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December 16, 2020

City of Toronto, City Planning Division
100 Queen St. W., 18th Fl. East Tower
Toronto, Ontario, M5H 2N2

**Re: Environmental Noise & Vibration Impact Study – Preliminary Response to Metrolinx and Third-Party Review Comments
6 Dawes Road, Toronto, Ontario
RWDI Reference No. 2000127**

RWDI was retained to complete an Environmental Noise and Vibration Impact study for the proposed 6 Dawes Road development in Toronto, Ontario. The latest RWDI report, dated November 22, 2019, was included in the development's first rezoning submission.

The City of Toronto's third-party reviewer, Jade Acoustics Inc (Jade), had comments on this report, which were provided in a memorandum dated December 8, 2020.

Metrolinx also provided comments through a memorandum dated January 15, 2020.

A table has been provided on the next page that summarizes the comments from both these parties, with RWDI's response including a clarification and/or plan for addressing this comment.

In summary, RWDI has been re-engaged to provide an update to the environmental noise and impact study for the development's next ZBA re-submission. All of the received comments will be either addressed in that updated study, or a case will be made defending the previous methodology.

Should you have any questions, please do not hesitate to contact us.

Yours truly,

RWDI

Brandon Law
Senior Project Manager | Associate Principal

Khalid Hussein, P.Eng
Noise and Vibration Engineer



The December 8, 2020 comments from Jade are summarized below:

#	Comment	RWDI Response
Transportation Sources		
01	In any updates to the noise report the road and rail traffic should be updated to be the most current.	Noted. When the study is updated, we confirm whether updated traffic data is available.
02	Table 4 of the report indicates 16% and 14% for heavy vehicle traffic on Main Street and Gerrard Street East, respectively. This seems very high and should be confirmed.	RWDI will engage the city of Toronto to confirm if there is more up to date information. However, the 2014 data provided at the time of the initial study does indicate high truck and bus activity at this intersection. Please see Appendix A for the City of Toronto Data.
03	The report does not include any correspondence from CN, despite commenting on in Section 3.3 that the CN data and e-mail is included. CN's letter and subsequent clarifications should be included in the report.	Correspondence with CN indicating that CN freight trains are no longer operating on this rail line is attached and will also be included in the updated study.
04	As there are no sample calculations it was not possible to verify the setbacks and distances to the noise sources. Sample calculations should be included in the noise report to assist in the review.	A CadnaA protocol will be included in the updated study.
05	The Metrolinx information indicates that the permitted speed on this rail subdivision is 161 km/hr. However, RWDI has used 40 km/hr based on observations. This is not an acceptable approach. If less than the posted speed is to be used, written confirmation should be obtained from Metrolinx.	Modelling will be updated to account for train speeds of 161 km/hr.
06	Figure 4 indicates the sound levels at the OLA of each of the towers. The sound barrier heights should be reviewed as very high sound barriers are proposed for a minor amount of attenuation. For example, OLA_W2 has an unmitigated sound level of 58 dBA; however, on Figure 7 a 5.5 m high sound barrier is proposed to reduce the predicted sound level by 3 dBA. Further, sound barriers that provide a minimum of 5 dBA reduction (break line-of sight) are required. Additional explanation is needed regarding the sound barrier settings used in the analysis.	OLA barriers will be redesigned as part of the updated study to account for new rail speeds and any updated traffic data. OLAs barriers do not account for reflections from the proposed development, as per NPC-300 guidelines.



