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Appendix B3

Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report

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Metrolinx

Highway 27-Woodbine Station

Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report

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Revision History

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AECOM: 2015-04-13

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Glossary

Sound ..... Pressure wave travelling through a medium, such as air.

Noise..... Unwanted sound.

Acoustics ..... The science of sound propagation and transmission.

Vibration..... Oscillation of a parameter that defines the motion of a mechanical system.

Decibel, dB..... A logarithmic ratio, not strictly a unit, used to describe sound levels. For sound pressure, the reference level is 20 micropascals (threshold of hearing).

Frequency ..... The rate at which an event is repeated. Measured in Hertz (Hz), where 1 Hz = 1 oscillation/sec. Normal human hearing extends over a range of frequencies from about 20 Hz to about 20 kHz.

Octave Band..... A band of frequencies where the upper limiting frequency is twice the lower limiting frequency. Octave bands are identified by their centre-frequencies. The octave bands standardized for acoustic measurements include those centred at 31.5, 63, 125, 250, 500, 1000, 2000, 4000, & 8000 Hz.

A-Weighting Network, dBA..... A frequency weighting network intended to represent the variation in the ear's ability to hear different frequencies. Overall sound levels calculated or measured using the A-weighting network are indicated by dBA rather than dB.

Sound Power Level (PWL, L_w) ..... A measurement of the total acoustic energy output from a noise source, per unit time. Reported and measured in decibels (dB or dBA), using a reference power of 10^{-12} Watts (0 dB).

Sound Pressure..... The instantaneous difference between the air pressure produced by sound and the average barometric pressure at a given location.

Sound Pressure Level (SPL, L_p)..... The ratio of the instantaneous sound pressure and a reference sound pressure of 20 µPa (0 dB). Reported and measured in decibels (dB or dBA).

L_{eq} - "Equivalent sound level" ..... Value of a constant sound pressure level which would result in the same total sound energy as would the measured time-varying sound pressure level over equivalent time duration. The $L_{eq,1hr,}$ for example, describes the equivalent continuous sound level over a 1 hour period.

Peak Particle Velocity (PPV)..... The peak signal value of an oscillating vibration velocity waveform. Can be expressed in mm/s.

Root Mean Square Velocity (RMSV).... The square root of the mean-square value of an oscillating vibration velocity waveform, where the mean-square value is obtained by squaring the value of amplitudes at each instant of time and then average these values over the sample time.

1. Introduction

Woodbine Entertainment Group (WEG) has proposed a new GO Station to be developed in partnership with Metrolinx, located at 555 Rexdale Boulevard (Woodbine Racetrack) in the City of Toronto (the Project). The Project has been assessed under the Transit Project Assessment Process (TPAP). For TPAP purposes, Metrolinx is the proponent. WEG will be constructing the Project and will be responsible for the corresponding mitigation and commitments to future work.

AECOM Canada Limited (AECOM) was retained by WEG to undertake an environmental impact assessment for the Highway 27-Woodbine Station per the TPAP. The proposed station (the Facility) will be located at the southeast corner of the Woodbine Districts property at 555 Rexdale Boulevard in the City of Toronto, Ontario. AECOM conducted a Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report for the Project to assess the potential construction and operational noise and vibration impacts of the Facility. This Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report is one of a number of environmental studies that was completed as a part of the TPAP, under which project impacts have been assessed as prescribed in Ontario Regulation (O. Reg.) 231/08 under the *Environmental Assessment Act.* As part of the TPAP, an Environmental Project Report (EPR) has been prepared for public review and includes the findings of this Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report.

Due to future development and increased demand at the Woodbine Districts, an early stage initiative calls for the expansion of new public transit options to service the area. Metrolinx and WEG have partnered together to develop the proposed Project, which is anticipated to evolve from the proposed GO station into a multi-modal transportation hub that will increase annual visits to the Woodbine Districts to potentially over 16 million. GO Transit currently operates train service along the Kitchener Rail Corridor, from Union Station in Toronto to Kitchener GO Station in Kitchener. The new proposed Project will provide a new station stop along the Kitchener Rail Corridor.

The proposed Project will include:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Passenger plaza;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g., integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

Figure 1 presents the project study area and surrounding assessment area of 500 metres from the study area, which is a typical minimum separation distance used for this type of facility in the MECP Primary Noise Screening Method. **Appendix A1** includes relevant drawings of the proposed future Facility.

Please note that rail corridor operations are assessed separately from all other sources per the MOEE/GO Transit Noise and Vibration Protocol. As there are no residences or other sensitive receptors within 500 metres of the project rail corridor section, construction noise impacts as well as operational noise and vibration impacts are

considered negligible. Therefore, noise impacts from changes to station related rail operations and associated construction within the rail corridor have not been assessed.

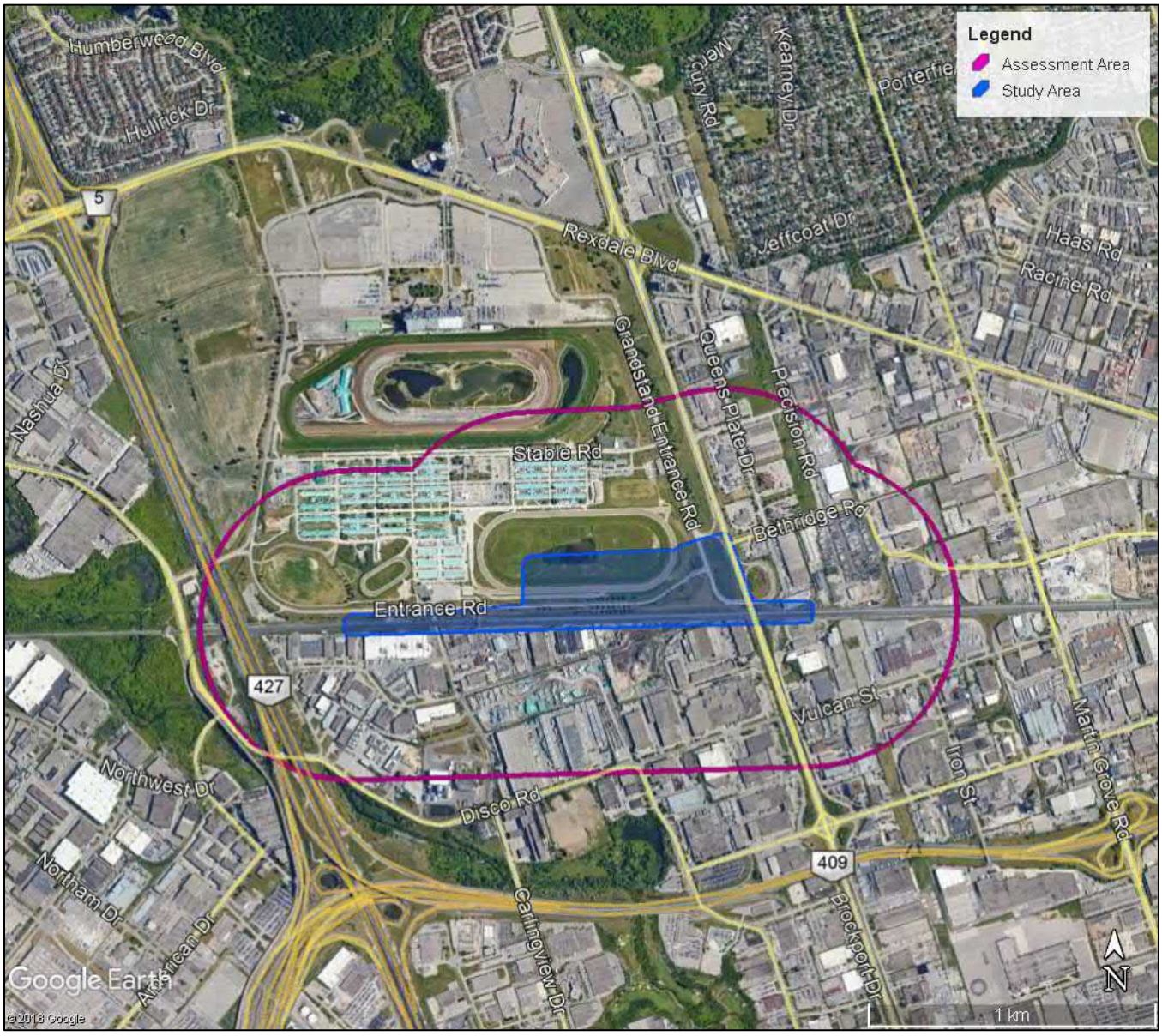
Section 2 of this report corresponds to an acoustic assessment of the future Facility operations, with respect to the MECP Publication NPC-300. It is anticipated that the Facility will require registration on the MECP's Environmental Activity Sector Registry (EASR) in support of the future operations.

Section 3 of this report corresponds to a vibration assessment of Facility operations. As the stationary sources at the proposed Woodbine Station are not considered to be significant sources of vibration (bus/car movement, HVAC equipment, generator), operational vibration from the site will be negligible at nearby vibration sensitive locations.

Section 4 and **Section 5** of this report assess the potential noise and vibration impacts during construction of the Facility improvements. The construction noise and vibration assessments incorporate United States Federal Transit Administration (FTA) prediction procedures and guidelines. The construction noise assessment also identifies the relevant sections of the MECP's construction equipment-related noise guidelines (Publication NPC-115 and NPC-118); and the City of Toronto noise control and construction vibration by-laws.

The Glossary section of this report explains the relevant acoustical terms and definitions used in this report.

Figure 1: Study Area



2. Station Operations Acoustic Assessment

2.1 Facility Description

The Facility will be located on the southeast corner of the Woodbine Districts property at 555 Rexdale Boulevard in the City of Toronto, Ontario. The Facility operations will correspond to North American Industry Classification System (NAICS) code 485110 (urban transit systems). The areas immediately surrounding the Facility are zoned for employment industrial use.

Based on the current site plan, the project includes the construction of a new station building and bus loop. Passenger tunnels will provide access to the platforms and shelters. New parking lots will be constructed with a total capacity of 1,146 parking spaces as well as a Passenger Pick Up and Drop Off (PPUDO) with a capacity for 20 cars. This assessment includes a bus loop that will have capacity for 4 buses idling during any given time, with up to 8 buses estimated to travel through the loop during the worst-case hour.

It should be noted that there is a provision for the construction of an additional 4 bus bays where buses may idle. This increase in bus bays is predicted to have a minor impact with no change to mitigation, and will be confirmed in detail design, prior to permitting.

A relevant land use plan is provided in **Appendix A2**.

2.2 Guidelines

MECP publication NPC-300, Part B, provides sound level limits applicable to noise sensitive points of reception from stationary noise sources. Noise sensitive points of reception, "…means any location on a noise sensitive land use where noise from a stationary source is received."[1] The Facility consists of equipment that can be considered stationary noise sources. The applicable sound level limits can be found in Tables B-1 and B-2 within NPC-300 and are summarized in **Section 2.4**.

2.3 Noise Sensitive Areas and Points of Reception

The only noise sensitive area identified within the study area was the Woodbine Hotel located on Vice Regent Boulevard, which is classified as a noise sensitive commercial purpose building under the NPC-300 guideline. No additional future noise sensitive locations were identified using approved land use plans.

As per NPC-300, Plane of Window and Outdoor (e.g., backyard) PORs were assessed at the NSAs as follows:

- **Plane of Window (denoted with a *"POW"* suffix)**
  A point in space corresponding to the centre location of a first storey window, at a height of 1.5 metres (m) above grade, or a second storey window, at a height of 4.5 m above grade, or the height of the vertical midpoint of the most exposed storey for a high-rise multi-unit building.
- **Outdoor (denoted with an *"Out"* suffix)**
  A point in space within 30 m of the dwelling, at a height of 1.5 m above grade.

1. *NPC-300,* Definitions.

The Woodbine Hotel does not have any associated outdoor PORs. As such, only the plane of window PORs (the worst case 1st and 2nd storey receptors) at the hotel have been assessed. **Figure 2** presents the assessment area and the NSA identified near the Facility. **Figure 3** presents the assessed POR locations at the NSA. **Table 1** describes each assessed POR.

Figure 2: Worst Case NSA/Receptor Locations

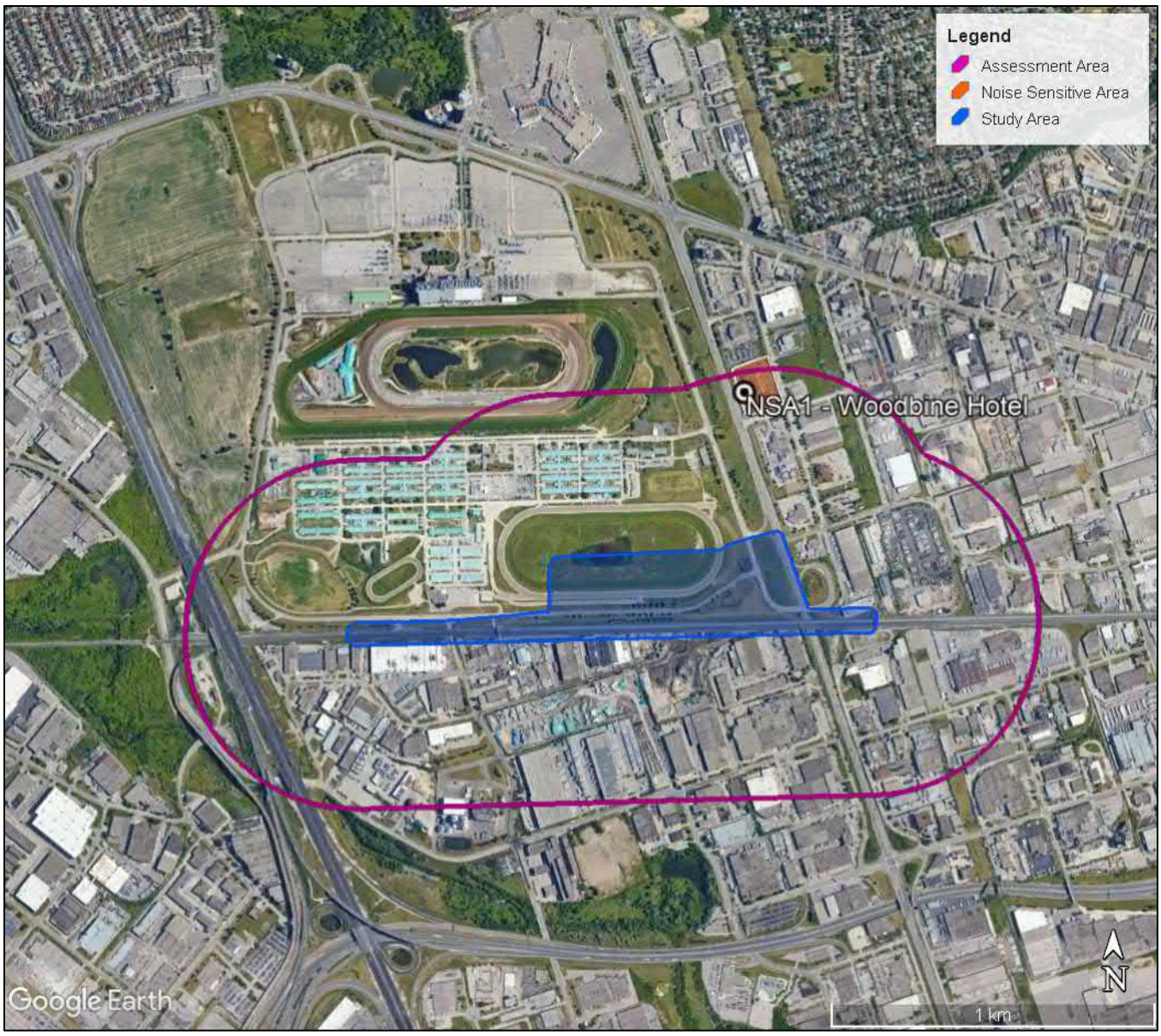


Figure 3: Assessed POR Location

Table 1: Assessed Points of Reception

NSA ID	Point of Reception ID	Distance to Nearest Facility Building or Noise Source (m)	Point of Reception Location	Point of Reception Description	Receptor Location
NSA1 – Woodbine Hotel	**R01_POWA**	580	Plane of Window	Second Storey Window facade of two storey hotel, at a height of 4.5 m	Northeast of the Facility, on the northeast corner of Highway 27 and Vice Regent Boulevard.
	R01_POWB	544	Plane of Window	First Storey Window facade of two storey hotel, at a height of 1.5 m	Northeast of the Facility, on the northeast corner of Highway 27 and Vice Regent Boulevard.

2.4 Sound Level Limits

NPC-300 provides separate minimum sound level limits (defined as 'Exclusion Limit' within NPC-300) applicable to Plane of Window and Outdoor points of reception, during daytime; evening; and night time periods. NPC-300 further delineates the minimum sound level limits with respect to the noise emissions from non-emergency equipment; and emergency equipment operating in non-emergency situations (e.g., testing of backup power systems). The subject area is best described as Class 2 (Urban), based on the definitions provided in NPC-300. **Table 2** summarizes the minimum NPC-300 One Hour L_{eq} sound level limits for Class 2 areas.

Table 2: NPC-300 Minimum Exclusion Sound Level Limits for Class 2 (Urban) Areas

Time Period	Point of Reception Location	Minimum Exclusion Limit (One Hour L_{eq}, dBA)	
		Non-Emergency Equipment	Emergency Equipment
Daytime (7AM to 7PM)	Plane of Window	50	55
Evening (7PM to 11PM)	Plane of Window	50	55
Night time (11PM to 7AM)	Plane of Window	45	50
Daytime (7AM to 7PM)	Outdoor	50	55
Evening (7PM to 11PM)	Outdoor	45	50
Night time (11PM to 7AM)	Outdoor	Not Applicable[1]	

Source: Table B-1 and Table B-2 within Publication NPC-300
Notes: Under NPC-300, sound level limits apply to outdoor points of reception during daytime and evening periods only.

The sound level limit objective at each point of reception can be determined in accordance with NPC-300 and is the greater of either:

- The minimum background sound level that occurs or is likely to occur during operation of the source under assessment; or
- The applicable minimum exclusion limit, as indicated in **Table 2**.

The minimum exclusion limits have been adopted as the Sound Level Limit objectives for the assessed points of reception and are presented in **Table 3**.

Table 3: Sound Level Limits

Point of Reception ID	MECP Area Class	Time Period	Point of Reception Location	Sound Level Limit – Objective (One Hour L_{eq}, dBA)	
				Non-Emergency Equipment	Emergency Equipment
R01_POWA	Class 2	Daytime	Plane of Window	50	55
	Class 2	Evening	Plane of Window	50	55
	Class 2	Night time	Plane of Window	45	50
R01_POWB	Class 2	Daytime	Plane of Window	50	55
	Class 2	Evening	Plane of Window	50	55
	Class 2	Night time	Plane of Window	45	50

2.5 Stationary Noise Source Summary

The Facility will include a new bus loop; a new station building; station platforms, and underground pedestrian tunnels.

The following equipment is proposed to be included at the Facility. As the design is still in the preliminary stages, equipment quantities and locations were estimated using conservative assumptions based on previous projects of similar scope:

- Station Building:
  - Six exhaust fans (source ID: BldgExhaustFan)
  - Six heat pumps (source ID: BldgHeatPump)
  - Two roof top units (source ID: BldgRTU)
  - Boilers to outside (source ID: BldgBoilerLouvre)
  - Transformer (1501-2000kVA) and Generator (600-1200 kW) noise to outside (source ID: Transformer Louvre and Generator Louvre)
- Two pedestrian tunnel structures under the train corridor:
  - Five exhaust fans (source ID: TunnelExhaustFan)
  - Five heat pumps (source ID: TunnelHeatPump)
- One bus loop (assumption of 8 buses per hour)
  - Bus loop acceleration activities (source ID: BusAccel)
  - Bus loop braking activities (source ID: BusBrake).
  - Bus idling (source ID: BusIdle)

Bus volumes were estimated using bus schedules from the nearest GO transit and TTC schedules, and bus sound level data was acquired from commuter bus pass-by measurements collected by AECOM from another (non-GO Transit) project. Buses are assumed to have a movement speed of 10 km/h while moving through the bus path and loop.

Figure 4 presents the locations of the future Facility noise sources. **Table 4** presents the noise source sound power levels. Source sound power level calculations and relevant manufacturer sound level data are provided in **Appendix A3**.

Note that equipment noise emission levels, quantities, and locations were estimated at this preliminary stage of the project and will be verified during detailed design to confirm compliance.

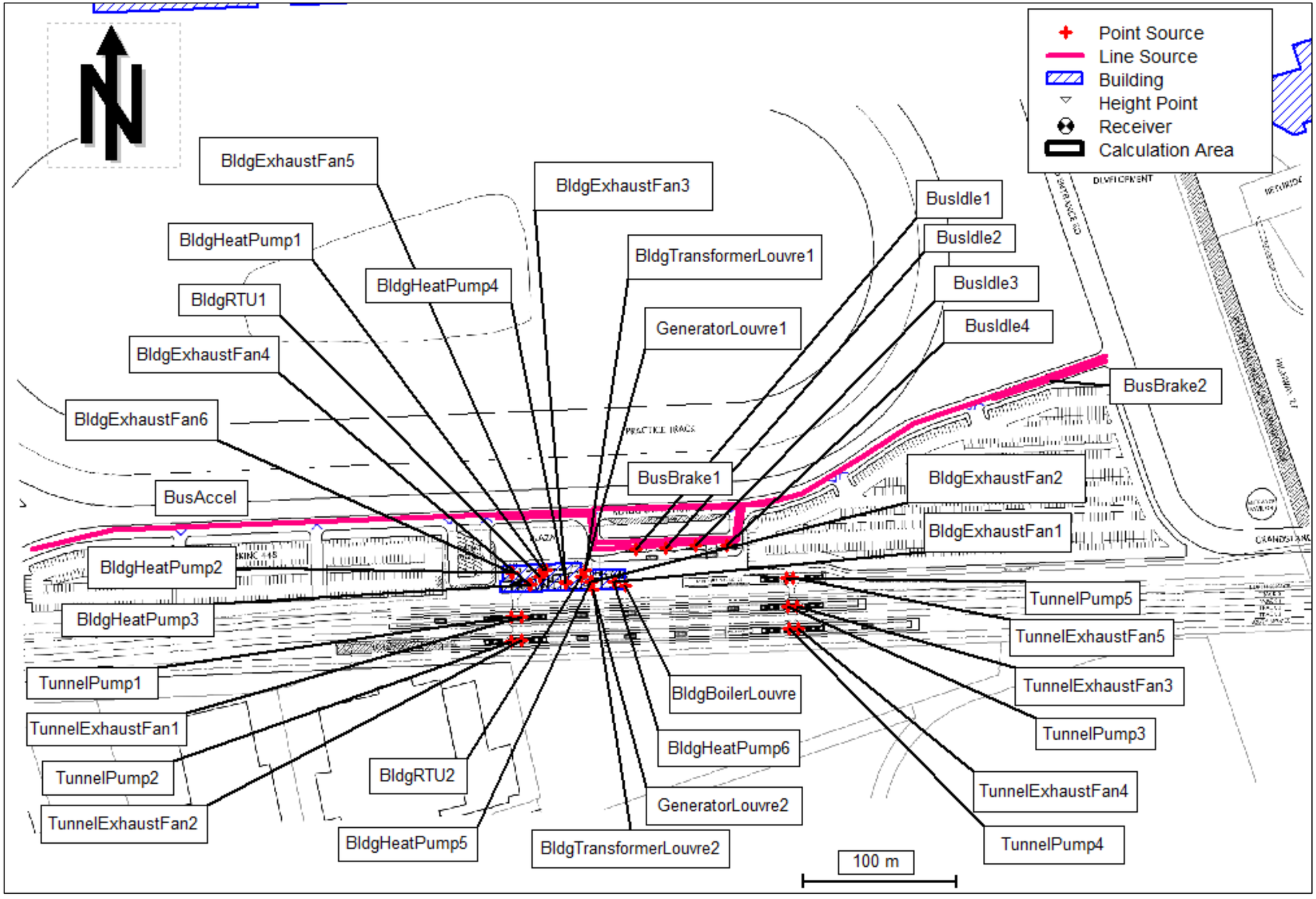
Table 4: Noise Source Summary

Source ID	Description	Sound Power Level (dBA)[A]	Source Location[B]	Sound Characteristics[C]	Noise Control Measures[D]
TunnelPump	Tunnel heat pump	65	O	S	U
TunnelExhaust_Fan	Tunnel exhaust fan	60	O	S	U
BusAccel	Bus acceleration	106	O	S	U
BusBrake1	Bus braking 1 – Bus loop area	104	O	S	U
BusBrake2	Bus braking 2 – Intersection stop	100	O	S	U
BusIdle	Bus idling	97	O	S	U
TransformerLouvre	Transformer noise through louvre	94[2]	I	T	U
BldgRTU	Station building rooftop unit	80	O	S	U
BldgExhaustFan	Station building exhaust fan	60	O	S	U
BldgHeatPump	Station building heat pump	65	O	S	U
BldgBoilerLouvre	Station building boiler room louvre	99	I	S	U
GeneratorLouvre	Generator noise through louvre	106	I	S	U

Notes: *A. Power level is referenced to 10^{-12} Watts and is measured or predicted after applicable penalties are applied*
B. Source Location: O – located/installed outside the building, including on the roof
I – located/installed inside the building
C. Sound Characteristics S – Steady / T – Tonal
D. Existing Noise Control Measures: S – silencers, acoustic louver, muffler B – barrier, berm, acoustical screening
E – enclosure U – uncontrolled

2. Includes a 5 dB tonality penalty.

Figure 4: Noise Source Locations



2.6 Impact Assessment

The Facility noise sources described in **Section 2.5** were used as inputs to the noise impact model. Noise impacts during the worst case hour of operation at the identified points of reception were predicted using the ISO 9613-2 (Reference 2) noise prediction algorithm, implemented in CadnaA software version 2018 MR 1. The noise model incorporated the following assumptions and parameters:

- Continuous/steady operation of all noise sources throughout the worst case hour of operation, including bus idling. Bus acceleration noise from the assumed 8 buses per hour are logarithmically averaged over a one hour period;
- The exhaust fan and heat pump noise sources servicing the new pedestrian tunnel will be similar to equipment proposed for the GO Maple Station, King City, and Grimsby Station Improvements projects;
- The future standby generator will produce overall noise emissions of 80 dBA at 7 m (as per requirements from the Metrolinx Design Requirements Manual for a 600-1200 kW generator);
- The future transformer will be 2000 kVA and will produce overall noise emissions of 62 dBA at 7 m, similar to the transformer proposed for the King City Go station facility;
- The future transformer was modelled inside the transformer/generator room, with a conservative louvre size of 5 x 5 metres on the north and south walls of the building;
- The boiler room has been modelled as having two boilers (20,000 kW) with a louvre size of 1 x 5 metres on the east wall of the building;
- The future standby generator will be tested for 1 hour during daytime hours only, and was modelled inside the transformer/generator room, with a conservative louvre size of 5 x 5 metres on the north and south walls of the building;
- Global ground absorption value of alpha = 0.4;
- Ground elevation contours from the Government of Canada geospatial data extraction tool;
- Reflection order[3] of 3; and
- Reflective buildings and structures, except for residential dwellings.

The resulting noise impacts at each assessed point of reception were then compared with the sound level objectives described in **Table 3**.

Noise contours are provided in **Appendix A4**.

2.7 Results

Table 5 presents the noise impacts due to non-emergency equipment operations at each assessed POR. **Table 6** presents the noise impacts due to testing of emergency equipment at each assessed POR. **Table 7** presents the sound level contributions from each individual noise source at the future Facility. The minimum hourly noise levels measured during ambient monitoring for the construction assessment have also been included for reference. **Section 4.2.1** includes further details on ambient monitoring.

3. The maximum number of times a sound wave reflects off potential surfaces for each modelled noise source.

Table 5: Acoustic Assessment Summary Table – Future Facility Operating Scenario, Non-Emergency Equipment

Point of Reception ID	Point of Reception Location	Time Period	Predicted One Hour L_{eq} Facility Noise Level (dBA)	One Hour L_{eq} Sound Level Limit (dBA)	Compliance with Sound Level Limit (Yes/No)	Reference Minimum Ambient Noise Levels (dBA)
R01_POWA	Plane of Window	Daytime	41	50	**Yes**	67
	Plane of Window	Evening	41	50	**Yes**	66
	Plane of Window	Night time	41	45	**Yes**	61
R01_POWB	Plane of Window	Daytime	40	50	**Yes**	67
	Plane of Window	Evening	40	50	**Yes**	66
	Plane of Window	Night time	40	45	**Yes**	61

Table 6: Acoustic Assessment Summary Table – Future Facility Operating Scenario, Emergency Equipment Testing

Point of Reception ID	Point of Reception Location	Time Period	Predicted One Hour L_{eq} Facility Noise Level (dBA)	One Hour L_{eq} Sound Level Limit (dBA)	Compliance with Sound Level Limit (Yes/No)	Reference Minimum Ambient Noise Levels (dBA)
R01_POWA	Plane of Window	Daytime	37	55	**Yes**	67
	Plane of Window	Evening	-	55	**Yes**	66
	Plane of Window	Night time	-	50	**Yes**	61
R01_POWB	Plane of Window	Daytime	40	55	**Yes**	67
	Plane of Window	Evening	-	55	**Yes**	66
	Plane of Window	Night time	-	50	**Yes**	61

Table 7: Noise Impact Table – Future Facility Operations

Source ID	R01_POWA		R01_POWB	
	Distance (m)	L_{eq},1hr (dBA)[4]	Distance (m)	L_{eq},1hr (dBA)[5]
BldgBoilerLouvre	779	33	753	32
BldgExhaustFan1	779	-8	754	-9
BldgExhaustFan2	785	-13	760	-9
BldgExhaustFan3	791	-13	767	-9
BldgExhaustFan4	802	-13	779	-9
BldgExhaustFan5	789	-13	766	-9
BldgExhaustFan6	800	-13	778	-9
BldgHeatPump1	790	-7	767	-2
BldgHeatPump2	800	-7	778	-2
BldgHeatPump3	802	-7	779	-2
BldgHeatPump4	792	-7	768	-2
BldgHeatPump5	785	-7	761	-2
BldgHeatPump6	779	-2	754	-2
BldgRTU1	795	8	772	13
BldgRTU2	784	8	760	13
BldgTransformerLouvre1	779	26	755	28
BldgTransformerLouvre2	789	8	764	9
BusIdle1	754	26	729	26
BusIdle2	747	26	721	26

[4] Note that negative dBA values indicate a sound pressure level below the reference threshold of hearing (0 dBA / 20 micro Pascals).

Source ID	R01_POWA		R01_POWB	
	Distance (m)	L_{eq},1hr (dBA)[4]	Distance (m)	L_{eq},1hr (dBA)[5]
BusIdle3	740	26	712	27
BusIdle4	733	27	705	27
TunnelExhaustFan1	824	-21	801	-19
TunnelExhaustFan2	838	-18	815	-16
TunnelExhaustFan3	761	-10	730	-14
TunnelExhaustFan4	775	-10	744	-14
TunnelExhaustFan5	743	-9	712	-13
TunnelPump1	827	-11	804	-8
TunnelPump2	841	-9	818	-7
TunnelPump3	763	-2	732	-6
TunnelPump4	776	-2	745	-2
TunnelPump5	745	-2	714	-6
BusAccel	580	38	542	36
BusBrake1	693	30	661	32
BusBrake2	580	29	542	29
GeneratorLouvre1	779	37	755	40
GeneratorLouvre2	789	20	764	22

2.8 Conclusions and Recommendations

The Future facility operation noise levels at the assessed points of reception are expected to comply with MECP NPC-300 sound level limits during the worst-case hour of operation. Therefore, no noise mitigation is expected to be required for this station.

3. Station Operations – Vibration Assessment

As the stationary sources at the Facility are not considered to be significant sources of vibration (bus/car movement, HVAC equipment, generator), operational vibration from the site will be negligible at nearby buildings or vibration sensitive receptors. Therefore, a vibration assessment of the station operations was not conducted.
An assessment of vibration caused by station construction can be found in **Section 5**.

4. Construction Noise Assessment

4.1 Guidelines and By-Laws

4.1.1 Provincial Guidelines

MECP publications NPC-115 and NPC-118 provide sound emission standards for various types of construction equipment. The corresponding standards for typical construction equipment and vehicles are reproduced in the tables below.

Table 8: NPC-115 Quiet Zone and Residential Area Sound Emission Standards for Excavation Equipment, Dozers, Loaders, Backhoes or Other Equipment Capable of Being Used for Similar Application

Maximum Sound Level (dBA)[5]		
Date of Manufacture	Power Rating	
	<75 kW	75 kW or Greater
January 1, 1979 to December 31, 1980	85	88
January 1, 1981 and after	83	85

Table 9: NPC-115 Sound Emission Standards for Pneumatic Pavement Breakers

	Date of Manufacture	Maximum Sound Level (dBA)[7]
Quiet Zone Sound Emission	January 1, 1979 and after	85
Residential Area Sound Emission Standard	January 1, 1979 to December 31, 1980	90
	January 1, 1981 and after	85

Table 10: NPC-115 Sound Emission Standards for Portable Air Compressors

	Date of Manufacture	Maximum Sound Level (dBA)[7]
Quiet Zone Sound Emission	January 1, 1979 to December 31, 1980	76
Residential Area Sound Emission Standard	January 1, 1981 and after	70
	January 1, 1979 and after	76

Table 11: NPC-118 Sound Emission Standards for Heavy Vehicles with Governed Diesel Engines

Date of Manufacture	Maximum Sound Level (dBA)[7]
Prior to January 1, 1979	100
January 1, 1979 and after	95

[5] *Determined using the measurement techniques and standards described in NPC-103.*

4.1.2 Municipal Noise Control By-Law

At the time of the writing of this report, several major updates to the City of Toronto Municipal Noise By-law are planned to come into effect on October 1, 2019. Sections of the by-law and planned updates relevant to project related noise are reproduced below:

Construction:

28. *Remove the differentiated time and place prohibition in section 591-2.1 subsection B(1) for construction and set a specific prohibition of construction as follows: "No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction that is clearly audible at a point of reception from 7 pm to 7 am the next day, except until 9 am on Saturdays; and all day on Sundays and statutory holidays."*

4.2 Assessment Methodology

The provincial noise guidelines and municipal noise by-laws referenced above do not define absolute construction noise level limits at receiver locations. Therefore, this assessment describes construction noise impacts in terms of the potential perceptibility of construction noise at noise sensitive locations. In areas where construction noise may exceed ambient noise levels, the construction noise may be perceptible (*audible*). **Table 12** elaborates on the perceived impact of changes in sound level compared with ambient levels.

Table 12: Perceived Impact of Increased Sound Levels[6]

Increased Sound Level Above Ambient (dB)	Perception	Perceived Impact
0 to 3	Potentially Perceptible	Minor
3 to 5	Perceptible	Low
5 to 10	Up to twice as loud	Medium
Greater than 10	Twice as loud or greater	High

4.2.1 Noise Sensitive Areas and Ambient Levels

The NSAs assessed for construction noise corresponds to the existing NSAs identified in **Section 2.3** and are shown on **Figure 2**.

AECOM conducted ambient noise monitoring at one location near the most exposed noise sensitive receptor (Woodbine Hotel), from June 21st, 2019 to June 27th, 2019. Noise monitoring was undertaken using a 3M Quest SoundPro sound level meter, fitted with a microphone and a wind shield. The sound level meter was fastened to a pole at a height of approximately 3 m above local ground surface. The meter was field calibrated immediately prior to the measurement period. Measurements were recorded in 15-minute samples. The measurements were used to estimate the minimum One Hour L_{eq} ambient noise levels for the day, evening and night time periods.

The dominant consistent source of background noise in the area was Highway 27 traffic.

The noise measurement data has been cross-referenced against the weather data obtained from a nearby Environment Canada weather station (Toronto Pearson International Airport). Measurements recorded during periods of inclement weather (wind speeds greater than 20 km/h or any precipitation) have been omitted from the dataset.

6. Adapted from Table 2.1 of "Engineering Noise Control, Theory and Practice", 3rd edition. (Bies and Hansen, 2003).

Figure 5 identifies the noise monitoring location. A distance correction from Highway 27 has been applied to the measurement data to more accurately estimate ambient noise at the façade/window of the hotel. **Table 13** summarizes the ambient noise measurements. The full measurement dataset and meteorological data are provided in **Appendix B2**.

Figure 5: Ambient Noise Monitoring Location

Table 13: Ambient Noise Measurements

Measurement Location Description	Time Period	Minimum Ambient Noise Level (One Hour L_{eq}, dBA)
Woodbine Hotel, near the northeast corner of the Highway 27 and Vice Regent Boulevard intersection.	Daytime	67
	Evening	66
	Night time	61

4.3 Construction Activities and Equipment Noise Emissions

The construction activities at the Facility can be divided amongst the following areas (Construction Zones):

- Train platforms;
- Pedestrian parking lots, PPUDO, and new bus loop;
- New station building; and
- Pedestrian tunnels.

Detailed information about the specific equipment that will be used during construction works is currently unavailable. Construction zones were estimated using the Woodbine GO site plan drawings provided on June 20th, 2019.

Table 14 summarizes the potential construction equipment assumed to operate at each Construction Zone.

The construction noise assessment followed the FTA's *General Assessment* method. Under this method, construction noise levels are predicted based on the two loudest pieces of construction equipment operating continuously for one hour at the centre of the related construction zone. The highlighted cells in **Table 14** identify the two loudest pieces of equipment anticipated at each Construction Zone.

Table 15 provides FTA and United States Federal Highway Administration (FHWA) reference construction noise levels for the equipment identified in **Table 14**.

