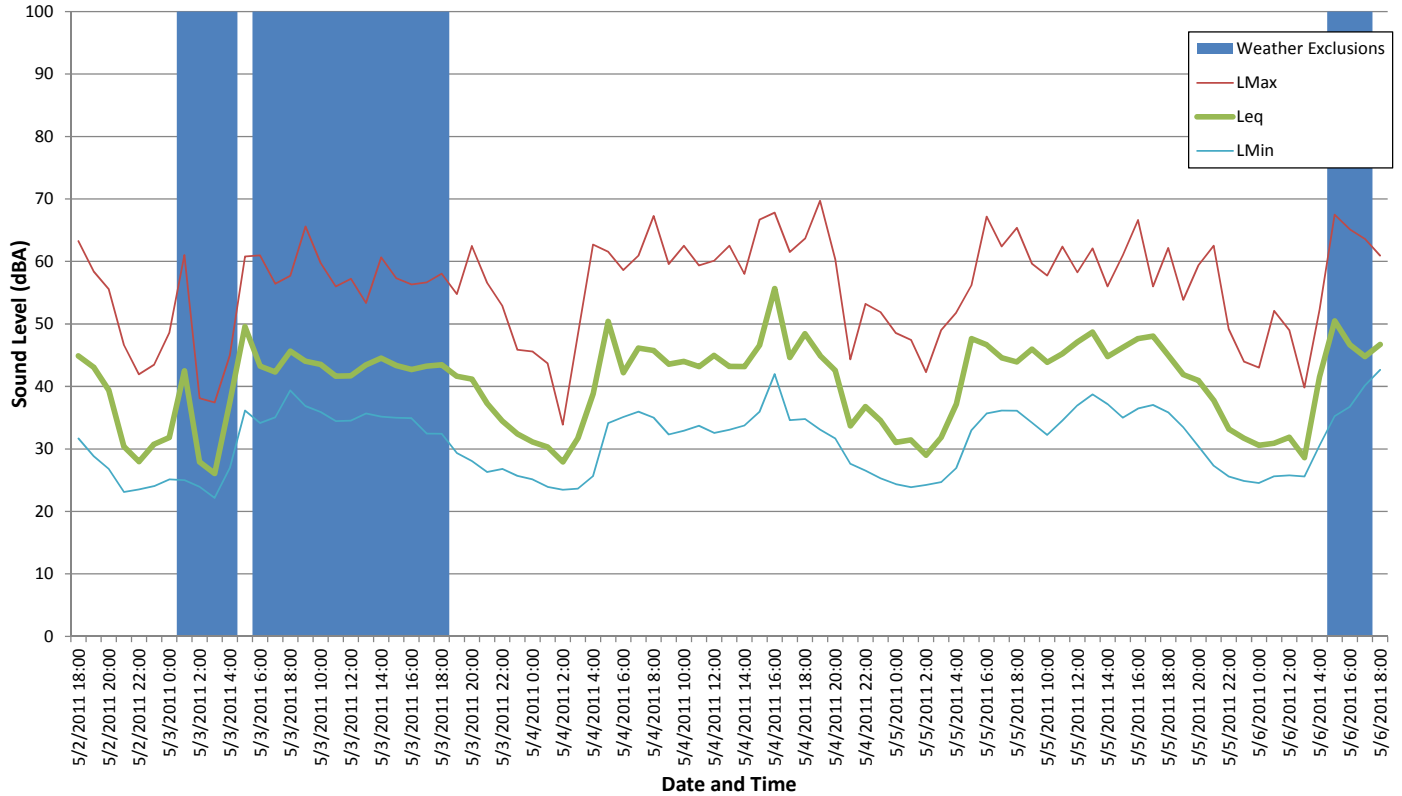
During the spring and fall, there will likely be no air conditioning noise. And of course, lawn mower noise is not continuous.

The only way to decisively answer the question is to conduct long-term ambient noise measurements, in accordance with Publication NPC-232. Novus has conducted measurements at a two locations, located on Golf Course Road (NM1) and on Hunsberger Road (NM2). Measurement results are presented in **Figure 2**.



Figure 1: Ambient Noise Monitoring Locations
(Aerial from Google Earth Pro)

