CN Milton Logistics: Acoustic Environment Follow-up Program

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Prepared for:

Canadian National Railway Company
935 de La Gauchetière Street W
Montreal, Quebec, H3B 2M9

Prepared by:

Stantec Consulting Ltd.
100-300 Hagey Boulevard,
Waterloo ON N2L 0A4

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Abbreviations

CN	Canadian National Railway Company
CTA	Canadian Transportation Agency
dBA	Decibel, A-weighted
FTA	Federal Transit Administration
IAAC	Impact Assessment Agency of Canada
IR	Information Request
L_{dn}	Day-night average sound level
Lmax	Maximum sound level
PDA	Project Development Area
TDR	Technical Data Report
% HA	Percent Highly Annoyed

1.0 GENERAL

This document outlines the acoustic environment follow-up program in relation to construction and operation of the Milton Logistics Hub.

The noise monitoring program presented below, and the associated monitoring details have been developed to comply with the conditions of approval in the Minister of the Environment's Decision Statement issued January 21, 2021. This program has been developed to comply with Conditions 4.10 of the Decision Statement and has been developed in consultation with Health Canada, Environment and Climate Change Canada (ECCC), the Canadian Transportation Agency (CTA) the Mississaugas of Credit First Nation (MCFN), Six Nations of the Grand River, the Ontario Ministry of Environment, Conservation and Parks (MECP), and the town of Milton. Draft versions of this report were sent to Health Canada on June 30, 2020, ECCC on August 10, 2020, the MCFN on January 14, 2021, the Six Nations of the Grand River on March 3, 2021, the MECP on June 7, 2021, and the Town of Milton on June 4, 2021. Comments were received from Health Canada, ECCC, and MECP and have been considered in finalizing this document. Any revisions and manner by which comments were addressed, including corresponding rationale, were communicated to those who responded to CN's request for input.

2.0 PROGRAM DESIGN CONSIDERATIONS

A follow up program for noise will be implemented during the construction and operation phases to verify the accuracy of the environmental assessment and determine the effectiveness of proposed mitigation measures.

The program will consist of three components:

- Monitoring of noise levels during each phase of construction to verify the effectiveness of the noise mitigation, including:
  - during the first four weeks of each construction phase (per Condition 4.10.1); and
  - during a four week period of each construction phase when construction activities are anticipated to result in the greatest noise effects, including night-time construction activities, as determined in consultation with Health Canada (per EIS commitments).
- Monitoring of noise levels during the first four weeks of operations, and during four weeks once the terminal reaches full operational capacity, to verify the effectiveness of the noise mitigation and confirm that the sound levels at key locations do not exceed specified thresholds (Condition 4.10.2);
- Monitoring of low frequency noise levels during operations to verify the effectiveness of the noise mitigation and confirm that the sound levels at key locations do not exceed specified thresholds (Condition 4.10.3).

Through the established community consultation committee process, concerns raised by the local community as related to noise will be reviewed and addressed through the adaptive management process outlined in Sections 3.4 and 4.4 below.

3.0 FOLLOW-UP PROGRAM FOR NOISE DURING CONSTRUCTION

During construction, mitigation measures are proposed to reduce construction sound levels at off-site receptors. The purpose of noise monitoring during construction will be to verify the effectiveness of the noise mitigation and confirm that the sound levels at key locations during the different phases of construction do not exceed specified thresholds as defined in the Noise Effects Technical Data Report (TDR).

3.1 CRITERIA

The general noise criteria to consider for the construction noise monitoring program include those identified by the Federal Transit Administration (FTA) and Health Canada (Health Canada) as identified and assessed in the Noise Effects Technical Data Report (EIS Appendix E.10).

3.1.1 Federal Transit Administration

The Federal Transit Administration (FTA) outlines noise assessment criteria for rail sources in their document entitled *Transit Noise and Vibration Impact Assessment* (May 2006). The FTA identifies a construction noise criterion based on a change in the Day-Night Noise Level (L_{dn}), which is a 24-hour based criterion, relative to baseline conditions, that can be attributed to the Project. The FTA assessment criteria are presented in **Table 1** for existing noise exposures from 45 dBA to 75 dBA (FTA 2006). According to the FTA, as the existing noise exposure is increased, the allowable increase in noise exposure level decreases.