Table 14: Potential Construction Equipment Operations at Construction Zones

Construction Equipment	Construction Zone			
	Platform(s)	Parking Lot/PPUDO	New Station Building	Pedestrian Tunnels
Auger Drill Rig	-	-	✓	✓
Backhoe	✓	✓	✓	-
Compactor (ground)	✓	✓	✓	-
Compressor (air)	-	-	-	-
Concrete Mixer Truck	✓	✓	✓	-
Concrete Pump Truck	✓	✓	✓	✓
Crane	✓	-	✓	-
Dozer	✓	✓	✓	✓
Dump Truck	✓	✓	✓	✓
Excavator	✓	✓	✓	✓
Flat Bed Truck	✓	✓	✓	✓
Front End Loader	✓	✓	✓	✓
Generator	✓	✓	✓	-
Grader	✓	✓	✓	-
Pickup Truck	-	✓	-	-
Pneumatic Tools	-	-	-	-
Roller	-	✓	✓	-
Vac-truck	✓	✓	✓	-
Welder/Torch	-	-	-	✓

Notes: 1. The highlighted cells identify the two loudest pieces of equipment anticipated at each Construction Zone.

Table 15: Construction Equipment Noise Emissions

Construction Equipment	Reference Sound Pressure Level at 15 m (dBA)
Auger Drill Rig	84
Backhoe	78
Compactor (ground)	83
Compressor (air)	78
Concrete Mixer Truck	79
Concrete Pump Truck	81
Crane	81
Dozer	82
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Generator	81
Grader	85
Pickup Truck	75
Pneumatic Tools	85
Roller	80
Vacuum Excavator (Vac-truck)	85
Welder/Torch	74

4.4 Impact Assessment

Construction noise levels were predicted at the façade of the hotel receptor (R01) in the identified NSA, using the FTA's *General Assessment* method; and FTA/FHWA reference equipment noise emission levels provided in **Table 15.** The predicted construction noise levels were then compared against the ambient noise levels presented in **Table 13**.

As stated above, noise levels during construction were predicted using the reference construction equipment emission levels presented in **Table 15**, which provides a more updated and comprehensive basis for the construction noise predictions as opposed to the MECP emission standards presented in **Table 8** to **Table 11**.

4.5 Results

Table 16 summarizes the predicted construction noise levels at the assessed receptors, during construction works at each of the Construction Zones.
Table 17 summarizes the predicted range of construction noise impacts and the potential perceptibility of construction noise at the NSAs. Construction noise calculations are provided in **Appendix B3**.

Table 16: Construction Zone – Predicted Construction Noise Levels (dBA)

NSA/Receptor ID	Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO
R01	53	54	55	57

Table 17: Predicted Construction Noise Impacts and Potential Perceptibility

POR ID	Time Period	Ambient Noise Level (dBA)	Predicted Construction Noise Levels (dBA)	Increase Above Ambient (dB)	Predicted Perceived Impact
R01	Day	67	53 to 57	-	None to Minor
	Evening	66	53 to 57	-	None to Minor
	Night	61	53 to 57	-	None to Minor

Based on the results presented in **Table 17**, noise levels due to the construction activities at the Facility are not expected to exceed ambient noise levels at the assessed receptor; and construction noise levels may be perceived as non-existent to minor during all times of the day at the assessed receptor.

4.6 Conclusions and Recommendations

The following practices are recommended throughout construction to reduce noise impacts at sensitive receptors:

- Adhere to City of Toronto By-law requirements and the terms of any By-Law exemptions granted by the City of Toronto;
- Maintain equipment in a condition that prevents unnecessary noise while operating, including but not limited to, effective muffler systems, properly secured components, and the lubrication of moving parts;
- Restrict idling of equipment to the minimum necessary to perform the specified work;
- Ensure vehicles employed continuously on site for extended periods of time (two days or more) are fitted with sound reducing back-up (reversing) alarms*;
- Avoid unnecessary revving of engines and switch off equipment when not required (do not idle);
- If construction needs to be undertaken outside of the normal daytime hours, inform local residents beforehand of the type of construction planned and the expected duration;
- Use construction equipment compliant with noise level specifications in MECP guidelines NPC-115 and NPC-118;
- Minimize drop heights of materials; and
- In consultation with the City of Toronto, route haulage/dump trucks on main roads where possible, rather than quieter residential roads.

**. Note that Ministry of Labour requirements and Ontario's Occupational Health & Safety Act and Regulations (Reg. 231/91-105) specify obligations for dump trucks to be equipped with automatic audible reversal alarms when operated in reverse.*

If it is determined that there is a need to further reduce noise effects during construction work, the following additional mitigation measures may be considered and implemented, where appropriate:

- Offset usage of active heavy equipment (schedule non-concurrent use);
- Implement noise compliance checks to ensure equipment levels are in compliance with MECP guidelines NPC-115 and NPC-118;
- Reroute construction and truck traffic, when possible;
- Co-ordinate 'noisy' operations such that they will not occur simultaneously, where possible;
- Where possible, investigate and implement the use of alternative construction equipment or methods to reduce noise emissions from construction. Utilize alternative equipment that generates lower noise levels or optimize silencer/muffler/enclosure performance;
- Use rubber linings in chutes and dumpers to reduce impact noise;
- Install acoustic enclosures, noise shrouds or noise curtains around noisy equipment; and
- Install temporary noise barriers/solid construction hoarding on site boundary to screen affected locations.

5. Construction Vibration Assessment

Vibration levels due to construction activities have the potential to produce perceptible (*felt)* ground-borne vibration that may interfere with human activity. Construction vibration also has the potential to damage nearby structures, or interfere with sensitive equipment within buildings. The present Construction Vibration Assessment assesses the potential for perceptible vibration and building damage due to the construction activities at the Facility.

5.1 Guidelines and Criteria

5.1.1 Perceptible Vibration Criteria

The perceptible vibration criteria used for this assessment are not intended to be specified as limits for construction, but are included to provide an indication of the potential for annoyance from construction vibration.

Perceptible vibration is typically assessed using Root Mean Square Velocity (RMSV) vibration levels. MECP Publication NPC-207 provides RMSV vibration limits for stationary vibration sources in operation in Ontario for frequent events (more than 20 impulses in the observation period); vibration limits are not provided for infrequent impulse events and are to be established on an individual basis. The most current publication of NPC-207 is a 1983 draft version, which has been withdrawn from the MECP's internet resources.

Vibration limits for infrequent events are generally higher, according to The FTA document *Transit Noise and Vibration Impact Assessment* (the FTA Guide). The night-time vibration limits presented in NPC-207 are the same as the FTA Guide vibration limits for residential locations (for frequent events). Although the FTA Guide vibration limits do not distinguish between day and night-time periods, the FTA limit for residences (for frequent events) is more stringent than all of the NPC-207 daytime vibration limits. Therefore, the minimum FTA vibration limits have been used for this construction vibration assessment. Note that the FTA criteria are typically used for assessment of vibration due to the operation of transit systems and are typically not specified as limits but have been adopted as reference values for this assessment.

Table 18 presents the NPC-207 vibration limits.

Table 18: NPC-207 Vibration Limits for Frequent Impulses

Observation Period	RMSV Vibration Limit (mm/s)	
	Daytime (07:00 to 23:00)	Night-Time (23:00 to 07:00)
Period ≤ 20 minutes	0.15	0.10
20 minutes < Period ≤ 60 minutes	0.30	0.10
60 minutes < Period ≤ 120 minutes	0.50	0.10

The FTA Guide provides perceptible vibration limits based on vibration sensitive land uses, categorized as follows:

- **Vibration Category 1 – High Sensitivity**
  This category includes buildings where vibration would interfere with operations within the building, including levels that may be below those associated with human annoyance. Land use examples in this category include vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment and university research operations.

- **Vibration Category 2 – Residential**
  This category covers all residential land uses and any buildings where people sleep, such as hotels and hospitals. No differentiation is made between different types of residential areas.

- **Vibration Category 3 – Institutional**
  This category includes schools, churches, quiet offices and other institutions that do not have vibration-sensitive equipment, but still have the potential for activity interference. It is generally appropriate to include office buildings in this category. Buildings primarily used for industrial use, even though they may include some office space, are not intended to be used in this category.

Table 19 provides the FTA Guide RMSV vibration level limits (for frequent events) for the land use categories described above.

Table 19: FTA Guide RMSV Vibration Limits for Frequent Events by Land Use Category

Land Use Category	RMSV Vibration Limits	
	VdB[1]	mm/s
Category 1 (High Sensitivity)	65	0.05
Category 2 (Residential)	72	0.10
Category 3 (Institutional)	75	0.14

Notes: 1. Referenced to 1 micro inch/second (metric equivalent of 25.4 x 10^{-6} mm/s)

5.1.2 Vibration Damage Criteria

Building damage due to vibration is typically assessed using Peak Particle Velocity (PPV) vibration levels. The FTA Guide provides PPV vibration limits based on building structure using the following categories:

- **Building Category I** – Reinforced-concrete, steel or timber (no plaster)
- **Building Category II** – Engineered concrete and masonry (no plaster)
- **Building Category III** – Non-engineered timber and masonry buildings
- **Building Category IV** – Buildings extremely susceptible to vibration damage

Table 20 provides the FTA Guide PPV vibration level limits for the land use categories described above.

Table 20: FTA Guide PPV Vibration Limits by Building Category

Building Category	PPV Vibration Limits	
	in/sec	mm/s
Building Category I	0.5	12.7
Building Category II	0.3	7.6
Building Category III	0.2	5.1
Building Category IV	0.12	3.0

5.1.3 Municipal Vibration Control By-Law

The City of Toronto enacts By-Law Number 514-2008 to prohibit and regulate construction vibration in Toronto. The by-law sets vibration limits summarized in **Table 21**.

Table 21: Prohibited Construction Vibrations

Frequency of Vibration (Hz)	Vibration Peak Particle Velocity (mm/s)
Less than 4	8
4 to 10	15
More than 10	25

In addition to the prohibited construction vibration levels, By-law 514-2008 defines a Zone of Influence (ZOI) as an area of land within or adjacent to a construction site, including any buildings or structures, that potentially may be impacted (i.e., cosmetic damage) by vibrations emanating from a construction activity where the Peak Particle Velocity (PPV) measured at the Point of Reception (POR) is equal to or greater than 5 mm/s at any frequency.

5.2 Assessment Methodology

As described in **Section 4.3**, the construction activities at the Facility can be divided amongst the Construction Zones:

- Train platforms;
- Pedestrian parking lots, PPUDO, and new bus loop;
- New station building; and
- Pedestrian tunnels.

In addition, construction vibration was assessed for modifications to track alignments on the rail corridor to suit the new platform arrangement.

The construction vibration assessment followed the FTA *Quantitative Construction Vibration Assessment* method. Vibration levels were predicted at vibration sensitive areas during construction works at each of the Construction Zones.

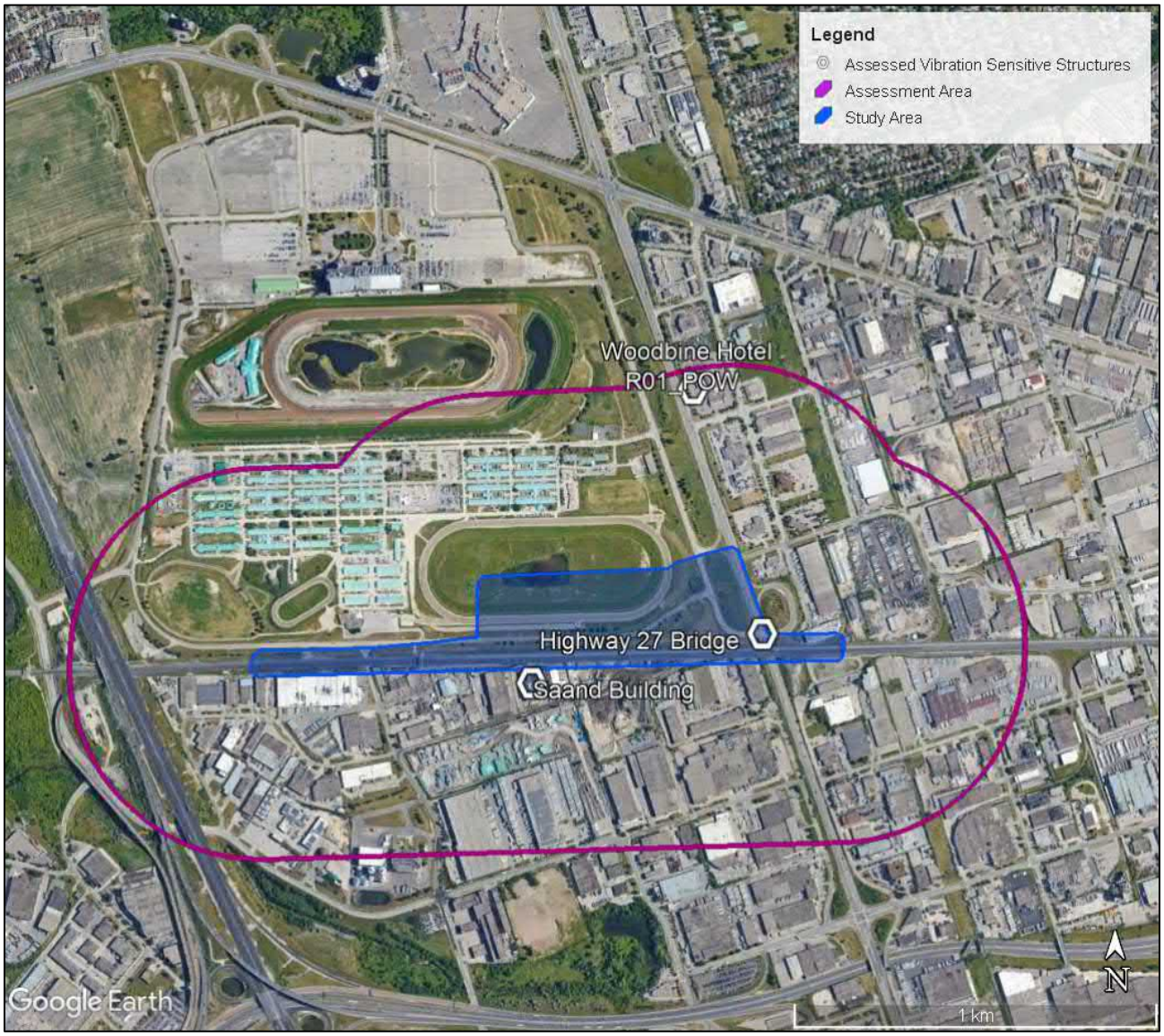
5.2.1 Vibration Sensitive Areas

The vibration sensitive land uses surrounding the construction zones generally consist of industrial and commercial buildings. The most sensitive vibration receptor in terms of annoyance corresponds to the receptor identified in **Section 2** (Station Operations Acoustic Assessment) and **Section 4** (Construction Noise Assessment), of this report: the nearby Woodbine Hotel.

In addition to the Woodbine Hotel, the Saand building to the south of the station and Highway 27 Bridge to the east of the station were also considered as the closest vibration sensitive building and bridge structures, with respect to potential vibration-induced building damage. As these buildings are not considered high sensitivity, residential, or institutional buildings (see Section 5.1.1 for FTA land use categories), they were not assessed against perceptible vibration criteria.

The worst case assessed vibration sensitive locations are presented in **Figure 6**. To maintain consistency with previous sections of this report, the assessed vibration sensitive locations have been identified using the same location names used in **Section 2** and **Section 4** where applicable.

Figure 6: Assessed Vibration Sensitive Locations



5.2.2 Construction Vibration Limits

Table 22 summarizes the assessed vibration sensitive locations and vibration assessment criteria.

Table 22: Vibration Assessment Criteria

Location	Perceptible Vibration		Vibration Damage	
	FTA Land Use Category	RMSV Vibration Limit (mm/s)	FTA Building Category	PPV Vibration Limit (mm/s)
Woodbine Hotel	Category 2 (Residential)	0.10	Building Category I	12.7
Highway 27 Bridge	N/A	N/A	Building Category I	12.7
Saand Building	N/A	N/A	Building Category I	12.7

5.3 Construction Activities and Equipment Vibration Emissions

Detailed information about the specific equipment that will be used during construction works is currently unavailable. **Table 14** summarizes the potential construction equipment assumed to operate at each Construction Zone. **Table 23** provides the FTA Guide's reference vibration levels for the construction equipment identified in **Table 14**.

Table 23: Construction Equipment Vibration Emissions

Construction Equipment	Reference RMSV Vibration Level at 7.6 m (mm/s)	Reference PPV Vibration Level at 7.6 m (mm/s)	Assumptions
Auger Drill Rig	0.57	2.26	-
Backhoe	0.02	0.08	Assumed Small Bulldozer
Compactor (ground)	0.57	2.26	Assumed Large Bulldozer
Compressor (air)	-	-	Assumed Negligible
Concrete Mixer Truck	0.48	1.93	Assumed Loaded Truck
Concrete Pump Truck	0.48	1.93	Assumed Loaded Truck
Crane	0.48	1.93	Assumed Loaded Truck
Dozer	0.57	2.26	-
Dump Truck	0.48	1.93	Assumed Loaded Truck
Excavator	0.57	2.26	Assumed Large Bulldozer
Flat Bed Truck	0.48	1.93	Assumed Loaded Truck
Front End Loader	0.57	2.26	Assumed Large Bulldozer
Generator	-	-	Assumed Negligible
Grader	0.57	2.26	Assumed Large Bulldozer
Pickup Truck	0.48	1.93	Assumed Loaded Truck
Pneumatic Tools	-	-	Assumed Negligible
Vibratory Roller	1.33	5.33	-
Vacuum Excavator (Vac-truck)	0.48	1.93	Assumed Loaded Truck
Ballast Regulator	0.02	0.08	Assumed Small Bulldozer
Tamping Machine	0.57	2.26	Assumed Large Bulldozer
Welder/Torch	-	-	Assumed Negligible

5.4 Impact Assessment

As no impact piling operations are expected to occur during site construction, the equipment predicted to produce the highest ground-borne vibration during construction of the Facility are the vibratory roller and grader. The zones of influence (the area in which ground-borne vibration caused by the equipment exceeds 5 mm/s per Toronto By-law 514) for these pieces of equipment are approximately 8 metres from the roller, and 4.5 metres from the grader, respectively. Using the current site plan as a reference, it is not predicted that the zone of influence from construction will extend passed the site property line.

Vibration levels were predicted using a generic propagation equation in conjunction with the reference vibration levels provided in **Table 23**. The predicted construction vibration levels were then compared against the vibration limits presented in **Table 22**.

The construction vibration assessment also incorporated the following assumptions and approaches:

- Crest Factor[7] of 4.
- All equipment may operate within the construction zone at the location nearest to the assessed vibration sensitive areas. Construction zones have been estimated using site plan drawings.

7. Crest Factor represents the ratio between PPV vibration levels and RMSV vibration levels. The FTA Guide uses a Crest Factor of 4 in relation to construction vibration damage criteria; and reference vibration levels for construction equipment.

- Construction equipment vibration levels have been assessed under individual operations; cumulative vibration levels from simultaneous equipment operations have not been considered.
- Construction of the multi-use path is considered minor and will have negligible vibration impacts.
- Construction zones were estimated using the Woodbine GO site plan drawings provided on June 20th, 2019.

5.5 Results

Table 24 and **Table 25** summarize the maximum predicted construction vibration levels at the assessed locations, during construction works at each of the Construction Zones. Construction vibration calculations are provided in **Appendix C2**.

Table 24: Maximum Predicted RMSV Construction Vibration Levels – Perception Analysis

Location	RMSV Vibration Limit (mm/s)	Construction Zone Maximum Predicted Construction Vibration Level (RMSV, mm/s)				
		Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO	Track Modifications
Woodbine Hotel	0.10	0.0007	0.0015	0.0007	0.0024	0.0016

Table 25: Maximum Predicted PPV Construction Vibration Levels – Building Damage Analysis

Location	PPV Vibration Limit (mm/s)	Construction Zone Maximum Predicted Construction Vibration Level (PPV, mm/s)				
		Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO	Track Modifications
Woodbine Hotel	12.7	0.003	0.006	0.003	0.010	0.007
Highway 27 Bridge	12.7	0.008	0.012	0.011	0.131	0.921
Saand Building	12.7	0.288	0.240	0.676	0.370	5.548

Based on the results presented in **Table 24** and **Table 25**, vibration levels during construction will not exceed the City of Toronto By-Law criteria, FTA's perceptible vibration criteria; or the FTA's building damage vibration criteria. However, the Saand building is just within the Zone of Influence (ZOI) for track modification construction, since the predicted vibration impacts are up to just above 5 mm/s.

It should be noted that these results are based on equipment assumptions and reference vibration data.

5.6 Conclusions and Recommendations

Vibration levels during construction are not expected to exceed the assessment criteria for perceptible vibration or building damage.

The following general measures are recommended during construction to manage potential vibration impacts at sensitive receptors:

- Operate earth-moving equipment on the construction lot as far away from vibration-sensitive sites as possible;
- For piling operations, consider piling methods with reduced impact/energy input;
- Route heavily-loaded trucks away from residential streets, if possible. Select streets with fewest homes if no alternatives are available; and
- Phase any demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.

A pre-construction condition inspection and vibration monitoring during corridor construction work are currently recommended for the Saand Building as potential vibratory roller activities may be used within the zone of influence of the building. This requirement will be re-evaluated when detailed construction drawings are available.

It should be noted that while the Highway 27 bridge structure is not predicted to have construction vibration impacts that exceed FTA building damage criteria and that no specific vibration monitoring recommendations have been made in this report, the AECOM document *Highway 27 - Woodbine Station – Cultural Heritage Assessment Report: Existing Conditions and Preliminary Impact Assessment Cultural Heritage Assessment Report* (July, 2019) has classified this bridge as a property with potential cultural heritage value. The July 2019 report details recommendations for avoidance of this bridge during construction as well as vibration monitoring in Section 8.3.

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Appendix A1

Facility Drawings

PRACTICE TRACK

OUTER TRACK

GRANDSTAND ENTRANCE RD

FUTURE DEVELOPMENT

FUTURE DEVELOPMENT

BETHRIDG

MULTI-USE PATH

POTENTIAL FINCH LRT CONNECTION

HIGHWAY 27

REALIGNED ENTRANCE ROAD

PARKING 698

ENTRANCE PAVILION

GRANDSTAND

REALIGNED ENTRANCE RD

PARKING 448

PROPOSED 20 SPOTS

PLAZA

BUS LOOP 4 SPOTS

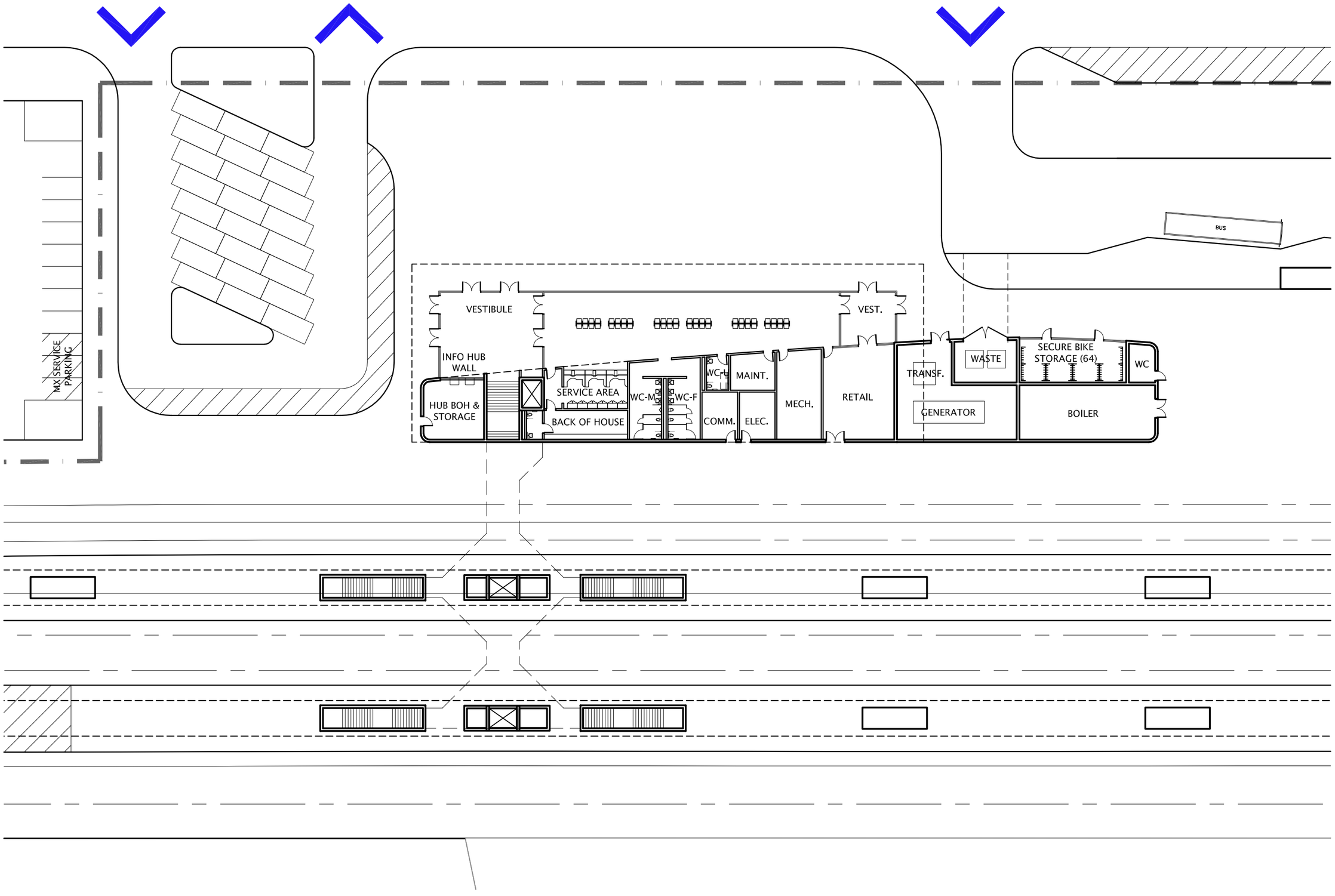
STATION

COVERED BIKE PARKING 128

MULTI-USE PATH

UP EXPRESS

NORTH SERVICE
TRACK 0
TRACK 1
TRACK 2
TRACK 3
SOUTH SERVICE


MX SERVICE PARKING
BUS
VESTIBULE
VEST.
INFO HUB WALL
HUB BOH & STORAGE
SERVICE AREA
BACK OF HOUSE
WC-M
WC-F
WC-U
MAINT.
COMM.
ELEC.
MECH.
RETAIL
TRANSF.
WASTE
SECURE BIKE STORAGE (64)
WC
GENERATOR
BOILER

Appendix A2

Land Use Plan

Legend

Zoning Map

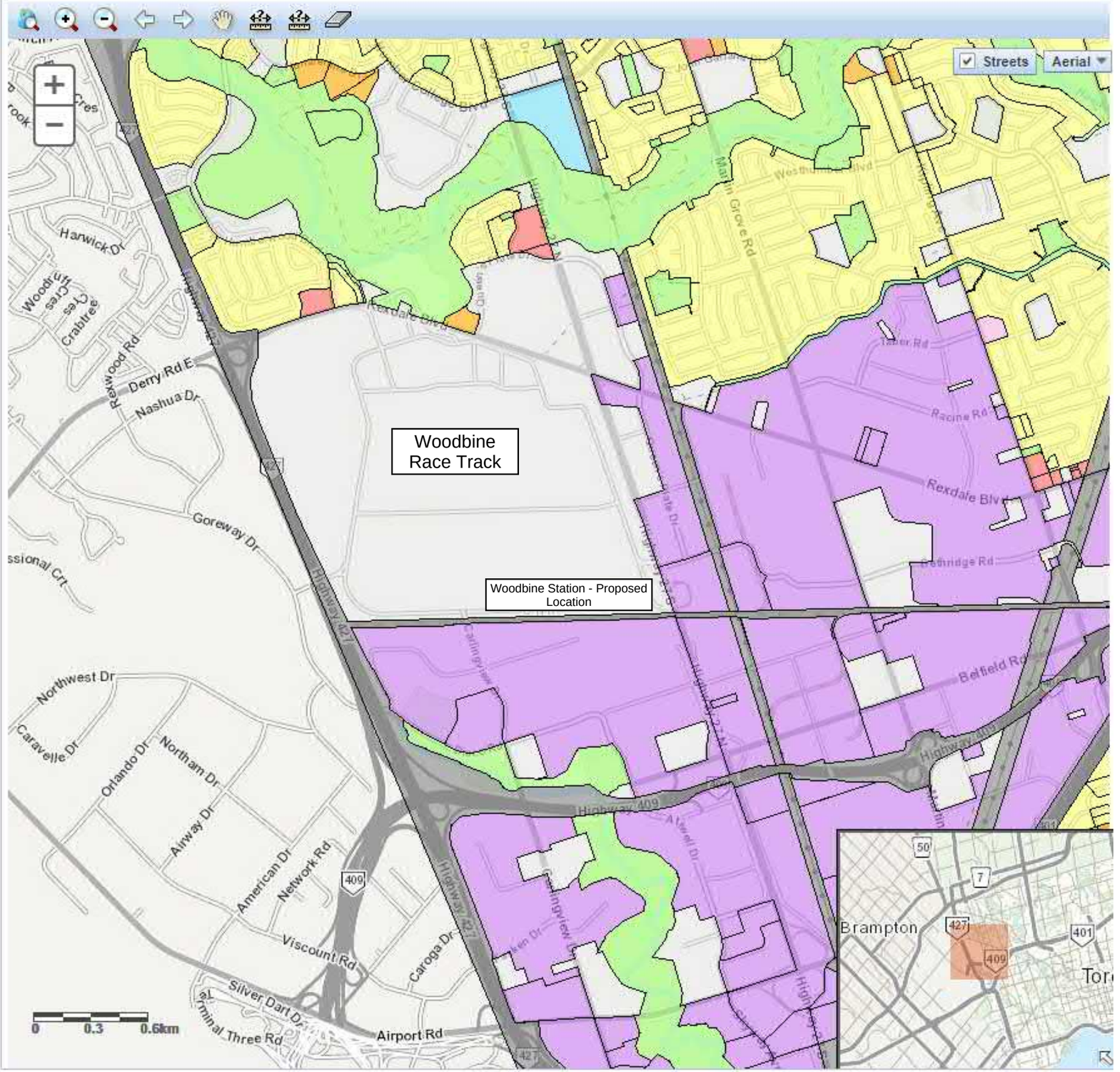
Click once on property for zoning information

- City Ward
- Zone Categories
  - Residential
  - Residential Apartment
  - Open Space
  - Utility and Transportation
  - Commercial
  - Commercial Residential
  - Commercial Residential Employment
  - Employment Industrial
  - Institutional
- Overlay Layers

Search Results

Measure

Zoning Map



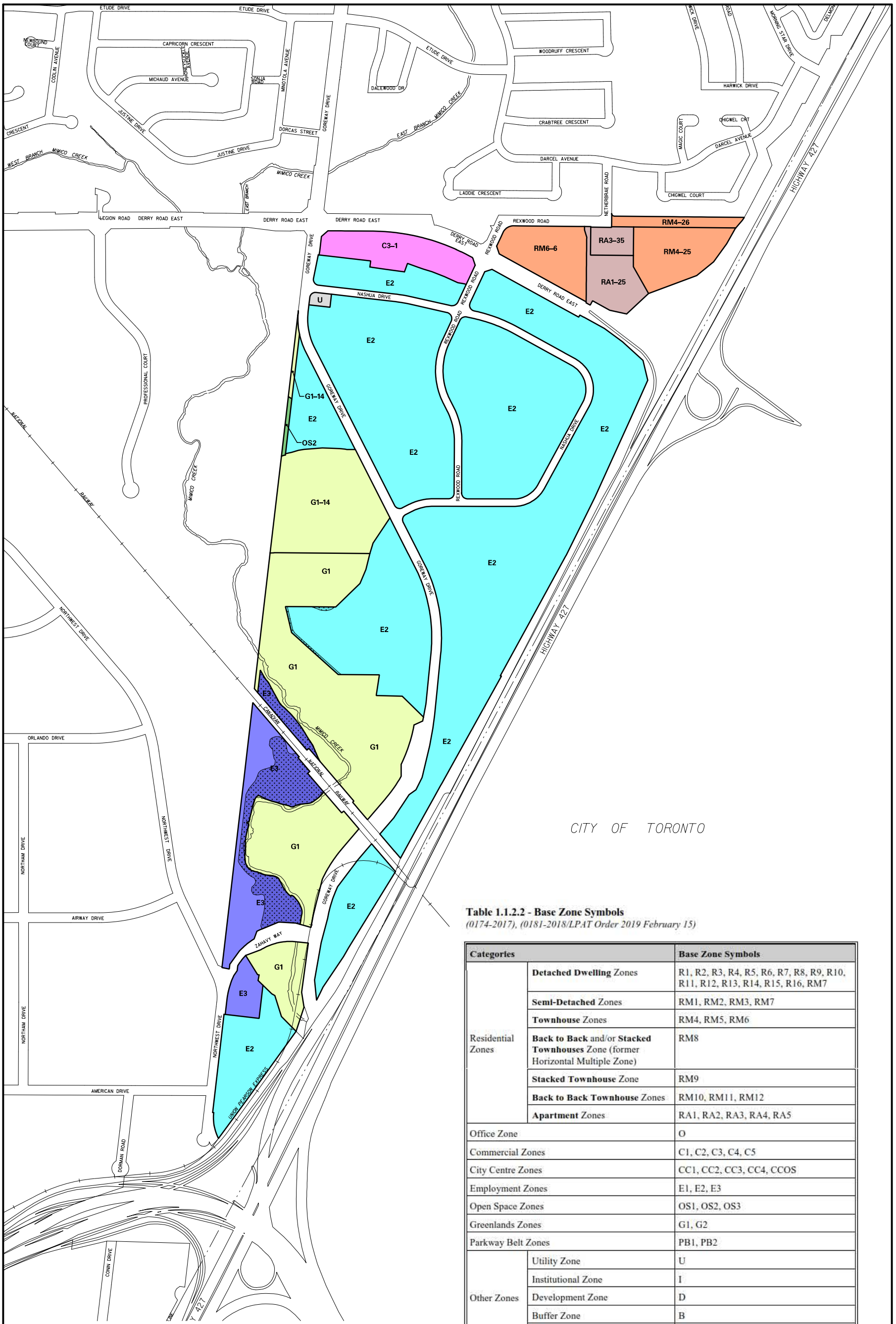
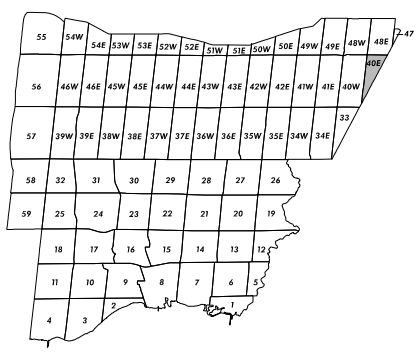


Table 1.1.2.2 - Base Zone Symbols
(0174-2017), (0181-2018/LPAT Order 2019 February 15)

Categories		Base Zone Symbols
Residential Zones	**Detached Dwelling** Zones	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, RM7
	Semi-Detached Zones	RM1, RM2, RM3, RM7
	Townhouse Zones	RM4, RM5, RM6
	Back to Back and/or **Stacked Townhouses** Zone (former Horizontal Multiple Zone)	RM8
	Stacked Townhouse Zone	RM9
	Back to Back Townhouse Zones	RM10, RM11, RM12
	Apartment Zones	RA1, RA2, RA3, RA4, RA5
Office Zone		O
Commercial Zones		C1, C2, C3, C4, C5
City Centre Zones		CC1, CC2, CC3, CC4, CCOS
Employment Zones		E1, E2, E3
Open Space Zones		OS1, OS2, OS3
Greenlands Zones		G1, G2
Parkway Belt Zones		PB1, PB2
Other Zones	Utility Zone	U
	Institutional Zone	I
	Development Zone	D
	Buffer Zone	B
	Airport Zone	AP



MISSISSAUGA

0 100 200
METRES

Greenlands Overlay

Zoning Notation Example:
R4–12 = R4–Exception 12

Zoning
Map 40E

Schedule "B" To
By–law No. 0225–2007

Revised: 2008 December 22

40W

Produced by Corporate Sevices Department, Geospatial Solutions

Technical Revisions: 2018 October 31

Appendix A3

Sound Power Calculations and Manufacturer's Sound Level Data

Choose from weather protective enclosure or three levels of sound attenuation:

Sound levels (dB(A))*				
kW	Model	Weather-protective	Level I	Level II
Diesel				
10	DSKAA	78	68	65
15	DSKAB	81	69	66
20	DSKBA	80	70	67
25	DSKFA	82	72	69
35	DGBB	82	71	63
35	DGGD	81	72	66
40	DGBC	82	72	63
40	DGHD	79	71	64
50	DGCA	83	72	66
50	DGHE	79	70	65
60	DGCB	84	73	67
60	DSFAD	87	79	71
80	DGCG	84	76	67
80	DSFAE	87	82	72
100	DGDB	86	77	70
100	DSGAA*	87	-	73
100	DSHAF	95	88	78
125	DGDK	86	80	71
125	DSGAB*	87	-	74
125	DSHAE	95	88	78
150	DGFA	89	77	72
150	DSGAC*	88	-	75
150	DSHAA	95	88	78
175	DGFB	90	78	72
175	DSHAB	95	88	78
200	DGFC	91	80	74
200	DSHAC	95	88	78
230	DGFS	91	81	75
230	DSHAD	96	89	78
250	DQDAA	90	86	71
275	DQDAB	89	86	71
275	DQHAA	86	85	74
300	DFCB	86	84	71
300	DQDAC	89	86	71
300	DQHAB	89	88	76
350	DFCC	87	85	72
350	DFEG	85	83	72
400	DFCE	89	85	73
400	DFEG	89	85	73
450	DFEJ	87	84	73
500	DFEK	88	85	76
600	DFGB	85	78	74
600	DQCA	87	79	74
750	DFGE	87	80	75
750	DFHA	91	81	77
750	DQCB	87	79	74
750	DQFAA	89	79	75
800	DFHB	91	81	77
800	DQCC	87	79	74
800	DQFAB	89	79	75
900	DFHC	93	83	78
900	DQFAC	88	80	76
1000	DFHD	90	80	76
1000	DQFAD	90	80	76

Sound levels (dB(A))*				
kW	Model	Weather-protective	Level I	Level II
Spark-ignited				
20	GGMA	77	N/A	66
25	GGMB	78	N/A	66
30	GGMC	79	N/A	67
35	GGFD	80	73	65
42/47	GGFE	83	73	66
60	GGHE	86	77	68
70/75	GGHF	87	77	69
85	GGHG	85	79	75
100	GGHH	86	80	76
125	GGLA	85	79	75
150	GGLB	85	79	75

***Also available Level III**

100 kW	DSGAA	68 dB(A)
125 kW	DSGAB	69 dB(A)
150 kW	DSGAC	70 dB(A)

Diesel generator sets from 100 to 150 kW (models **DSGAA, DSGAB, DSGAC**) are available in **Level III** sound attenuation.

