



May 03, 2024

The Regional Municipality of Niagara
Planning and Development Services
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7
Attention: Sean Norman, PMP, MCIP, RPP

Subject: Upper's Quarry Peer Review (Revision 2) - Noise
Review of revised Acoustic Assessment Report (AAR) for the Upper's Quarry (the Quarry) in Niagara Falls, Ontario prepared for Walker Aggregates Inc. (WAI), prepared by RWDI AIR Inc. (RWDI) dated January 11, 2024 (RWDI #1603157)
Englobe reference: 02105316.000

1 Introduction

Englobe Corp. (Englobe) was retained by the Regional Municipality of Niagara (Municipality) to undertake a peer review of the following revised Report:

- Upper's Quarry: Acoustic Assessment Report (AAR), prepared for Walker Aggregates Inc. (WAI), prepared by RWDI AIR Inc. (RWDI) dated January 11, 2024 ("Revised Report").

This peer review supersedes the previous iteration, dated October 04, 2023, as a result of feedback received from RWDI pertaining to Englobe's last round of peer review comments.

Of note, the reviewer was not provided with the referenced CadnaA model; this peer review is based on a review of document given above, a visit of the site, and the referenced documents as given below:

- NPC 300: Environmental Noise Guideline - Stationary and Transportation Sources - Approval and Planning, Ministry of the Environment, Conservation and Parks (MECP), August 2013.
- Guideline D-6 - Compatibility Between Industrial Facilities and Sensitive Land Uses, Ministry of the Environment, Conservation and Parks (MECP), 1995.
- Aggregate Resources Act (ARA), Ontario Regulation 244/97, Bill 52, Aggregate and Petroleum Resources Statute Law Amendment Act, 1996.
- Ministry of Natural Resources (MNR), Policy #A.R. 2.01.09, Licence Applications: Noise Assessment and Blast Design Report Standards, 2006.

A representative of Englobe visited the site on March 2, 2022, and held discussions with officials from the Municipality and the Project Proponent.

2 Englobe comments

Our comments, both original and new/updated, are listed below:

Comment #1 (Original) - The Report has taken a very conservative approach. For example: (a) the listed equipment is assumed to be operating at the same time; and (b) the listed equipment is assumed to be operating for a full 60-minutes within any given hour. This can result in unnecessarily onerous acoustic mitigation having a negative environmental impact (ex: temporary acoustic barriers). It is recommended that RWDI review the equipment operation scenarios with WAI in order to ensure, and ultimately confirm, that they are realistic.

Comment #1 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, it is understood that the operating times, equipment duty cycles and travel frequencies have been reviewed with the applicant and were determined to be reasonable. No further action is recommended - item closed.

Comment #2 (Original) - A 3-metre tall perimeter berm, shown in Figure 1 of the Report, is listed in Section 6 as part of the noise control recommendations. This 3-metre berm is also featured along the west perimeter of the site, despite there being no noise sensitive points of reception in that direction according to the Report. It is recommended that the Report be updated to increase clarity regarding how or why this perimeter berm has been recommended.

Comment #2 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, it is understood that the additional perimeter berms are provided to “provide additional noise attenuation [...] while also serving to provide for visual screening”. Despite this recommendation being overly conservative in Englobe’s opinion from an acoustical standpoint, especially for the west perimeter of the site as previously mentioned, Englobe does not expect any adverse acoustical effects from the inclusion of these additional berms. No further action is recommended - item closed.

Comment #3 (Original) - It is assumed that the 3-metre tall perimeter berm (mentioned above) has been taken into account in the CadnaA model while assessing the noise impacts; however, Figures 2a to 2i do not show these berms. Can RWDI confirm that this perimeter berm has been included in the CadnaA model? If it is included, it is recommended that Figures 2a to 2i be updated to show the 3m perimeter berm.

Comment #3 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. Figures 2a to 2i of the AAR have been updated by RWDI to show the 3-metre tall perimeter berms. Drawings 4 and 6 of the Updated ARA Site Plans prepared by MHBC, dated August 2023, have also been reviewed by Englobe to ensure that they are consistent with the perimeter berm recommendations made by RWDI. No further action is recommended - item closed.

Comment #4 (Original) - An 8-metre noise barrier is listed as part of the noise control recommendations in Section 6 and is shown on Figures 2f, 2g, 2i, and 3k to 3n. However, the Report is unclear as to why the barrier is necessary, as there are no noise level predictions showing non-compliance in a scenario which does not include the 8-metre barrier. It is recommended that the report be updated to increase clarity regarding how or why this 8-metre noise barrier has been recommended, which could include CadnaA noise level predictions for a no-barrier condition.

