



600 Southgate Drive
Guelph ON Canada
N1G 4P6

Tel: +1.519.823.1311
E-mail: solutions@rwdi.com

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Nicholas Godfrey, MA, MCIP, RPP
Upper Canada Planning & Engineering Ltd.
30 Hannover, Unit #3
St. Catharines, ON, L2W 1A3
905-688-9400
nicholas@ucc.com

**Re: Addendum – Noise and Vibration Impact Study
8168 McLeod Road, Niagara Falls
RWDI Reference No. 2201764**

Dear Nicholas,

RWDI AIR Inc. (RWDI) was retained by Lotus Land Development Corporation to prepare a noise and vibration study for the proposed development at 8168 McLeod Road in Niagara Falls. RWDI prepared and issued a study titled “8168 McLeod Rd, Noise and Vibration Impact Study”, dated June 30, 2022. The report was subsequently updated on February 26, 2024, to reflect a revision to the proposed site plan. The Regional Municipality of Niagara Falls (Region) reviewed the study and issued two comments with a request for an addendum regarding RWDI’s findings. The comments are provided below in italics with RWDI’s responses immediately following them. The intent of this document is to serve as an Addendum to the Noise and Vibration Impact Study prepared by RWDI.

- 1. The Noise Study has characterized the site as a Class 2 Area. These areas are defined by NPC-300 as an acoustical environmental typical of a major population centre during the day and nighttime sound levels (starting at 7pm) defined by the natural environment and infrequent human activity. Based on Region’s staff observations, staff note this area may be more appropriate as a Class 1 area. Staff request additional clarification on how the consultant determined the property should be assessed as a Class 2 area under NPC-300 instead of Class 1 and/or revisions to the Noise Study to assess the property as a Class 1 area.*

RWDI Response – Class 2 is a marginally more conservative acoustical classification than Class 1. The main difference, and where the marginal conservatism comes from, is the reduced sound limit for the evening hours (7:00 pm to 11:00 pm) for outdoor amenity areas. The façade sound level limits (i.e. at the living room and bedroom windows) do not differ between Class 1 and Class 2 acoustical areas. The classification was based on a site visit. During the time, daytime sound levels were dominated by traffic and nearby activities. These sound levels were lower in the evening and nighttime hours. An argument could be made that in the last several years with the rapid growth in the Region, the classification can be upgraded to Class 1. However, this reclassification will not change the outcome of the reports.



2. *The Noise Study states that subject to the below mitigation, the proposed development is feasible to meet the applicable sound criteria:*
 - a. *Installation of central air conditioning to allow windows to remain closed.*
 - b. *Inclusion of noise warning clauses related to transportation sound levels at the building façade and outdoor amenity areas and proximity to commercial/industrial land uses.*
 - c. *Minimum sound isolation performance for suite bedroom window glazing STC-28 for the north façade of the north building.*
 - d. *Construction of perimeter noise barriers along the outdoor amenity area:*
 - i. *A 3.0 m tall noise barrier to the north along McLeod Road and a 2.3 m tall noise barrier to the west to meet the 55 dBA threshold under NPC-300 OR a 1.8 m tall noise barrier along the north and west side with a warning clause to achieve the 60 dBA threshold under NPC-300 (Figure 3A and 3B).*
 - ii. *A 1.8 m tall barrier between 8196 McLeod Road and the subject property for stationary noise sources (Figure 4).*
 - e. *That building design be evaluated prior to building permit to ensure the acoustical design adequately implemented to meet the applicable criteria.*

Regional staff requests an Addendum be provided to clarify the methodology of the study (utilizing Class 2 instead of Class 1) and clarity on which warning clause corresponds to which units. Furthermore, City staff should be satisfied with the proposed height of the noise barriers as detailed above.

RWDI Response – As per our response to Comment #1, the acoustical area was chosen based on a site visit. A Class 2 acoustical area has the same sound level limits as a Class 1 acoustical area, except for outdoor amenity spaces during the evening hours (7:00 pm to 11:00 pm). The assessment methodology does not differ for developments in Class 1 and Class 2 acoustical areas. The only difference is the application of the evening sound level limits.

The 1.8 m tall wall between 8196 McLeod Road and the subject property is recommended to meet the evening sound level limits. If the Class 1 sound level limits are applied instead of the Class 2 sound level limits, this wall will not be required.

Table 1 below provides clarity on which warning clauses apply to which units. Note that these are based on the assumption that a 1.8 m tall barrier wall will be constructed to reduce the outdoor amenity sound levels to 60 dBA. The unit numbering is based on site plans dated January 19, 2024.



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Table 1: Required Warning Clauses

Unit(s)	Applicable Warning Clause
1	Types B and D
2	Types A and D
3 - 5	Type D
7 - 12	Types D and E
13 - 18	Types C and E

We trust the above clarification is sufficient justification for classifying the aforementioned adjacent facilities as Class I.

Yours truly,

RWDI

Brad Bergeron, d.E.T., A.Sc.T.
Sr. Project Manager | Principal

Slavi Grozev, B.A.Sc., P.Eng.
Senior Engineer | Associate

BCB/SVG/jo



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STATEMENT OF LIMITATIONS

This memorandum entitled Addendum – Noise and Vibration Impact Study was prepared by RWDI AIR Inc. (“RWDI”) for Lotus Land Development Corporation (“Client”). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein (“Project”). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.