Shown: 100 kW Tier 3 diesel generator set (model DSGAA).

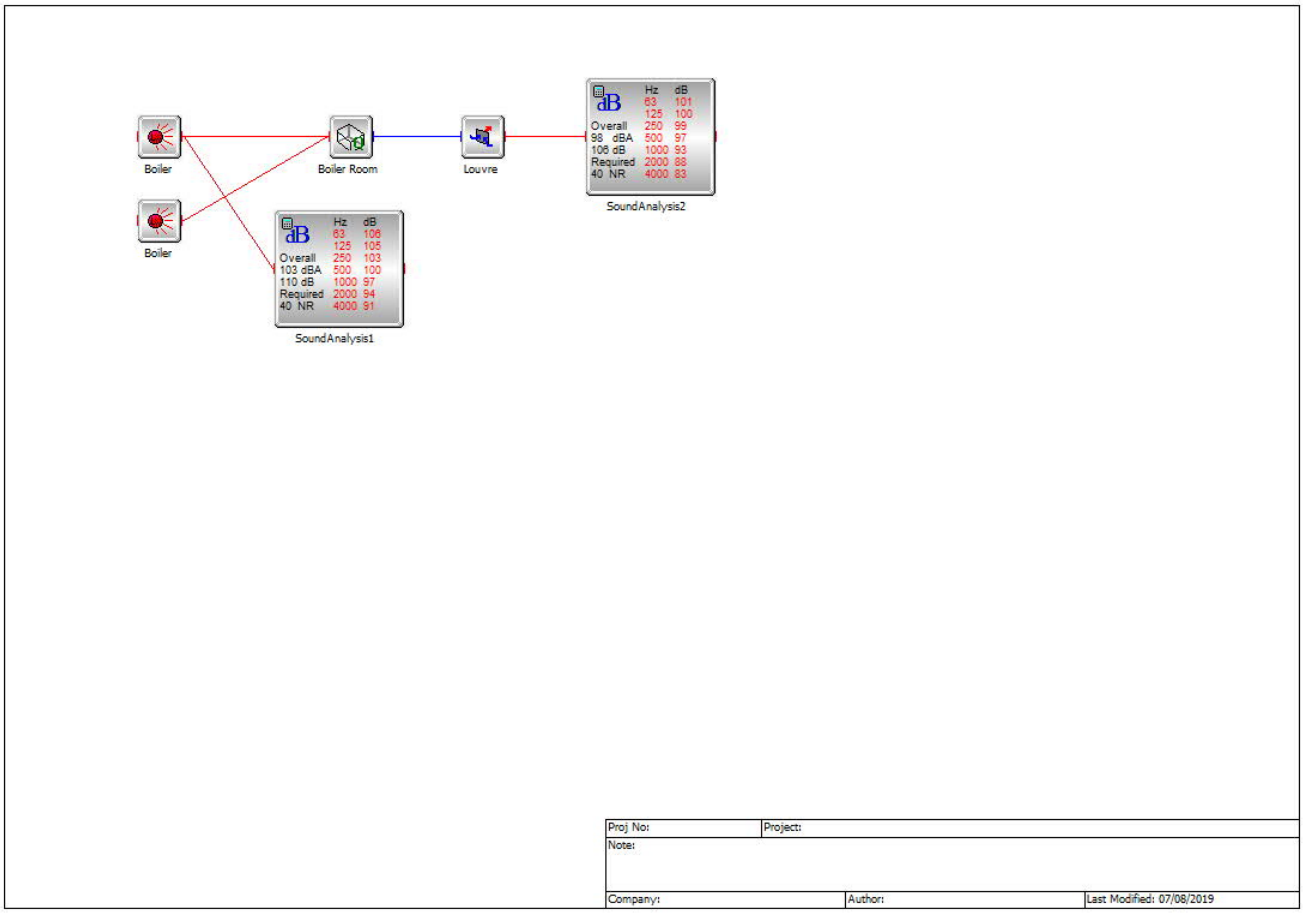
* Full load at 7 meters, steel enclosures

Heat Pump, Lw=65 dBA			Frequency (Hz) Sound Power Level (dBA)								
	Overall Lw (dBA)	31.5	63	125	250	500	1000	2000	4000	8000	Total (dBA)
Overall Lw (dBA)	65	65	65	65	65	65	65	65	65	65	
Spectrum Shape (Hoover & Keith, Packaged HVAC Rooftop Units)		-11	-8	-7	-7	-8	-10	-14	-18	-24	
Uncorrected Lw (dBA)		54	57	58	58	57	55	51	47	41	64.8
Normalization Correction (dB)		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Corrected Lw (dBA)		54.2	57.2	58.2	58.2	57.2	55.2	51.2	47.2	41.2	65.0

Exhaust fan, Lw=60 dBA			Frequency (Hz) Sound Power Level (dBA)								
	Overall Lw (dBA)		63	125	250	500	1000	2000	4000	8000	Total (dBA)
Overall Lw (dBA)	60										
Spectrum Shape (NEBB, propeller fan)			48	51	58	56	55	52	46	42	62.4
Normalization Correction (dB)			-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	
Corrected Lw (dBA)			45.6	48.6	55.6	53.6	52.6	49.6	43.6	39.6	60.0

Diesel genset, Lp=77 dBA at 7m			Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	Total (dBA)
Lp (dBA)	77										
Distance (m)	7										
Overall Lw (dBA)	94		94	94	94	94	94	94	94	94	
Spectrum Shape (Ashbridges Bay 300 kW genset)			83	92	92	95	96	95	94	85	102.2
Normalization Correction (dB)			-8.2	-8.2	-8.2	-8.2	-8.2	-8.2	-8.2	-8.2	
Corrected Lw (dBA)			75	84	84	87	88	87	86	77	94.0

SoundCalc Project Summary :



Element : Boiler
Description : Boiler
Type : Source
Input : Power
Output : Power

Hz	63	125	250	500	1000	2000	4000
Input Spectra	0	0	0	0	0	0	0
Source	106	105	103	100	97	94	91
Output	106	105	103	100	97	94	91

Element : SoundAnalysis1
Description : SoundAnalysis1
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	106	105	103	100	97	94	91

Overall dB(A): 103
Overall dB : 110

A Weighted	80	89	94	97	97	95	92

Required NR : 40

NR Spectra	67	57	49	44	40	37	35
Excess over NR	39	48	54	56	57	57	56

Element : QuickRoom1
Description : Boiler Room
Type : Attenuator
Input : Power
Output : Pressure
Standard Room
Room Width : 15.0 m
Room Length : 7.0 m
Room Height : 6.0 m
Calc. Method : Sabine
Source Location : Centre
Soures : 1
Source - Observer : 5.0 m

North Wall
Exposed Material : DataItem3
Exposed Area : 42.0 m²
South Wall Exposed Material : DataItem3
Exposed Area : 42.0 m²
East Wall Exposed Material : DataItem3
Exposed Area : 90.0 m²
West Wall Exposed Material : DataItem3
Exposed Area : 90.0 m²
Floor Exposed Material : DataItem2
Exposed Area : 105.0 m²
Ceiling Exposed Material : DataItem1
Exposed Area : 105.0 m²

Hz	63	125	250	500	1000	2000	4000
Input Spectra	109	108	106	103	100	97	94
Average Absorbtion Coefficient.	0	0	0	0	0	0	0
Reverberation Time	2	2	3	4	3	2	1
Mid Freq Reverberation : 3.0							
Direct Output	87	86	84	81	78	75	72
REverb Output	98	98	97	95	91	86	80
Output	99	98	97	95	91	86	81

Element : Louvre
Description : Louvre
Type : Attenuator
Input : Pressure
Output : Power

Opening Height : 5000.0
Opening Width : 1000.0
Slightly Direct
Transmission Loss Properties

Hz	63	125	250	500	1000	2000	4000
Open area 0	0	0	0	0	0	0	

Hz	63	125	250	500	1000	2000	4000
Input Spectra	99	98	97	95	91	86	81
Attenuation	-2	-2	-2	-2	-2	-2	-2

Output	101	100	99	97	93	88	83

Element : SoundAnalysis2
Description : SoundAnalysis2
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	101	100	99	97	93	88	83

Overall dB(A): 98
Overall dB : 106

A Weighted	75	84	90	94	93	89	84

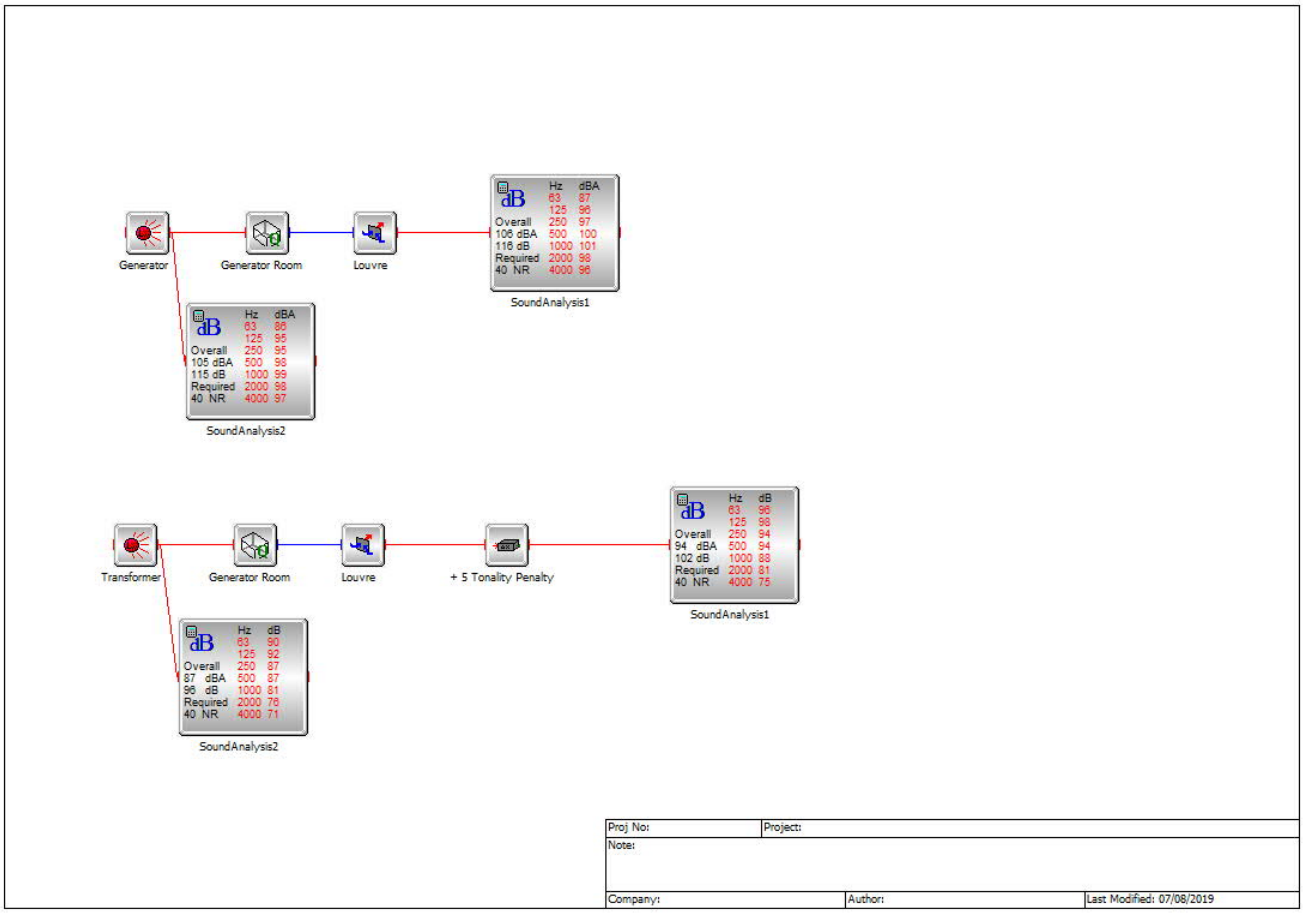
Required NR : 40

NR Spectra	67	57	49	44	40	37	35
Excess over NR	34	43	50	53	53	51	48

Element : Boiler
Description : Boiler
Type : Source
Input : Power
Output : Power

Hz	63	125	250	500	1000	2000	4000
Input Spectra	0	0	0	0	0	0	0
Source	106	105	103	100	97	94	91
Output	106	105	103	100	97	94	91

SoundCalc Project Summary :



Element : Generator
Description : Generator
Type : Source
Input : Power
Output : Power

Hz	63	125	250	500	1000	2000	4000
Input Spectra	0	0	0	0	0	0	0
Source	86	95	95	98	99	98	97
Output	112	111	104	101	99	97	96

Element : QuickRoom1
Description : Generator Room
Type : Attenuator
Input : Power
Output : Pressure
Standard Room
Room Width : 14.0 m
Room Length : 9.0 m
Room Height : 6.0 m
Calc. Method : Sabine

Source Location : Centre
Soures : 1
Source - Observer : 2.0 m

North Wall
Exposed Material : DataItem3
Exposed Area : 54.0 m²
South Wall Exposed Material : DataItem3
Exposed Area : 54.0 m²
East Wall Exposed Material : DataItem3
Exposed Area : 84.0 m²
West Wall Exposed Material : DataItem3
Exposed Area : 84.0 m²
Floor Exposed Material : DataItem2
Exposed Area : 126.0 m²
Ceiling Exposed Material : DataItem1
Exposed Area : 126.0 m²

Hz	63	125	250	500	1000	2000	4000
Input Spectra	112	111	104	101	99	97	96
Average Absorbtion Coefficient.	0	0	0	0	0	0	0
Reverberation Time	2	3	3	4	4	2	1
Mid Freq Reverberation : 3.3							
Direct Output	98	97	90	87	85	83	82
REverb Output	101	100	95	92	90	85	82
Output	103	102	96	93	91	87	85

Element : Louvre
Description : Louvre
Type : Attenuator
Input : Pressure
Output : Power

Opening Height : 5000.0
Opening Width : 5000.0
Equally Direct / Reverberant
Transmission Loss Properties

Hz	63	125	250	500	1000	2000	4000
Open area 0	0	0	0	0	0	0	
Hz	63	125	250	500	1000	2000	4000
Input Spectra	103	102	96	93	91	87	85
Attenuation	-10	-10	-10	-10	-10	-10	-10
Output	113	112	106	103	101	97	95

Element : SoundAnalysis1
Description : SoundAnalysis1
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	113	112	106	103	101	97	95
Overall dB(A): 106							
Overall dB : 116							
A Weighted	87	96	97	100	101	98	96
Required NR : 40							
NR Spectra	67	57	49	44	40	37	35

Excess over NR	45	55	57	60	61	60	60

Element : SoundAnalysis2
Description : SoundAnalysis2
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	112	111	104	101	99	97	96
Overall dB(A): 105							
Overall dB : 115							
A Weighted	86	95	95	98	99	98	97
Required NR : 40							
NR Spectra	67	57	49	44	40	37	35
Excess over NR	45	54	55	57	59	60	61

Element : Transformer
Description : Transformer
Type : Source
Input : Power
Output : Power

Hz	63	125	250	500	1000	2000	4000
Input Spectra	0	0	0	0	0	0	0
Source	90	92	87	87	81	76	71
Output	90	92	87	87	81	76	71

Element : QuickRoom2
Description : Generator Room
Type : Attenuator
Input : Power
Output : Pressure
Standard Room
Room Width : 14.0 m
Room Length : 9.0 m
Room Height : 6.0 m
Calc. Method : Sabine
Source Location : Centre
Soures : 1
Source - Observer : 2.0 m

North Wall
Exposed Material : DataItem3
Exposed Area : 54.0 m²
South Wall Exposed Material : DataItem3
Exposed Area : 54.0 m²
East Wall Exposed Material : DataItem3
Exposed Area : 84.0 m²
West Wall Exposed Material : DataItem3
Exposed Area : 84.0 m²
Floor Exposed Material : DataItem2
Exposed Area : 126.0 m²
Ceiling Exposed Material : DataItem1
Exposed Area : 126.0 m²

Hz	63	125	250	500	1000	2000	4000
Input Spectra	90	92	87	87	81	76	71

Average Absorbtion Coefficient.	0	0	0	0	0	0	0
Reverberation Time	2	3	3	4	4	2	1
Mid Freq Reverberation : 3.3							
Direct Output	76	78	73	73	67	62	57
REverb Output	79	81	78	78	72	64	57
Output	81	83	79	79	73	66	60

Element : Louvre
Description : Louvre
Type : Attenuator
Input : Pressure
Output : Power

Opening Height : 5000.0
Opening Width : 5000.0
Equally Direct / Reverberant
Transmission Loss Properties

Hz	63	125	250	500	1000	2000	4000
Open area 0	0	0	0	0	0	0	

Hz	63	125	250	500	1000	2000	4000
Input Spectra	81	83	79	79	73	66	60
Attenuation	-10	-10	-10	-10	-10	-10	-10
Output	91	93	89	89	83	76	70

Element : SoundAnalysis3
Description : SoundAnalysis1
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	96	98	94	94	88	81	75
Overall dB(A): 94							
Overall dB : 102							
A Weighted	70	82	85	91	88	82	76
Required NR : 40							
NR Spectra	67	57	49	44	40	37	35
Excess over NR	28	41	45	51	48	44	40

Element : SoundAnalysis4
Description : SoundAnalysis2
Type : Sound Power Analysis

Hz	63	125	250	500	1000	2000	4000
Linear Sound	90	92	87	87	81	76	71
Overall dB(A): 87							
Overall dB : 96							
A Weighted	64	76	78	84	81	77	72
Required NR : 40							
NR Spectra	67	57	49	44	40	37	35
Excess over NR	23	35	38	43	41	39	36

Element : + 5 Tonality Penalty
Description : + 5 Tonality Penalty

Type : Attenuator
Input : Power
Output : Power

Hz	63	125	250	500	1000	2000	4000
Input Spectra	91	93	89	89	83	76	70
Attenuation	-5	-5	-5	-5	-5	-5	-5
Output	96	98	94	94	88	81	75

AECOM

Measurement Date _____ Last Updated September 16, 2019

Project Name Woodbine GO

Project Code 60606819

4 DataType = Staff BB

TABLE A3

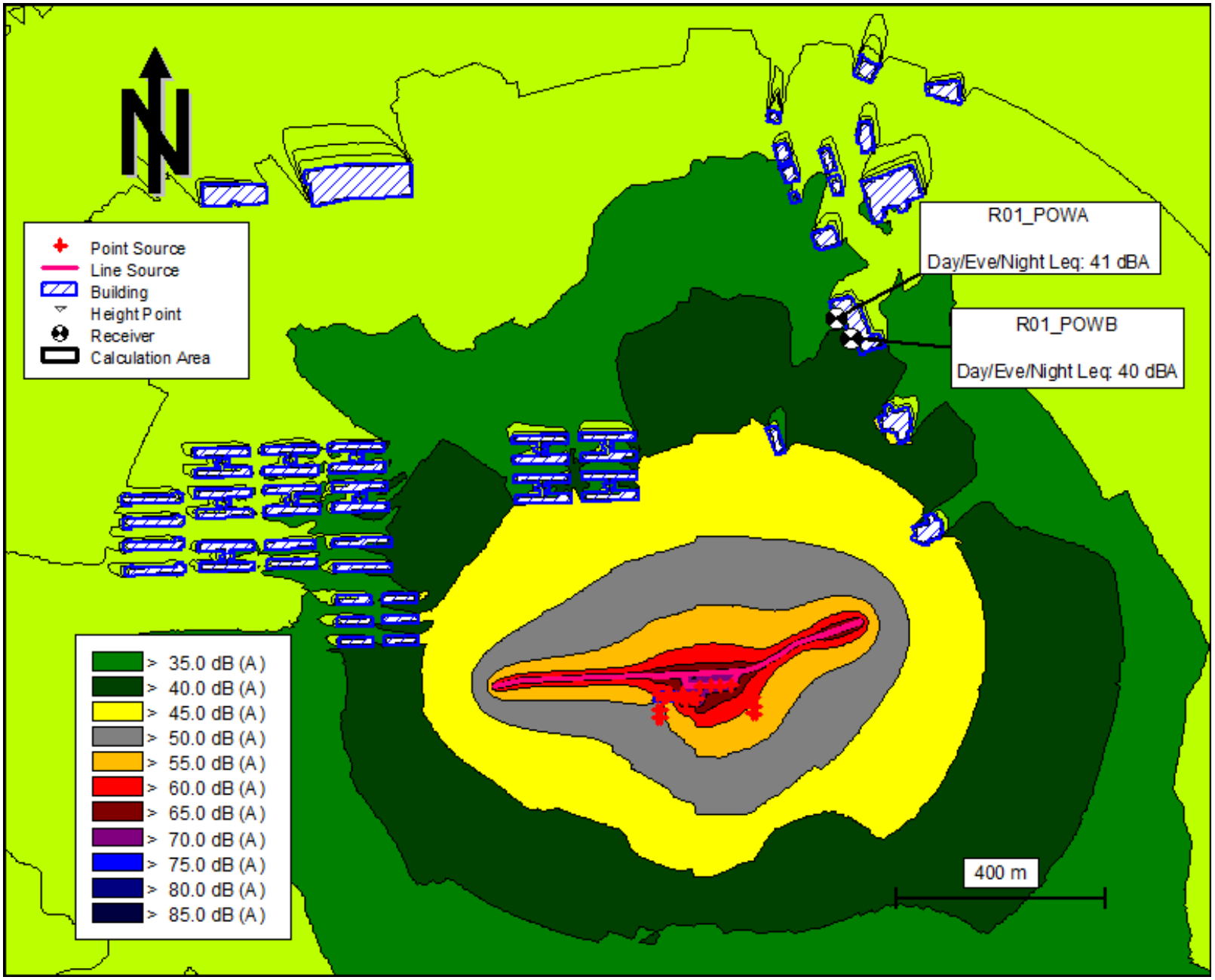
SOUND POWER LEVEL PREDICTIONS BASED ON CALCULATIONS

Sheet #[1]	Source ID	Source Description	Wtd[2]	Calculated L_W in Octave Bands [Hz]									Sound Pressure Level Corrections/Adjustments																								Source Power/Intensity Level Calculations												NOTES		
													Dir Type[4]	Angle[5]	Directivity Corrections in dB [6]									Adj[7]	misc Corrections in dB									Corrected/Adjusted L_{EQ} [8]									STYPI (9)	SPH% (10)	Dist[11] (m)	Area[12] (m^2)	Sound Power Lw or Sound Intensity Li [13]									Overall Lw/Li	Overall Lw/Li dBA	TYPE (14)	Measurement/Source Notes	Source Character (15)	CADNA IMPORT (16)
				31.5	63	125	250	500	1k	2k	4k	8k			32	63	125	250	500	1k	2k	4k	8k		31.5	63	125	250	500	1k	2k	4k	8k	31.5	63	125	250	500	1k	2k	4k	8k					31.5	63	125	250	500	1k	2k	4k	8k					
	Transformer	Transformer	Linear	-1	5	7	2	2	-4	-9	-14	-21	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	59	65	67	62	62	56	51	46	39	71	4	50	7.00		84	90	92	87	87	81	76	71	64	96	87	Lw(D)	Does not include tonality penalty. Transformer Correction from Bies and Hansen. Overall level from King City Station Transformer.	S	0
	Generator	Generator	A		75	84	84	87	88	87	86	77	0	0	0	0	0	0	0	0	0	0	0	-14	0	0	0	0	0	0	0	0	0	-14	61	70	70	73	74	73	72	63	80	4	50	7.00		11	86	95	95	98	99	98	97	88	105	105	Lw(D)	80 at 7 metres per DRM Guidelines- Assumes 600-1200 KW Generator	S	0
	GeneratorLouvre	Generator Room Louvre	A		87	96	97	100	101	98	96	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	96	97	100	101	98	96	87	106	2				0	87	96	97	100	101	98	96	87	106	106	Lw	Estimated conservative 5mx5m Louvre Size - calc performed in soundcalc	S	1
	TransformerLouvre	Transformer Room Louvre	Linear		96	98	94	94	88	81	75	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	98	94	94	88	81	75	68	102	2				0	96	98	94	94	88	81	75	68	102	94	Lw	5 dB tonality pentalty included (see soundcalc calc)	S	1
	BoilerLouvre	Boiler Room Louvre	Linear		101	100	99	97	93	88	83	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	100	99	97	93	88	83	85	106	2				0	101	100	99	97	93	88	83	85	106	99	Lw	Estimated conservative 5mx1m Louvre Size - calc performed in soundcalc	S	1
	BusAccel	Bus Acceleration	Linear	87	92	98	86	82	78	74	70	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	92	98	86	82	78	74	70	65	100	4	50	4.70		108	113	119	107	103	99	95	91	86	121	108	Lw(D)	Measurement data acquired from other transit facility	S	1
	BusIdle	Bus Idling	Linear	73	70	69	71	68	71	71	65	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	70	69	71	68	71	71	65	59	79	4	50	4.30		94	91	90	92	89	92	92	86	80	100	97	Lw(D)	Measurement data acquired from other transit facility	S	1
	BusBrake	Bus Braking	Linear	89	99	92	86	83	81	84	86	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	99	92	86	83	81	84	86	87	101	4	50	3.80		109	119	112	106	103	101	104	106	107	120	112	Lw(D)	Measurement data acquired from other transit facility	S	1

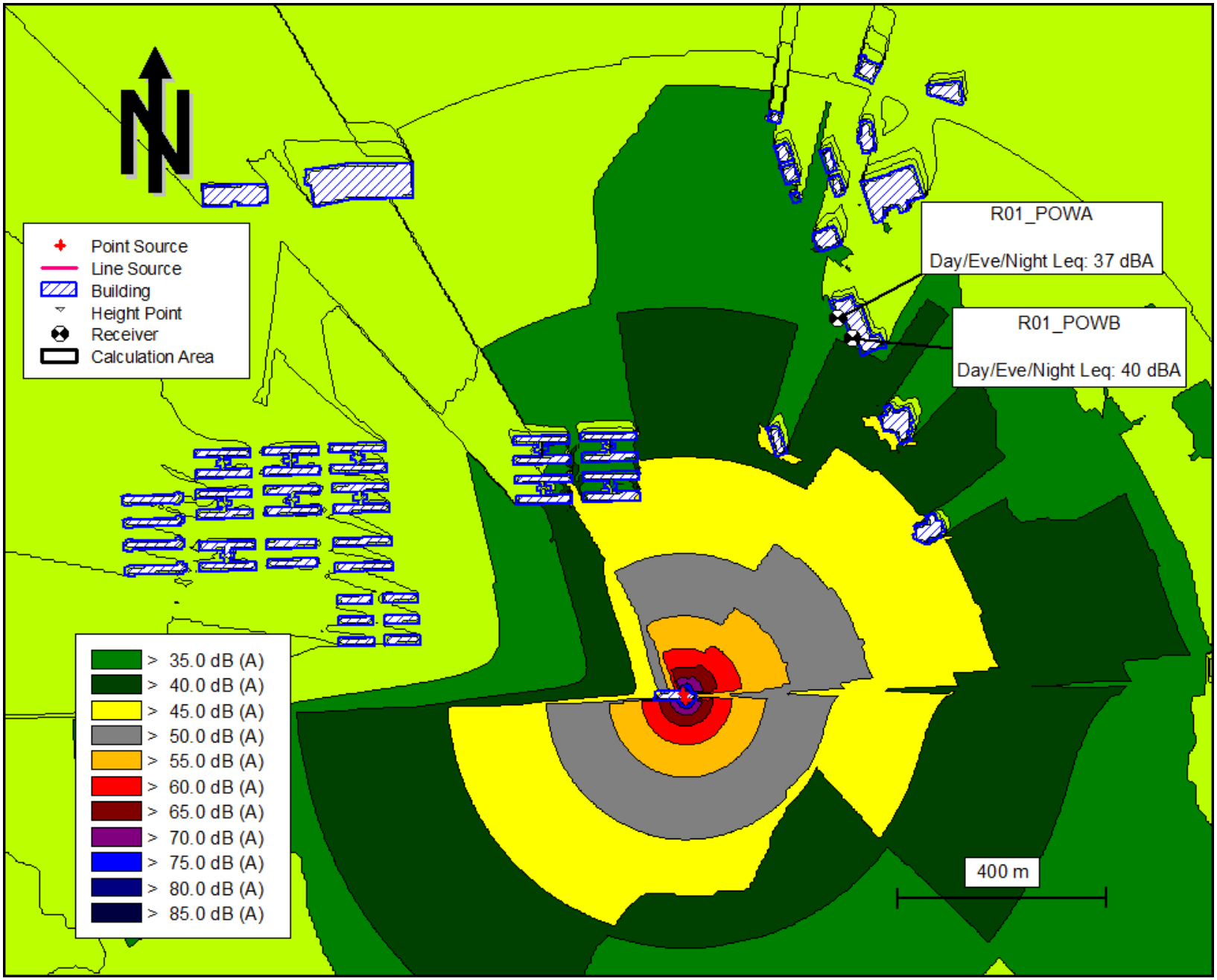
Appendix A4

Noise Contours

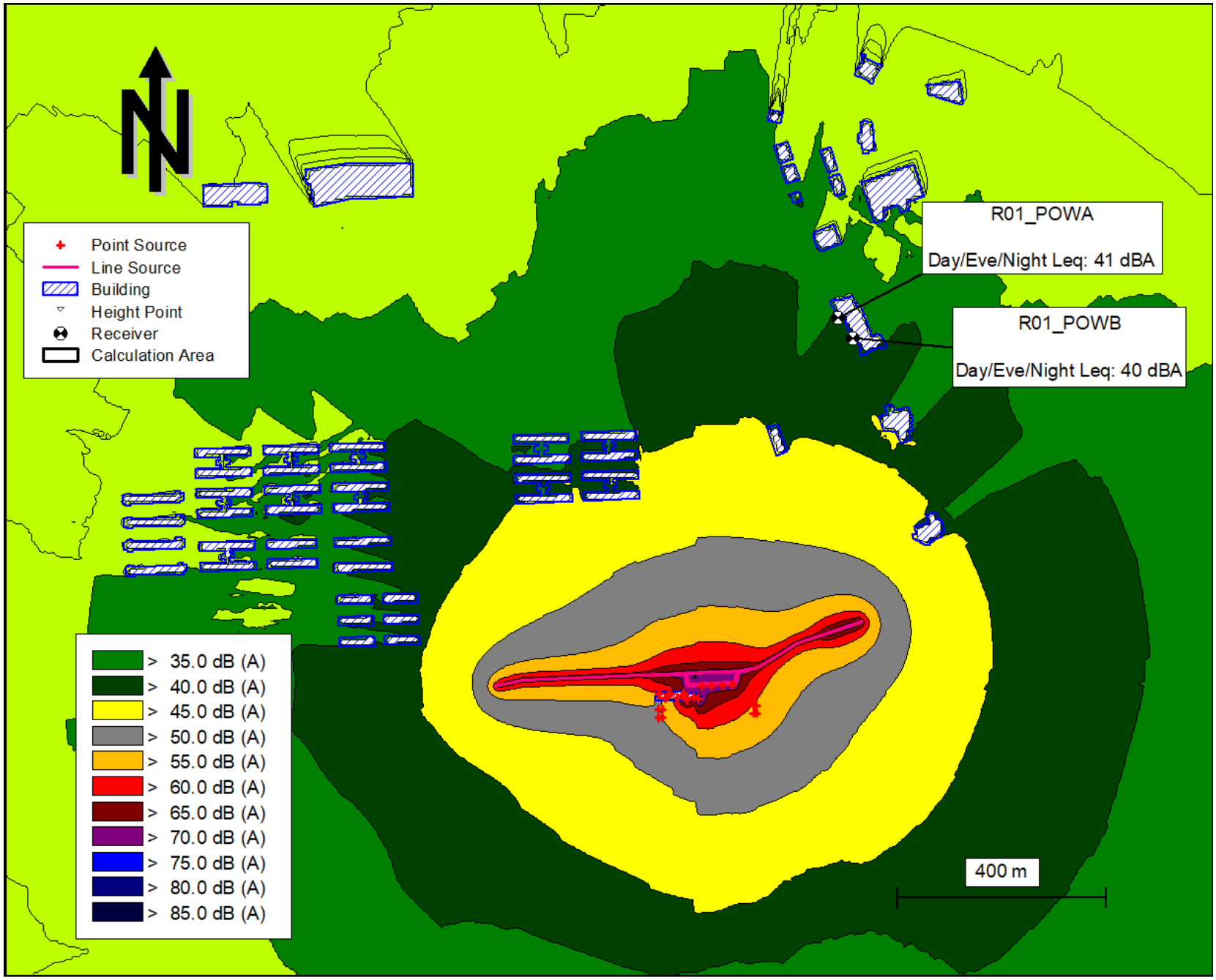
Typical Operations Noise Contours - Height of 1.5 metres - Day, Evening, Night



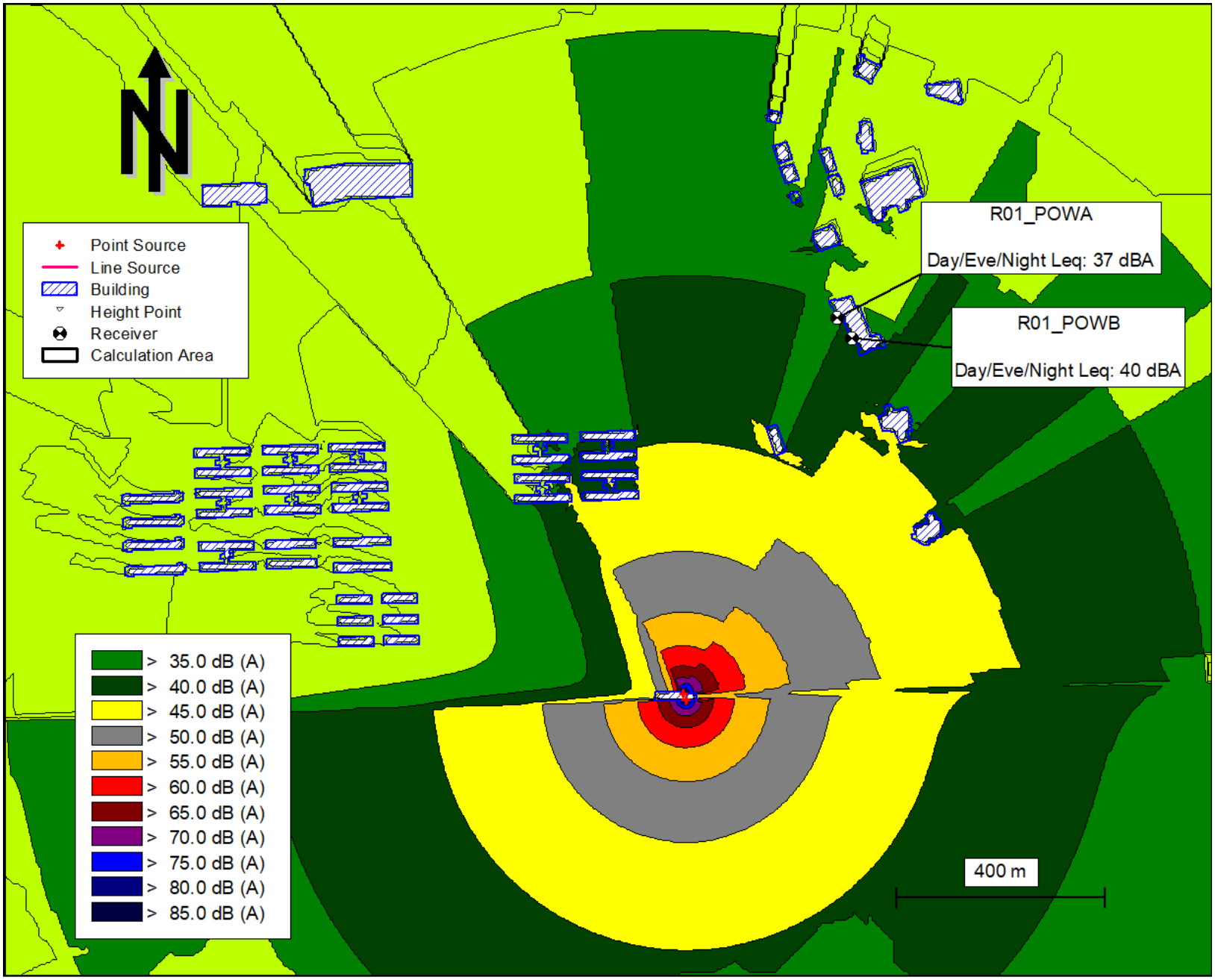
Generator Testing Noise Contours - Height of 1.5 metres - Day, Evening, Night



Typical Operations Noise Contours - Height of 4.5 metres - Day, Evening, Night



Generator Testing Noise Contours - Height of 4.5 metres - Day, Evening, Night



Appendix A5

Instrumentation

Acoustic Modelling Software:

CadnaA for Windows by Datakustik
Version 2018 MR 1 (build: 163.4824)

Appendix B

Construction Noise Assessment Appendices

Appendix B1

City of Toronto Noise By-Law

Chapter 591

NOISE

ARTICLE I
Interpretation

ARTICLE II
General Provisions

ARTICLE III
Railway Whistles

[HISTORY: Adopted by the Council of the City of Toronto 2003-02-07 by By-law No. 111-2003.[1] Amendments noted where applicable.]