Comment #4 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, it is understood that the 8-metre noise barrier is required in order for the processing plant to meet the applicable overall sound level criteria. RWDI offers a justification regarding why unmitigated values are not presented as part of the AAR, which is acceptable in Englobe’s opinion. However, Section 6, Item 3 of the AAR, as well as Drawing 4 of the Updated ARA Site Plans prepared by MHBC, dated August 2023, are not

consistent with RWDI's modelling results in Figures 3m and 3n of the AAR, since there is only mention of an 8-metre barrier being required for Phase 4. Figures 3m and 3n of the AAR represent Phase 5, and include the 8-metre tall barrier. Englobe recommends updating Drawing 4, Item A.5 to also include Phase 5 (Action: MHBC).

Comment #4 (Revision 2) - RWDI response in the JART Comment Response Matrix (dated April 2024) addresses this concern. In short, it is understood that the 8-metre noise barrier is required for both Phases 4 and 5, and that material extracted during Phase 5 is to be processed in the area identified as "Phase 4". The clarification is acceptable to Englobe. No further action is recommended - item closed.

Comment #5 (Original) - Section 6 of the Report indicates that the 8-metre noise barrier (mentioned above) "shall extend long enough to shield R4 and R5 from the secondary crushers." It is recommended that the Report be updated such that the 8-metre barrier location and dimensions be given precisely, or that RWDI confirm that WAI's proposed barrier geometry will shield R4 and R5 from noise as modeled in CadnaA.

Comment #5 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, specific dimensions were not provided in order to provide some flexibility for the site operations. As such, the barrier geometry is described using qualitative means only: "the barrier shall be long enough to shield receptors R4 and R5 from the secondary crushers". Englobe recommends adding additional language to both the AAR and Drawing 4 of the Updated ARA Site Plans prepared by MHBC to ensure that the distance between the processing plant secondary crushers and the 8-metre barrier is maintained at a radius of 40m. (Action: RWDI & MHBC).

Comment #5 (Revision 2) - RWDI response in the JART Comment Response Matrix (dated April 2024) addresses this concern. In short, additional language was added to both Section 6 of the revised AAR, as well as Item A.5, Site Plan #4, concerning barrier geometry and separation distance to the processing plant. The clarification is acceptable to Englobe. No further action is recommended - item closed.

Comment #6 (Original) - The Report indicates that the ground absorption outside the extraction limits was taken as 0.8. However, it is understood that the ground outside the limits is primarily grass. It is recommended that the CadnaA model's overall ground absorption be increased to 1.0, or for RWDI to provide an explanation in the Report regarding the use of 0.8.

Comment #6 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, the more conservative ground absorption value was used to account for differences in seasonal ground coverage. No further action is recommended - item closed.

Comment #7 (Original) - The Report indicates that a max. order of reflection of 1 was used in the CadnaA model. Englobe understands that this can reduce computation time, but 3 is more typically used in our experience. It is recommended that the CadnaA noise level predictions at receptors R1 to R6 be re-computed using a max. order of reflection of 3 in order to compare to the noise level predictions provided in the Report, with the intention of ultimately justifying the use of a max. order of reflection of 1.

Comment #7 (Revision 1.1) - RWDI response in the JART Comment Response Matrix (dated August 25, 2023) addresses this concern. In short, RWDI states that higher order of reflection of 2 or 3 would have a negligible impact due to the lack of acoustically reflective surfaces in this environment. No further action is recommended - item closed.

Comment #8 (Revision 1.1) - Revision #1 of the Air Quality Assessment for the Proposed Upper's Quarry, prepared by RWDI and dated July 12, 2023, indicates that "under dry conditions, the capacity to apply water on an hourly basis to all travelled haul routes is required". It is assumed that the application of water is to be performed by a truck-mounted water spray system. Englobe recommends that RWDI review this new noise source and add it to their calculations and modelling. If this new noise source is considered insignificant by RWDI, appropriate justification, including noise level emissions, should be provided.

Comment #8 (Revision 2) - Section 3.1 in RWDI's revised AAR, dated January 11, 2024, contains a new passage stating that trucks with water sprayer system were not included in the noise impact assessment as they were assumed to be acoustically insignificant. No further action is recommended - item closed.

3 Concluding Remarks

Englobe has completed a review of the Acoustic Assessment Report of the Upper's Quarry written by RWDI, dated October 28, 2021, as well as the two (2) revisions to this report, respectively dated August 2, 2023 and January 11, 2024. Based on the reviews, the comments provided in Section 2.0 have been addressed.

For additional comments or questions regarding this peer review please contact the undersigned.

Yours very truly,

Englobe Corp.



Martin Villeneuve, P. Eng.
Acoustical Engineer

Revisions and publications log

REVISION No.	DATE	DESCRIPTION
0A	March 30, 2022	Peer review comments - final version
1	September 22, 2023	Revised peer review comments - final version
1.1	October 04, 2023	Revised and new peer review comments - final version
2	May 03, 2024	Revised peer review comments - final version

Distribution

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