Table 1: Federal Transit Administration Construction Noise Criteria

Existing Noise Exposure [dBA}	Allowable Project Noise Exposure [dBA]	Allowable Combined Total Noise Exposure [dBA]	Allowable Noise Exposure Increase [dBA]
45	51	52	7
50	53	55	5
55	55	58	3
60	57	62	2
65	60	66	1
70	64	71	1
75	65	75	0

The above noted FTA criteria allows for assessment of the changes in acoustical environment during the construction of the Project, and evaluation of whether the change could be considered an 'allowable' noise exposure increase. If the change meets or is below the allowable noise exposure increase, no further action is required. If the change attributable to the Project exceeds the allowable noise exposure increase, adaptive management (described in Section 4.4) will be triggered.

3.1.2 Health Canada

Health Canada (Health Canada; 2017) identifies two construction noise criteria for long-term construction (i.e., greater than one year):

- a change in percent Highly Annoyed (% HA) between project and project + baseline of less than 6.5%, and
- a maximum L_{dn} not to exceed 75 dBA.

Annoyance is calculated from the daytime and weighted nighttime sound levels by a response function to give % HA. The noise during daytime hours are averaged to an equivalent continuous noise level (energy averaged). The same is done for noise during nighttime hours, with an additional +10 dB penalty applied. This bias reflects the greater sensitivity or responsiveness of the community to nighttime noise effects. Then the daytime and nighttime averaged noise levels (with penalty applied) are added together to obtain the equivalent L_{dn}. The methods for computing % HA, based on the calculated L_{dn}, are to be found in Canadian Standards Association publication ISO 1996-1:2003, Acoustics – Description, measurement and assessment of environmental noise (Part 1). If the change in % HA meets or is below the allowable % HA increase, no further action is required. If the change attributable to the Project exceeds the allowable % HA increase, adaptive management (described in Section 4.4) will be triggered.

Health Canada notes that when Project L_{dn} sound levels are greater than 75 dBA, complaints about noise can be expected. If the L_{dn} is less than 75 dBA no further action is required. If the Project noise exceeds the L_{dn} of 75 dBA, adaptive management (described in Section 4.4) will be triggered.

Health Canada (2017) also identifies World Health Organization criteria for sleep disturbance, which are defined as "*For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dBA LAmax more than 10–15 times per night*." As such the follow-up program will also evaluate construction noise from the Project against these criteria, with the assumptions that:

- there is 15dB sound isolation from the outdoors to indoors events, such that outdoor noise levels below 60 dBA (Lmax) are equivalent to 45 dBA (Lmax) indoors; and
- the night-time period is to be taken as 11pm to 7am.

3.2 LOCATIONS

There are ten (10) noise monitoring locations identified in the Noise Baseline Technical Data Report (EIS Appendix E.9). To compare predicted noise from construction activity against the FTA and Health Canada criteria noted above, the same ten monitoring locations will be used for the follow-up program. The specific monitoring locations are shown in **Appendix A, Figure 1**, and are identified as follows: M01-2015, M02-2015, M03-2015, M04-2015, M05-2014, M06-2014, M07-2015, M08-2014, M09-2014, and M10-2015.

3.3 METHODS

The construction activity, for the noise monitoring program, is separated into three phases, based on the major construction activities for the Project, which have been identified in the construction schedule submitted to IAAC in accordance with Condition 15.2. Updates to this schedule will be provided in accordance with Condition 15.2

In accordance with Condition 4.10.1, CN will conduct noise monitoring during the first four (4) weeks of each of the three phases of construction. The phasing of construction was refined through detailed design and in consultation with the contractor, relative to the predicted schedule of construction activities included in the Noise Effects TDR.

In addition, and as committed in the original EIS and draft version of this Noise Follow-up Program, the construction schedule will be reviewed prior to construction to identify the periods of greatest construction activity (i.e. when the most equipment is operating on the site and/or when the loudest equipment is operating in a given area), which is anticipated to generate the greatest noise impact. Prior to construction, this schedule will be provided to Health Canada for consultation to define the timing of specific phases and corresponding monitoring activities. As such, noise monitoring will be conducted during the following periods:

- During the first four weeks of each construction phase (per Condition 4.10.1); and during a four week period of each construction phase when construction activities are anticipated to result in the greatest noise impact, including night-time construction activities, as determined in consultation with Health Canada (per EIS commitments). A summary procedure for conducting noise monitoring during construction and analyzing the results is identified below.
- The construction schedule will be reviewed, and the major construction activities will be identified in the schedule. A four-week period for each phase will be determined in consultation with Health Canada based on when the greatest construction activities are expected, which is anticipated to generate the greatest noise impact.