General References

False alarms - See Ch. 433.
Fees and charges - See Ch. 441.
Idling of vehicles and boats - See Ch. 517.
Noise in parks - See Ch. 608.
***Highway Traffic Act* - See R.S.O. 1990, c. H.8.**

ARTICLE I
Interpretation

§ 591-1. Interpretation.

A. In this chapter, all the words which are of a technical nature shall have the meanings specified for them in Publication NPC-101 - "Technical Definitions."

B. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

COMMISSIONER - The Commissioner of Urban Development Services or his or her designate.

CONSTRUCTION - Includes erection, alteration, repair, dismantling, demolition, structural maintenance, land clearing, earth-moving, grading, excavating, the laying of pipe and conduit whether above or below ground level, street and highway building, application of concrete, equipment installation and alteration and the structural installation of construction components and materials in any form or for any purpose, and includes any work in connection therewith.

CONSTRUCTION EQUIPMENT - Any equipment or device designed and intended for use in construction, or material handling, including but not limited to hand tools, power tools, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, off-highway haulers or trucks, ditchers, compactors and rollers, pumps, concrete mixers, graders, or other material-handling equipment.

[1] **Editor's Note: This by-law was passed under the authority of section 129 of the *Municipal Act, 2001,* S.O. 2001, c. 25. Section 2 of this by-law provided that, except for the purposes set out in Section 3 of this by-law, the following by-laws are repealed: By-law No. 71-89 of the former Borough of East York, as amended; Chapter 174, Noise, of the Municipal Code of the former City of Etobicoke; By-law Nos. 31857 and 31317 of the former City of North York, as amended; By-law Nos. 16575 and 24389 of the former City of Scarborough, as amended; Article I, Noise Restrictions Generally, of Chapter 241, Noise, of the Municipal Code of the former City of Toronto; and Chapter 895, Noise, and Chapter 896, Noise - Unusual - Likely to Disturb, of the Municipal Code of the former City of York. Section 3 of this by-law (as amended May 23, 2003 by By-law No. 458-2003, which came into force February 7, 2003) provided that, where a person is alleged to have contravened a by-law listed in Section 2 before the date this by-law comes into force, the by-law listed in Section 2 continues to apply for the purposes of any enforcement proceedings brought against the person until the proceedings have been concluded.**

CONTINUOUS POURING OF CONCRETE - Slip-forming, deck pour or pre-pour operations that cannot be interrupted once the operations have commenced. **[Added 2007-12-13 by By-law No. 1400-2007[2]]**

CONVEYANCE - Includes a vehicle and any other device employed to transport a person or persons or goods from place to place, but does not include any such device or vehicle if operated within the premises of a person.

HIGHWAY - Includes a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle designed and intended for, or used by, the general public for the passage of conveyances.

INHABITANTS - One or more persons who reside in the City.

LARGE CRANE WORK - The erection and dismantling of a crane or any other crane work that requires a road closure in order for the work to be started and finished. **[Added 2007-12-13 by By-law No. 1400-2007[3]]**

MOTOR VEHICLE - Includes an automobile, motorcycle, and any other vehicle propelled or driven other than by muscular power; but does not include the cars of electric or steam railways, or other motor vehicles running only upon rails, or a motorized snow vehicle, traction engine, farm tractor, self-propelled implement of husbandry or road-building machine within the meaning of the *Highway Traffic Act*.

NECESSARY MUNICIPAL WORK - City rehabilitation or maintenance processes using construction equipment that must be performed at times that minimize lane closures or lane reductions, or both, of City streets, or minimize use of the Toronto Transit Commission's subway or street car rights-of-way or any ancillary facilities associated with the transit system, including, but not limited to, the following: **[Added 2007-12-13 by By-law No. 1400-2007[4]]**

A. Deck removal over an expressway or arterial roadway;

B. Major intersection rehabilitation; and

C. All Toronto Transit Commission work respecting the transit system, including any ancillary facilities.

NOISE - Unwanted sound.

PLACE OF WORSHIP - A building dedicated to religious worship and includes a church, synagogue, temple, mosque, monastery or convent.

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[2] Editor's Note: This by-law came into force January 1, 2008.

[3] Editor's Note: This by-law came into force January 1, 2008.

[4] Editor's Note: This by-law came into force January 1, 2008.

POINT OF RECEPTION - Any point on the premises of a person where noise originating from other than those premises is received.

POWER DEVICE - Any powered device used in the servicing, maintenance or repair of property except devices driven by muscular power only and snow blowers.

PROPERTY - A building or structure or part of a building or structure, and includes the lands appurtenant thereto and all mobile homes, mobile buildings or mobile structures and vacant land.

PUBLICATION - A specified publication of the Ministry of the Environment which is listed in Schedule A at the end of this chapter.

REGULAR BUSINESS HOURS - 7:00 a.m. to 7:00 p.m. Monday to Friday, 9:00 a.m. to 7:00 p.m. Saturday, and excluding statutory holidays. **[Added 2007-12-13 by By-law No. 1400-2007[5]]**

STATIONARY SOURCE - A source of sound which does not normally move from place to place and includes the premises of a person as one stationary source, unless the dominant source of sound on those premises is construction or a conveyance.

C. Zones.

In this chapter, the following terms shall have the meanings indicated:

QUIET ZONE - Any property within the municipality used as a hospital, retirement home, nursing home, senior citizens residence, or other similar use.

RESIDENTIAL AREA - Any property within the municipality which is zoned for residential uses by an applicable zoning by-law or which is used in whole or in part for human habitation.[6]

D. A copy of every publication listed in Schedule A at the end of this chapter is attached to and forms part of this chapter.

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[5] Editor's Note: This by-law came into force January 1, 2008.

[6] Editor's Note: The definition of "residential low-rise area," added June 29, 2006 by By-law No. 505-2006, which previously followed this definition, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.

ARTICLE II
General Provisions

§ 591-2. General prohibition.

No person shall make, cause or permit noise or vibration, at any time, which is likely to disturb the quiet, peace, rest, enjoyment, comfort or convenience of the inhabitants of the City.

§ 591-2.1. Specific prohibitions.

[Added 2006-09-27 by By-law No. 964-2006]

A. Loudspeakers and other amplified sound projected on streets or public places.

(1) No person shall emit or cause or permit the emission of sound resulting from the operation of any electronic device or a group of connected electronic devices incorporating one or more loudspeakers or other electro mechanical transducers, and intended for the production, reproduction or amplification of sound, that projects noise beyond the lot line of the property from which the noise emanates and into any street or public place.

(2) Subsection A(1) does not apply to a security alarm, if the activation of the security alarm results in sound for a duration of not more than five minutes.

B. Construction. **[Added 2007-12-13 by By-law No. 1400-2007[7]]**

(1) No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction, if it is clearly audible at a point of reception:

(a) In a quiet zone or residential area within the prohibited period of 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, and all day Sunday and statutory holidays; or

(b) In any other area within the prohibited period of all day Sunday and statutory holidays.

(2) Subsection B(1) does not apply to the continuous pouring of concrete, large crane work, necessary municipal work and emergency work that cannot be performed during regular business hours.

C. Major transit projects. **[Added 2010-08-27 by By-law No. 973-2010]**

(1) As used in Subsection C, the following terms shall have the meanings indicated:

[7] **Editor's Note: This by-law came into force January 1, 2008.**

CIVIL CONSTRUCTION ACTIVITIES:

(a) Includes all construction activities as described in the definition of "construction" in § 591-1B.

(b) Includes utility relocations by third parties.

(c) Does not include the welding or installation of rail, tunneling by tunnel boring machines ("TBM") and other related rail and tunnel activities.

MAJOR TRANSIT PROJECT:

(a) Toronto-York Spadina Subway Extension.

(b) Toronto Transit City - Light Rail Plan that includes:

[1] Eglinton Crosstown LRT.

[2] Finch West LRT.

[3] Scarborough RT.

[4] Sheppard East LRT.

(2) With the exception of Subsection C(3), no other provision of this chapter shall apply to the emission of sound or vibrations resulting from construction work required to be performed for the purposes of a major transit project in order to expedite the completion of the major transit project and minimize lane closures or lane reductions, or both, of City streets, and disruption of the Toronto Transit Commission's subway or street car service or any ancillary facilities associated with the transit system.

(3) All civil construction activities shall occur between 7:00 a.m. to 11:00 p.m., except in the case of an emergency as described in § 591-9.

§ 591-3. Specific prohibitions (point of reception).

[Amended 2006-09-27 by By-law No. 964-2006]

No person shall emit or cause or permit the emission of sound resulting from an act listed below if the sound is clearly audible at a point of reception:

A. Racing of any motor vehicle other than in a racing event regulated by law.

B. The operation of a motor vehicle in such a way that the tires squeal.

C. The operation of a vehicle, engine, motor, construction equipment, or pneumatic device without an effective exhaust, intake-muffling device or other sound attenuation device of a type specified by the manufacturer, which is in good working order, and in constant operation.

D. The operation of a vehicle or a vehicle with a trailer resulting in banging, clanking, squealing or other like sounds due to improperly secured load or equipment, or inadequate maintenance.

E. The operation of a vehicle horn or other warning device except where required or authorized by law or in accordance with good safety practices.

§ 591-4. Prohibitions by time and place.

A. No person shall emit or cause or permit the emission of sound resulting from any act listed in the table below if clearly audible at a point of reception located in a prescribed area of the municipality within a prohibited time shown for such an area.

B. Prohibited periods of time.

The prohibited periods of time as described in the table below shall be as follows:

(1) 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(2) 9:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(3) 11:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(4) 7:00 p.m. one day to 7:00 a.m. the next day, and all day Sunday and statutory holidays.

(5) 9:00 p.m. one day to 7:00 a.m. the next day, and all day Sunday and statutory holidays.

(6) 7:00 p.m. one day to 9:00 a.m. the next day; and all day Sunday and statutory holidays.

(7) 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, Sundays, and statutory holidays.

TABLE - PROHIBITIONS BY TIME AND PLACE

Type of Act	Prohibited Period of Time[8]	
	Quiet Zone	Residential Area
1. The operation of an engine or motor which is, is used in, or is intended for use in a toy or a model or replica of any device, which model or replica has no function other than amusement and which is not a conveyance.	At all times	B(2)
2. The operation of any electronic device or a group of connected electronic devices incorporating one or more loudspeakers or other electro-mechanical transducers, and intended for the production, reproduction or amplification of sound, other than a security alarm.	At all times	B(3)
3. The venting, release or pressure relief of air, steam or other gaseous material, products or compound from any autoclave, boiler pressure vessel, pipe, valve, machine, device or system, other than furnace vents.	At all times	B(3)
4. Loading, unloading, delivering, packing, unpacking, or otherwise handling any containers, products or materials.	B(4)	B(3)
5. (Reserved)[9]		
6. The operation of any power device.	B(1)	B(2)
7. Operation or use of any tool or device for domestic purposes, except power devices and snow blowers.	B(6)	B(2)
8. Activation of a security alarm resulting in sound for a duration in excess of 5 minutes.	At all times	At all times
9. Vehicle repairs.	At all times	B(5)
10. Playing of music.	At all times	B(3)

[8] **Editor's Note: The subsection designations in this column refer to the time periods set out in § 591-4B.**

[9] **Editor's Note: Former No. 5, Operation of construction equipment, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.**

11. Persistent barking, calling or whining or other similar persistent noise-making by any animal kept or used for any purpose. **[Added 2003-07-24 by By-law No. 693-2003]**	At all times	At all times
12. Loading, unloading, delivering, packing, unpacking, or otherwise handling any animals, containers, products or materials at any abattoir. **[Added 2003-09-25 by By-law No. 1008-2003]**	B(2)	B(2)

C. (Reserved)[10]

§ 591-5. General limitations on sound levels due to stationary sources.

A. No person shall emit or cause or permit the emission of sound from a stationary source such that the level of sound from that source at a point of reception located in a quiet zone or residential area exceeds the applicable sound level limit prescribed in Publication NPC-205 - "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)".

B. Subsection A shall not apply to residential air-conditioning devices regulated under § 591-6. **[Amended 2003-05-23 by By-law No. 458-2003[11]]**

§ 591-6. Limitation on sound levels for residential air conditioners.

A. No person shall emit or cause or permit the emission of sound from the operation of a residential air-conditioning device of a type referred to in Publication NPC-216 - "Residential Air Conditioning Devices" resulting in a sound level at a point of reception located in a quiet zone or residential area in excess of the applicable sound level limit set out in Publication NPC-216 - "Residential Air Conditioning Devices."

B. No person shall emit or cause or permit the emission of any sound from any aircon-ditioning device of a type referred to in Publication NPC-216 - "Residential Air Conditioning Devices" unless one of the following applies:

(1) The device was manufactured prior to January 1, 1979.

(2) The device bears a label affixed by the manufacturer or distributor which states the year of manufacture and that the device when new complied with the sound emission standard set out in Publication NPC-216 - "Residential Air Conditioning Devices," as applicable to that type of device and date of manufacture.

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[10] **Editor's Note: Former § 591-4C, Residential low-rise area construction noise, added June 29, 2006 by By-law No. 505-2006, amended September 27, 2006 by By-law No. 964-2006, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.**

[11] **Editor's Note: This by-law came into force February 7, 2003.**

(3) The owner, operator, manufacturer or distributor provides proof that the device when new complied with the sound emission standard set out in Publication NPC-216 - "Residential Air Conditioning Devices," as applicable to that type of air conditioner and date of manufacture.

§ 591-7. Disturbing religious ceremony in a place of worship.

No person shall make, cause or permit the emission of sound that disturbs a religious ceremony in a place of worship.

§ 591-8. Most restrictive provision applies.

Where a source of sound is subject to more than one provision of this article, the most restrictive provision shall apply.

§ 591-9. Exemption; public safety and highways.

Despite any other provision of this chapter, it shall be lawful to emit or cause or permit the emission of sound in connection with measures undertaken for:

A. The immediate health, safety or welfare of the inhabitants of the City under emergency circumstances.

B. Any emergency requiring immediate action for the construction, preservation, restoration or demolition of any highway.

§ 591-10. Exemptions.

[Amended 2003-07-24 by By-law No. 693-2003]

A. Any person may apply for a permit for an exemption from a noise prohibition or noise limitation provision in this chapter, in connection with an event or activity, by filing with the Commissioner the following:

(1) An application in the form prescribed by the Commissioner; and

(2) The non-refundable application fee set out in Chapter 441, Fees and Charges. **[Amended 2006-12-06 by By-law No. 12-2007[12]]**

B. Upon receipt of an application under Subsection A, the Commissioner shall give written notice to the Councillor of any ward where the event or activity is to be held and, where the event or activity is to be held on a boundary street between wards, to the Councillors of the adjoining wards.

[12] **Editor's Note: This by-law came into force September 27, 2006.**

C. The Commissioner shall issue a permit if all of the following conditions have been met:

(1) All of the Councillors notified under Subsection B have either:

(a) Not responded within 14 days of the notice; or

(b) Responded indicating that they have no objection to the application being approved.

(2) The applicant has complied with all terms and conditions of approval of the last permit issued to them under this section, if any.

(3) The applicant has provided the following:

(a) The applicant's name, address, and telephone number;

(b) The date, time and location of the event or activity for which the permit is sought and, where applicable, the number of people expected to attend;

(c) The purpose for which the permit is required;

(d) The description of any sound or construction equipment to be used;

(e) The name, address and telephone number of at least one contact person who will supervise the event or activity; and

(f) A written undertaking that one or more contact persons responsible for supervising the event or activity will be on-site during the entire event or activity to ensure compliance with the terms and conditions of the permit.

(4) The applicant enters into a written agreement satisfactory to the Commissioner concerning compliance with the terms and conditions of the permit.

(5) The applicant has paid all required fees.

D. A permit issued under Subsection C shall be subject to the following terms and conditions:

(1) The sound emitted from any equipment shall not exceed an equivalent sound level (Leq) of 85 dBA when measured 20 metres from the source over a five-minute period;

(2) Where the sound level exceeds 85 dBA, the applicant shall comply with any request made by an officer of the Toronto Police Service or a municipal standards officer of the Municipal Licensing and Standards Division with respect to the volume of sound from the equipment to ensure compliance with Subsection D(1);

(3) No sound or construction equipment other than the equipment approved under the permit shall be used by the applicant;

(4) The event or activity shall be restricted to the approved location; and

(5) The permission granted is for the date and times for the event or activity as set out in the permit.

E. Where the Commissioner refuses to grant a permit under this section, the applicant shall be notified in writing and advised that they may appeal the Commissioner's decision to the community council which has jurisdiction for the location of the proposed event or activity by filing an appeal within 21 days of the date of the notice, along with the applicable fee as set out in Chapter 441, Fees and Charges, with the City Clerk at the address shown on the notice. **[Amended 2006-12-06 by By-law No. 12-2007[13]]**

F. Notice of hearing shall be sent to all residents within 100 metres of the location where the event or activity is proposed to be held as shown on the last revised assessment rolls and at the applicant's expense.

G. Where the location of the proposed event or activity under appeal falls on the boundary street of more than one community council, each affected community council shall provide its recommendations to Council for its consideration of the appeal under Subsection E. **[Amended 2007-03-06 by By-law No. 176-2007]**

H. Council, or the community council under delegated authority, may issue or refuse a permit. **[Amended 2007-03-06 by By-law No. 176-2007]**

I. If the community council under delegated authority or Council issues a permit, the permit is subject to the conditions set out in Subsection D, unless the community council under delegated authority or Council provides otherwise, and to any other conditions respecting health, safety and nuisance as the community council under delegated authority or Council considers advisable. **[Amended 2007-03-06 by By-law No. 176-2007]**

J. A community council under delegated authority or Council may require, as a condition of approval, that City staff monitor the sound levels resulting from the event or activity at the expense of the applicant. The charges payable to the City for this monitoring are set out in Chapter 441, Fees and Charges. **[Amended 2006-12-06 by By-law No. 12-2007[14]; 2007-03-06 by By-law No. 176-2007]**

K. Despite anything contained in this section, where an application for a permit is made by the City or any of its agencies, boards or commissions:

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[13] **Editor's Note: This by-law came into force September 27, 2006.**

[14] **Editor's Note: This by-law came into force September 27, 2006.**

(1) The application shall be submitted directly to the Commissioner by the City department, agency, board or commission seeking the permit.

(2) The fees in Chapter 441, Fees and Charges, do not apply. **[Amended 2006-12-06 by By-law No. 12-2007[15]]**

(3) Subsections C(3)(e) and (f) do not apply.

§ 591-11. Offences.

Any person who contravenes any provision of this article is guilty of an offence.[16]

ARTICLE III
Railway Whistles
[Added 2004-09-30 by By-law No. 795-2004]

§ 591-12. Definitions.

As used in this article, the following abbreviations and terms shall have the meanings indicated:

CN - Canadian National Railway.

CP - Canadian Pacific Railway.

GO - Go Transit.

§ 591-13. Prohibited locations.

The use of the whistle on any railway equipment in respect of the highway crossings described in the following table is prohibited, except as otherwise provided in section 23.1 of the Railway Safety Act, R.S. 1985, c. 32 (4th Supp.):

No.	Railway	Subdivision, Branch or other Trackage	Mileage	Street Name
A.	Go	Uxbridge Subdivision	55.73	Sheppard Avenue East in the vicinity of the Agincourt Go Station

[15] **Editor's Note: This by-law came into force September 27, 2006.**

[16] **Editor's Note: This section was passed under the authority of section 425 of the *Municipal Act*, *2001,* S.O. 2001, c. 25, and, under section 61 of the *Provincial Offences Act*, R.S.O. 1990, c. P.33, a person convicted of an offence under this section is liable to a fine of not more than $5,000.**

B. **[Added 2004-10-28 by By-law No. 960-2004]**	Go	Uxbridge Subdivision	55.44	Marilyn Avenue in the vicinity of the Agincourt Go Station
C. **[Added 2007-02-06 by By-law No. 36-2007]**	Go	Uxbridge Subdivision	60.19	Danforth Road west of Midland Avenue
D. **[Added 2007-05-25 by By-law No. 532-2007; amended 2007-06-22 by By-law No. 664-2007]**	Go	Uxbridge Subdivision	59.96	Corvette Avenue pedestrian crossing mile 59.96 Uxbridge Subdivision

SCHEDULE A, PUBLICATIONS
Publications Forming Part of this Chapter

Publication Number	Name
Publication NPC-101	Technical Definitions
Publication NPC-102	Instrumentation
Publication NPC-103	Procedures
Publication NPC-104	Sound Level Adjustments
Publication NPC-205	Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)
Publication NPC-206	Sound Levels Due to Road Traffic
Publication NPC-216	Residential Air Conditioning Devices

TORONTO **Item**

Tracking Status

- City Council adopted this item on April 16, 2019 with amendments.
- This item was considered by Economic and Community Development Committee on April 3, 2019 and was adopted with amendments. It will be considered by City Council on April 16, 2019.
- See also By-law 878-2019

City Council consideration on April 16, 2019

EC3.6	ACTION	Amended		Ward: All

Noise By-law Review - Proposed Amendments to Chapter 591, Noise

City Council Decision

City Council on April 16 and 17, 2019, adopted the following:

1. City Council amend Toronto Municipal Code Chapter 591, Noise as follows:

Definitions

1. Add a definition of "Ambient Sound Level" to mean "The sound level that is present in the environment, produced by sound sources other than the source under assessment."

2. Add a definition of "Amplified Sound" to mean "Sound made by any electronic device or a group of connected electronic devices incorporating one or more loudspeakers or other electro mechanical transducers, and intended for the production, reproduction or amplification of sound."

3. Remove the definition of "Commissioner" and add a definition of "Executive Director" to mean "the Executive Director of Municipal Licensing and Standards or their designate or successor."

4. Add a definition of "dB(A)" to mean "The sound level in decibels obtained when using a sound level meter with the A-weighting."

5. Add a definition of "dB(C)" to mean "The sound level in decibels obtained when using a sound level meter with the C-weighting."

6. Amend the definition of "Highway" to mean "Includes a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof."

7. Remove the definition of "Inhabitants."

8. Add a definition of "Leq" to mean "The energy equivalent sound level or the continuous sound level that would result in the same total sound energy being produced over a given period of time."

9. Add a definition of "Living Area" to mean "Any area that includes the premises of a dwelling or a workplace."

10. Add a definition of "Motorcycle" to mean "A self-propelled vehicle having a seat or saddle for the use of the driver and designed to travel on not more than three wheels in contact with the ground, and includes a motor scooter, but does not include a motor assisted bicycle."

11. Amend the definition of "Motor Vehicle" to mean "Includes an automobile, a motorcycle, a motor assisted bicycle and any other vehicle propelled or driven otherwise than by muscular power, but does not include a street car or other motor vehicle running only upon rails, a power-assisted bicycle, a motorized snow vehicle, a traction engine, a farm tractor, a self-propelled implement of husbandry or a road-building machine."

12. Remove the definition of "Necessary Municipal Work" and add a definition of "Government Work" to mean "Construction, rehabilitation or maintenance work conducted by the City, the Province of Ontario, the Government of Canada and any of its agencies or agents including the operation of motor vehicles and equipment actually engaged in the work."

13. Amend the definition of "Noise" to mean "A sound that a person finds disturbing to their peace, rest, enjoyment, comfort or convenience."

14. Add a definition of "Noise Mitigation Plan" to mean "A plan as required and approved by the Executive Director, Municipal Licensing and Standards that addresses the mitigation of sound not in compliance with the requirements of this chapter from planned events or activities."

15. Add a definition for "Persistent Noise" to mean "Any noise that is continuously heard for a period of ten minutes or more or intermittently over a period of one hour or more."

16. Amend the definition of "Point of Reception" to mean "Any location on the premises of a person where sound originating from other than those premises is received. The following locations are points of reception:

a. An outdoor area that is:

i. near the façade of a building, at a height of 1.5 metres above ground, typically in backyards, front yards, terraces or patios; or

ii. on a balcony or elevated terrace (for example, a rooftop) provided it is not enclosed; or

b. An indoor area that is inside a building with windows and doors closed."

17. Amend the definition of "Power Device" to mean "Any equipment driven otherwise than by muscular power used in the servicing, maintenance or repair of lawns, including chainsaws, lawn mowers, leaf blowers, grass trimmers or any other similar equipment. A power device does not include equipment used to remove snow or ice."

18. Remove the definition of "Publication."

19. Remove the definition of "Regular business hours."

20. Add a definition for "Sound Level Meter" to mean "An instrument that measures levels of sound as approved for use by the Executive Director."

21. Add a definition for "Unreasonable Noise" to mean "Any noise that would disturb the peace, rest, enjoyment, comfort or convenience of a reasonable person in the circumstances. Unreasonable noise does not include commonplace household or workplace sounds such as sound from furniture being moved, children playing or people engaging in conversation."

22. Remove the definition of "Zones."

Specific Prohibition - Amplified Sound

23. Delete section 591-2.1, prohibiting amplified sound from being projected beyond the lot line into any street or public place.

24. Remove the differentiated time and place prohibition for amplified sound, and add a provision for the specific prohibition of amplified sound, establishing quantitative limits for amplified sound as follows: "No person shall emit or cause or permit continuous amplified sound, measured with a sound level meter at a point of reception in an outdoor living area, that has a sound level (expressed in terms of Leq for a ten-minute period), exceeding 50 dB(A) or 65 dB(C) from 11 pm to 7 am or 55 dB(A) or 70 dB(C) from 7 am to 11 pm."

25. Add a provision for the specific prohibition of amplified sound that "if, during the course of an investigation, a Provincial Offences Officer such as a By-law Enforcement Officer, determines that it is not reasonable to measure from a point of reception in an outdoor living area, then no person shall emit or cause or permit continuous amplified sound that, measured with a sound level meter at a point of reception in an indoor living area, has a sound level (expressed in terms of Leq for a ten-minute period), exceeding 45 dB(A) or 60 dB(C) from 11 pm to 7 am or 50 dB(A) or 65 dB(C) from 7 am to 11 pm."

26. Add a provision that despite the specific prohibitions for amplified sound where the ambient sound level at a point of reception exceeds the maximum sound level under those subsections, no person shall emit or cause of permit continuous amplified sound that, when measured with a sound level meter at a point of reception, has a sound level (expressed in terms of Leq for a ten-minute period) that equals or exceeds the ambient sound level.

Specific Prohibition – Animals

27. Remove the differentiated time and place prohibition for animals and add a specific prohibition for animals as follows: "No person shall cause or permit persistent noise,

including barking, calling or whining or other similar persistent noise, to be made by any animal kept or used for any purpose."

Specific Prohibition - Construction

28. Remove the differentiated time and place prohibition in section 591-2.1 subsection B(1) for construction and set a specific prohibition of construction as follows: "No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction that is clearly audible at a point of reception from 7 pm to 7 am the next day, except until 9 am on Saturdays; and all day on Sundays and statutory holidays."

29. Remove section 591-2.1 subsection B(2) to remove the exemption for continuous concrete pouring and large crane work.

30. Add a provision authorizing the Executive Director, Municipal Licensing and Standards, upon receipt of an application for continuous concrete pouring or large crane work, to issue the exemption permit if the conditions in 591-3.2.C.(2), (3) and (4) in the draft by-law attached as Attachment A to the report (March 22, 2019) from the Executive Director, Municipal Licensing and Standards and the conditions in Parts 30.a. to e. below are met:

a. a notice of the exemption permit shall be posted in a visible location where each event or activity will occur 7 days prior to the event or activity; this condition may be altered or waived by the Executive Director, Municipal Licensing and Standards;

b. if required by the Executive Director, Municipal Licensing and Standards, the event or activity shall comply with a noise mitigation plan;

c. each event or activity shall be restricted to the approved location;

d. the permission granted shall be for the date and times for each event or activity as set out in the exemption permit with overnight event and activity discouraged; and

e. that notice for continuous concrete pouring and large crane work is distributed to those within a 120 metre radius of the work at least 7 days in advance.

Specific Prohibition – Loading and Unloading

31. Remove the prohibition by time and place for loading and unloading and add a specific prohibition as follows: "No person shall emit or cause or permit the emission of sound resulting from loading, unloading, delivering, packing, unpacking, otherwise handling any containers, products or materials from 11 pm to 7 am the next day, except until 9 am on Saturdays, Sundays and statutory holidays."

Specific Prohibition - Motor Vehicles

32. Remove the provisions in section 591-3, and add a provision prohibiting sound resulting from unnecessary motor vehicle noise, such as the sounding of a horn, revving of an engine, squealing of tires, banging, clanking or any like sounds, if the sound is clearly audible at a point of reception.

33. Remove the differentiated time and place prohibition for vehicle repairs, and add a specific prohibition as follows: "No person shall emit or cause or permit the emission of sound resulting from the repairing, rebuilding, modifying or testing of a vehicle if the sound is clearly audible at a point of reception from 9 pm until 7 am the next day, except until 9 am on Saturdays, Sundays and statutory holidays."

34. Add a provision prohibiting sound from a motorcycle if it emits any sound exceeding 92 dB(A) from the exhaust outlet as measured at 50cm, while the motorcycle engine is at idle.

Specific Prohibition - Power Devices

35. Remove the differentiated time and place prohibitions for power equipment, and set a single time prohibition of 7 pm until 7 am the next day, except until 9 am on Saturdays, Sundays, and statutory holidays.

36. Add an exemption for any power device used for the purpose of maintaining a golf course or a public park.

Prohibitions by time and place

37. Remove section 591-4 "Prohibitions by time and place."

General Limitations on Stationary Sources and Residential Air Conditioners

38. Amend section 591-5 as follows: "No person shall cause or permit the emission of sound from a stationary source or residential air conditioner that, when measured with a sound level meter a point of reception, has a sound level (expressed in terms of Leq for a one-hour period) exceeding 50 dB(A) or the applicable sound level limit prescribed in provincial noise pollution control guidelines."

39. Add a provision that the general limitations on stationary sources shall not apply to stationary sources where the emission of sound is in compliance with a provincial environmental compliance approval.

Limitation on Sound Levels for Residential Air Conditioners

40. Remove section 591-6 "Limitation on Sound Levels for Residential Air Conditioners."

Unreasonable and Persistent Noise

41. Remove section 591-2 and add a provision for "Unreasonable and Persistent Noise" as follows "No person shall make, cause or permit noise, at any time, that is unreasonable noise and persistent noise."

42. Add a provision that the section on unreasonable and persistent noise only applies to sound or noise that is not described in section 591-2.1 through section 591-2.8.

43. Add a provision to Article 2 - Prohibitions to provide that an exemption permit may be required, at the discretion of the Executive Director, Municipal Licensing and Standards, if

it is determined that there is an unreasonable and persistent noise, during otherwise permitted hours, as described in section 591-2.1 through section 591-2.8.

Exemptions

44. Remove section 591- 9 and add a provision for "Safety and Government Work" as follows: "Despite any other provision of this chapter, it shall be lawful to emit or cause or permit the emission of sound from:

a. Bells or sirens required for the purposes of public safety including sirens when operated by Police Services, Fire and Paramedic Services, or bells or whistles operated by rail or transit services.

b. Measures undertaken for the immediate health, safety or welfare of the inhabitants of the City under emergency circumstances.

c. Government work."

Exemption Permits

45. Add a provision to allow exemption permit applicants to apply for an exemption permit from a noise prohibition or noise limitation provision in connection with one or more events or activities.

46. Add that the Executive Director, Municipal Licensing and Standards, may request any relevant additional information as part of the exemption permit application process, to the satisfaction of the Executive Director, including reasons supporting an exemption permit; a noise mitigation plan; a statement certified by a professional engineer or acoustical consultant for any sounds that are not technically or operationally feasible to control.

47. Add a condition requiring exemption permit applicants to post notice of noise exemption in a visible location where the event or construction will occur 7 days prior to the event. This condition may be altered or waived by the Executive Director, Municipal Licensing and Standards.

48. Add a provision that the Executive Director, Municipal Licensing and Standards, may request, as a condition of approval, a noise mitigation plan, or that the sound levels resulting from each event or activity shall be monitored by City staff with the applicant paying the charges for this monitoring as set out in Chapter 441, Fees and Charges.

49. Add that the Executive Director, Municipal Licensing and Standards, may revoke a permit, with or without notice, if there is non-compliance with any terms.

Offences

50. Amend section 591-11 to:

a. Increase the maximum fine to $100,000;

b. Add a special fine in an amount equal to any economic gain obtained from non-compliance;

c. Designate each offence as continuing offence with a maximum daily fine of $10,000 and a total fine which may exceed $100,000;

d. Include offences for obstruction and failure to provide information as required;

e. Include authority to enter to inspect, to make orders to comply and to take remedial action.

Transition

51. Add provisions for "Transition" as follows:

"The provisions of this Chapter do not apply to exemption permits granted before October 1, 2019 provided that the holder of such permits continue to comply with the conditions of their original permits and that such permits are not revoked, terminated and do not expire."

"All prosecutions and other enforcement processes commenced under this chapter which have not been completed on October 1, 2019 shall be completed as if the chapter had not been amended on that date."

Set Fines

2. City Council direct the Executive Director, Municipal Licensing and Standards to apply to the Ontario Court of Justice for any new set fines, or to increase the current set fines.

Implementation

3. City Council authorize the City Solicitor and the Executive Director, Municipal Licensing and Standards to make such technical and stylistic amendments to Chapter 591, Noise as required to give effect to City Council’s decision.

4. City Council direct that the changes to Toronto Municipal Code Chapter 591, Noise, come into force on October 1, 2019.

General

5. City Council request the Executive Director, Municipal Licensing and Standards to report to the Economic and Community Development Committee in the fourth quarter of 2020 on the implementation, success and any outstanding issues from the changes to the noise by-law including, but not limited to:

a. new measurement standards;

b. the new hierarchy of limitation provisions;

c. impacts to the construction industry;

d. patterns and trends in complaints and resolutions;

e. issues related to amplified sound within residential areas; and

f. impacts to enforcement.

6. City Council request the Province of Ontario to review regulations for noise from residential air conditioners, as prescribed in provincial noise pollution control guidelines.