#	Comment	RWDI Response
Transportation Sources		
07	<p>The MOE and the railway companies require brick veneer or masonry equivalent exterior wall construction for dwellings adjacent to rail lines. The report does not recommend or acknowledge this requirement. Spandrel panel is referenced as the proposed building construction. The report should be clear that brick veneer or equivalent masonry construction is required for these facades as outlined in NPC-300.</p>	<p>The updated report will make clear that façade wall components with direct line of sight to the adjacent rail lines will have exterior wall construction that includes a brick veneer or equivalent masonry construction.</p>
Stationary Sources		
08	<p>There are many commercial/employment uses located north of the proposed development. The report only addresses three potential sources. A complete inventory of the potential sources should be included in the report and comments provided regarding their relevance.</p>	<p>RWDI has conducted a review of publicly available data and has confirmed that there are no active facilities with environmental noise permits (Environmental Compliance Approvals or Environmental Activity Sector Registrations) that would be adversely affected by the approval of this development.</p>
09	<p>The report has assessed the Canadian Tire building with respect to continuous sources such as truck idling, truck movements and similar operations. However, the loading/unloading and coupling/uncoupling operations would generate impulsive noise based on the description of the operations. No impulsive sources have been assessed.</p>	<p>As such, mitigation at source will not be required, since acceptable indoor sound levels can be ensured via sound insulation design of the project building façade.</p> <p>RWDI will model commercial/employment uses within 200m of the proposed development for due diligence purposes and to ensure that acceptable indoor sound levels are achieved at the proposed development (e.g. via upgrades to façade and or glazing sound insulation, if required).</p>
10	<p>The report predicts exceedances above the MOE guidelines but indicates that these should be confirmed at a later date. As this is a rezoning, the sound levels due to the stationary sources should be evaluated at this stage to determine the mitigation that may be needed. To conduct this additional analysis the surrounding employment/commercial operators should be contacted to obtain information regarding their operations. Mitigation at source may not be feasible or may not be permitted by the operators of the stationary sources.</p>	<p>RWDI did not include impulsive noise as it is not anticipated at the Canadian Tire. Coupling and uncoupling of transport trucks is not typical for retail facilities and if it were to occur it would be a rare event and not representative of typical operations.</p> <p>However, as requested potential impulsive noise due to trucks coupling/uncoupling at the nearby Canadian Tire will be included in the updated study.</p>



#	Comment	RWDI Response
Stationary Sources		
11	The report should include the partial level tables and calculation protocols from CadnaA to assist with the review.	The updated study will include a CadnaA Protocol and a partial Level table for the worst-case receptor.
Vibration		
12	A vibration assessment based on on-site measurements was conducted by RWDI. The results indicate that there are significant excesses above the rail guidelines with respect to ground-borne rail vibration. As significant mitigation will be needed this should be addressed early in the design process.	Agreed and noted.
13	It should also be noted that the rail guideline for ground-borne vibration is an overall limit not just in any 1/3 octave band.	<p>RWDI has followed RAC guidance which states that “Ground-borne vibration transmission is to be estimated through site testing and evaluation to determine if dwellings within 75 metres of the railway right-of-way will be impacted by vibration conditions in excess of 0.14 mm/sec. RMS between 4 Hz. And 200 Hz.”</p> <p>The criterion is based on previous criterion documents from CP and CN, as well as ISO-2631-2. Based on the historical development of the criterion, the vibration limit would apply at any 1/3-octave band centre frequency within the 4Hz to 200 Hz range. This approach is more stringent than assessing the overall vibration level (within the 4 Hz to 200 Hz range). We have included a document by CP rail for reference.</p> <p>The comment by the peer reviewer is incorrect and is a misinterpretation of the RAC guideline vibration criterion.</p>



The January 15, 2020 comments from Metrolinx are summarized below:

#	Comment	RWDI Response
Vibration		
14	Train speed of 40 km/hr was used in the modelling; however, the maximum track design speed, as provided by Metrolinx in October 2019, is 161 km/hr at this location. Please update the Study to reflect the correct speed.	The updated study will ensure that trains are modelled at 161 km/hr and using diesel train parameters.
15	Confirm that for modelling purposes, diesel train parameters were employed as the basis for the analysis.	
16	Metrolinx requests additional vibration monitoring locations be included. Specifically, monitoring should align with the location of residential units. The monitoring location, as shown in Figure 6 in the Report appears to be taken between the proposed east and west towers.	RWDI will include additional monitoring location in the updated study.
17	The proponent shall engage a qualified consultant to prepare and submit a final noise and vibration study based on detailed design for review and satisfaction of Metrolinx.	Noted. RWDI will be providing an update to the study.