- Noise monitoring equipment will be deployed at the beginning of each construction phase and for four weeks when construction activities at their highest. Ten (10) noise monitors will be used for each of the three phases. Noise monitors will be Type 1 noise meters, capable of audio recording capability. A remote monitoring system will be used to send all monitoring data to a cloud-based system for data analysis and historical record keeping, and to reduce physical download time on site. Qualified noise practitioners will deploy, remove and monitor the equipment during each monitoring phase.
- Noise levels will be captured hourly and reviewed for inclement weather and extraneous non-construction related impacts (e.g., animal noise). This will be completed weekly, and the effective L_{dn} levels determined for each noise monitoring location.
- The one-minute noise levels will be set with a trigger level (50 dBA, to be adjusted based on site conditions) to capture audio events. Noise levels that exceed the trigger will be reviewed, with the associated audio, on the following basis 1) determine if they exceed the 60 dBA Lmax level for sleep disturbance, 2) determine if they are from project construction, or other sources based on a review of the audio, and 3) if above 60 dBA Lmax and associated with the Project, determine if they exceed 15 events during the nighttime period.
- The L_{dn} construction noise levels will then be determined and compared to both the FTA and Health Canada criteria for each week of data collected to verify predicted effects.
- Where exceedances of either the FTA or Health Canada criteria are identified and attributable to the Project, adaptive management measures will be employed.

3.4 ADAPTIVE MANAGEMENT

During construction monitoring for noise, in the event that sound levels at monitoring locations exceed the allowable FTA and Health Canada noise criteria, CN and the contractor will be notified and additional monitoring at specific receptors of interest will be coordinated to verify the source. These results will be communicated to CN weekly during the monitoring period for each of the 3 phases of construction.

Upon review and in the event that construction noise exceedances attributable to the Project have been confirmed, then a review of the construction methodology and alternative construction methods (i.e., timing of construction activities, number of operating vehicles, spatial distribution of activities) will be reviewed and discussed with the contractor.

In the event that exceedances remain following the implementation of adaptative management measures, additional mitigation methods will be investigated and implemented as appropriate.

CN will monitor and document any noise complaints received during construction and will respond in accordance with their complaint response protocol. Such complaints will be used to target further review of noise levels and corresponding construction activities to explore whether such activities are responsible for specific exceedances.

3.5 REPORTING

The results of the construction noise monitoring activities proposed as part of the follow-up program will be reviewed, analyzed and presented in a report to document (a) the results of the monitoring program, (b) conformity with specified FTA and Health Canada thresholds, (c) the effectiveness of the noise mitigation measures, and (d) any adaptive management measures (i.e., additional mitigation) employed during construction, if required.

A report will be prepared for each of the 3 phases of construction, with the results provided to Health Canada, CTA, the Mississaugas of Credit First Nation, and Six Nations of the Grand River, a summary of which will be included as a component of the annual report to IAAC.

4.0 FOLLOW-UP PROGRAM FOR NOISE DURING OPERATIONS

During operations, mitigation measures are proposed to reduce operational sound levels at off-site receptors. The purpose of noise monitoring during operations will be to verify the effectiveness of the noise mitigation and confirm that the sound levels at key locations do not exceed specified thresholds as defined in the Noise Effects TDR.

4.1 CRITERIA

The general noise criteria to consider for the operational noise monitoring program include those identified by the FTA and Health Canada as identified and assessed in the Noise Effects Technical Data Report (EIS Appendix E.10).

4.1.1 Federal Transit Administration

The Federal Transit Administration (FTA) outlines noise assessment criteria for rail sources in their document entitled *Transit Noise and Vibration Impact Assessment* (May 2006). The FTA noise criteria for operations are similar to those for long-term construction, as discussed in Section 3.1.1. The FTA operational noise criterion is based on a change in the L_{dn}, which is a 24-hour based criterion, relative to baseline conditions, that can be attributed to the Project, as presented in **Table 1** for existing noise exposures from 45 dBA to 75 dBA (FTA 2006). According to the FTA, as the existing noise exposure is increased, the allowable increase in noise exposure level decreases.