Public Notice Given

Background Information (Committee)

(March 22, 2019) Report from the Executive Director, Municipal Licensing and StandardsNoise Bylaw Review - Proposed Amendments to Chapter 591, Noise
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130986.pdf)
Attachment A - Draft Chapter 591, Noise
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130987.pdf)
Attachment B - Summary of Noise Data
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130988.pdf)
Attachment C - Summary of Third-Party Public Opinion Research
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130989.pdf)
Attachment D - Summary of Third-Party Technical Review of Chapter 591, Noise
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130990.pdf)
Attachment E - Summary of Public Consultation Feedback
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130991.pdf)
Attachment F - Summary of Jurisdictional Scan, Amplified Sound
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130992.pdf)
Attachment G - Summary of Jurisdictional Scan
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130993.pdf)
Public Notice - Noise By-law Review - Proposed Amendments to Chapter 591, Noise
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-131186.pdf)
Presentation from the Director, Policy and Strategic Support, Municipal Licensing and Standards on Noise By-law Review: Proposed Amendments to Chapter 591
(http://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-131605.pdf)

Background Information (City Council)

(April 15, 2019) Supplementary report from the Interim Executive Director, Municipal Licensing and Standards on Noise By-law Review - Additional Stakeholder Meetings (EC3.6a)
(http://www.toronto.ca/legdocs/mmis/2019/cc/bgrd/backgroundfile-132066.pdf)
Attachment A - Noise By-law Review - Comparison Chart
(http://www.toronto.ca/legdocs/mmis/2019/cc/bgrd/backgroundfile-132067.pdf)

Communications (Committee)

(March 15, 2019) E-mail from Sarah Vaidyanathan (EC.Main.EC3.6.1)
(March 17, 2019) E-mail from Helen Dosani (EC.Main.EC3.6.2)
(March 17, 2019) E-mail from Tom Worrall (EC.Main.EC3.6.3)
(March 17, 2019) E-mail from Maureen Kapral (EC.Main.EC3.6.4)
(March 22, 2019) E-mail from Chris Keating, Deer Park Residents Group (EC.Main.EC3.6.5)
(March 25, 2019) E-mail from Maureen Kapral, Lytton Park Residents' Organization (EC.Main.EC3.6.6)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-92905.pdf)
(March 26, 2019) E-mail from Catherine Kerwin (EC.Main.EC3.6.7)

(March 28, 2019) E-mail from Chris Keating, Deer Park Residents Group (EC.New.EC3.6.8)
(March 29, 2019) E-mail from Stacey Barbetta (EC.New.EC3.6.9)
(March 27, 2019) Letter from Viken Koukounian (EC.New.EC3.6.10)
(March 29, 2019) Letter from Harold Smith (EC.New.EC3.6.11)
(March 29, 2019) E-mail from Alan Baker, Greater Yorkville Residents' Association (EC.New.EC3.6.12)
(March 31, 2019) Letter from Ulla Colgrass, York Quay Neighbourhood Association (EC.New.EC3.6.13)
(March 31, 2019) Letter from Carolyn Johnson, York Quay Neighbourhood Association (EC.New.EC3.6.14)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93169.pdf)
(April 1, 2019) Letter from Eldon Murray Mathers (EC.New.EC3.6.15)
(April 1, 2019) E-mail from Michael Andemeskel (EC.New.EC3.6.16)
(April 1, 2019) Letter from Geoff Kettel and Cathie Macdonald, Federation of North Toronto Residents' Associations (FoNTRA) (EC.New.EC3.6.17)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93178.pdf)
(March 29, 2019) E-mail from Jessica Wilson, West Side Community Council (EC.New.EC3.6.18)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93226.pdf)
(April 1, 2019) E-mail from Charles Braive (EC.New.EC3.6.19)
(April 1, 2019) E-mail from Max Moore (EC.New.EC3.6.20)
(March 30, 2019) E-mail from Shirland Sealy (EC.New.EC3.6.21)
(April 1, 2019) E-mail from Nancy Moysiuk (EC.New.EC3.6.22)
(April 2, 2019) E-mail from Glen Newbury (EC.New.EC3.6.23)
(April 2, 2019) E-mail from John Wunderlich (EC.New.EC3.6.24)
(April 2, 2019) E-mail from Rick Longford (EC.New.EC3.6.25)
(April 2, 2019) E-mail from Judy Love (EC.New.EC3.6.26)
(April 2, 2019) E-mail from Sandra Moorhouse (EC.New.EC3.6.27)
(April 2, 2019) E-mail from Ned Macaulay (EC.New.EC3.6.28)
(April 2, 2019) E-mail from Mark Smith (EC.New.EC3.6.29)
(April 2, 2019) E-mail from Jean-Francois Pagé (EC.New.EC3.6.30)
(April 2, 2019) E-mail from Annette VanLeeuwen (EC.New.EC3.6.31)
(March 31, 2019) E-mail from Raymond Kennedy, Richview Terrace Tenants Association (EC.New.EC3.6.32)
(April 2, 2019) Letter from David Bronskill, Goodmans LLP (EC.New.EC3.6.33)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93247.pdf)
(April 2, 2019) E-mail from Kelsey Horne (EC.New.EC3.6.34)
(April 1, 2019) Letter from Lynn Robinson, The Toronto Island Noise Committee (EC.New.EC3.6.35)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93249.pdf)
(April 2, 2019) Letter from Kim Mullin, Wood Bull LLP (EC.New.EC3.6.36)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93232.pdf)
(April 2, 2019) E-mail from Angela Stevens (EC.New.EC3.6.37)
(April 2, 2019) Letter from Grant Humes, Toronto Financial District BIA (EC.New.EC3.6.38)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93234.pdf)
(April 2, 2019) E-mail from Kate Shepherd (EC.New.EC3.6.39)
(April 2, 2019) E-mail from Christine Mizon (EC.New.EC3.6.40)

(April 2, 2019) E-mail from Megan Munro (EC.New.EC3.6.41)
(April 2, 2019) Letter from Councillor Ana Bailão (EC.New.EC3.6.42)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93238.pdf)
(April 2, 2019) E-mail from Anne Butt (EC.New.EC3.6.43)
(April 2, 2019) E-mail from Marlene Kennedy (EC.New.EC3.6.44)
(April 2, 2019) Letter from Jessica Wilson, Ossington Community Association (EC.New.EC3.6.45)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93290.pdf)
(April 2, 2019) Letter from Erin Benjamin, Canadian Live Music Association (EC.New.EC3.6.46)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93292.pdf)
(April 2, 2019) E-mail from Paul MacLean (EC.New.EC3.6.47)
(April 2, 2019) E-mail from Christine Mizon (EC.New.EC3.6.48)
(April 2, 2019) E-mail from Ruth Woitowitz (EC.New.EC3.6.49)
(April 3, 2019) Submission from Nancy Moysiuk (EC.New.EC3.6.50)
(April 3, 2019) E-mail from David Hodkin (EC.New.EC3.6.51)
(April 3, 2019) E-mail from Freya Godard (EC.New.EC3.6.52)
(April 3, 2019) Letter from Sharon McMillan, St. Lawrence Neighborhood Association (EC.New.EC3.6.53)
(http://www.toronto.ca/legdocs/mmis/2019/ec/comm/communicationfile-93299.pdf)
(April 3, 2019) Submission from Tamar Fernandes (EC.New.EC3.6.54)
(April 3, 2019) Submission from Benjamin Stein (EC.New.EC3.6.55)
(April 2, 2019) Submission from Max Moore (EC.New.EC3.6.56)

Communications (City Council)

(March 31, 2019) E-mail from Raymond Kennedy (CC.Main.EC3.6.57)
(April 8, 2019) E-mail from Ruth Woitowitz (CC.Main.EC3.6.58)
(April 14, 2019) Letter from Cathie Macdonald, Member, Toronto Noise Coalition (CC.Supp.EC3.6.59)
(http://www.toronto.ca/legdocs/mmis/2019/cc/comm/communicationfile-93625.pdf)
(April 15, 2019) Letter from Grant Humes, Executive Director, Toronto Financial District Business Improvement Area (CC.Supp.EC3.6.60)
(http://www.toronto.ca/legdocs/mmis/2019/cc/comm/communicationfile-93626.pdf)
(April 15, 2019) Letter from Douglas Goold, Vice President Policy, Toronto Region Board of Trade (CC.New.EC3.6.61)
(http://www.toronto.ca/legdocs/mmis/2019/cc/comm/communicationfile-93645.pdf)
(April 15, 2019) E-mail from Ruth Woitowitz (CC.New.EC3.6.62)
(April 16, 2019) E-mail from Nicole Corrado (CC.New.EC3.6.63)
(April 16, 2019) E-mail from Peter Donnelly (CC.New.EC3.6.64)
(April 17, 2019) E-mail from Alexandrina Canto Thaler (CC.New.EC3.6.65)

Motions (City Council)

1 - Motion to Amend Item (Additional) moved by Councillor Joe Cressy ***(Carried)***
That:

1. City Council add a provision to Article 2 - Prohibitions to provide that an exemption permit may be required, at the discretion of the Executive Director, Municipal Licensing and

Standards, if it is determined that there is an unreasonable and persistent noise, during otherwise permitted hours, as described in section 591-2.1 through section 591-2.8.

2. City Council request the Province of Ontario to review regulations for noise from residential air conditioners, as prescribed in provincial noise pollution control guidelines.

Vote (Amend Item (Additional))

Apr-17-2019 12:13 PM

Result: Carried	Majority Required - EC3.6 - Cressy - motion 1
Yes: 25	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, John Filion, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Jim Karygiannis, Mike Layton, Josh Matlow, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 0	
Absent: 1	Cynthia Lai

2 - Motion to Defer Item moved by Councillor Josh Matlow ***(Lost)***
That consideration of the item be deferred until the June 18 and 19, 2019 meeting of City Council.

Vote (Defer Item)

Apr-17-2019 11:29 AM

Result: Lost	Majority Required - EC3.6 - Matlow - motion 2 - Defer the item
Yes: 7	Joe Cressy, John Filion, Paula Fletcher, Jim Karygiannis, Mike Layton, Josh Matlow, Jaye Robinson
No: 15	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Stephen Holyday, Jennifer McKelvie, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Michael Thompson, John Tory, Kristyn Wong-Tam
Absent: 4	Michael Ford, Mark Grimes, Cynthia Lai, Denzil Minnan-Wong

3 - Motion to Amend Item moved by Councillor Ana Bailão ***(Amended)***
That:

1. City Council amend Economic and Community Development Committee Recommendation 1 by deleting Parts 4 and 10 listed under Definitions:

Parts to be deleted

4. Remove the definition of "continuous pouring of concrete."

10. Remove the definition of "large crane work."

2. City Council amend Recommendation 1 by deleting the words "for no more than a three month period" in Part 44 listed under Exemption Permits so that it now reads:

44. Add a provision to allow exemption permit applicants to apply for an exemption permit from a noise prohibition or noise limitation provision in connection with one or more events or activities ~~for no more than a three month period~~.

3. City Council amend Toronto Municipal Code Chapter 591, Noise to add a provision authorizing the Executive Director, Municipal Licensing and Standards, upon receipt of an application for continuous concrete pouring or large crane work, to issue the exemption permit if the conditions in 591-3.2.C.(2), (3) and (4) in the draft by-law attached as Attachment A to the report (March 22, 2019) from the Executive Director, Municipal Licensing and Standards and the conditions below are met:

a. a notice of the exemption permit shall be posted in a visible location where each event or activity will occur 7 days prior to the event or activity; this condition may be altered or waived by the Executive Director, Municipal Licensing and Standards;

b. if required by the Executive Director, Municipal Licensing and Standards, the event or activity shall comply with a noise mitigation plan;

c. each event or activity shall be restricted to the approved location;

d. the permission granted shall be for the date and times for each event or activity as set out in the exemption permit; and

e. that notice for continuous concrete pouring and large crane work is distributed to those within a 120 metre radius of the work at least 7 days in advance.

Amended by motion 6 by Councillor Wong-Tam.

Vote (Amend Item)

Apr-17-2019 12:12 PM

Result: Carried	Majority Required - EC3.6- Bailão - motion 3 as amended
Yes: 21	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Mike Layton, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 4	John Filion, Jim Karygiannis, Josh Matlow, Jaye Robinson
Absent: 1	Cynthia Lai

4 - Motion to Amend Item (Additional) moved by Councillor Stephen Holyday ***(Carried)***
That City Council request the Executive Director, Municipal Licensing and Standards to report to the Economic and Community Development Committee in the fourth quarter of 2020 on the implementation, success and any outstanding issues from the changes to the noise by-law including, but not limited to:

a. new measurement standards
b. the new hierarchy of limitation provisions
c. impacts to the construction industry
d. patterns and trends in complaints and resolutions
e. issues related to amplified sound within residential areas
f. impacts to enforcement

Vote (Amend Item (Additional))

Apr-17-2019 12:14 PM

Result: Carried	Majority Required - EC3.6 - Holyday - motion 4
Yes: 25	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, John Filion, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Jim Karygiannis, Mike Layton, Josh Matlow, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 0	
Absent: 1	Cynthia Lai

5 - Motion to Amend Item moved by Councillor John Filion ***(Lost)***
That City Council amend Part 43.c. of Economic and Community Development Committee Recommendation 1, by adding the words "except for non-emergency work conducted by the City of Toronto and its agencies or corporations, between the hours of 10:00 p.m. and 7:00 a.m." so that it now reads as follows:

c. Government work except for non-emergency work conducted by the City of Toronto and its agencies or corporations between the hours of 10:00 p.m. and 7:00 a.m.

Vote (Amend Item)

Apr-17-2019 12:12 PM

Result: Lost	Majority Required - EC3.6 - Filion - motion 5
Yes: 8	Joe Cressy, John Filion, Paula Fletcher, Jim Karygiannis, Mike Layton, Josh Matlow, Gord Perks, Kristyn Wong-Tam
No: 17	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Michael Ford, Mark Grimes, Stephen Holyday, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory
Absent: 1	Cynthia Lai

6 - Motion to Amend Motion moved by Councillor Kristyn Wong-Tam ***(Carried)***
That City Council amend Part 3 d. of motion 3 by Councillor Bailão by adding the words "with overnight event and activity discouraged" so that part 3 d. now reads as follows:

3. City Council amend Toronto Municipal Code Chapter 591, Noise to add a provision authorizing the Executive Director, Municipal Licensing and Standards, upon receipt of an

application for continuous concrete pouring or large crane work, to issue the exemption permit if the conditions in 591-3.2.C.(2), (3) and (4) in the draft by-law attached as Attachment A to the report (March 22, 2019) from the Executive Director, Municipal Licensing and Standards and the conditions below are met:

d. the permission granted shall be for the date and times for each event or activity as set out in the exemption permit with overnight event and activity discouraged;

Vote (Amend Motion)

Apr-17-2019 12:11 PM

Result: Carried	Majority Required - EC3.6 - Wong-Tam - motion 6
Yes: 25	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, John Filion, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Jim Karygiannis, Mike Layton, Josh Matlow, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 0	
Absent: 1	Cynthia Lai

7 - Motion to Amend Item (Additional) moved by Councillor Mike Layton ***(Carried)***
That City Council add a definition of "Living Area" to mean "Any area that includes the premises of a dwelling or a workplace."

Vote (Amend Item (Additional))

Apr-17-2019 12:14 PM

Result: Carried	Majority Required - EC3.6 - Layton - motion 7
Yes: 25	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, John Filion, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Jim Karygiannis, Mike Layton, Josh Matlow, Jennifer McKelvie, Denzil Minnan-Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 0	
Absent: 1	Cynthia Lai

Motion to Adopt Item as Amended ***(Carried)***

Vote (Adopt Item as Amended)

Apr-17-2019 12:15 PM

Result: Carried	Majority Required - EC3.6 - Adopt the item as amended
Yes: 23	Paul Ainslie, Ana Bailão, Brad Bradford, Shelley Carroll, Mike Colle, Gary Crawford, Joe Cressy, Paula Fletcher, Michael Ford, Mark Grimes, Stephen Holyday, Jim Karygiannis, Mike Layton, Jennifer McKelvie, Denzil Minnan-

	Wong, Frances Nunziata (Chair), James Pasternak, Gord Perks, Anthony Perruzza, Jaye Robinson, Michael Thompson, John Tory, Kristyn Wong-Tam
No: 2	John Filion, Josh Matlow
Absent: 1	Cynthia Lai

Declared Interests (City Council)

The following member(s) declared an interest:

Councillor Cynthia Lai - as she gets compensated and will continue to be compensated for various transactions that she has traded before elected to City Council by one of the deputants.
Written Declaration: http://app.toronto.ca/tmmis/viewDeclaredInterestFile.do?id=8555

Economic and Community Development Committee consideration on April 3, 2019

Source: Toronto City Clerk at www.toronto.ca/council

Appendix B2

Ambient Noise Monitoring Data and Meteorological Data

Project Name: Woodbine GO
Project Number: 60606819

Receptor Location: Woodbine Hotel Property Corner
Logging Interval: 0:15:00 h:mm:ss

SoundPro
MX (S/N XXXXX)

AECOM

Period	Start Time	End Time
Day-time	7:00 AM	7:00 PM
Evening	7:00 PM	11:00 PM
Night-time	11:00 PM	7:00 AM

Daylight Savings Yes

Minimum day hour	71
Minimum eve hour	70
Minimum night hour	66

Date	Interval Ending (DST)	Interval Ending (LST)	For Weather Lookup		Time Period (DST)	Sound Pressure Levels	Enviro Canada Weather Station 1 Name: Toronto Itnl A				Exclude Data due to Weather	Valid Measurements of Sound Pressure Levels	Plot Time	Rolling 1 hr Leq		
			Round +Hour (LST)	Date/Time (LST)		L_{EQ} (dBA)	Wind Speed (kph)	Weather Conditions	Wind Exclusion > 20kph	Condition Exclusion		$L_{EQ\text{-}15min}$ (dBA)	Date/Time (DST)	DAY	EVENING	NIGHT
21-Jun-2019	11:55:00 AM	10:55:00 AM	11	Fri 21-Jun-2019 11:00	Day-time	75.6	21	NA	Exclude	Include	Yes		21-Jun-2019 12:00 PM			
21-Jun-2019	12:10:00 PM	11:10:00 AM	11	Fri 21-Jun-2019 11:00	Day-time	75.6	21	NA	Exclude	Include	Yes		21-Jun-2019 12:00 PM			
21-Jun-2019	12:25:00 PM	11:25:00 AM	11	Fri 21-Jun-2019 11:00	Day-time	76.1	21	NA	Exclude	Include	Yes		21-Jun-2019 12:00 PM			
21-Jun-2019	12:40:00 PM	11:40:00 AM	12	Fri 21-Jun-2019 12:00	Day-time	76.1	16	NA	Include	Include	No		21-Jun-2019 1:00 PM			
21-Jun-2019	12:55:00 PM	11:55:00 AM	12	Fri 21-Jun-2019 12:00	Day-time	75.9	16	NA	Include	Include	No		21-Jun-2019 1:00 PM			
21-Jun-2019	1:10:00 PM	12:10:00 PM	12	Fri 21-Jun-2019 12:00	Day-time	75.2	16	NA	Include	Include	No		21-Jun-2019 1:00 PM			
21-Jun-2019	1:25:00 PM	12:25:00 PM	12	Fri 21-Jun-2019 12:00	Day-time	75.7	16	NA	Include	Include	No		21-Jun-2019 1:00 PM			
21-Jun-2019	1:40:00 PM	12:40:00 PM	13	Fri 21-Jun-2019 13:00	Day-time	76.5	22	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 2:00 PM			
21-Jun-2019	1:55:00 PM	12:55:00 PM	13	Fri 21-Jun-2019 13:00	Day-time	75.8	22	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 2:00 PM			
21-Jun-2019	2:10:00 PM	1:10:00 PM	13	Fri 21-Jun-2019 13:00	Day-time	75.9	22	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 2:00 PM			
21-Jun-2019	2:25:00 PM	1:25:00 PM	13	Fri 21-Jun-2019 13:00	Day-time	75.7	22	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 2:00 PM			
21-Jun-2019	2:40:00 PM	1:40:00 PM	14	Fri 21-Jun-2019 14:00	Day-time	76.0	27	NA	Exclude	Include	Yes		21-Jun-2019 3:00 PM			
21-Jun-2019	2:55:00 PM	1:55:00 PM	14	Fri 21-Jun-2019 14:00	Day-time	76.5	27	NA	Exclude	Include	Yes		21-Jun-2019 3:00 PM			
21-Jun-2019	3:10:00 PM	2:10:00 PM	14	Fri 21-Jun-2019 14:00	Day-time	76.1	27	NA	Exclude	Include	Yes		21-Jun-2019 3:00 PM			
21-Jun-2019	3:25:00 PM	2:25:00 PM	14	Fri 21-Jun-2019 14:00	Day-time	76.4	27	NA	Exclude	Include	Yes		21-Jun-2019 3:00 PM			
21-Jun-2019	3:40:00 PM	2:40:00 PM	15	Fri 21-Jun-2019 15:00	Day-time	76.6	22	NA	Exclude	Include	Yes		21-Jun-2019 4:00 PM			
21-Jun-2019	3:55:00 PM	2:55:00 PM	15	Fri 21-Jun-2019 15:00	Day-time	78.3	22	NA	Exclude	Include	Yes		21-Jun-2019 4:00 PM			
21-Jun-2019	4:10:00 PM	3:10:00 PM	15	Fri 21-Jun-2019 15:00	Day-time	76.8	22	NA	Exclude	Include	Yes		21-Jun-2019 4:00 PM			
21-Jun-2019	4:25:00 PM	3:25:00 PM	15	Fri 21-Jun-2019 15:00	Day-time	76.9	22	NA	Exclude	Include	Yes		21-Jun-2019 4:00 PM			
21-Jun-2019	4:40:00 PM	3:40:00 PM	16	Fri 21-Jun-2019 16:00	Day-time	77.7	28	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 5:00 PM			
21-Jun-2019	4:55:00 PM	3:55:00 PM	16	Fri 21-Jun-2019 16:00	Day-time	76.1	28	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 5:00 PM			
21-Jun-2019	5:10:00 PM	4:10:00 PM	16	Fri 21-Jun-2019 16:00	Day-time	76.3	28	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 5:00 PM			
21-Jun-2019	5:25:00 PM	4:25:00 PM	16	Fri 21-Jun-2019 16:00	Day-time	76.4	28	Mainly Clear	Exclude	Include	Yes		21-Jun-2019 5:00 PM			
21-Jun-2019	5:40:00 PM	4:40:00 PM	17	Fri 21-Jun-2019 17:00	Day-time	76.0	21	NA	Exclude	Include	Yes		21-Jun-2019 6:00 PM			
21-Jun-2019	5:55:00 PM	4:55:00 PM	17	Fri 21-Jun-2019 17:00	Day-time	75.5	21	NA	Exclude	Include	Yes		21-Jun-2019 6:00 PM			
21-Jun-2019	6:10:00 PM	5:10:00 PM	17	Fri 21-Jun-2019 17:00	Day-time	75.2	21	NA	Exclude	Include	Yes		21-Jun-2019 6:00 PM			
21-Jun-2019	6:25:00 PM	5:25:00 PM	17	Fri 21-Jun-2019 17:00	Day-time	75.3	21	NA	Exclude	Include	Yes		21-Jun-2019 6:00 PM			
21-Jun-2019	6:40:00 PM	5:40:00 PM	18	Fri 21-Jun-2019 18:00	Day-time	75.0	17	NA	Include	Include	No		21-Jun-2019 7:00 PM			
21-Jun-2019	6:55:00 PM	5:55:00 PM	18	Fri 21-Jun-2019 18:00	Day-time	74.5	17	NA	Include	Include	No		21-Jun-2019 7:00 PM			
21-Jun-2019	7:10:00 PM	6:10:00 PM	18	Fri 21-Jun-2019 18:00	Day-time	74.4	17	NA	Include	Include	No		21-Jun-2019 7:00 PM			
21-Jun-2019	7:25:00 PM	6:25:00 PM	18	Fri 21-Jun-2019 18:00	Day-time	74.9	17	NA	Include	Include	No		21-Jun-2019 7:00 PM			
21-Jun-2019	7:40:00 PM	6:40:00 PM	19	Fri 21-Jun-2019 19:00	Day-time	74.2	21	Clear	Exclude	Include	Yes		21-Jun-2019 8:00 PM			
21-Jun-2019	7:55:00 PM	6:55:00 PM	19	Fri 21-Jun-2019 19:00	Day-time	74.6	21	Clear	Exclude	Include	Yes		21-Jun-2019 8:00 PM			
21-Jun-2019	8:10:00 PM	7:10:00 PM	19	Fri 21-Jun-2019 19:00	Day-time	73.6	21	Clear	Exclude	Include	Yes		21-Jun-2019 8:00 PM			
21-Jun-2019	8:25:00 PM	7:25:00 PM	19	Fri 21-Jun-2019 19:00	Evening	73.2	21	Clear	Exclude	Include	Yes		21-Jun-2019 8:00 PM			
21-Jun-2019	8:40:00 PM	7:40:00 PM	20	Fri 21-Jun-2019 20:00	Evening	72.4	11	NA	Include	Include	No		21-Jun-2019 9:00 PM			
21-Jun-2019	8:55:00 PM	7:55:00 PM	20	Fri 21-Jun-2019 20:00	Evening	72.9	11	NA	Include	Include	No		21-Jun-2019 9:00 PM			
21-Jun-2019	9:10:00 PM	8:10:00 PM	20	Fri 21-Jun-2019 20:00	Evening	73.1	11	NA	Include	Include	No		21-Jun-2019 9:00 PM			
21-Jun-2019	9:25:00 PM	8:25:00 PM	20	Fri 21-Jun-2019 20:00	Evening	72.9	11	NA	Include	Include	No		21-Jun-2019 9:00 PM			
21-Jun-2019	9:40:00 PM	8:40:00 PM	21	Fri 21-Jun-2019 21:00	Evening	73.1	8	NA	Include	Include	No	73.1	21-Jun-2019 10:00 PM			
21-Jun-2019	9:55:00 PM	8:55:00 PM	21	Fri 21-Jun-2019 21:00	Evening	72.4	8	NA	Include	Include	No	72.4	21-Jun-2019 10:00 PM			
21-Jun-2019	10:10:00 PM	9:10:00 PM	21	Fri 21-Jun-2019 21:00	Evening	75.5	8	NA	Include	Include	No	75.5	21-Jun-2019 10:00 PM			
21-Jun-2019	10:25:00 PM	9:25:00 PM	21	Fri 21-Jun-2019 21:00	Evening	73.6	8	NA	Include	Include	No	73.6	21-Jun-2019 10:00 PM		74	
21-Jun-2019	10:40:00 PM	9:40:00 PM	22	Fri 21-Jun-2019 22:00	Evening	73.5	18	Clear	Include	Include	No	73.5	21-Jun-2019 11:00 PM		74	
21-Jun-2019	10:55:00 PM	9:55:00 PM	22	Fri 21-Jun-2019 22:00	Evening	73.4	18	Clear	Include	Include	No	73.4	21-Jun-2019 11:00 PM		74	
21-Jun-2019	11:10:00 PM	10:10:00 PM	22	Fri 21-Jun-2019 22:00	Evening	73.7	18	Clear	Include	Include	No	73.7	21-Jun-2019 11:00 PM		74	
21-Jun-2019	11:25:00 PM	10:25:00 PM	22	Fri 21-Jun-2019 22:00	Evening	73.1	18	Clear	Include	Include	No	73.1	21-Jun-2019 11:00 PM		73	
21-Jun-2019	11:40:00 PM	10:40:00 PM	23	Fri 21-Jun-2019 23:00	Evening	78.7	15	NA	Include	Include	No	78.7	22-Jun-2019 12:00 AM		75	
21-Jun-2019	11:55:00 PM	10:55:00 PM	23	Fri 21-Jun-2019 23:00	Evening	72.5	15	NA	Include	Include	No	72.5	22-Jun-2019 12:00 AM		75	
22-Jun-2019	12:10:00 AM	11:10:00 PM	23	Fri 21-Jun-2019 23:00	Evening	72.2	15	NA	Include	Include	No	72.2	22-Jun-2019 12:00 AM		75	
22-Jun-2019	12:25:00 AM	11:25:00 PM	23	Fri 21-Jun-2019 23:00	Night-time	77.5	15	NA	Include	Include	No	77.5	22-Jun-2019 12:00 AM			
22-Jun-2019	12:40:00 AM	11:40:00 PM	24	Sat 22-Jun-2019 0:00	Night-time	71.7	12	NA	Include	Include	No	71.7	22-Jun-2019 1:00 AM			
22-Jun-2019	12:55:00 AM	11:55:00 PM	24	Sat 22-Jun-2019 0:00	Night-time	71.6	12	NA	Include	Include	No	71.6	22-Jun-2019 1:00 AM			
22-Jun-2019	1:10:00 AM	12:10:00 AM	0	Sat 22-Jun-2019 0:00	Night-time	70.9	12	NA	Include	Include	No	70.9	22-Jun-2019 1:00 AM			74
22-Jun-2019	1:25:00 AM	12:25:00 AM	0	Sat 22-Jun-2019 0:00	Night-time	71.2	12	NA	Include	Include	No	71.2	22-Jun-2019 1:00 AM			71
22-Jun-2019	1:40:00 AM	12:40:00 AM	1	Sat 22-Jun-2019 1:00	Night-time	70.6	14	Clear	Include	Include	No	70.6	22-Jun-2019 2:00 AM			71
22-Jun-2019	1:55:00 AM	12:55:00 AM	1	Sat 22-Jun-2019 1:00	Night-time	70.4	14	Clear	Include	Include	No	70.4	22-Jun-2019 2:00 AM			71
22-Jun-2019	2:10:00 AM	1:10:00 AM	1	Sat 22-Jun-2019 1:00	Night-time	68.7	14	Clear	Include	Include	No	68.7	22-Jun-2019 2:00 AM			70
22-Jun-2019	2:25:00 AM	1:25:00 AM	1	Sat 22-Jun-2019 1:00	Night-time	67.1	14	Clear	Include	Include	No	67.1	22-Jun-2019 2:00 AM			69
22-Jun-2019	2:40:00 AM	1:40:00 AM	2	Sat 22-Jun-2019 2:00	Night-time	68.6	7	NA	Include	Include	No	68.6	22-Jun-2019 3:00 AM			69
22-Jun-2019	2:55:00 AM	1:55:00 AM	2	Sat 22-Jun-2019 2:00	Night-time	67.2	7	NA	Include	Include	No	67.2	22-Jun-2019 3:00 AM			68
22-Jun-2019	3:10:00 AM	2:10:00 AM	2	Sat 22-Jun-2019 2:00	Night-time	68.1	7	NA	Include	Include	No	68.1	22-Jun-2019 3:00 AM			68
22-Jun-2019	3:25:00 AM	2:25:00 AM	2	Sat 22-Jun-2019 2:00	Night-time	67.2	7	NA	Include	Include	No	67.2	22-Jun-2019 3:00 AM			68
22-Jun-2019	3:40:00 AM	2:40:00 AM	3	Sat 22-Jun-2019 3:00	Night-time	66.8	11	NA	Include	Include	No	66.8	22-Jun-2019 4:00 AM			67
22-Jun-2019	3:55:00 AM	2:55:00 AM	3	Sat 22-Jun-2019 3:00	Night-time	66.8	11	NA	Include	Include	No	66.8	22-Jun-2019 4:00 AM			67
22-Jun-2019	4:10:00 AM	3:10:00 AM	3	Sat 22-Jun-2019 3:00	Night-time	67.9	11	NA	Include	Include	No	67.9	22-Jun-2019 4:00 AM			67
22-Jun-2019	4:25:00 AM	3:25:00 AM	3	Sat 22-Jun-2019 3:00	Night-time	67.0	11	NA	Include	Include	No	67.0	22-Jun-2019 4:00 AM			67
22-Jun-2019	4:40:00 AM	3:40:00 AM	4	Sat 22-Jun-2019 4:00	Night-time	67.7	10	Clear	Include	Include	No	67.7	22-Jun-2019 5:00 AM			67
22-Jun-2019	4:55:00 AM	3:55:00 AM	4	Sat 22-Jun-2019 4:00	Night-time	69.6	10	Clear	Include	Include	No	69.6	22-Jun-2019 5:00 AM			68
22-Jun-2019	5:10:00 AM	4:10:00 AM	4	Sat 22-Jun-2019 4:00	Night-time	70.3	10	Clear	Include	Include	No	70.3	22-Jun-2019 5:00 AM			69
22-Jun-2019	5:25:00 AM	4:25:00 AM	4	Sat 22-Jun-2019 4:00	Night-time	69.2	10	Clear	Include	Include	No	69.2	22-Jun-2019 5:00 AM			69
22-Jun-2019	5:40:00 AM	4:40:00 AM	5	Sat 22-Jun-2019 5:00	Night-time	70.5	9	NA	Include	Include	No	70.5	22-Jun-2019 6:00 AM			70
22-Jun-2019	5:55:00 AM	4:55:00 AM	5	Sat 22-Jun-2019 5:00	Night-time	71.1	9	NA	Include	Include	No	71.1	22-Jun-2019 6:00 AM			70
22-Jun-2019	6:10:00 AM	5:10:00 AM	5	Sat 22-Jun-2019 5:00	Night-time	70.9	9	NA	Include	Include	No	70.9	22-Jun-2019 6:00 AM			70
22-Jun-2019	6:25:00 AM	5:25:00 AM	5	Sat 22-Jun-2019 5:00	Night-time	71.4	9	NA	Include	Include	No	71.4	22-Jun-2019 6:00 AM			71
22-Jun-2019	6:40:00 AM	5:40:00 AM	6	Sat 22-Jun-2019 6:00	Night-time	72.0	11	NA	Include	Include	No	72.0	22-Jun-2019 7:00 AM			71
22-Jun-2019	6:55:00 AM	5:55:00 AM	6	Sat 22-Jun-2019 6:00	Night-time	72.8	11	NA	Include	Include	No	72.8	22-Jun-2019 7:00 AM			72
22-Jun-2019	7:10:00 AM	6:10:00 AM	6	Sat 22-Jun-2019 6:00	Night-time	72.1	11	NA	Include	Include	No	72.1	22-Jun-2019 7:00 AM			72
22-Jun-2019	7:25:00 AM	6:25:00 AM	6	Sat 22-Jun-2019 6:00	Night-time	72.7	11	NA	Include	Include	No	72.7	22-Jun-2019 7:00 AM			72
22-Jun-2019	7:40:00 AM	6:40:00 AM	7	Sat 22-Jun-2019 7:00	Night-time	73.3	11	Mainly Clear	Include	Include	No	73.3	22-Jun-2019 8:00 AM			73
22-Jun-2019	7:55:00 AM	6:55:00 AM	7	Sat 22-Jun-2019 7:00	Night-time	73.0	11	Mainly Clear	Include	Include	No	73.0	22-Jun-2019 8:00 AM			73
22-Jun-2019	8:10:00 AM	7:10:00 AM	7	Sat 22-Jun-2019 7:00	Night-time	73.1	11	Mainly Clear	Include	Include	No	73.1	22-Jun-2019 8:00 AM			73
22-Jun-2019	8:25:00 AM	7:25:00 AM	7	Sat 22-Jun-2019 7:00	Day-time	73.5	11	Mainly Clear	Include	Include	No	73.5	22-Jun-2019 8:00 AM			
22-Jun-2019	8:40:00 AM	7:40:00 AM	8	Sat 22-Jun-2019 8:00	Day-time	73.9	13	NA	Include	Include	No	73.9	22-Jun-2019 9:00 AM			
22-Jun-2019	8:55:00 AM	7:55:00 AM	8	Sat 22-Jun-2019 8:00	Day-time	73.8	13	NA	Include	Include	No	73.8	22-Jun-2019 9:00 AM			
22-Jun-2019	9:10:00 AM	8:10:00 AM	8	Sat 22-Jun-2019 8:00	Day-time	73.6	13	NA	Include	Include	No	73.6	22-Jun-2019 9:00 AM	74		
22-Jun-2019	9:25:00 AM	8:25:00 AM	8	Sat 22-Jun-2019 8:00	Day-time	74.4	13	NA	Include	Include	No	74.4	22-Jun-2019 9:00 AM	74		
22-Jun-2019	9:40:00 AM	8:40:00 AM	9	Sat 22-Jun-2019 9:00	Day-time	74.3	19	NA	Include	Include	No	74.3	22-Jun-2019 10:00 AM	74		
22-Jun-2019	9:55:00 AM	8:55:00 AM	9	Sat 22-Jun-2019 9:00	Day-time	75.0	19	NA	Include	Include	No	75.0	22-Jun-2019 10:00 AM	74		
22-Jun-2019	10:10:00 AM	9:10:00 AM	9	Sat 22-Jun-2019 9:00	Day-time	73.6	19	NA	Include	Include	No	73.6	22-Jun-2019 10:00 AM	74		
22-Jun-2019	10:25:00 AM	9:25:00 AM	9	Sat 22-Jun-2019 9:00	Day-time	74.6	19	NA	Include	Include	No	74.6	22-Jun-2019 10:00 AM	74		
22-Jun-2019	10:40:00 AM	9:40:00 AM	10	Sat 22-Jun-2019 10:00	Day-time	74.3	10	Mainly Clear	Include	Include	No		22-Jun-2019 11:00 AM			
22-Jun-2019	10:55:00 AM	9:55:00 AM	10	Sat 22-Jun-2019 10:00	Day-time	74.5	10	Mainly Clear	Include	Include	No		22-Jun-2019 11:00 AM			
22-Jun-2019	11:10:00 AM	10:10:00 AM	10	Sat 22-Jun-2019 10:00	Day-time	74.4	10	Mainly Clear	Include	Include	No		22-Jun-2019 11:00 AM			
22-Jun-2019	11:25:00 AM	10:25:00 AM	10	Sat 22-Jun-2019 10:00	Day-time	74.6	10	Mainly Clear	Include	Include	No		22-Jun-2019 11:00 AM			
22-Jun-2019	11:55:00 AM	10:55:00 AM	11	Sat 22-Jun-2019 11:00	Day-time	74.6	30	NA	Exclude	Include	Yes		22-Jun-2019 12:00 PM			
22-Jun-2019	12:10:00 PM	11:10:00 AM	11	Sat 22-Jun-2019 11:00	Day-time	74.2	30	NA	Exclude	Include	Yes		22-Jun-2019 12:00 PM			
22-Jun-2019	12:25:00 PM	11:25:00 AM	11	Sat 22-Jun-2019 11:00	Day-time	74.1	30	NA	Exclude	Include	Yes		22-Jun-2019 12:00 PM			
22-Jun-2019	12:40:00 PM	11:40:00 AM	12	Sat 22-Jun-2019 12:00	Day-time	74.2	14	NA	Include	Include	No		22-Jun-2019 1:00 PM			
22-Jun-2019	12:55:00 PM	11:55:00 AM	12	Sat 22-Jun-2019 12:00	Day-time	74.7	14	NA	Include	Include	No		22-Jun-2019 1:00 PM			
22-Jun-2019	1:10:00 PM	12:10:00 PM	12	Sat 22-Jun-2019 12:00	Day-time	74.5	14	NA	Include	Include	No		22-Jun-2019 1:00 PM			
22-Jun-2019	1:25:00 PM	12:25:00 PM	12	Sat 22-Jun-2019 12:00	Day-time	74.2	14	NA	Include	Include	No		22-Jun-2019 1:00 PM			
22-Jun-2019	1:40:00 PM	12:40:00 PM	13	Sat 22-Jun-2019 13:00	Day-time	74.3	15	Clear	Include	Include	No	74.3	22-Jun-2019 2:00 PM			
22-Jun-2019	1:55:00 PM	12:55:00 PM	13	Sat 22-Jun-2019 13:00	Day-time	74.2	15	Clear	Include	Include	No	74.2	22-Jun-2019 2:00 PM			
22-Jun-2019	2:10:00 PM	1:10:00 PM	13	Sat 22-Jun-2019 13:00	Day-time	74.1	15	Clear	Include	Include	No	74.1	22-Jun-2019 2:00 PM			
22-Jun-2019	2:25:00 PM	1:25:00 PM	13	Sat 22-Jun-2019 13:00	Day-time	73.8	15	Clear	Include	Include	No	73.8	22-Jun-2019 2:00 PM	74		
22-Jun-2019	2:40:00 PM	1:40:00 PM	14	Sat 22-Jun-2019 14:00	Day-time	73.9	13	NA	Include	Include	No	73.9	22-Jun-2019 3:00 PM	74		
22-Jun-2019	2:55:00 PM	1:55:00 PM	14	Sat 22-Jun-2019 14:00	Day-time	73.9	13	NA	Include	Include	No	73.9	22-Jun-2019 3:00 PM	74		
22-Jun-2019	3:10:00 PM	2:10:00 PM	14	Sat 22-Jun-2019 14:00	Day-time	74.5	13	NA	Include	Include	No	74.5	22-Jun-2019 3:00 PM	74		
22-Jun-2019	3:25:00 PM	2:25:00 PM	14	Sat 22-Jun-2019 14:00	Day-time	74.4	13	NA	Include	Include	No	74.4	22-Jun-2019 3:00 PM	74		
22-Jun-2019	3:40:00 PM	2:40:00 PM	15	Sat 22-Jun-2019 15:00	Day-time	74.6	16	NA	Include	Include	No	74.6	22-Jun-2019 4:00 PM	74		
22-Jun-2019	3:55:00 PM	2:55:00 PM	15	Sat 22-Jun-2019 15:00	Day-time	74.7	16	NA	Include	Include	No	74.7	22-Jun-2019 4:00 PM	75		
22-Jun-2019	4:10:00 PM	3:10:00 PM	15	Sat 22-Jun-2019 15:00	Day-time	76.0	16	NA	Include	Include	No	76.0	22-Jun-2019 4:00 PM	75		
22-Jun-2019	4:25:00 PM	3:25:00 PM	15	Sat 22-Jun-2019 15:00	Day-time	74.0	16	NA	Include	Include	No	74.0	22-Jun-2019 4:00 PM	75		
22-Jun-2019	4:40:00 PM	3:40:00 PM	16	Sat 22-Jun-2019 16:00	Day-time	74.4	13	Mainly Clear	Include	Include	No	74.4	22-Jun-2019 5:00 PM	75		
22-Jun-2019	4:55:00 PM	3:55:00 PM	16	Sat 22-Jun-2019 16:00	Day-time	74.5	13	Mainly Clear	Include	Include	No	74.5	22-Jun-2019 5:00 PM	75		
22-Jun-2019	5:10:00 PM	4:10:00 PM	16	Sat 22-Jun-2019 16:00	Day-time	74.1	13	Mainly Clear	Include	Include	No	74.1	22-Jun-2019 5:00 PM	74		
22-Jun-2019	5:25:00 PM	4:25:00 PM	16	Sat 22-Jun-2019 16:00	Day-time	74.3	13	Mainly Clear	Include	Include	No	74.3	22-Jun-2019 5:00 PM	74		
22-Jun-2019	5:40:00 PM	4:40:00 PM	17	Sat 22-Jun-2019 17:00	Day-time	74.7	16	NA	Include	Include	No	74.7	22-Jun-2019 6:00 PM	74		
22-Jun-2019	5:55:00 PM	4:55:00 PM	17	Sat 22-Jun-2019 17:00	Day-time	74.0	16	NA	Include	Include	No	74.0	22-Jun-2019 6:00 PM	74		