219 Golf Course Road - May 2 to 6, 2011



2180 Hunsberger Road - March 7 to 15, 2011

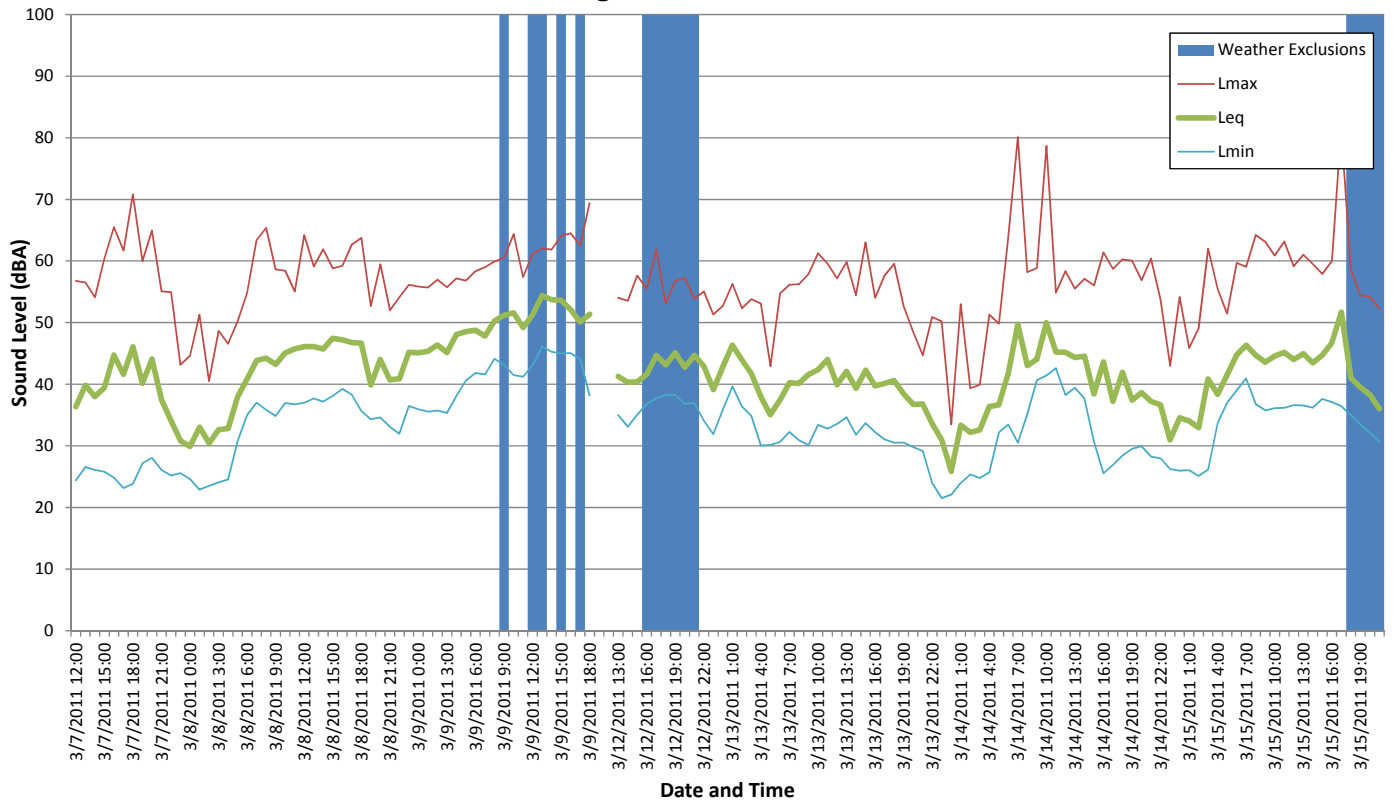


Figure 2: Long-Term Ambient Noise Monitoring Results

Figure 2 illustrates that during daytime and night-time hours, existing L_{eq} (1 hr) sound levels fall well below the 45 dBA daytime / 40 dBA night-time sound level minima. The minimum measured hourly levels are:

Location	Minimum Measured Ambient Sound Level, L_{eq} (1-hr), dBA		
	Daytime (0700-1900h)	Evening (1900-2300h)	Night-time (2300-0700h)
219 Golf Course Road	43	28	28
2180 Hunsberger Road	36	34	26

These low levels are well below the Class 3 area guideline minima, and indicate that NPC-232 Class 3 limits should apply to these receptors.

2.0 Effect of Use of Correct Class 3 Designation In the Assessment

Based on the data collected to date, the criteria used in the assessment are 5 dB too lenient in the IBI report. The Class 3 limits of 45 dBA daytime / 40 dBA night-time should apply to the local receptors.

The net result is that the mitigation measures shown in the IBI report are insufficient to meet the guideline limits at these locations.

Higher noise barriers or other noise control measures would be required to ensure compliance with the applicable NPC-232 limits.

3.0 Other Issues

Regardless of the primary issue, there are other items of concern with the analysis and report:

- The receptor heights used in the analysis have not been provided. Upper-storey windows should be used when determining impacts and required barrier heights.
- Meteorological and ground absorption parameters used in the analysis should be provided.
- Source, receptor, barrier, and sound power level libraries as well as an example “protocol” output file from the Cadna/A model should be provided, to ensure the modeling has been done correctly, and to enable a full peer review check.

- The information provided in the report does not meet Publication NPC-233 requirements.
- Cumulative assessments are required by the Township in its Official Plan. While the proposed Jig's Hollow pit is considered, the assessment does not include the cumulative noise impacts of the proposed Kuntz gravel pit.

4.0 Conclusions

From our review, we conclude that:

- The IBI report has used incorrect limits for noise sensitive receptors in the Golf Course Road / Hunsberger Road community. Class 3 limits under Publication NPC-232 should apply to this area.
- As a result, the barrier requirements listed in the assessment are incorrect, and would not result in compliance with the guideline limits at the affected receptors.
- Insufficient information has been provided in the IBI reports to ensure that the modeling has been performed properly, in accordance with Publication NPC-232 and Publication NPC-233 requirements.

Should you have any questions or concerns, please feel free to contact us.

Sincerely,

Novus Environmental Inc.



R. L. Scott Penton, P.Eng
Principal