The above noted FTA criteria allows for assessment of the changes in acoustical environment due to the Project during operation, and evaluation of whether the change could be considered an ‘allowable’ noise exposure increase. If the change meets or is below the allowable noise exposure increase, no further action is required. If the change attributable to the Project exceeds the allowable noise exposure increase, adaptive management (described in Section 4.4) will be triggered.

4.1.2 Health Canada

Health Canada identifies two operational noise criteria:

- a change in % HA between project and project + baseline of less than 6.5%, and
- a maximum L_{dn} not to exceed 75 dBA.

The method of calculating annoyance is described in Section 3.1.2.

If the change meets or is below the allowable % HA increase, no further action is required. If the change attributable to the Project exceeds the allowable % HA increase, adaptive management (described in Section 4.4) will be triggered.

Health Canada notes that when project sound levels are greater than 75 dBA, complaints about noise can be expected. If the L_{dn} is less than 75 dBA no further action is required. If the Project noise exceeds the L_{dn} of 75 dBA, adaptive management (described in Section 4.4) will be triggered.

Health Canada (2017) also identifies World Health Organization criteria for sleep disturbance, which are defined as "*For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dBA LAmax more than 10–15 times per night*." As such the follow-up program will also evaluate operation noise from the Project against these criteria, with the assumptions that:

- there is 15dB sound isolation from the outdoors to indoors events, such that outdoor noise levels below 60 dBA (Lmax) are equivalent to 45 dBA (Lmax) indoors; and
- the night-time period is to be taken as 11pm to 7am.

4.1.3 Low Frequency Noise

For low-frequency noise, the American National Standards Institute (ANSI) identifies:

- Octave-band sound pressure levels are to be less than 65 dB at 16, 31.5Hz and 63Hz mid-band frequencies, as per *Quantities and Procedures for Description and Measurement of Environmental Sound Part 4: Noise Assessment and Prediction of Long-Term Community Response* (ANSI S12.9-2005/Part 4).

The method of determining this is to measure the low-frequency noise at the nearest residence to the idling locomotive. The dB[1] level should be measured in the three octave bands (16, 31.5 and 63Hz) be at the closest outdoor location to the nearby residence (and correcting for building construction sound transmission and distance from the building) or, where access permission is available, inside the building at the façade facing the idling locomotive (preferably). This is to be done with the idling locomotive "on" (measuring an Leq 30sec), and then with the locomotive "off" (measuring Leq 30sec) within the same 1 hour period to confirm background low frequency noise. The idling locomotive measurements are to be corrected for background low frequency noise (if the measurements are within 10dB), to isolate the idling locomotive low frequency noise. Any associated noise inside the building (e.g., rattling, shaking) when the idling locomotive is on should also be noted during the measurement.

If low frequency noise identified from the idling locomotive alone exceeds 65dB in any of the bands of interest (16Hz, 31.5Hz, 63Hz), this identifies that there is low frequency noise from the idling locomotive inside the residence that could generate sympathetic resonances.

[1] Note – low frequency noise is presented in dB, without A-Weighting

4.2 LOCATIONS

4.2.1 General Noise During Operations

There are ten (10) noise monitoring locations identified in the Noise Baseline Technical Data Report (EIS Appendix E.9). To compare operational activity to the original baseline monitoring against the FTA and Health Canada criteria noted above, the same ten monitoring locations will be used for the follow-up program. The specific monitoring locations are shown in **Appendix A** and are identified as follows: M01-2015, M02-2015, M03-2015, M04-2015, M05-2014, M06-2014, M07-2015, M08-2014, M09-2014, and M10-2015. These are the same locations that were utilized for the construction monitoring program.

4.2.2 Low Frequency Noise During Operations

Where idling locomotives are identified on the track near residences, a representative residence (closest to the train) will be identified. Interior measurements will be coordinated with this residence. If this cannot be accommodated, a second representative residence as close to the idling train location will also be identified where interior measurements can be completed.

4.3 METHODS

Noise monitoring will begin at the start of operation (i.e., opening day when the terminal begins receiving containerized goods for handling by truck and train) for four (4) consecutive weeks, then again when the facility is deemed to be fully operational (see Section 4.3.2 below) for another four (4) consecutive weeks.

No additional noise monitoring during operations is proposed. Once the facility is fully operational, the expected activity and associated noise impact are not expected to change. The full operational monitoring program presented below (Section 4.3.2) will confirm the effectiveness of the implemented mitigation measures and effects predictions. Beyond this period, the complaints process would address any additional monitoring that may be required.

A summary procedure for conducting the operation noise monitoring, including low frequency noise, is identified below.