Date	Interval Ending (DST)	Interval Ending (LST)	For Weather Lookup		Time Period (DST)	Sound Pressure Levels	Enviro Canada Weather Station 1 Name: Toronto Itnl A				Exclude Data due to Weather	Valid Measurements of Sound Pressure Levels	Plot Time	Rolling 1 hr Leq		
			Round +Hour (LST)	Date/Time (LST)		L_{EQ} (dBA)	Wind Speed (kph)	Weather Conditions	Wind Exclusion > 20kph	Condition Exclusion		$L_{EQ\text{-}15min}$ (dBA)	Date/Time (DST)	DAY	EVENING	NIGHT
22-Jun-2019	6:10:00 PM	5:10:00 PM	17	Sat 22-Jun-2019 17:00	Day-time	74.1	16	NA	Include	Include	No	74.1	22-Jun-2019 6:00 PM	74		
22-Jun-2019	6:25:00 PM	5:25:00 PM	17	Sat 22-Jun-2019 17:00	Day-time	74.0	16	NA	Include	Include	No	74.0	22-Jun-2019 6:00 PM	74		
22-Jun-2019	6:40:00 PM	5:40:00 PM	18	Sat 22-Jun-2019 18:00	Day-time	74.7	15	NA	Include	Include	No	74.7	22-Jun-2019 7:00 PM	74		
22-Jun-2019	6:55:00 PM	5:55:00 PM	18	Sat 22-Jun-2019 18:00	Day-time	74.1	15	NA	Include	Include	No	74.1	22-Jun-2019 7:00 PM	74		
22-Jun-2019	7:10:00 PM	6:10:00 PM	18	Sat 22-Jun-2019 18:00	Day-time	74.5	15	NA	Include	Include	No	74.5	22-Jun-2019 7:00 PM	74		
22-Jun-2019	7:25:00 PM	6:25:00 PM	18	Sat 22-Jun-2019 18:00	Day-time	73.5	15	NA	Include	Include	No	73.5	22-Jun-2019 7:00 PM	74		
22-Jun-2019	7:40:00 PM	6:40:00 PM	19	Sat 22-Jun-2019 19:00	Day-time	73.9	13	Clear	Include	Include	No	73.9	22-Jun-2019 8:00 PM	74		
22-Jun-2019	7:55:00 PM	6:55:00 PM	19	Sat 22-Jun-2019 19:00	Day-time	77.1	13	Clear	Include	Include	No	77.1	22-Jun-2019 8:00 PM	75		
22-Jun-2019	8:10:00 PM	7:10:00 PM	19	Sat 22-Jun-2019 19:00	Day-time	73.7	13	Clear	Include	Include	No	73.7	22-Jun-2019 8:00 PM	75		
22-Jun-2019	8:25:00 PM	7:25:00 PM	19	Sat 22-Jun-2019 19:00	Evening	74.6	13	Clear	Include	Include	No	74.6	22-Jun-2019 8:00 PM			
22-Jun-2019	8:40:00 PM	7:40:00 PM	20	Sat 22-Jun-2019 20:00	Evening	73.5	14	NA	Include	Include	No	73.5	22-Jun-2019 9:00 PM			
22-Jun-2019	8:55:00 PM	7:55:00 PM	20	Sat 22-Jun-2019 20:00	Evening	73.8	14	NA	Include	Include	No	73.8	22-Jun-2019 9:00 PM			
22-Jun-2019	9:10:00 PM	8:10:00 PM	20	Sat 22-Jun-2019 20:00	Evening	73.5	14	NA	Include	Include	No	73.5	22-Jun-2019 9:00 PM		74	
22-Jun-2019	9:25:00 PM	8:25:00 PM	20	Sat 22-Jun-2019 20:00	Evening	73.4	14	NA	Include	Include	No	73.4	22-Jun-2019 9:00 PM		74	
22-Jun-2019	9:40:00 PM	8:40:00 PM	21	Sat 22-Jun-2019 21:00	Evening	72.4	16	NA	Include	Include	No	72.4	22-Jun-2019 10:00 PM		73	
22-Jun-2019	9:55:00 PM	8:55:00 PM	21	Sat 22-Jun-2019 21:00	Evening	72.5	16	NA	Include	Include	No	72.5	22-Jun-2019 10:00 PM		73	
22-Jun-2019	10:10:00 PM	9:10:00 PM	21	Sat 22-Jun-2019 21:00	Evening	73.2	16	NA	Include	Include	No	73.2	22-Jun-2019 10:00 PM		73	
22-Jun-2019	10:25:00 PM	9:25:00 PM	21	Sat 22-Jun-2019 21:00	Evening	74.1	16	NA	Include	Include	No	74.1	22-Jun-2019 10:00 PM		73	
22-Jun-2019	10:40:00 PM	9:40:00 PM	22	Sat 22-Jun-2019 22:00	Evening	73.0	9	Clear	Include	Include	No	73.0	22-Jun-2019 11:00 PM		73	
22-Jun-2019	10:55:00 PM	9:55:00 PM	22	Sat 22-Jun-2019 22:00	Evening	73.6	9	Clear	Include	Include	No	73.6	22-Jun-2019 11:00 PM		73	
22-Jun-2019	11:10:00 PM	10:10:00 PM	22	Sat 22-Jun-2019 22:00	Evening	72.9	9	Clear	Include	Include	No	72.9	22-Jun-2019 11:00 PM		73	
22-Jun-2019	11:25:00 PM	10:25:00 PM	22	Sat 22-Jun-2019 22:00	Evening	72.7	9	Clear	Include	Include	No	72.7	22-Jun-2019 11:00 PM		73	
22-Jun-2019	11:40:00 PM	10:40:00 PM	23	Sat 22-Jun-2019 23:00	Evening	72.1	14	NA	Include	Include	No	72.1	23-Jun-2019 12:00 AM		73	
22-Jun-2019	11:55:00 PM	10:55:00 PM	23	Sat 22-Jun-2019 23:00	Evening	72.1	14	NA	Include	Include	No	72.1	23-Jun-2019 12:00 AM		72	
23-Jun-2019	12:10:00 AM	11:10:00 PM	23	Sat 22-Jun-2019 23:00	Evening	71.6	14	NA	Include	Include	No	71.6	23-Jun-2019 12:00 AM		72	
23-Jun-2019	12:25:00 AM	11:25:00 PM	23	Sat 22-Jun-2019 23:00	Night-time	72.8	14	NA	Include	Include	No	72.8	23-Jun-2019 12:00 AM			
23-Jun-2019	12:40:00 AM	11:40:00 PM	24	Sun 23-Jun-2019 0:00	Night-time	71.5	13	NA	Include	Include	No	71.5	23-Jun-2019 1:00 AM			
23-Jun-2019	12:55:00 AM	11:55:00 PM	24	Sun 23-Jun-2019 0:00	Night-time	71.4	13	NA	Include	Include	No	71.4	23-Jun-2019 1:00 AM			
23-Jun-2019	1:10:00 AM	12:10:00 AM	0	Sun 23-Jun-2019 0:00	Night-time	70.7	13	NA	Include	Include	No	70.7	23-Jun-2019 1:00 AM			72
23-Jun-2019	1:25:00 AM	12:25:00 AM	0	Sun 23-Jun-2019 0:00	Night-time	69.1	13	NA	Include	Include	No	69.1	23-Jun-2019 1:00 AM			71
23-Jun-2019	1:40:00 AM	12:40:00 AM	1	Sun 23-Jun-2019 1:00	Night-time	69.5	5	Clear	Include	Include	No	69.5	23-Jun-2019 2:00 AM			70
23-Jun-2019	1:55:00 AM	12:55:00 AM	1	Sun 23-Jun-2019 1:00	Night-time	71.0	5	Clear	Include	Include	No	71.0	23-Jun-2019 2:00 AM			70
23-Jun-2019	2:10:00 AM	1:10:00 AM	1	Sun 23-Jun-2019 1:00	Night-time	69.0	5	Clear	Include	Include	No	69.0	23-Jun-2019 2:00 AM			70
23-Jun-2019	2:25:00 AM	1:25:00 AM	1	Sun 23-Jun-2019 1:00	Night-time	68.8	5	Clear	Include	Include	No	68.8	23-Jun-2019 2:00 AM			70
23-Jun-2019	2:40:00 AM	1:40:00 AM	2	Sun 23-Jun-2019 2:00	Night-time	69.3	9	NA	Include	Include	No	69.3	23-Jun-2019 3:00 AM			70
23-Jun-2019	2:55:00 AM	1:55:00 AM	2	Sun 23-Jun-2019 2:00	Night-time	67.7	9	NA	Include	Include	No	67.7	23-Jun-2019 3:00 AM			69
23-Jun-2019	3:10:00 AM	2:10:00 AM	2	Sun 23-Jun-2019 2:00	Night-time	68.0	9	NA	Include	Include	No	68.0	23-Jun-2019 3:00 AM			68
23-Jun-2019	3:25:00 AM	2:25:00 AM	2	Sun 23-Jun-2019 2:00	Night-time	67.9	9	NA	Include	Include	No	67.9	23-Jun-2019 3:00 AM			68
23-Jun-2019	3:40:00 AM	2:40:00 AM	3	Sun 23-Jun-2019 3:00	Night-time	66.7	8	NA	Include	Include	No	66.7	23-Jun-2019 4:00 AM			68
23-Jun-2019	3:55:00 AM	2:55:00 AM	3	Sun 23-Jun-2019 3:00	Night-time	67.2	8	NA	Include	Include	No	67.2	23-Jun-2019 4:00 AM			67
23-Jun-2019	4:10:00 AM	3:10:00 AM	3	Sun 23-Jun-2019 3:00	Night-time	66.7	8	NA	Include	Include	No	66.7	23-Jun-2019 4:00 AM			67
23-Jun-2019	4:25:00 AM	3:25:00 AM	3	Sun 23-Jun-2019 3:00	Night-time	67.2	8	NA	Include	Include	No	67.2	23-Jun-2019 4:00 AM			67
23-Jun-2019	4:40:00 AM	3:40:00 AM	4	Sun 23-Jun-2019 4:00	Night-time	68.1	5	Clear	Include	Include	No	68.1	23-Jun-2019 5:00 AM			67
23-Jun-2019	4:55:00 AM	3:55:00 AM	4	Sun 23-Jun-2019 4:00	Night-time	68.0	5	Clear	Include	Include	No	68.0	23-Jun-2019 5:00 AM			68
23-Jun-2019	5:10:00 AM	4:10:00 AM	4	Sun 23-Jun-2019 4:00	Night-time	68.6	5	Clear	Include	Include	No	68.6	23-Jun-2019 5:00 AM			68
23-Jun-2019	5:25:00 AM	4:25:00 AM	4	Sun 23-Jun-2019 4:00	Night-time	69.0	5	Clear	Include	Include	No	69.0	23-Jun-2019 5:00 AM			68
23-Jun-2019	5:40:00 AM	4:40:00 AM	5	Sun 23-Jun-2019 5:00	Night-time	69.6	9	NA	Include	Include	No	69.6	23-Jun-2019 6:00 AM			69
23-Jun-2019	5:55:00 AM	4:55:00 AM	5	Sun 23-Jun-2019 5:00	Night-time	69.0	9	NA	Include	Include	No	69.0	23-Jun-2019 6:00 AM			69
23-Jun-2019	6:10:00 AM	5:10:00 AM	5	Sun 23-Jun-2019 5:00	Night-time	69.7	9	NA	Include	Include	No	69.7	23-Jun-2019 6:00 AM			69
23-Jun-2019	6:25:00 AM	5:25:00 AM	5	Sun 23-Jun-2019 5:00	Night-time	69.3	9	NA	Include	Include	No	69.3	23-Jun-2019 6:00 AM			69
23-Jun-2019	6:40:00 AM	5:40:00 AM	6	Sun 23-Jun-2019 6:00	Night-time	68.9	8	NA	Include	Include	No	68.9	23-Jun-2019 7:00 AM			69
23-Jun-2019	6:55:00 AM	5:55:00 AM	6	Sun 23-Jun-2019 6:00	Night-time	69.8	8	NA	Include	Include	No	69.8	23-Jun-2019 7:00 AM			69
23-Jun-2019	7:10:00 AM	6:10:00 AM	6	Sun 23-Jun-2019 6:00	Night-time	68.6	8	NA	Include	Include	No	68.6	23-Jun-2019 7:00 AM			69
23-Jun-2019	7:25:00 AM	6:25:00 AM	6	Sun 23-Jun-2019 6:00	Night-time	70.1	8	NA	Include	Include	No	70.1	23-Jun-2019 7:00 AM			69
23-Jun-2019	7:40:00 AM	6:40:00 AM	7	Sun 23-Jun-2019 7:00	Night-time	70.2	14	Mainly Clear	Include	Include	No	70.2	23-Jun-2019 8:00 AM			70
23-Jun-2019	7:55:00 AM	6:55:00 AM	7	Sun 23-Jun-2019 7:00	Night-time	70.2	14	Mainly Clear	Include	Include	No	70.2	23-Jun-2019 8:00 AM			70
23-Jun-2019	8:10:00 AM	7:10:00 AM	7	Sun 23-Jun-2019 7:00	Night-time	69.8	14	Mainly Clear	Include	Include	No	69.8	23-Jun-2019 8:00 AM			70
23-Jun-2019	8:25:00 AM	7:25:00 AM	7	Sun 23-Jun-2019 7:00	Day-time	70.3	14	Mainly Clear	Include	Include	No	70.3	23-Jun-2019 8:00 AM			
23-Jun-2019	8:40:00 AM	7:40:00 AM	8	Sun 23-Jun-2019 8:00	Day-time	70.8	18	NA	Include	Include	No	70.8	23-Jun-2019 9:00 AM			
23-Jun-2019	8:55:00 AM	7:55:00 AM	8	Sun 23-Jun-2019 8:00	Day-time	71.6	18	NA	Include	Include	No	71.6	23-Jun-2019 9:00 AM			
23-Jun-2019	9:10:00 AM	8:10:00 AM	8	Sun 23-Jun-2019 8:00	Day-time	71.2	18	NA	Include	Include	No	71.2	23-Jun-2019 9:00 AM	71		
23-Jun-2019	9:25:00 AM	8:25:00 AM	8	Sun 23-Jun-2019 8:00	Day-time	71.7	18	NA	Include	Include	No	71.7	23-Jun-2019 9:00 AM	71		
23-Jun-2019	9:40:00 AM	8:40:00 AM	9	Sun 23-Jun-2019 9:00	Day-time	71.9	16	NA	Include	Include	No	71.9	23-Jun-2019 10:00 AM	72		
23-Jun-2019	9:55:00 AM	8:55:00 AM	9	Sun 23-Jun-2019 9:00	Day-time	72.0	16	NA	Include	Include	No	72.0	23-Jun-2019 10:00 AM	72		
23-Jun-2019	10:10:00 AM	9:10:00 AM	9	Sun 23-Jun-2019 9:00	Day-time	72.9	16	NA	Include	Include	No	72.9	23-Jun-2019 10:00 AM	72		
23-Jun-2019	10:25:00 AM	9:25:00 AM	9	Sun 23-Jun-2019 9:00	Day-time	72.4	16	NA	Include	Include	No	72.4	23-Jun-2019 10:00 AM	72		
23-Jun-2019	10:40:00 AM	9:40:00 AM	10	Sun 23-Jun-2019 10:00	Day-time	72.7	11	Mainly Clear	Include	Include	No	72.7	23-Jun-2019 11:00 AM	73		
23-Jun-2019	10:55:00 AM	9:55:00 AM	10	Sun 23-Jun-2019 10:00	Day-time	73.3	11	Mainly Clear	Include	Include	No	73.3	23-Jun-2019 11:00 AM	73		
23-Jun-2019	11:10:00 AM	10:10:00 AM	10	Sun 23-Jun-2019 10:00	Day-time	73.3	11	Mainly Clear	Include	Include	No	73.3	23-Jun-2019 11:00 AM	73		
23-Jun-2019	11:25:00 AM	10:25:00 AM	10	Sun 23-Jun-2019 10:00	Day-time	73.4	11	Mainly Clear	Include	Include	No	73.4	23-Jun-2019 11:00 AM	73		
23-Jun-2019	11:55:00 AM	10:55:00 AM	11	Sun 23-Jun-2019 11:00	Day-time	73.6	4	NA	Include	Include	No		23-Jun-2019 12:00 PM			
23-Jun-2019	12:10:00 PM	11:10:00 AM	11	Sun 23-Jun-2019 11:00	Day-time	73.3	4	NA	Include	Include	No		23-Jun-2019 12:00 PM			
23-Jun-2019	12:25:00 PM	11:25:00 AM	11	Sun 23-Jun-2019 11:00	Day-time	73.7	4	NA	Include	Include	No		23-Jun-2019 12:00 PM			
23-Jun-2019	12:40:00 PM	11:40:00 AM	12	Sun 23-Jun-2019 12:00	Day-time	73.6	21	NA	Exclude	Include	Yes		23-Jun-2019 1:00 PM			
23-Jun-2019	12:55:00 PM	11:55:00 AM	12	Sun 23-Jun-2019 12:00	Day-time	73.2	21	NA	Exclude	Include	Yes		23-Jun-2019 1:00 PM			
23-Jun-2019	1:10:00 PM	12:10:00 PM	12	Sun 23-Jun-2019 12:00	Day-time	73.1	21	NA	Exclude	Include	Yes		23-Jun-2019 1:00 PM			
23-Jun-2019	1:25:00 PM	12:25:00 PM	12	Sun 23-Jun-2019 12:00	Day-time	73.9	21	NA	Exclude	Include	Yes		23-Jun-2019 1:00 PM			
23-Jun-2019	1:40:00 PM	12:40:00 PM	13	Sun 23-Jun-2019 13:00	Day-time	74.2	26	Mostly Cloudy	Exclude	Include	Yes		23-Jun-2019 2:00 PM			
23-Jun-2019	1:55:00 PM	12:55:00 PM	13	Sun 23-Jun-2019 13:00	Day-time	74.0	26	Mostly Cloudy	Exclude	Include	Yes		23-Jun-2019 2:00 PM			
23-Jun-2019	2:10:00 PM	1:10:00 PM	13	Sun 23-Jun-2019 13:00	Day-time	73.6	26	Mostly Cloudy	Exclude	Include	Yes		23-Jun-2019 2:00 PM			
23-Jun-2019	2:25:00 PM	1:25:00 PM	13	Sun 23-Jun-2019 13:00	Day-time	73.7	26	Mostly Cloudy	Exclude	Include	Yes		23-Jun-2019 2:00 PM			
23-Jun-2019	2:40:00 PM	1:40:00 PM	14	Sun 23-Jun-2019 14:00	Day-time	73.1	35	NA	Exclude	Include	Yes		23-Jun-2019 3:00 PM			
23-Jun-2019	2:55:00 PM	1:55:00 PM	14	Sun 23-Jun-2019 14:00	Day-time	73.2	35	NA	Exclude	Include	Yes		23-Jun-2019 3:00 PM			
23-Jun-2019	3:10:00 PM	2:10:00 PM	14	Sun 23-Jun-2019 14:00	Day-time	73.6	35	NA	Exclude	Include	Yes		23-Jun-2019 3:00 PM			
23-Jun-2019	3:25:00 PM	2:25:00 PM	14	Sun 23-Jun-2019 14:00	Day-time	74.1	35	NA	Exclude	Include	Yes		23-Jun-2019 3:00 PM			
23-Jun-2019	3:40:00 PM	2:40:00 PM	15	Sun 23-Jun-2019 15:00	Day-time	73.5	19	NA	Include	Include	No		23-Jun-2019 4:00 PM			
23-Jun-2019	3:55:00 PM	2:55:00 PM	15	Sun 23-Jun-2019 15:00	Day-time	75.5	19	NA	Include	Include	No		23-Jun-2019 4:00 PM			
23-Jun-2019	4:10:00 PM	3:10:00 PM	15	Sun 23-Jun-2019 15:00	Day-time	73.9	19	NA	Include	Include	No		23-Jun-2019 4:00 PM			
23-Jun-2019	4:25:00 PM	3:25:00 PM	15	Sun 23-Jun-2019 15:00	Day-time	73.4	19	NA	Include	Include	No		23-Jun-2019 4:00 PM			
23-Jun-2019	4:40:00 PM	3:40:00 PM	16	Sun 23-Jun-2019 16:00	Day-time	73.2	27	Clear	Exclude	Include	Yes		23-Jun-2019 5:00 PM			
23-Jun-2019	4:55:00 PM	3:55:00 PM	16	Sun 23-Jun-2019 16:00	Day-time	72.9	27	Clear	Exclude	Include	Yes		23-Jun-2019 5:00 PM			
23-Jun-2019	5:10:00 PM	4:10:00 PM	16	Sun 23-Jun-2019 16:00	Day-time	73.2	27	Clear	Exclude	Include	Yes		23-Jun-2019 5:00 PM			
23-Jun-2019	5:25:00 PM	4:25:00 PM	16	Sun 23-Jun-2019 16:00	Day-time	74.2	27	Clear	Exclude	Include	Yes		23-Jun-2019 5:00 PM			
23-Jun-2019	5:40:00 PM	4:40:00 PM	17	Sun 23-Jun-2019 17:00	Day-time	73.1	33	NA	Exclude	Include	Yes		23-Jun-2019 6:00 PM			
23-Jun-2019	5:55:00 PM	4:55:00 PM	17	Sun 23-Jun-2019 17:00	Day-time	73.8	33	NA	Exclude	Include	Yes		23-Jun-2019 6:00 PM			
23-Jun-2019	6:10:00 PM	5:10:00 PM	17	Sun 23-Jun-2019 17:00	Day-time	73.5	33	NA	Exclude	Include	Yes		23-Jun-2019 6:00 PM			
23-Jun-2019	6:25:00 PM	5:25:00 PM	17	Sun 23-Jun-2019 17:00	Day-time	74.2	33	NA	Exclude	Include	Yes		23-Jun-2019 6:00 PM			
23-Jun-2019	6:40:00 PM	5:40:00 PM	18	Sun 23-Jun-2019 18:00	Day-time	73.5	33	NA	Exclude	Include	Yes		23-Jun-2019 7:00 PM			
23-Jun-2019	6:55:00 PM	5:55:00 PM	18	Sun 23-Jun-2019 18:00	Day-time	77.7	33	NA	Exclude	Include	Yes		23-Jun-2019 7:00 PM			
23-Jun-2019	7:10:00 PM	6:10:00 PM	18	Sun 23-Jun-2019 18:00	Day-time	74.1	33	NA	Exclude	Include	Yes		23-Jun-2019 7:00 PM			
23-Jun-2019	7:25:00 PM	6:25:00 PM	18	Sun 23-Jun-2019 18:00	Day-time	73.6	33	NA	Exclude	Include	Yes		23-Jun-2019 7:00 PM			
23-Jun-2019	7:40:00 PM	6:40:00 PM	19	Sun 23-Jun-2019 19:00	Day-time	72.9	27	Clear	Exclude	Include	Yes		23-Jun-2019 8:00 PM			
23-Jun-2019	7:55:00 PM	6:55:00 PM	19	Sun 23-Jun-2019 19:00	Day-time	73.4	27	Clear	Exclude	Include	Yes		23-Jun-2019 8:00 PM			
23-Jun-2019	8:10:00 PM	7:10:00 PM	19	Sun 23-Jun-2019 19:00	Day-time	73.9	27	Clear	Exclude	Include	Yes		23-Jun-2019 8:00 PM			
23-Jun-2019	8:25:00 PM	7:25:00 PM	19	Sun 23-Jun-2019 19:00	Evening	73.1	27	Clear	Exclude	Include	Yes		23-Jun-2019 8:00 PM			
23-Jun-2019	8:40:00 PM	7:40:00 PM	20	Sun 23-Jun-2019 20:00	Evening	72.4	22	NA	Exclude	Include	Yes		23-Jun-2019 9:00 PM			
23-Jun-2019	8:55:00 PM	7:55:00 PM	20	Sun 23-Jun-2019 20:00	Evening	73.4	22	NA	Exclude	Include	Yes		23-Jun-2019 9:00 PM			
23-Jun-2019	9:10:00 PM	8:10:00 PM	20	Sun 23-Jun-2019 20:00	Evening	73.7	22	NA	Exclude	Include	Yes		23-Jun-2019 9:00 PM			
23-Jun-2019	9:25:00 PM	8:25:00 PM	20	Sun 23-Jun-2019 20:00	Evening	73.2	22	NA	Exclude	Include	Yes		23-Jun-2019 9:00 PM			
23-Jun-2019	9:40:00 PM	8:40:00 PM	21	Sun 23-Jun-2019 21:00	Evening	72.4	22	NA	Exclude	Include	Yes		23-Jun-2019 10:00 PM			
23-Jun-2019	9:55:00 PM	8:55:00 PM	21	Sun 23-Jun-2019 21:00	Evening	72.3	22	NA	Exclude	Include	Yes		23-Jun-2019 10:00 PM			
23-Jun-2019	10:10:00 PM	9:10:00 PM	21	Sun 23-Jun-2019 21:00	Evening	71.9	22	NA	Exclude	Include	Yes		23-Jun-2019 10:00 PM			
23-Jun-2019	10:25:00 PM	9:25:00 PM	21	Sun 23-Jun-2019 21:00	Evening	72.0	22	NA	Exclude	Include	Yes		23-Jun-2019 10:00 PM			
23-Jun-2019	10:40:00 PM	9:40:00 PM	22	Sun 23-Jun-2019 22:00	Evening	71.6	17	Mainly Clear	Include	Include	No		23-Jun-2019 11:00 PM			
23-Jun-2019	10:55:00 PM	9:55:00 PM	22	Sun 23-Jun-2019 22:00	Evening	71.9	17	Mainly Clear	Include	Include	No		23-Jun-2019 11:00 PM			
23-Jun-2019	11:10:00 PM	10:10:00 PM	22	Sun 23-Jun-2019 22:00	Evening	78.8	17	Mainly Clear	Include	Include	No		23-Jun-2019 11:00 PM			
23-Jun-2019	11:25:00 PM	10:25:00 PM	22	Sun 23-Jun-2019 22:00	Evening	71.5	17	Mainly Clear	Include	Include	No		23-Jun-2019 11:00 PM			
23-Jun-2019	11:40:00 PM	10:40:00 PM	23	Sun 23-Jun-2019 23:00	Evening	71.3	16	NA	Include	Include	No	71.3	24-Jun-2019 12:00 AM			
23-Jun-2019	11:55:00 PM	10:55:00 PM	23	Sun 23-Jun-2019 23:00	Evening	69.5	16	NA	Include	Include	No	69.5	24-Jun-2019 12:00 AM			
24-Jun-2019	12:10:00 AM	11:10:00 PM	23	Sun 23-Jun-2019 23:00	Evening	69.0	16	NA	Include	Include	No	69.0	24-Jun-2019 12:00 AM		70	
24-Jun-2019	12:25:00 AM	11:25:00 PM	23	Sun 23-Jun-2019 23:00	Night-time	69.4	16	NA	Include	Include	No	69.4	24-Jun-2019 12:00 AM			
24-Jun-2019	12:40:00 AM	11:40:00 PM	24	Mon 24-Jun-2019 0:00	Night-time	66.9	7	NA	Include	Include	No	66.9	24-Jun-2019 1:00 AM			
24-Jun-2019	12:55:00 AM	11:55:00 PM	24	Mon 24-Jun-2019 0:00	Night-time	69.1	7	NA	Include	Include	No	69.1	24-Jun-2019 1:00 AM			
24-Jun-2019	1:10:00 AM	12:10:00 AM	0	Mon 24-Jun-2019 0:00	Night-time	67.5	7	NA	Include	Include	No	67.5	24-Jun-2019 1:00 AM			68
24-Jun-2019	1:25:00 AM	12:25:00 AM	0	Mon 24-Jun-2019 0:00	Night-time	67.9	7	NA	Include	Include	No	67.9	24-Jun-2019 1:00 AM			68
24-Jun-2019	1:40:00 AM	12:40:00 AM	1	Mon 24-Jun-2019 1:00	Night-time	66.2	17	Clear	Include	Include	No	66.2	24-Jun-2019 2:00 AM			68
24-Jun-2019	1:55:00 AM	12:55:00 AM	1	Mon 24-Jun-2019 1:00	Night-time	65.3	17	Clear	Include	Include	No	65.3	24-Jun-2019 2:00 AM			67
24-Jun-2019	2:10:00 AM	1:10:00 AM	1	Mon 24-Jun-2019 1:00	Night-time	68.3	17	Clear	Include	Include	No	68.3	24-Jun-2019 2:00 AM			67
24-Jun-2019	2:25:00 AM	1:25:00 AM	1	Mon 24-Jun-2019 1:00	Night-time	66.1	17	Clear	Include	Include	No	66.1	24-Jun-2019 2:00 AM			67
24-Jun-2019	2:40:00 AM	1:40:00 AM	2	Mon 24-Jun-2019 2:00	Night-time	65.8	4	NA	Include	Include	No	65.8	24-Jun-2019 3:00 AM			67
24-Jun-2019	2:55:00 AM	1:55:00 AM	2	Mon 24-Jun-2019 2:00	Night-time	64.4	4	NA	Include	Include	No	64.4	24-Jun-2019 3:00 AM			66
24-Jun-2019	3:10:00 AM	2:10:00 AM	2	Mon 24-Jun-2019 2:00	Night-time	65.7	4	NA	Include	Include	No	65.7	24-Jun-2019 3:00 AM			66
24-Jun-2019	3:25:00 AM	2:25:00 AM	2	Mon 24-Jun-2019 2:00	Night-time	68.1	4	NA	Include	Include	No	68.1	24-Jun-2019 3:00 AM			66

Date	Interval Ending (DST)	Interval Ending (LST)	For Weather Lookup		Time Period (DST)	Sound Pressure Levels	Enviro Canada Weather Station 1 Name: Toronto Itnl A				Exclude Data due to Weather	Valid Measurements of Sound Pressure Levels	Plot Time	Rolling 1 hr Leq		
			Round +Hour (LST)	Date/Time (LST)		L_{EQ} (dBA)	Wind Speed (kph)	Weather Conditions	Wind Exclusion > 20kph	Condition Exclusion		$L_{EQ\text{-}15min}$ (dBA)	Date/Time (DST)	DAY	EVENING	NIGHT
24-Jun-2019	3:40:00 AM	2:40:00 AM	3	Mon 24-Jun-2019 3:00	Night-time	64.3	13	NA	Include	Include	No	64.3	24-Jun-2019 4:00 AM			66
24-Jun-2019	3:55:00 AM	2:55:00 AM	3	Mon 24-Jun-2019 3:00	Night-time	67.2	13	NA	Include	Include	No	67.2	24-Jun-2019 4:00 AM			67
24-Jun-2019	4:10:00 AM	3:10:00 AM	3	Mon 24-Jun-2019 3:00	Night-time	68.0	13	NA	Include	Include	No	68.0	24-Jun-2019 4:00 AM			67
24-Jun-2019	4:25:00 AM	3:25:00 AM	3	Mon 24-Jun-2019 3:00	Night-time	67.7	13	NA	Include	Include	No	67.7	24-Jun-2019 4:00 AM			67
24-Jun-2019	4:40:00 AM	3:40:00 AM	4	Mon 24-Jun-2019 4:00	Night-time	67.8	17	Mainly Clear	Include	Include	No	67.8	24-Jun-2019 5:00 AM			68
24-Jun-2019	4:55:00 AM	3:55:00 AM	4	Mon 24-Jun-2019 4:00	Night-time	69.0	17	Mainly Clear	Include	Include	No	69.0	24-Jun-2019 5:00 AM			68
24-Jun-2019	5:10:00 AM	4:10:00 AM	4	Mon 24-Jun-2019 4:00	Night-time	68.9	17	Mainly Clear	Include	Include	No	68.9	24-Jun-2019 5:00 AM			68
24-Jun-2019	5:25:00 AM	4:25:00 AM	4	Mon 24-Jun-2019 4:00	Night-time	70.8	17	Mainly Clear	Include	Include	No	70.8	24-Jun-2019 5:00 AM			69
24-Jun-2019	5:40:00 AM	4:40:00 AM	5	Mon 24-Jun-2019 5:00	Night-time	72.6	19	NA	Include	Include	No	72.6	24-Jun-2019 6:00 AM			71
24-Jun-2019	5:55:00 AM	4:55:00 AM	5	Mon 24-Jun-2019 5:00	Night-time	73.3	19	NA	Include	Include	No	73.3	24-Jun-2019 6:00 AM			72
24-Jun-2019	6:10:00 AM	5:10:00 AM	5	Mon 24-Jun-2019 5:00	Night-time	73.0	19	NA	Include	Include	No	73.0	24-Jun-2019 6:00 AM			73
24-Jun-2019	6:25:00 AM	5:25:00 AM	5	Mon 24-Jun-2019 5:00	Night-time	74.1	19	NA	Include	Include	No	74.1	24-Jun-2019 6:00 AM			73
24-Jun-2019	6:40:00 AM	5:40:00 AM	6	Mon 24-Jun-2019 6:00	Night-time	75.8	8	NA	Include	Include	No	75.8	24-Jun-2019 7:00 AM			74
24-Jun-2019	6:55:00 AM	5:55:00 AM	6	Mon 24-Jun-2019 6:00	Night-time	76.3	8	NA	Include	Include	No	76.3	24-Jun-2019 7:00 AM			75
24-Jun-2019	7:10:00 AM	6:10:00 AM	6	Mon 24-Jun-2019 6:00	Night-time	75.1	8	NA	Include	Include	No	75.1	24-Jun-2019 7:00 AM			75
24-Jun-2019	7:25:00 AM	6:25:00 AM	6	Mon 24-Jun-2019 6:00	Night-time	76.3	8	NA	Include	Include	No	76.3	24-Jun-2019 7:00 AM			76
24-Jun-2019	7:40:00 AM	6:40:00 AM	7	Mon 24-Jun-2019 7:00	Night-time	75.3	10	Cloudy	Include	Include	No	75.3	24-Jun-2019 8:00 AM			76
24-Jun-2019	7:55:00 AM	6:55:00 AM	7	Mon 24-Jun-2019 7:00	Night-time	75.7	10	Cloudy	Include	Include	No	75.7	24-Jun-2019 8:00 AM			76
24-Jun-2019	8:10:00 AM	7:10:00 AM	7	Mon 24-Jun-2019 7:00	Night-time	75.8	10	Cloudy	Include	Include	No	75.8	24-Jun-2019 8:00 AM			76
24-Jun-2019	8:25:00 AM	7:25:00 AM	7	Mon 24-Jun-2019 7:00	Day-time	75.9	10	Cloudy	Include	Include	No	75.9	24-Jun-2019 8:00 AM			
24-Jun-2019	8:40:00 AM	7:40:00 AM	8	Mon 24-Jun-2019 8:00	Day-time	75.7	16	NA	Include	Include	No	75.7	24-Jun-2019 9:00 AM			
24-Jun-2019	8:55:00 AM	7:55:00 AM	8	Mon 24-Jun-2019 8:00	Day-time	75.9	16	NA	Include	Include	No	75.9	24-Jun-2019 9:00 AM			
24-Jun-2019	9:10:00 AM	8:10:00 AM	8	Mon 24-Jun-2019 8:00	Day-time	75.8	16	NA	Include	Include	No	75.8	24-Jun-2019 9:00 AM	76		
24-Jun-2019	9:25:00 AM	8:25:00 AM	8	Mon 24-Jun-2019 8:00	Day-time	75.1	16	NA	Include	Include	No	75.1	24-Jun-2019 9:00 AM	76		
24-Jun-2019	9:40:00 AM	8:40:00 AM	9	Mon 24-Jun-2019 9:00	Day-time	74.5	14	NA	Include	Include	No	74.5	24-Jun-2019 10:00 AM	75		
24-Jun-2019	9:55:00 AM	8:55:00 AM	9	Mon 24-Jun-2019 9:00	Day-time	74.4	14	NA	Include	Include	No	74.4	24-Jun-2019 10:00 AM	75		
24-Jun-2019	10:10:00 AM	9:10:00 AM	9	Mon 24-Jun-2019 9:00	Day-time	74.7	14	NA	Include	Include	No	74.7	24-Jun-2019 10:00 AM	75		
24-Jun-2019	10:25:00 AM	9:25:00 AM	9	Mon 24-Jun-2019 9:00	Day-time	74.5	14	NA	Include	Include	No	74.5	24-Jun-2019 10:00 AM	75		
24-Jun-2019	10:40:00 AM	9:40:00 AM	10	Mon 24-Jun-2019 10:00	Day-time	74.2	17	Cloudy	Include	Include	No		24-Jun-2019 11:00 AM			
24-Jun-2019	10:55:00 AM	9:55:00 AM	10	Mon 24-Jun-2019 10:00	Day-time	73.8	17	Cloudy	Include	Include	No		24-Jun-2019 11:00 AM			
24-Jun-2019	11:10:00 AM	10:10:00 AM	10	Mon 24-Jun-2019 10:00	Day-time	74.4	17	Cloudy	Include	Include	No		24-Jun-2019 11:00 AM			
24-Jun-2019	11:25:00 AM	10:25:00 AM	10	Mon 24-Jun-2019 10:00	Day-time	74.3	17	Cloudy	Include	Include	No		24-Jun-2019 11:00 AM			
24-Jun-2019	11:55:00 AM	10:55:00 AM	11	Mon 24-Jun-2019 11:00	Day-time	75.4	26	NA	Exclude	Include	Yes		24-Jun-2019 12:00 PM			
24-Jun-2019	12:10:00 PM	11:10:00 AM	11	Mon 24-Jun-2019 11:00	Day-time	75.2	26	NA	Exclude	Include	Yes		24-Jun-2019 12:00 PM			
24-Jun-2019	12:25:00 PM	11:25:00 AM	11	Mon 24-Jun-2019 11:00	Day-time	75.1	26	NA	Exclude	Include	Yes		24-Jun-2019 12:00 PM			
24-Jun-2019	12:40:00 PM	11:40:00 AM	12	Mon 24-Jun-2019 12:00	Day-time	74.3	11	NA	Include	Include	No		24-Jun-2019 1:00 PM			
24-Jun-2019	12:55:00 PM	11:55:00 AM	12	Mon 24-Jun-2019 12:00	Day-time	75.1	11	NA	Include	Include	No		24-Jun-2019 1:00 PM			
24-Jun-2019	1:10:00 PM	12:10:00 PM	12	Mon 24-Jun-2019 12:00	Day-time	74.4	11	NA	Include	Include	No		24-Jun-2019 1:00 PM			
24-Jun-2019	1:25:00 PM	12:25:00 PM	12	Mon 24-Jun-2019 12:00	Day-time	74.8	11	NA	Include	Include	No		24-Jun-2019 1:00 PM			
24-Jun-2019	1:40:00 PM	12:40:00 PM	13	Mon 24-Jun-2019 13:00	Day-time	74.6	18	Mostly Cloudy	Include	Include	No	74.6	24-Jun-2019 2:00 PM			
24-Jun-2019	1:55:00 PM	12:55:00 PM	13	Mon 24-Jun-2019 13:00	Day-time	74.9	18	Mostly Cloudy	Include	Include	No	74.9	24-Jun-2019 2:00 PM			
24-Jun-2019	2:10:00 PM	1:10:00 PM	13	Mon 24-Jun-2019 13:00	Day-time	74.6	18	Mostly Cloudy	Include	Include	No	74.6	24-Jun-2019 2:00 PM			
24-Jun-2019	2:25:00 PM	1:25:00 PM	13	Mon 24-Jun-2019 13:00	Day-time	74.6	18	Mostly Cloudy	Include	Include	No	74.6	24-Jun-2019 2:00 PM	75		
24-Jun-2019	2:40:00 PM	1:40:00 PM	14	Mon 24-Jun-2019 14:00	Day-time	74.7	15	NA	Include	Include	No	74.7	24-Jun-2019 3:00 PM	75		
24-Jun-2019	2:55:00 PM	1:55:00 PM	14	Mon 24-Jun-2019 14:00	Day-time	74.6	15	NA	Include	Include	No	74.6	24-Jun-2019 3:00 PM	75		
24-Jun-2019	3:10:00 PM	2:10:00 PM	14	Mon 24-Jun-2019 14:00	Day-time	75.2	15	NA	Include	Include	No	75.2	24-Jun-2019 3:00 PM	75		
24-Jun-2019	3:25:00 PM	2:25:00 PM	14	Mon 24-Jun-2019 14:00	Day-time	74.8	15	NA	Include	Include	No	74.8	24-Jun-2019 3:00 PM	75		
24-Jun-2019	3:40:00 PM	2:40:00 PM	15	Mon 24-Jun-2019 15:00	Day-time	75.3	15	NA	Include	Include	No	75.3	24-Jun-2019 4:00 PM	75		
24-Jun-2019	3:55:00 PM	2:55:00 PM	15	Mon 24-Jun-2019 15:00	Day-time	75.4	15	NA	Include	Include	No	75.4	24-Jun-2019 4:00 PM	75		
24-Jun-2019	4:10:00 PM	3:10:00 PM	15	Mon 24-Jun-2019 15:00	Day-time	75.1	15	NA	Include	Include	No	75.1	24-Jun-2019 4:00 PM	75		
24-Jun-2019	4:25:00 PM	3:25:00 PM	15	Mon 24-Jun-2019 15:00	Day-time	75.7	15	NA	Include	Include	No	75.7	24-Jun-2019 4:00 PM	75		
24-Jun-2019	4:40:00 PM	3:40:00 PM	16	Mon 24-Jun-2019 16:00	Day-time	75.8	15	Mostly Cloudy	Include	Include	No	75.8	24-Jun-2019 5:00 PM	76		
24-Jun-2019	4:55:00 PM	3:55:00 PM	16	Mon 24-Jun-2019 16:00	Day-time	75.4	15	Mostly Cloudy	Include	Include	No	75.4	24-Jun-2019 5:00 PM	76		
24-Jun-2019	5:10:00 PM	4:10:00 PM	16	Mon 24-Jun-2019 16:00	Day-time	75.5	15	Mostly Cloudy	Include	Include	No	75.5	24-Jun-2019 5:00 PM	76		
24-Jun-2019	5:25:00 PM	4:25:00 PM	16	Mon 24-Jun-2019 16:00	Day-time	76.1	15	Mostly Cloudy	Include	Include	No	76.1	24-Jun-2019 5:00 PM	76		
24-Jun-2019	5:40:00 PM	4:40:00 PM	17	Mon 24-Jun-2019 17:00	Day-time	75.7	19	NA	Include	Include	No		24-Jun-2019 6:00 PM			
24-Jun-2019	5:55:00 PM	4:55:00 PM	17	Mon 24-Jun-2019 17:00	Day-time	75.7	19	NA	Include	Include	No		24-Jun-2019 6:00 PM			
24-Jun-2019	6:10:00 PM	5:10:00 PM	17	Mon 24-Jun-2019 17:00	Day-time	74.9	19	NA	Include	Include	No		24-Jun-2019 6:00 PM			
24-Jun-2019	6:25:00 PM	5:25:00 PM	17	Mon 24-Jun-2019 17:00	Day-time	74.2	19	NA	Include	Include	No		24-Jun-2019 6:00 PM			
24-Jun-2019	6:40:00 PM	5:40:00 PM	18	Mon 24-Jun-2019 18:00	Day-time	74.5	27	NA	Exclude	Include	Yes		24-Jun-2019 7:00 PM			
24-Jun-2019	6:55:00 PM	5:55:00 PM	18	Mon 24-Jun-2019 18:00	Day-time	74.3	27	NA	Exclude	Include	Yes		24-Jun-2019 7:00 PM			
24-Jun-2019	7:10:00 PM	6:10:00 PM	18	Mon 24-Jun-2019 18:00	Day-time	73.8	27	NA	Exclude	Include	Yes		24-Jun-2019 7:00 PM			
24-Jun-2019	7:25:00 PM	6:25:00 PM	18	Mon 24-Jun-2019 18:00	Day-time	73.4	27	NA	Exclude	Include	Yes		24-Jun-2019 7:00 PM			
24-Jun-2019	7:40:00 PM	6:40:00 PM	19	Mon 24-Jun-2019 19:00	Day-time	73.1	12	Mostly Cloudy	Include	Include	No		24-Jun-2019 8:00 PM			
24-Jun-2019	7:55:00 PM	6:55:00 PM	19	Mon 24-Jun-2019 19:00	Day-time	73.4	12	Mostly Cloudy	Include	Include	No		24-Jun-2019 8:00 PM			
24-Jun-2019	8:10:00 PM	7:10:00 PM	19	Mon 24-Jun-2019 19:00	Day-time	72.3	12	Mostly Cloudy	Include	Include	No		24-Jun-2019 8:00 PM			
24-Jun-2019	8:25:00 PM	7:25:00 PM	19	Mon 24-Jun-2019 19:00	Evening	72.4	12	Mostly Cloudy	Include	Include	No		24-Jun-2019 8:00 PM			
24-Jun-2019	8:40:00 PM	7:40:00 PM	20	Mon 24-Jun-2019 20:00	Evening	72.8	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 9:00 PM			
24-Jun-2019	8:55:00 PM	7:55:00 PM	20	Mon 24-Jun-2019 20:00	Evening	72.2	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 9:00 PM			
24-Jun-2019	9:10:00 PM	8:10:00 PM	20	Mon 24-Jun-2019 20:00	Evening	72.0	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 9:00 PM			
24-Jun-2019	9:25:00 PM	8:25:00 PM	20	Mon 24-Jun-2019 20:00	Evening	71.4	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 9:00 PM			
24-Jun-2019	9:40:00 PM	8:40:00 PM	21	Mon 24-Jun-2019 21:00	Evening	70.7	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 10:00 PM			
24-Jun-2019	9:55:00 PM	8:55:00 PM	21	Mon 24-Jun-2019 21:00	Evening	71.7	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 10:00 PM			
24-Jun-2019	10:10:00 PM	9:10:00 PM	21	Mon 24-Jun-2019 21:00	Evening	71.3	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 10:00 PM			
24-Jun-2019	10:25:00 PM	9:25:00 PM	21	Mon 24-Jun-2019 21:00	Evening	71.5	16	Rain Showers	Include	Exclude	Yes		24-Jun-2019 10:00 PM			
24-Jun-2019	10:40:00 PM	9:40:00 PM	22	Mon 24-Jun-2019 22:00	Evening	71.4	20	Rain Showers	Include	Exclude	Yes		24-Jun-2019 11:00 PM			
24-Jun-2019	10:55:00 PM	9:55:00 PM	22	Mon 24-Jun-2019 22:00	Evening	70.9	20	Rain Showers	Include	Exclude	Yes		24-Jun-2019 11:00 PM			
24-Jun-2019	11:10:00 PM	10:10:00 PM	22	Mon 24-Jun-2019 22:00	Evening	72.6	20	Rain Showers	Include	Exclude	Yes		24-Jun-2019 11:00 PM			
24-Jun-2019	11:25:00 PM	10:25:00 PM	22	Mon 24-Jun-2019 22:00	Evening	72.0	20	Rain Showers	Include	Exclude	Yes		24-Jun-2019 11:00 PM			
24-Jun-2019	11:40:00 PM	10:40:00 PM	23	Mon 24-Jun-2019 23:00	Evening	71.8	5	oderate Rain Showers,Fo	Include	Exclude	Yes		25-Jun-2019 12:00 AM			
24-Jun-2019	11:55:00 PM	10:55:00 PM	23	Mon 24-Jun-2019 23:00	Evening	70.5	5	oderate Rain Showers,Fo	Include	Exclude	Yes		25-Jun-2019 12:00 AM			
25-Jun-2019	12:10:00 AM	11:10:00 PM	23	Mon 24-Jun-2019 23:00	Evening	70.4	5	oderate Rain Showers,Fo	Include	Exclude	Yes		25-Jun-2019 12:00 AM			
25-Jun-2019	12:25:00 AM	11:25:00 PM	23	Mon 24-Jun-2019 23:00	Night-time	72.9	5	oderate Rain Showers,Fo	Include	Exclude	Yes		25-Jun-2019 12:00 AM			
25-Jun-2019	12:40:00 AM	11:40:00 PM	24	Tue 25-Jun-2019 0:00	Night-time	71.4	18	eavy Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 1:00 AM			
25-Jun-2019	12:55:00 AM	11:55:00 PM	24	Tue 25-Jun-2019 0:00	Night-time	70.1	18	eavy Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 1:00 AM			
25-Jun-2019	1:10:00 AM	12:10:00 AM	0	Tue 25-Jun-2019 0:00	Night-time	69.7	18	eavy Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 1:00 AM			
25-Jun-2019	1:25:00 AM	12:25:00 AM	0	Tue 25-Jun-2019 0:00	Night-time	69.0	18	eavy Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 1:00 AM			
25-Jun-2019	1:40:00 AM	12:40:00 AM	1	Tue 25-Jun-2019 1:00	Night-time	68.6	18	Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 2:00 AM			
25-Jun-2019	1:55:00 AM	12:55:00 AM	1	Tue 25-Jun-2019 1:00	Night-time	67.3	18	Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 2:00 AM			
25-Jun-2019	2:10:00 AM	1:10:00 AM	1	Tue 25-Jun-2019 1:00	Night-time	67.3	18	Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 2:00 AM			
25-Jun-2019	2:25:00 AM	1:25:00 AM	1	Tue 25-Jun-2019 1:00	Night-time	66.7	18	Rain Showers,Fog	Include	Exclude	Yes		25-Jun-2019 2:00 AM			
25-Jun-2019	2:40:00 AM	1:40:00 AM	2	Tue 25-Jun-2019 2:00	Night-time	66.4	17	Fog	Include	Include	No		25-Jun-2019 3:00 AM			
25-Jun-2019	2:55:00 AM	1:55:00 AM	2	Tue 25-Jun-2019 2:00	Night-time	64.3	17	Fog	Include	Include	No		25-Jun-2019 3:00 AM			
25-Jun-2019	3:10:00 AM	2:10:00 AM	2	Tue 25-Jun-2019 2:00	Night-time	64.2	17	Fog	Include	Include	No		25-Jun-2019 3:00 AM			
25-Jun-2019	3:25:00 AM	2:25:00 AM	2	Tue 25-Jun-2019 2:00	Night-time	67.1	17	Fog	Include	Include	No		25-Jun-2019 3:00 AM			
25-Jun-2019	3:40:00 AM	2:40:00 AM	3	Tue 25-Jun-2019 3:00	Night-time	63.7	17	NA	Include	Include	No	63.7	25-Jun-2019 4:00 AM			
25-Jun-2019	3:55:00 AM	2:55:00 AM	3	Tue 25-Jun-2019 3:00	Night-time	69.0	17	NA	Include	Include	No	69.0	25-Jun-2019 4:00 AM			
25-Jun-2019	4:10:00 AM	3:10:00 AM	3	Tue 25-Jun-2019 3:00	Night-time	67.2	17	NA	Include	Include	No	67.2	25-Jun-2019 4:00 AM			
25-Jun-2019	4:25:00 AM	3:25:00 AM	3	Tue 25-Jun-2019 3:00	Night-time	68.0	17	NA	Include	Include	No	68.0	25-Jun-2019 4:00 AM			67
25-Jun-2019	4:40:00 AM	3:40:00 AM	4	Tue 25-Jun-2019 4:00	Night-time	68.4	20	Mainly Clear	Include	Include	No	68.4	25-Jun-2019 5:00 AM			68
25-Jun-2019	4:55:00 AM	3:55:00 AM	4	Tue 25-Jun-2019 4:00	Night-time	68.9	20	Mainly Clear	Include	Include	No	68.9	25-Jun-2019 5:00 AM			68
25-Jun-2019	5:10:00 AM	4:10:00 AM	4	Tue 25-Jun-2019 4:00	Night-time	70.3	20	Mainly Clear	Include	Include	No	70.3	25-Jun-2019 5:00 AM			69
25-Jun-2019	5:25:00 AM	4:25:00 AM	4	Tue 25-Jun-2019 4:00	Night-time	71.6	20	Mainly Clear	Include	Include	No	71.6	25-Jun-2019 5:00 AM			70
25-Jun-2019	5:40:00 AM	4:40:00 AM	5	Tue 25-Jun-2019 5:00	Night-time	72.8	19	Fog	Include	Include	No	72.8	25-Jun-2019 6:00 AM			71
25-Jun-2019	5:55:00 AM	4:55:00 AM	5	Tue 25-Jun-2019 5:00	Night-time	73.4	19	Fog	Include	Include	No	73.4	25-Jun-2019 6:00 AM			72
25-Jun-2019	6:10:00 AM	5:10:00 AM	5	Tue 25-Jun-2019 5:00	Night-time	73.7	19	Fog	Include	Include	No	73.7	25-Jun-2019 6:00 AM			73
25-Jun-2019	6:25:00 AM	5:25:00 AM	5	Tue 25-Jun-2019 5:00	Night-time	75.2	19	Fog	Include	Include	No	75.2	25-Jun-2019 6:00 AM			74
25-Jun-2019	6:40:00 AM	5:40:00 AM	6	Tue 25-Jun-2019 6:00	Night-time	75.9	17	NA	Include	Include	No	75.9	25-Jun-2019 7:00 AM			75
25-Jun-2019	6:55:00 AM	5:55:00 AM	6	Tue 25-Jun-2019 6:00	Night-time	77.6	17	NA	Include	Include	No	77.6	25-Jun-2019 7:00 AM			76
25-Jun-2019	7:10:00 AM	6:10:00 AM	6	Tue 25-Jun-2019 6:00	Night-time	76.7	17	NA	Include	Include	No	76.7	25-Jun-2019 7:00 AM			76
25-Jun-2019	7:25:00 AM	6:25:00 AM	6	Tue 25-Jun-2019 6:00	Night-time	76.7	17	NA	Include	Include	No	76.7	25-Jun-2019 7:00 AM			77
25-Jun-2019	7:40:00 AM	6:40:00 AM	7	Tue 25-Jun-2019 7:00	Night-time	76.3	12	Clear	Include	Include	No		25-Jun-2019 8:00 AM			
25-Jun-2019	7:55:00 AM	6:55:00 AM	7	Tue 25-Jun-2019 7:00	Night-time	76.8	12	Clear	Include	Include	No		25-Jun-2019 8:00 AM			
25-Jun-2019	8:10:00 AM	7:10:00 AM	7	Tue 25-Jun-2019 7:00	Night-time	76.8	12	Clear	Include	Include	No		25-Jun-2019 8:00 AM			
25-Jun-2019	8:25:00 AM	7:25:00 AM	7	Tue 25-Jun-2019 7:00	Day-time	76.8	12	Clear	Include	Include	No		25-Jun-2019 8:00 AM			
25-Jun-2019	8:40:00 AM	7:40:00 AM	8	Tue 25-Jun-2019 8:00	Day-time	76.5	22	NA	Exclude	Include	Yes		25-Jun-2019 9:00 AM			
25-Jun-2019	8:55:00 AM	7:55:00 AM	8	Tue 25-Jun-2019 8:00	Day-time	76.6	22	NA	Exclude	Include	Yes		25-Jun-2019 9:00 AM			
25-Jun-2019	9:10:00 AM	8:10:00 AM	8	Tue 25-Jun-2019 8:00	Day-time	76.0	22	NA	Exclude	Include	Yes		25-Jun-2019 9:00 AM			
25-Jun-2019	9:25:00 AM	8:25:00 AM	8	Tue 25-Jun-2019 8:00	Day-time	75.7	22	NA	Exclude	Include	Yes		25-Jun-2019 9:00 AM			
25-Jun-2019	9:40:00 AM	8:40:00 AM	9	Tue 25-Jun-2019 9:00	Day-time	75.1	26	NA	Exclude	Include	Yes		25-Jun-2019 10:00 AM			
25-Jun-2019	9:55:00 AM	8:55:00 AM	9	Tue 25-Jun-2019 9:00	Day-time	75.7	26	NA	Exclude	Include	Yes		25-Jun-2019 10:00 AM			
25-Jun-2019	10:10:00 AM	9:10:00 AM	9	Tue 25-Jun-2019 9:00	Day-time	74.8	26	NA	Exclude	Include	Yes		25-Jun-2019 10:00 AM			
25-Jun-2019	10:25:00 AM	9:25:00 AM	9	Tue 25-Jun-2019 9:00	Day-time	74.8	26	NA	Exclude	Include	Yes		25-Jun-2019 10:00 AM			
25-Jun-2019	10:40:00 AM	9:40:00 AM	10	Tue 25-Jun-2019 10:00	Day-time	75.5	25	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 11:00 AM			
25-Jun-2019	10:55:00 AM	9:55:00 AM	10	Tue 25-Jun-2019 10:00	Day-time	75.7	25	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 11:00 AM			
25-Jun-2019	11:10:00 AM	10:10:00 AM	10	Tue 25-Jun-2019 10:00	Day-time	74.7	25	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 11:00 AM			
25-Jun-2019	11:25:00 AM	10:25:00 AM	10	Tue 25-Jun-2019 10:00	Day-time	75.3	25	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 11:00 AM			
25-Jun-2019	11:55:00 AM	10:55:00 AM	11	Tue 25-Jun-2019 11:00	Day-time	74.9	10	NA	Include	Include	No		25-Jun-2019 12:00 PM			
25-Jun-2019	12:10:00 PM	11:10:00 AM	11	Tue 25-Jun-2019 11:00	Day-time	75.3	10	NA	Include	Include	No		25-Jun-2019 12:00 PM			
25-Jun-2019	12:25:00 PM	11:25:00 AM	11	Tue 25-Jun-2019 11:00	Day-time	75.5	10	NA	Include	Include	No		25-Jun-2019 12:00 PM			
25-Jun-2019	12:40:00 PM	11:40:00 AM	12	Tue 25-Jun-2019 12:00	Day-time	75.5	34	NA	Exclude	Include	Yes		25-Jun-2019 1:00 PM			
25-Jun-2019	12:55:00 PM	11:55:00 AM	12	Tue 25-Jun-2019 12:00	Day-time	75.6	34	NA	Exclude	Include	Yes		25-Jun-2019 1:00 PM			
25-Jun-2019	1:10:00 PM	12:10:00 PM	12	Tue 25-Jun-2019 12:00	Day-time	75.0	34	NA	Exclude	Include	Yes		25-Jun-2019 1:00 PM			

Date	Interval Ending (DST)	Interval Ending (LST)	For Weather Lookup		Time Period (DST)	Sound Pressure Levels	Enviro Canada Weather Station 1 Name: Toronto Itnl A				Exclude Data due to Weather	Valid Measurements of Sound Pressure Levels	Plot Time	Rolling 1 hr Leq		
			Round +Hour (LST)	Date/Time (LST)		L_{EQ} (dBA)	Wind Speed (kph)	Weather Conditions	Wind Exclusion > 20kph	Condition Exclusion		$L_{EQ\text{-}15min}$ (dBA)	Date/Time (DST)	DAY	EVENING	NIGHT
25-Jun-2019	1:25:00 PM	12:25:00 PM	12	Tue 25-Jun-2019 12:00	Day-time	75.2	34	NA	Exclude	Include	Yes		25-Jun-2019 1:00 PM			
25-Jun-2019	1:40:00 PM	12:40:00 PM	13	Tue 25-Jun-2019 13:00	Day-time	75.1	32	Mainly Clear	Exclude	Include	Yes		25-Jun-2019 2:00 PM			
25-Jun-2019	1:55:00 PM	12:55:00 PM	13	Tue 25-Jun-2019 13:00	Day-time	75.6	32	Mainly Clear	Exclude	Include	Yes		25-Jun-2019 2:00 PM			
25-Jun-2019	2:10:00 PM	1:10:00 PM	13	Tue 25-Jun-2019 13:00	Day-time	75.7	32	Mainly Clear	Exclude	Include	Yes		25-Jun-2019 2:00 PM			
25-Jun-2019	2:25:00 PM	1:25:00 PM	13	Tue 25-Jun-2019 13:00	Day-time	75.6	32	Mainly Clear	Exclude	Include	Yes		25-Jun-2019 2:00 PM			
25-Jun-2019	2:40:00 PM	1:40:00 PM	14	Tue 25-Jun-2019 14:00	Day-time	76.5	25	NA	Exclude	Include	Yes		25-Jun-2019 3:00 PM			
25-Jun-2019	2:55:00 PM	1:55:00 PM	14	Tue 25-Jun-2019 14:00	Day-time	75.4	25	NA	Exclude	Include	Yes		25-Jun-2019 3:00 PM			
25-Jun-2019	3:10:00 PM	2:10:00 PM	14	Tue 25-Jun-2019 14:00	Day-time	75.7	25	NA	Exclude	Include	Yes		25-Jun-2019 3:00 PM			
25-Jun-2019	3:25:00 PM	2:25:00 PM	14	Tue 25-Jun-2019 14:00	Day-time	77.2	25	NA	Exclude	Include	Yes		25-Jun-2019 3:00 PM			
25-Jun-2019	3:40:00 PM	2:40:00 PM	15	Tue 25-Jun-2019 15:00	Day-time	75.9	17	NA	Include	Include	No		25-Jun-2019 4:00 PM			
25-Jun-2019	3:55:00 PM	2:55:00 PM	15	Tue 25-Jun-2019 15:00	Day-time	76.0	17	NA	Include	Include	No		25-Jun-2019 4:00 PM			
25-Jun-2019	4:10:00 PM	3:10:00 PM	15	Tue 25-Jun-2019 15:00	Day-time	75.9	17	NA	Include	Include	No		25-Jun-2019 4:00 PM			
25-Jun-2019	4:25:00 PM	3:25:00 PM	15	Tue 25-Jun-2019 15:00	Day-time	75.9	17	NA	Include	Include	No		25-Jun-2019 4:00 PM			
25-Jun-2019	4:40:00 PM	3:40:00 PM	16	Tue 25-Jun-2019 16:00	Day-time	76.3	26	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 5:00 PM			
25-Jun-2019	4:55:00 PM	3:55:00 PM	16	Tue 25-Jun-2019 16:00	Day-time	76.7	26	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 5:00 PM			
25-Jun-2019	5:10:00 PM	4:10:00 PM	16	Tue 25-Jun-2019 16:00	Day-time	76.0	26	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 5:00 PM			
25-Jun-2019	5:25:00 PM	4:25:00 PM	16	Tue 25-Jun-2019 16:00	Day-time	76.7	26	Mostly Cloudy	Exclude	Include	Yes		25-Jun-2019 5:00 PM			
25-Jun-2019	5:40:00 PM	4:40:00 PM	17	Tue 25-Jun-2019 17:00	Day-time	77.0	23	NA	Exclude	Include	Yes		25-Jun-2019 6:00 PM			
25-Jun-2019	5:55:00 PM	4:55:00 PM	17	Tue 25-Jun-2019 17:00	Day-time	76.2	23	NA	Exclude	Include	Yes		25-Jun-2019 6:00 PM			
25-Jun-2019	6:10:00 PM	5:10:00 PM	17	Tue 25-Jun-2019 17:00	Day-time	75.5	23	NA	Exclude	Include	Yes		25-Jun-2019 6:00 PM			
25-Jun-2019	6:25:00 PM	5:25:00 PM	17	Tue 25-Jun-2019 17:00	Day-time	75.3	23	NA	Exclude	Include	Yes		25-Jun-2019 6:00 PM			
25-Jun-2019	6:40:00 PM	5:40:00 PM	18	Tue 25-Jun-2019 18:00	Day-time	75.7	17	NA	Include	Include	No		25-Jun-2019 7:00 PM			
25-Jun-2019	6:55:00 PM	5:55:00 PM	18	Tue 25-Jun-2019 18:00	Day-time	75.3	17	NA	Include	Include	No		25-Jun-2019 7:00 PM			
25-Jun-2019	7:10:00 PM	6:10:00 PM	18	Tue 25-Jun-2019 18:00	Day-time	74.8	17	NA	Include	Include	No		25-Jun-2019 7:00 PM			
25-Jun-2019	7:25:00 PM	6:25:00 PM	18	Tue 25-Jun-2019 18:00	Day-time	74.5	17	NA	Include	Include	No		25-Jun-2019 7:00 PM			
25-Jun-2019	7:40:00 PM	6:40:00 PM	19	Tue 25-Jun-2019 19:00	Day-time	74.7	9	Mainly Clear	Include	Include	No	74.7	25-Jun-2019 8:00 PM			
25-Jun-2019	7:55:00 PM	6:55:00 PM	19	Tue 25-Jun-2019 19:00	Day-time	74.3	9	Mainly Clear	Include	Include	No	74.3	25-Jun-2019 8:00 PM			
25-Jun-2019	8:10:00 PM	7:10:00 PM	19	Tue 25-Jun-2019 19:00	Day-time	73.6	9	Mainly Clear	Include	Include	No	73.6	25-Jun-2019 8:00 PM			
25-Jun-2019	8:25:00 PM	7:25:00 PM	19	Tue 25-Jun-2019 19:00	Evening	74.2	9	Mainly Clear	Include	Include	No	74.2	25-Jun-2019 8:00 PM			
25-Jun-2019	8:40:00 PM	7:40:00 PM	20	Tue 25-Jun-2019 20:00	Evening	73.3	9	NA	Include	Include	No	73.3	25-Jun-2019 9:00 PM			
25-Jun-2019	8:55:00 PM	7:55:00 PM	20	Tue 25-Jun-2019 20:00	Evening	74.2	9	NA	Include	Include	No	74.2	25-Jun-2019 9:00 PM			
25-Jun-2019	9:10:00 PM	8:10:00 PM	20	Tue 25-Jun-2019 20:00	Evening	73.6	9	NA	Include	Include	No	73.6	25-Jun-2019 9:00 PM		74	
25-Jun-2019	9:25:00 PM	8:25:00 PM	20	Tue 25-Jun-2019 20:00	Evening	73.2	9	NA	Include	Include	No	73.2	25-Jun-2019 9:00 PM		74	
25-Jun-2019	9:40:00 PM	8:40:00 PM	21	Tue 25-Jun-2019 21:00	Evening	72.7	19	NA	Include	Include	No		25-Jun-2019 10:00 PM			
25-Jun-2019	9:55:00 PM	8:55:00 PM	21	Tue 25-Jun-2019 21:00	Evening	72.1	19	NA	Include	Include	No		25-Jun-2019 10:00 PM			
25-Jun-2019	10:10:00 PM	9:10:00 PM	21	Tue 25-Jun-2019 21:00	Evening	72.1	19	NA	Include	Include	No		25-Jun-2019 10:00 PM			
25-Jun-2019	10:25:00 PM	9:25:00 PM	21	Tue 25-Jun-2019 21:00	Evening	72.3	19	NA	Include	Include	No		25-Jun-2019 10:00 PM			
25-Jun-2019	10:40:00 PM	9:40:00 PM	22	Tue 25-Jun-2019 22:00	Evening	72.6	22	Clear	Exclude	Include	Yes		25-Jun-2019 11:00 PM			
25-Jun-2019	10:55:00 PM	9:55:00 PM	22	Tue 25-Jun-2019 22:00	Evening	73.6	22	Clear	Exclude	Include	Yes		25-Jun-2019 11:00 PM			
25-Jun-2019	11:10:00 PM	10:10:00 PM	22	Tue 25-Jun-2019 22:00	Evening	74.2	22	Clear	Exclude	Include	Yes		25-Jun-2019 11:00 PM			
25-Jun-2019	11:25:00 PM	10:25:00 PM	22	Tue 25-Jun-2019 22:00	Evening	72.6	22	Clear	Exclude	Include	Yes		25-Jun-2019 11:00 PM			
25-Jun-2019	11:40:00 PM	10:40:00 PM	23	Tue 25-Jun-2019 23:00	Evening	72.1	21	NA	Exclude	Include	Yes		26-Jun-2019 12:00 AM			
25-Jun-2019	11:55:00 PM	10:55:00 PM	23	Tue 25-Jun-2019 23:00	Evening	71.2	21	NA	Exclude	Include	Yes		26-Jun-2019 12:00 AM			
26-Jun-2019	12:10:00 AM	11:10:00 PM	23	Tue 25-Jun-2019 23:00	Evening	70.9	21	NA	Exclude	Include	Yes		26-Jun-2019 12:00 AM			
26-Jun-2019	12:25:00 AM	11:25:00 PM	23	Tue 25-Jun-2019 23:00	Night-time	71.1	21	NA	Exclude	Include	Yes		26-Jun-2019 12:00 AM			
26-Jun-2019	12:40:00 AM	11:40:00 PM	24	Wed 26-Jun-2019 0:00	Night-time	69.3	21	NA	Exclude	Include	Yes		26-Jun-2019 1:00 AM			
26-Jun-2019	12:55:00 AM	11:55:00 PM	24	Wed 26-Jun-2019 0:00	Night-time	69.4	21	NA	Exclude	Include	Yes		26-Jun-2019 1:00 AM			
26-Jun-2019	1:10:00 AM	12:10:00 AM	0	Wed 26-Jun-2019 0:00	Night-time	68.4	21	NA	Exclude	Include	Yes		26-Jun-2019 1:00 AM			
26-Jun-2019	1:25:00 AM	12:25:00 AM	0	Wed 26-Jun-2019 0:00	Night-time	67.6	21	NA	Exclude	Include	Yes		26-Jun-2019 1:00 AM			
26-Jun-2019	1:40:00 AM	12:40:00 AM	1	Wed 26-Jun-2019 1:00	Night-time	67.4	17	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 AM			
26-Jun-2019	1:55:00 AM	12:55:00 AM	1	Wed 26-Jun-2019 1:00	Night-time	66.1	17	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 AM			
26-Jun-2019	2:10:00 AM	1:10:00 AM	1	Wed 26-Jun-2019 1:00	Night-time	66.8	17	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 AM			
26-Jun-2019	2:25:00 AM	1:25:00 AM	1	Wed 26-Jun-2019 1:00	Night-time	67.3	17	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 AM			
26-Jun-2019	2:40:00 AM	1:40:00 AM	2	Wed 26-Jun-2019 2:00	Night-time	66.0	21	NA	Exclude	Include	Yes		26-Jun-2019 3:00 AM			
26-Jun-2019	2:55:00 AM	1:55:00 AM	2	Wed 26-Jun-2019 2:00	Night-time	67.4	21	NA	Exclude	Include	Yes		26-Jun-2019 3:00 AM			
26-Jun-2019	3:10:00 AM	2:10:00 AM	2	Wed 26-Jun-2019 2:00	Night-time	67.4	21	NA	Exclude	Include	Yes		26-Jun-2019 3:00 AM			
26-Jun-2019	3:25:00 AM	2:25:00 AM	2	Wed 26-Jun-2019 2:00	Night-time	67.8	21	NA	Exclude	Include	Yes		26-Jun-2019 3:00 AM			
26-Jun-2019	3:40:00 AM	2:40:00 AM	3	Wed 26-Jun-2019 3:00	Night-time	66.9	21	NA	Exclude	Include	Yes		26-Jun-2019 4:00 AM			
26-Jun-2019	3:55:00 AM	2:55:00 AM	3	Wed 26-Jun-2019 3:00	Night-time	67.9	21	NA	Exclude	Include	Yes		26-Jun-2019 4:00 AM			
26-Jun-2019	4:10:00 AM	3:10:00 AM	3	Wed 26-Jun-2019 3:00	Night-time	68.1	21	NA	Exclude	Include	Yes		26-Jun-2019 4:00 AM			
26-Jun-2019	4:25:00 AM	3:25:00 AM	3	Wed 26-Jun-2019 3:00	Night-time	67.9	21	NA	Exclude	Include	Yes		26-Jun-2019 4:00 AM			
26-Jun-2019	4:40:00 AM	3:40:00 AM	4	Wed 26-Jun-2019 4:00	Night-time	69.4	8	Rain Showers	Include	Exclude	Yes		26-Jun-2019 5:00 AM			
26-Jun-2019	4:55:00 AM	3:55:00 AM	4	Wed 26-Jun-2019 4:00	Night-time	70.2	8	Rain Showers	Include	Exclude	Yes		26-Jun-2019 5:00 AM			
26-Jun-2019	5:10:00 AM	4:10:00 AM	4	Wed 26-Jun-2019 4:00	Night-time	70.0	8	Rain Showers	Include	Exclude	Yes		26-Jun-2019 5:00 AM			
26-Jun-2019	5:25:00 AM	4:25:00 AM	4	Wed 26-Jun-2019 4:00	Night-time	71.2	8	Rain Showers	Include	Exclude	Yes		26-Jun-2019 5:00 AM			
26-Jun-2019	5:40:00 AM	4:40:00 AM	5	Wed 26-Jun-2019 5:00	Night-time	72.5	17	NA	Include	Include	No		26-Jun-2019 6:00 AM			
26-Jun-2019	5:55:00 AM	4:55:00 AM	5	Wed 26-Jun-2019 5:00	Night-time	73.5	17	NA	Include	Include	No		26-Jun-2019 6:00 AM			
26-Jun-2019	6:10:00 AM	5:10:00 AM	5	Wed 26-Jun-2019 5:00	Night-time	74.2	17	NA	Include	Include	No		26-Jun-2019 6:00 AM			
26-Jun-2019	6:25:00 AM	5:25:00 AM	5	Wed 26-Jun-2019 5:00	Night-time	75.3	17	NA	Include	Include	No		26-Jun-2019 6:00 AM			
26-Jun-2019	6:40:00 AM	5:40:00 AM	6	Wed 26-Jun-2019 6:00	Night-time	75.8	13	NA	Include	Include	No	75.8	26-Jun-2019 7:00 AM			
26-Jun-2019	6:55:00 AM	5:55:00 AM	6	Wed 26-Jun-2019 6:00	Night-time	76.7	13	NA	Include	Include	No	76.7	26-Jun-2019 7:00 AM			
26-Jun-2019	7:10:00 AM	6:10:00 AM	6	Wed 26-Jun-2019 6:00	Night-time	75.9	13	NA	Include	Include	No	75.9	26-Jun-2019 7:00 AM			
26-Jun-2019	7:25:00 AM	6:25:00 AM	6	Wed 26-Jun-2019 6:00	Night-time	76.4	13	NA	Include	Include	No	76.4	26-Jun-2019 7:00 AM			76
26-Jun-2019	7:40:00 AM	6:40:00 AM	7	Wed 26-Jun-2019 7:00	Night-time	75.9	18	Mostly Cloudy	Include	Include	No	75.9	26-Jun-2019 8:00 AM			76
26-Jun-2019	7:55:00 AM	6:55:00 AM	7	Wed 26-Jun-2019 7:00	Night-time	76.5	18	Mostly Cloudy	Include	Include	No	76.5	26-Jun-2019 8:00 AM			76
26-Jun-2019	8:10:00 AM	7:10:00 AM	7	Wed 26-Jun-2019 7:00	Night-time	76.4	18	Mostly Cloudy	Include	Include	No	76.4	26-Jun-2019 8:00 AM			76
26-Jun-2019	8:25:00 AM	7:25:00 AM	7	Wed 26-Jun-2019 7:00	Day-time	76.4	18	Mostly Cloudy	Include	Include	No	76.4	26-Jun-2019 8:00 AM			
26-Jun-2019	8:40:00 AM	7:40:00 AM	8	Wed 26-Jun-2019 8:00	Day-time	76.5	10	NA	Include	Include	No	76.5	26-Jun-2019 9:00 AM			
26-Jun-2019	8:55:00 AM	7:55:00 AM	8	Wed 26-Jun-2019 8:00	Day-time	76.9	10	NA	Include	Include	No	76.9	26-Jun-2019 9:00 AM			
26-Jun-2019	9:10:00 AM	8:10:00 AM	8	Wed 26-Jun-2019 8:00	Day-time	75.8	10	NA	Include	Include	No	75.8	26-Jun-2019 9:00 AM	76		
26-Jun-2019	9:25:00 AM	8:25:00 AM	8	Wed 26-Jun-2019 8:00	Day-time	75.7	10	NA	Include	Include	No	75.7	26-Jun-2019 9:00 AM	76		
26-Jun-2019	9:40:00 AM	8:40:00 AM	9	Wed 26-Jun-2019 9:00	Day-time	75.9	13	NA	Include	Include	No	75.9	26-Jun-2019 10:00 AM	76		
26-Jun-2019	9:55:00 AM	8:55:00 AM	9	Wed 26-Jun-2019 9:00	Day-time	76.3	13	NA	Include	Include	No	76.3	26-Jun-2019 10:00 AM	76		
26-Jun-2019	10:10:00 AM	9:10:00 AM	9	Wed 26-Jun-2019 9:00	Day-time	74.7	13	NA	Include	Include	No	74.7	26-Jun-2019 10:00 AM	76		
26-Jun-2019	10:25:00 AM	9:25:00 AM	9	Wed 26-Jun-2019 9:00	Day-time	75.2	13	NA	Include	Include	No	75.2	26-Jun-2019 10:00 AM	76		
26-Jun-2019	10:40:00 AM	9:40:00 AM	10	Wed 26-Jun-2019 10:00	Day-time	74.9	11	Mainly Clear	Include	Include	No	74.9	26-Jun-2019 11:00 AM	75		
26-Jun-2019	10:55:00 AM	9:55:00 AM	10	Wed 26-Jun-2019 10:00	Day-time	74.4	11	Mainly Clear	Include	Include	No	74.4	26-Jun-2019 11:00 AM	75		
26-Jun-2019	11:10:00 AM	10:10:00 AM	10	Wed 26-Jun-2019 10:00	Day-time	74.8	11	Mainly Clear	Include	Include	No	74.8	26-Jun-2019 11:00 AM	75		
26-Jun-2019	11:25:00 AM	10:25:00 AM	10	Wed 26-Jun-2019 10:00	Day-time	75.0	11	Mainly Clear	Include	Include	No	75.0	26-Jun-2019 11:00 AM	75		
26-Jun-2019	11:55:00 AM	10:55:00 AM	11	Wed 26-Jun-2019 11:00	Day-time	75.3	18	NA	Include	Include	No		26-Jun-2019 12:00 PM			
26-Jun-2019	12:10:00 PM	11:10:00 AM	11	Wed 26-Jun-2019 11:00	Day-time	74.8	18	NA	Include	Include	No		26-Jun-2019 12:00 PM			
26-Jun-2019	12:25:00 PM	11:25:00 AM	11	Wed 26-Jun-2019 11:00	Day-time	75.2	18	NA	Include	Include	No		26-Jun-2019 12:00 PM			
26-Jun-2019	12:40:00 PM	11:40:00 AM	12	Wed 26-Jun-2019 12:00	Day-time	75.1	23	NA	Exclude	Include	Yes		26-Jun-2019 1:00 PM			
26-Jun-2019	12:55:00 PM	11:55:00 AM	12	Wed 26-Jun-2019 12:00	Day-time	75.4	23	NA	Exclude	Include	Yes		26-Jun-2019 1:00 PM			
26-Jun-2019	1:10:00 PM	12:10:00 PM	12	Wed 26-Jun-2019 12:00	Day-time	75.3	23	NA	Exclude	Include	Yes		26-Jun-2019 1:00 PM			
26-Jun-2019	1:25:00 PM	12:25:00 PM	12	Wed 26-Jun-2019 12:00	Day-time	74.9	23	NA	Exclude	Include	Yes		26-Jun-2019 1:00 PM			
26-Jun-2019	1:40:00 PM	12:40:00 PM	13	Wed 26-Jun-2019 13:00	Day-time	78.8	20	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 PM			
26-Jun-2019	1:55:00 PM	12:55:00 PM	13	Wed 26-Jun-2019 13:00	Day-time	77.7	20	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 PM			
26-Jun-2019	2:10:00 PM	1:10:00 PM	13	Wed 26-Jun-2019 13:00	Day-time	75.1	20	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 PM			
26-Jun-2019	2:25:00 PM	1:25:00 PM	13	Wed 26-Jun-2019 13:00	Day-time	75.9	20	Mainly Clear	Include	Include	No		26-Jun-2019 2:00 PM			
26-Jun-2019	2:40:00 PM	1:40:00 PM	14	Wed 26-Jun-2019 14:00	Day-time	75.6	32	NA	Exclude	Include	Yes		26-Jun-2019 3:00 PM			
26-Jun-2019	2:55:00 PM	1:55:00 PM	14	Wed 26-Jun-2019 14:00	Day-time	75.5	32	NA	Exclude	Include	Yes		26-Jun-2019 3:00 PM			
26-Jun-2019	3:10:00 PM	2:10:00 PM	14	Wed 26-Jun-2019 14:00	Day-time	76.7	32	NA	Exclude	Include	Yes		26-Jun-2019 3:00 PM			
26-Jun-2019	3:25:00 PM	2:25:00 PM	14	Wed 26-Jun-2019 14:00	Day-time	78.2	32	NA	Exclude	Include	Yes		26-Jun-2019 3:00 PM			
26-Jun-2019	3:40:00 PM	2:40:00 PM	15	Wed 26-Jun-2019 15:00	Day-time	75.8	26	NA	Exclude	Include	Yes		26-Jun-2019 4:00 PM			
26-Jun-2019	3:55:00 PM	2:55:00 PM	15	Wed 26-Jun-2019 15:00	Day-time	76.6	26	NA	Exclude	Include	Yes		26-Jun-2019 4:00 PM			
26-Jun-2019	4:10:00 PM	3:10:00 PM	15	Wed 26-Jun-2019 15:00	Day-time	75.6	26	NA	Exclude	Include	Yes		26-Jun-2019 4:00 PM			
26-Jun-2019	4:25:00 PM	3:25:00 PM	15	Wed 26-Jun-2019 15:00	Day-time	75.9	26	NA	Exclude	Include	Yes		26-Jun-2019 4:00 PM			
26-Jun-2019	4:40:00 PM	3:40:00 PM	16	Wed 26-Jun-2019 16:00	Day-time	77.1	24	Mainly Clear	Exclude	Include	Yes		26-Jun-2019 5:00 PM			
26-Jun-2019	4:55:00 PM	3:55:00 PM	16	Wed 26-Jun-2019 16:00	Day-time	76.1	24	Mainly Clear	Exclude	Include	Yes		26-Jun-2019 5:00 PM			
26-Jun-2019	5:10:00 PM	4:10:00 PM	16	Wed 26-Jun-2019 16:00	Day-time	76.1	24	Mainly Clear	Exclude	Include	Yes		26-Jun-2019 5:00 PM			
26-Jun-2019	5:25:00 PM	4:25:00 PM	16	Wed 26-Jun-2019 16:00	Day-time	75.7	24	Mainly Clear	Exclude	Include	Yes		26-Jun-2019 5:00 PM			
26-Jun-2019	5:40:00 PM	4:40:00 PM	17	Wed 26-Jun-2019 17:00	Day-time	76.2	29	NA	Exclude	Include	Yes		26-Jun-2019 6:00 PM			
26-Jun-2019	5:55:00 PM	4:55:00 PM	17	Wed 26-Jun-2019 17:00	Day-time	76.9	29	NA	Exclude	Include	Yes		26-Jun-2019 6:00 PM			
26-Jun-2019	6:10:00 PM	5:10:00 PM	17	Wed 26-Jun-2019 17:00	Day-time	75.5	29	NA	Exclude	Include	Yes		26-Jun-2019 6:00 PM			
26-Jun-2019	6:25:00 PM	5:25:00 PM	17	Wed 26-Jun-2019 17:00	Day-time	75.4	29	NA	Exclude	Include	Yes		26-Jun-2019 6:00 PM			
26-Jun-2019	6:40:00 PM	5:40:00 PM	18	Wed 26-Jun-2019 18:00	Day-time	75.3	19	NA	Include	Include	No		26-Jun-2019 7:00 PM			
26-Jun-2019	6:55:00 PM	5:55:00 PM	18	Wed 26-Jun-2019 18:00	Day-time	74.5	19	NA	Include	Include	No		26-Jun-2019 7:00 PM			
26-Jun-2019	7:10:00 PM	6:10:00 PM	18	Wed 26-Jun-2019 18:00	Day-time	73.9	19	NA	Include	Include	No		26-Jun-2019 7:00 PM			
26-Jun-2019	7:25:00 PM	6:25:00 PM	18	Wed 26-Jun-2019 18:00	Day-time	73.9	19	NA	Include	Include	No		26-Jun-2019 7:00 PM			
26-Jun-2019	7:40:00 PM	6:40:00 PM	19	Wed 26-Jun-2019 19:00	Day-time	74.9	18	Mainly Clear	Include	Include	No		26-Jun-2019 8:00 PM			
26-Jun-2019	7:55:00 PM	6:55:00 PM	19	Wed 26-Jun-2019 19:00	Day-time	73.8	18	Mainly Clear	Include	Include	No		26-Jun-2019 8:00 PM			
26-Jun-2019	8:10:00 PM	7:10:00 PM	19	Wed 26-Jun-2019 19:00	Day-time	73.9	18	Mainly Clear	Include	Include	No		26-Jun-2019 8:00 PM			
26-Jun-2019	8:25:00 PM	7:25:00 PM	19	Wed 26-Jun-2019 19:00	Evening	72.8	18	Mainly Clear	Include	Include	No		26-Jun-2019 8:00 PM			
26-Jun-2019	8:40:00 PM	7:40:00 PM	20	Wed 26-Jun-2019 20:00	Evening	72.7	22	NA	Exclude	Include	Yes		26-Jun-2019 9:00 PM			
26-Jun-2019	8:55:00 PM	7:55:00 PM	20	Wed 26-Jun-2019 20:00	Evening	72.3	22	NA	Exclude	Include	Yes		26-Jun-2019 9:00 PM			
26-Jun-2019	9:10:00 PM	8:10:00 PM	20	Wed 26-Jun-2019 20:00	Evening	72.7	22	NA	Exclude	Include	Yes		26-Jun-2019 9:00 PM			
26-Jun-2019	9:25:00 PM	8:25:00 PM	20	Wed 26-Jun-2019 20:00	Evening	72.4	22	NA	Exclude	Include	Yes		26-Jun-2019 9:00 PM			
26-Jun-2019	9:40:00 PM	8:40:00 PM	21	Wed 26-Jun-2019 21:00	Evening	71.8	9	NA	Include	Include	No		26-Jun-2019 10:00 PM			
26-Jun-2019	9:55:00 PM	8:55:00 PM	21	Wed 26-Jun-2019 21:00	Evening	72.3	9	NA	Include	Include	No		26-Jun-2019 10:00 PM			
26-Jun-2019	10:10:00 PM	9:10:00 PM	21	Wed 26-Jun-2019 21:00	Evening	71.9	9	NA	Include	Include	No		26-Jun-2019 10:00 PM			
26-Jun-2019	10:25:00 PM	9:25:00 PM	21	Wed 26-Jun-2019 21:00	Evening	72.7	9	NA	Include	Include	No		26-Jun-2019 10:00 PM			
26-Jun-2019	10:40:00 PM	9:40:00 PM	22	Wed 26-Jun-2019 22:00	Evening	71.9	4	Clear	Include	Include	No	71.9	26-Jun-2019 11:00 PM			