4.3.1 General Noise During Operations

4.3.1.1 Start of Operations

The following is the proposed noise monitoring procedure for the start of operations.

- CN will identify the opening day of operations. The four-week monitoring period will begin starting on this date when the terminal begins receiving containerized goods for handling by truck and train. The opening day will be confirmed based on approvals, completion of construction, commissioning, and hand-over dates.

- Noise monitoring equipment will be deployed. Ten (10) noise monitors will be used; the monitors will be Type 1 noise meters, capable of audio recording capability. A remote monitoring system will be used to send all monitoring data to a cloud-based system for data analysis and historical record keeping, and to reduce physical download time on site. Qualified noise staff will deploy, monitor, and remove the equipment during each monitoring phase.
- Noise levels will be captured hourly and reviewed for inclement weather and extraneous non-operational related impacts (e.g., animal noise). This will be completed weekly, and the effective L_{dn} levels determined for each noise monitoring location.
- The L_{dn} operational noise levels will then be compared to both the FTA and Health Canada criteria for each week of data collected. The one-minute noise levels will be set with a trigger level (50dBA, to be adjusted based on site conditions) to capture audio events. Noise levels that exceed the trigger will be reviewed, with the associated audio, on the following basis 1) determine if they exceed the 60 dBA Lmax level for sleep disturbance, 2) determine if they are from Project operations, or other sources based on a review of the audio, and 3) if above 60 dBA Lmax and associated with the Project, determine if they exceed 15 events during the nighttime period.
- Where exceedances of either the FTA or Health Canada criteria are identified and attributable to the Project, adaptive management measures will be employed.

4.3.1.2 Full Operations

The following is the proposed noise monitoring procedure for full operations.

- CN will identify when the facility is considered to be fully operational, which the planned maximum capacity of containers that the Project is designed to handle. For the purposes of this program, this will be defined as the time when the daily throughput average over a fiscal quarter is equal to or greater than 1,232 containers per day (450,000 containers / 365 days), or 1 year after opening day, whichever comes first. The four-week monitoring period will begin on this date.
- Noise monitoring equipment will be deployed. Ten (10) noise monitors will be used; the monitors will be Type 1 noise meters, capable of audio recording capability. A remote monitoring system will be used to send all monitoring data to a cloud-based system for data analysis and historical record keeping, and to reduce physical download time on site. Qualified noise staff will deploy, remove and monitor the equipment during each monitoring phase.
- Noise levels will be captured hourly and reviewed for inclement weather and extraneous non-construction related impacts (e.g., animal noise). This will be completed weekly, and the effective L_{dn} levels determined for each noise monitoring location.
- The L_{dn} operations noise levels will then be compared to both the FTA and Health Canada criteria for each week of data collected.

- Where exceedances of either the FTA or Health Canada criteria are identified and attributable to the Project, adaptive management measures will be employed.

4.3.2 Low Frequency Noise During Operations

The low frequency noise from idling locomotives will be assessed in accordance with American National Standards Institute (ANSI) S12.9-2005 Part 4 Annex D. Part D.2 of the standard identifies the following low frequency noise criteria:

- Octave-band sound pressure levels are to be less than 65 dB at 16, 31.5Hz and 63Hz mid-band frequencies.

CN will adopt a low frequency criterion of less than 65 dB in each frequency band (16, 31.5, and 63 Hz).

The following is the proposed low frequency noise measurement procedure:

- The location of the locomotive where low frequency noise is identified shall be reviewed. At this location, CN will arrange for a locomotive (i.e. specific train that has generated the complaint, if available) to idle at this track location. This shall be arranged during periods where there is no inclement weather (high winds, precipitation, snow)
- Simultaneous noise measurements will be completed as follows:
  - at the locomotive will be completed. These will be at track level, within 7m of the locomotive engine at a height of 1.5m. 1/3rd octave band measurement shall be taken, with sound measurements to include 16Hz, 31.5Hz and 63Hz frequency bands.
  - At the nearest sensitive receptor to the idling locomotive. 1/3rd octave band measurements shall be taken, with sound measurements down to 16Hz. Measurements will be completed indoors (when permission is granted), or outdoor at a location on public access property closes to the sensitive receptor location. If interior measurements cannot be completed at the nearest receptor, a second receptor where interior measurements will also be selected and measurements completed.
  - Measurements will be completed with the locomotive idling for a period no less than 5min, and no more than 20min. Measurements will be repeated with the locomotive turned off (not idling), for a period no less than 5min, and no more than 20min.
  - Noise readings will be collected in 1sec intervals. Noise metrics shall be recorded including Leq, Lmax, Lmin, and percentiles (L10, L50, L90)
- Noise measurements at the sensitive receptor shall be compared to the ANSI S12.9 criteria (65 dB in 16, 31.5 and 63Hz) as follows:

  - Measurements without idling cannot show exceedance to ANSI S12.9, as this may show existing low frequency noise not attributed to the locomotive idling
  - Measurements with idling cannot show exceedance to ANSI S12.9, provided measurements without idling are at least 10dB below.
  - If non-idling measurements (background) are less than 10dB below the idling measurements, and they show exceedance to ANSI S12.9, then the background measurement shall be subtracted from the idling measurements to confirm idling low frequency impact alone. This shall then be compared to the ANSI S12.9 criteria.

- If low frequency noise measurements at the nearest sensitive receptor are confirmed to exceed ANSI S12.9 criteria, and are attributed to the idling locomotive, the Adaptive Management plan will be invoked to review and assess the idling locomotive.

4.4 ADAPTIVE MANAGEMENT

During operational monitoring for noise (either startup or full operations), in the event that sound levels at monitoring locations exceed the allowable FTA and Health Canada noise criteria, CN will be notified and additional monitoring at specific receptors of interest will be coordinated to verify the source. These results will be communicated to CN weekly during each monitoring period.

Upon review and in the event that operational noise exceedances attributable to the Project have been confirmed, then a review of the operations and mitigation methods will be investigated and implemented as appropriate.

Upon review and in the event that operational noise exceedances have been confirmed, then a review of the operation activities and administrative controls (e.g., enforcing speed limits to avoid the need for engine brakes and training equipment operators) will be undertaken and corrective actions discussed with the operations team. Implementation of targeted mitigation measures to address specific exceedances either at specific locations or associated with specific activities will be considered.

CN will monitor and document any noise complaints received during operations and will respond in accordance with their complaint response protocol. Such complaints will be used to target further review of noise levels and corresponding operational activities to explore whether such activities are responsible for specific exceedances.

On a case-by-case basis for noise complaints related to low frequency noise from idling locomotives, CN will investigate by first reviewing if a locomotive was idling during the time of the complaint, and then look at the complaint location to see if it is likely due to the Project (as low frequency noise can carry over distance). Once CN reviews the complaint on this basis, then supporting low frequency noise measurements from idling locomotives may be conducted by CN at the complainant location. In the event that low frequency sound levels that exceed the applicable criteria are attributed to idling locomotives, then a review of the operations and potential mitigation methods will be investigated.

4.5 REPORTING

The results of the operational noise monitoring activities proposed as part of the follow-up program will be reviewed, analyzed and presented in a report to document (a) the results of the monitoring program, (b) conformity with specified FTA and CTA thresholds, (c) the effectiveness of the noise mitigation measures, and (d) any adaptive management measures (i.e., additional mitigation) employed during operation, if required.

A report will be prepared for each of the 2 phases of operation (start of operations and full operations), including results from low frequency noise, with the results provided to Health Canada, CTA, the Mississaugas of Credit First Nation, and Six Nations of the Grand River, a summary of which will be included in the annual report to IAAC.

5.0 REFERENCES

Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada.

APPENDIX A: FIGURE

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Revised: 2020-06-10 By: dharvey

June 2020
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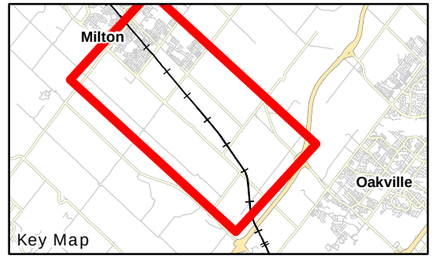
Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2015. Site layout: July 10, 2015.
3. Orthoimagery © First Base Solutions, 2015. Imagery taken in 2019.

Legend

- Noise Monitoring Location
- Project Components
- Project Development Area
- Existing Single Track Mainline
- Existing Double Track Mainline
- Double Track - Mainline
- Project Component
- CN-Owned Property
- SWM Pond



Client/Project
Canadian National Railway
Milton Logistics Hub

Figure No.
1

Title
Construction and Operation Noise Monitoring Locations