Date	Interval Ending (DST)	Interval Ending (LST)	For Weather Lookup		Time Period (DST)	*Sound Pressure Levels*	*Enviro Canada Weather Station 1* Name: Toronto Itnl A				Exclude Data due to Weather	*Valid Measurements of Sound Pressure Levels*	*Plot Time*	Rolling 1 hr Leq		
			Round +Hour (LST)	Date/Time (LST)		L_{EQ} (dBA)	Wind Speed (kph)	Weather Conditions	Wind Exclusion > 20kph	Condition Exclusion		$L_{EQ\text{-}15min}$ (dBA)	Date/Time (DST)	DAY	EVENING	NIGHT
26-Jun-2019	10:55:00 PM	9:55:00 PM	22	Wed 26-Jun-2019 22:00	Evening	73.7	4	Clear	Include	Include	No	73.7	26-Jun-2019 11:00 PM			
26-Jun-2019	11:10:00 PM	10:10:00 PM	22	Wed 26-Jun-2019 22:00	Evening	71.5	4	Clear	Include	Include	No	71.5	26-Jun-2019 11:00 PM			
26-Jun-2019	11:25:00 PM	10:25:00 PM	22	Wed 26-Jun-2019 22:00	Evening	71.7	4	Clear	Include	Include	No	71.7	26-Jun-2019 11:00 PM		72	
26-Jun-2019	11:40:00 PM	10:40:00 PM	23	Wed 26-Jun-2019 23:00	Evening	71.6	12	NA	Include	Include	No	71.6	27-Jun-2019 12:00 AM		72	
26-Jun-2019	11:55:00 PM	10:55:00 PM	23	Wed 26-Jun-2019 23:00	Evening	69.9	12	NA	Include	Include	No	69.9	27-Jun-2019 12:00 AM		71	
27-Jun-2019	12:10:00 AM	11:10:00 PM	23	Wed 26-Jun-2019 23:00	Evening	69.4	12	NA	Include	Include	No	69.4	27-Jun-2019 12:00 AM		71	
27-Jun-2019	12:25:00 AM	11:25:00 PM	23	Wed 26-Jun-2019 23:00	Night-time	70.8	12	NA	Include	Include	No	70.8	27-Jun-2019 12:00 AM			
27-Jun-2019	12:40:00 AM	11:40:00 PM	24	Thu 27-Jun-2019 0:00	Night-time	67.8	15	NA	Include	Include	No	67.8	27-Jun-2019 1:00 AM			
27-Jun-2019	12:55:00 AM	11:55:00 PM	24	Thu 27-Jun-2019 0:00	Night-time	70.2	15	NA	Include	Include	No	70.2	27-Jun-2019 1:00 AM			
27-Jun-2019	1:10:00 AM	12:10:00 AM	0	Thu 27-Jun-2019 0:00	Night-time	67.4	15	NA	Include	Include	No	67.4	27-Jun-2019 1:00 AM			69
27-Jun-2019	1:25:00 AM	12:25:00 AM	0	Thu 27-Jun-2019 0:00	Night-time	67.4	15	NA	Include	Include	No	67.4	27-Jun-2019 1:00 AM			68
27-Jun-2019	1:40:00 AM	12:40:00 AM	1	Thu 27-Jun-2019 1:00	Night-time	67.8	12	Clear	Include	Include	No	67.8	27-Jun-2019 2:00 AM			68
27-Jun-2019	1:55:00 AM	12:55:00 AM	1	Thu 27-Jun-2019 1:00	Night-time	66.7	12	Clear	Include	Include	No	66.7	27-Jun-2019 2:00 AM			67
27-Jun-2019	2:10:00 AM	1:10:00 AM	1	Thu 27-Jun-2019 1:00	Night-time	66.4	12	Clear	Include	Include	No	66.4	27-Jun-2019 2:00 AM			67
27-Jun-2019	2:25:00 AM	1:25:00 AM	1	Thu 27-Jun-2019 1:00	Night-time	67.1	12	Clear	Include	Include	No	67.1	27-Jun-2019 2:00 AM			67
27-Jun-2019	2:40:00 AM	1:40:00 AM	2	Thu 27-Jun-2019 2:00	Night-time	65.3	4	NA	Include	Include	No	65.3	27-Jun-2019 3:00 AM			66
27-Jun-2019	2:55:00 AM	1:55:00 AM	2	Thu 27-Jun-2019 2:00	Night-time	75.7	4	NA	Include	Include	No	75.7	27-Jun-2019 3:00 AM			71
27-Jun-2019	3:10:00 AM	2:10:00 AM	2	Thu 27-Jun-2019 2:00	Night-time	66.7	4	NA	Include	Include	No	66.7	27-Jun-2019 3:00 AM			71
27-Jun-2019	3:25:00 AM	2:25:00 AM	2	Thu 27-Jun-2019 2:00	Night-time	67.0	4	NA	Include	Include	No	67.0	27-Jun-2019 3:00 AM			71
27-Jun-2019	3:40:00 AM	2:40:00 AM	3	Thu 27-Jun-2019 3:00	Night-time	66.4	11	NA	Include	Include	No	66.4	27-Jun-2019 4:00 AM			71
27-Jun-2019	3:55:00 AM	2:55:00 AM	3	Thu 27-Jun-2019 3:00	Night-time	67.0	11	NA	Include	Include	No	67.0	27-Jun-2019 4:00 AM			67
27-Jun-2019	4:10:00 AM	3:10:00 AM	3	Thu 27-Jun-2019 3:00	Night-time	68.5	11	NA	Include	Include	No	68.5	27-Jun-2019 4:00 AM			67
27-Jun-2019	4:25:00 AM	3:25:00 AM	3	Thu 27-Jun-2019 3:00	Night-time	67.6	11	NA	Include	Include	No	67.6	27-Jun-2019 4:00 AM			67
27-Jun-2019	4:40:00 AM	3:40:00 AM	4	Thu 27-Jun-2019 4:00	Night-time	69.7	13	Mainly Clear	Include	Include	No	69.7	27-Jun-2019 5:00 AM			68
27-Jun-2019	4:55:00 AM	3:55:00 AM	4	Thu 27-Jun-2019 4:00	Night-time	69.8	13	Mainly Clear	Include	Include	No	69.8	27-Jun-2019 5:00 AM			69
27-Jun-2019	5:10:00 AM	4:10:00 AM	4	Thu 27-Jun-2019 4:00	Night-time	70.8	13	Mainly Clear	Include	Include	No	70.8	27-Jun-2019 5:00 AM			70
27-Jun-2019	5:25:00 AM	4:25:00 AM	4	Thu 27-Jun-2019 4:00	Night-time	70.6	13	Mainly Clear	Include	Include	No	70.6	27-Jun-2019 5:00 AM			70
27-Jun-2019	5:40:00 AM	4:40:00 AM	5	Thu 27-Jun-2019 5:00	Night-time	72.2	2	NA	Include	Include	No	72.2	27-Jun-2019 6:00 AM			71
27-Jun-2019	5:55:00 AM	4:55:00 AM	5	Thu 27-Jun-2019 5:00	Night-time	73.7	2	NA	Include	Include	No	73.7	27-Jun-2019 6:00 AM			72
27-Jun-2019	6:10:00 AM	5:10:00 AM	5	Thu 27-Jun-2019 5:00	Night-time	74.0	2	NA	Include	Include	No	74.0	27-Jun-2019 6:00 AM			73
27-Jun-2019	6:25:00 AM	5:25:00 AM	5	Thu 27-Jun-2019 5:00	Night-time	75.4	2	NA	Include	Include	No	75.4	27-Jun-2019 6:00 AM			74
27-Jun-2019	6:40:00 AM	5:40:00 AM	6	Thu 27-Jun-2019 6:00	Night-time	75.8	3	NA	Include	Include	No	75.8	27-Jun-2019 7:00 AM			75
27-Jun-2019	6:55:00 AM	5:55:00 AM	6	Thu 27-Jun-2019 6:00	Night-time	76.4	3	NA	Include	Include	No	76.4	27-Jun-2019 7:00 AM			75
27-Jun-2019	7:10:00 AM	6:10:00 AM	6	Thu 27-Jun-2019 6:00	Night-time	76.0	3	NA	Include	Include	No	76.0	27-Jun-2019 7:00 AM			76
27-Jun-2019	7:25:00 AM	6:25:00 AM	6	Thu 27-Jun-2019 6:00	Night-time	76.0	3	NA	Include	Include	No	76.0	27-Jun-2019 7:00 AM			76
27-Jun-2019	7:40:00 AM	6:40:00 AM	7	Thu 27-Jun-2019 7:00	Night-time	75.6	3	Mostly Cloudy	Include	Include	No	75.6	27-Jun-2019 8:00 AM			76
27-Jun-2019	7:55:00 AM	6:55:00 AM	7	Thu 27-Jun-2019 7:00	Night-time	76.3	3	Mostly Cloudy	Include	Include	No	76.3	27-Jun-2019 8:00 AM			76
27-Jun-2019	8:10:00 AM	7:10:00 AM	7	Thu 27-Jun-2019 7:00	Night-time	76.3	3	Mostly Cloudy	Include	Include	No	76.3	27-Jun-2019 8:00 AM			76
27-Jun-2019	8:25:00 AM	7:25:00 AM	7	Thu 27-Jun-2019 7:00	Day-time	75.8	3	Mostly Cloudy	Include	Include	No	75.8	27-Jun-2019 8:00 AM			
27-Jun-2019	8:40:00 AM	7:40:00 AM	8	Thu 27-Jun-2019 8:00	Day-time	75.8	16	NA	Include	Include	No	75.8	27-Jun-2019 9:00 AM			
27-Jun-2019	8:55:00 AM	7:55:00 AM	8	Thu 27-Jun-2019 8:00	Day-time	76.2	16	NA	Include	Include	No	76.2	27-Jun-2019 9:00 AM			
27-Jun-2019	9:10:00 AM	8:10:00 AM	8	Thu 27-Jun-2019 8:00	Day-time	75.6	16	NA	Include	Include	No	75.6	27-Jun-2019 9:00 AM	76		
27-Jun-2019	9:25:00 AM	8:25:00 AM	8	Thu 27-Jun-2019 8:00	Day-time	75.1	16	NA	Include	Include	No	75.1	27-Jun-2019 9:00 AM	76		
27-Jun-2019	9:40:00 AM	8:40:00 AM	9	Thu 27-Jun-2019 9:00	Day-time	74.8	13	NA	Include	Include	No	74.8	27-Jun-2019 10:00 AM	75		
27-Jun-2019	9:55:00 AM	8:55:00 AM	9	Thu 27-Jun-2019 9:00	Day-time	75.2	13	NA	Include	Include	No	75.2	27-Jun-2019 10:00 AM	75		
27-Jun-2019	10:10:00 AM	9:10:00 AM	9	Thu 27-Jun-2019 9:00	Day-time	74.5	13	NA	Include	Include	No	74.5	27-Jun-2019 10:00 AM	75		
27-Jun-2019	10:25:00 AM	9:25:00 AM	9	Thu 27-Jun-2019 9:00	Day-time	74.5	13	NA	Include	Include	No	74.5	27-Jun-2019 10:00 AM	75		
27-Jun-2019	10:40:00 AM	9:40:00 AM	10	Thu 27-Jun-2019 10:00	Day-time	74.5	20	Mostly Cloudy	Include	Include	No	74.5	27-Jun-2019 11:00 AM	75		
27-Jun-2019	10:55:00 AM	9:55:00 AM	10	Thu 27-Jun-2019 10:00	Day-time	74.6	20	Mostly Cloudy	Include	Include	No	74.6	27-Jun-2019 11:00 AM	75		
27-Jun-2019	11:10:00 AM	10:10:00 AM	10	Thu 27-Jun-2019 10:00	Day-time	75.7	20	Mostly Cloudy	Include	Include	No	75.7	27-Jun-2019 11:00 AM	75		
27-Jun-2019	11:25:00 AM	10:25:00 AM	10	Thu 27-Jun-2019 10:00	Day-time	74.4	20	Mostly Cloudy	Include	Include	No	74.4	27-Jun-2019 11:00 AM	75		
27-Jun-2019	11:55:00 AM	10:55:00 AM	11	Thu 27-Jun-2019 11:00	Day-time	75.1	10	NA	Include	Include	No	75.1	27-Jun-2019 12:00 PM	75		
27-Jun-2019	12:10:00 PM	11:10:00 AM	11	Thu 27-Jun-2019 11:00	Day-time	75.3	10	NA	Include	Include	No	75.3	27-Jun-2019 12:00 PM	75		
27-Jun-2019	12:25:00 PM	11:25:00 AM	11	Thu 27-Jun-2019 11:00	Day-time	75.0	10	NA	Include	Include	No	75.0	27-Jun-2019 12:00 PM	75		
27-Jun-2019	12:40:00 PM	11:40:00 AM	12	Thu 27-Jun-2019 12:00	Day-time	75.4	18	NA	Include	Include	No		27-Jun-2019 1:00 PM			
27-Jun-2019	12:55:00 PM	11:55:00 AM	12	Thu 27-Jun-2019 12:00	Day-time	75.6	18	NA	Include	Include	No		27-Jun-2019 1:00 PM			
27-Jun-2019	1:10:00 PM	12:10:00 PM	12	Thu 27-Jun-2019 12:00	Day-time	74.3	18	NA	Include	Include	No		27-Jun-2019 1:00 PM			
27-Jun-2019	1:25:00 PM	12:25:00 PM	12	Thu 27-Jun-2019 12:00	Day-time	75.5	18	NA	Include	Include	No		27-Jun-2019 1:00 PM			
27-Jun-2019	1:40:00 PM	12:40:00 PM	13	Thu 27-Jun-2019 13:00	Day-time	74.7	30	Mostly Cloudy	Exclude	Include	Yes		27-Jun-2019 2:00 PM			

Woodbine Hotel			
Position	Description	Distance from road (m)	Distance adjustment (relative to pole position) (dB)
1	Pole Position	19.34	
2	Building Façade	49.50	4.08

			With distance correction
Minimum day hour		71.00	66.92
Minimum eve hour		70.05	65.97
Minimum night hour		65.55	61.47

Acoustic Instrumentation:

Sound Level Meters:	3M Quest Sound Pro w/ Type 1 Microphone
	Quest Model QC-10 Acoustical Calibrator

Appendix B3

Construction Noise Calculations

POR ID	Construction Area	Equipment Description	Reference Emission Level at 50 ft / 15 m (dBA)	Source-Receiver Distance	Screening Adjustment	Receiver Noise Level
				(m)	(dBA)	(dBA)
NSA1_R01	Tunnel	Auger Drill Rig	84	681	0	51
		Excavator	81	681	0	48
					Total (dBA)	53
NSA1_R01	Building	Grader	85	716	0	51
		Vacuum Excavator (Vac-truck)	85	716	0	51
					Total (dBA)	54
NSA1_R01	Platform	Grader	85	683	0	52
		Vacuum Excavator (Vac-truck)	85	683	0	52
					Total (dBA)	55
NSA1_R01	Parking Lot	Grader	85	516	0	54
		Vacuum Excavator (Vac-truck)	85	516	0	54
					Total (dBA)	57

Leq (equip) = E.L. + 10*log(U.F./100) - 20*log(D/15) -10*G*log(D/15)

where

E.L. = noise emission level at 50 ft/15 m
U.F. = usage factor
G = topography/ground constant
D = distance from receiver to equipment

note regarding distance: (D/50) is used for source-receiver distances measured in feet;
(D/15) was used for source-receiver distances measured in metres

Using the General Assessment described in the FTA Noise and Vibration Manual:

U.F. = 100%;
G = 0
-All pieces of equipment are assumed to operate at the center of the roadway.
-The predictions include only the two noisiest pieces of equipment expected to be used during each construction phase.

Appendix C

Construction Vibration Assessment Appendices

Appendix C1

City of Toronto Construction Vibration By-Law

Authority: Planning and Growth Committee Item 15.6,
adopted as amended, by City of Toronto Council on May 26 and 27, 2008
Enacted by Council: May 27, 2008

CITY OF TORONTO

BY-LAW No. 514-2008

To amend City of Toronto Municipal Code Chapter 363, Building Construction and Demolition, with respect to regulation of vibrations from construction activity.

The Council of the City of Toronto HEREBY ENACTS as follows:

1. Chapter 363, Building Construction and Demolition, of The City of Toronto Municipal Code, is amended as follows:

A. By adding the following:

§ 363-3.6. Construction vibrations.

A. Definitions.

As used in this section, the following terms shall have the meanings indicated:

CONSTRUCTION EQUIPMENT — Any equipment or device designed for use in construction, or material handling including, but not limited to, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers or trucks, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, ditchers, compactors and rollers, pumps, concrete mixers, graders, or other material handling equipment.

CONSTRUCTION VIBRATION — Vibration occurring as a result of the operation of construction equipment during construction.

FREQUENCY OF VIBRATION — The rate of oscillation that occurs in one second, measured in hertz where 1 hertz equals 1 cycle per second;

PEAK PARTICLE VELOCITY — The maximum rate of change with respect to time of the particle displacement, measured on the ground, and velocity amplitudes are given in units of millimeters per second from zero to peak amplitude;

VIBRATION CONTROL FORM — The form prescribed by the Chief Building Official to provide information regarding construction vibration to accompany an application for a permit;

ZONE OF INFLUENCE — The area of land within or adjacent to a construction site, including any buildings or structures, that potentially may be impacted by vibrations emanating from a construction activity where the peak particle velocity measured at the point of reception is equal to or greater than 5 mm/sec at any frequency or such greater area where specific site conditions are identified by the professional engineer in a study contemplated in Subsection C3(a).

B. Table 1.0 "Prohibited Construction Vibrations".

(1) No person shall carry on a construction activity resulting in construction vibrations that exceed the levels set out in Table 1.0 "Prohibited Construction Vibrations:

Table 1.0 "Prohibited Construction Vibrations"	
Frequency of Vibration (hertz)	Vibration Peak Particle Velocity (mm/sec)
Less than 4	8
4 to 10	15
More than 10	25

(2) Where the professional engineer has submitted a report under Subsection D and identified lower levels than set out in Table 1.0 above, then levels exceeding those in the report shall be the prohibited construction vibrations.

C. Vibration control form.

(1) In addition to the other requirements of this article, an applicant for a permit for construction, including demolition, shall submit as part of the permit application a vibration control form that provides the following information and is accompanied by plans and other documents set out below.

(2) The vibration control form shall identify whether the construction activity will include blasting, deep foundations, drilled caisson, large scale soil compaction or construction within the water table, or any other construction activity or method that has the potential to cause vibrations which may impact on buildings or structures outside of the construction site that is the subject of the permit application.

(3) If construction activities as described in Subsection B(1) are identified, the vibration control form shall also include the following:

(a) A preliminary study, including a plan showing the construction site and adjacent land and buildings, prepared by a professional engineer that identifies the zone of influence of vibrations and whether the zone of influence will extend beyond the legal boundaries of the construction site that is the subject of the permit application.

(b) The existence within the zone of influence of any buildings that have been designated under the *Ontario Heritage Act*; and

(c) A general review commitment certificate and letter of undertaking in a form acceptable to the Chief Building Official.

(4) In determining the zone of influence for the construction the professional engineer shall consider the following:

(a) Soil conditions of the construction site and adjacent land;

(b) Weather conditions that will exist at the time of construction that may result in construction vibrations;

(c) Whether the proposed construction will be above or below the water table;

(d) The presence of heritage designated or listed properties and sensitive structures or buildings or infrastructure;

(e) The precise location of the source of vibration;

(f) Any unique site conditions;

(g) Whether it would be prudent, in the circumstances, to have a zone of influence that is larger than would result if the analysis had only been restricted to the predicted peak particle velocity values set out in Column 1 of the Table in Subsection B; and

(h) Such further matters identified by the professional engineer which may be relevant to identifying the zone of influence in a specific situation.

(5) After the issuance of a building permit, if a construction activity that was not identified in a vibration control form is proposed or commenced, the applicant shall comply with the requirements the Section, where in the opinion of the Chief Building Official the construction activity may contribute to vibrations.

D. Pre-construction consultation and monitoring program.

If a zone of influence will extend beyond the legal boundaries of the construction site that is the subject of the permit application, the applicant shall:

(1) Carry out a public pre-construction consultation with all property owners and occupants within the zone of influence advising of the possibility of construction vibrations and the provisions of this section;

(2) As part of an application for a permit provide a report from a professional engineer addressing the following matters:

(a) A summary of the pre-construction consultations between the applicant and the owners and occupants of properties within the zone of influence, including comments provided to the applicant by the owners and occupants during the consultations;

(b) Pre-construction measurements of background vibrations within the zone of influence;

(c) Pre-construction inspection of adjacent buildings and structures within the zone of influence to identify existing cracks in walls, floors and exterior cladding of the first two storeys above grade and interior finishes of all storeys below grade in sufficient detail to facilitate comparison of pre-construction and post-construction condition;

(d) Where it is not possible to gain access for a pre-construction inspection, statements of the efforts made to gain access;

(e) Identification of mitigation measures to reduce the impacts of construction related vibrations within the zone of influence; and

(f) A monitoring program to measure variances in the vibration levels before and during construction activities which shall be verified by a professional engineer, and shall include:

[1] The number and location of seismographs to be used;

[2] The sampling frequency;

[3] The result transmittal protocol;

[4] Ambient vibration levels;

[5] A public communications protocol;

[6] A complaints protocol during construction; and

[7] Procedures for construction method alteration to address the occurrence of excessive vibrations.

(3) The mitigation measures and monitoring program required under Subsection D(2)(e) and (f) shall be implemented so that construction activities do not exceed maximum frequency based limits for peak particle velocity as set out in Subsection B or such lower levels as may be identified by the professional engineer as being prudent taking into consideration site specific conditions.

(4) The monitoring program shall include no less than one on-site seismograph that is to be operated continuously to record the vibration frequency and peak particle velocity for construction vibrations at all times construction activities identified in subsection C(2).

E. Monitoring of vibrations during construction.

The applicant shall monitor the vibration levels and report on the monitoring as follows:

(1) The applicant shall monitor vibration levels during construction in accordance with the monitoring program submitted with the application for a permit under Subsection D(2)(f).

(2) Where in the opinion of the professional engineer it is prudent to do so monitoring shall be based to detect levels below those set out in the Table in Subsection B.

(3) The applicant shall submit a copy in writing of all vibration measurements recorded as part of the monitoring program to the building inspector assigned to the project at the end of each work day, or as requested by the building inspector.

(4) Construction activity shall not be carried on when it will result in vibration measurements that exceed the prohibited construction vibration levels set out in Subsection B.

F. Public communications and complaint protocol.

The applicant shall, in addition to the preconstruction survey required in Subsection C provide for the following public communications and complaints protocols:

(1) At least one week before the commencement of construction activity that may cause vibrations the applicant shall notify the ward Councillor and owners and occupants of properties within the zone of influence of the scheduled construction activity.

(2) The notice required under Subsection F(1), shall include the following:

(a) An explanation of the proposed construction activity and its potential to produce vibrations;

(b) A statement of the levels of construction vibration that are prohibited in this Section;

(c) The address of the construction site where the construction activity will occur;

(d) The date and time that the work will occur;

(e) The name, address, telephone number, and other contact information through which a person affected by vibrations may contact the applicant and the person carrying out the construction activity for the applicant; and

(f) Contact information for Toronto Building staff assigned to the project.

(3) In the event that the applicant receives a complaint or is otherwise notified of a complaint about vibrations from the construction activity, the applicant shall cause the professional engineer monitoring the project to immediately perform vibration measurement at the complainant's location during activities representative of the offending operation and to provide to the complainant and to the building inspector assigned to the project a copy of the measurement results including an interpretation by the professional engineer of the possible impacts such construction vibrations might have on the building or structure of the complainant; and

(4) In the event that the measurements at the complainant's location exceed the limits set out in Subsection B, all construction activity generating the vibrations shall immediately cease and not resume until mitigation measures are implemented to reduce the vibration levels so that they are below the limits set out Subsection B.

2. This by-law comes into force on the day that is 60 days after it is passed.

ENACTED AND PASSED this 27th day of May, A.D. 2008.

GLORIA LINDSAY LUBY,
Deputy Speaker

ULLI S. WATKISS
City Clerk

(Corporate Seal)

Appendix C2

Construction Vibration Calculations

DISTANCE SUMMARY		
POR ID	Construction Area	Source-receiver Distance (m)
Woodbine Hotel	Tunnel	681
Woodbine Hotel	Parking Lot	516
Woodbine Hotel	Platform	683
Woodbine Hotel	Building	716
Woodbine Hotel	Track Modifications	664

DAMAGE ASSESSMENT (PPV, mm/s)					
Equipment	Tunnel	Parking Lot	Platform	Building	Corridor
Auger Drill Rig	0.003	-	0.003	0.002	-
Backhoe	-	0.000	0.000	0.000	0.000
Compactor (ground)	-	0.004	0.003	0.002	0.003
Concrete Mixer Truck	-	0.003	0.002	0.002	0.002
Concrete Pump Truck	-	0.003	0.002	0.002	0.002
Crane	0.002	-	0.002	0.002	0.002
Dozer	-	0.004	0.003	0.002	0.003
Dump Truck	0.002	0.003	0.002	0.002	0.002
Excavator	0.003	0.004	0.003	0.002	0.003
Flat Bed Truck	0.002	0.003	0.002	0.002	-
Front End Loader	0.003	0.004	0.003	0.002	0.003
Grader	-	0.004	0.003	0.002	0.003
Pickup Truck	-	0.003	-	-	-
Roller	-	0.010	-	0.006	0.007
Vacuum Excavator (Vac-truck)	-	0.003	0.002	0.002	-
Ballast Regulator	-	-	-	-	0.000
Tamper Machine	-	-	-	-	0.003
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

ANNOYANCE ASSESSMENT (RMSV,mm/s)					
Equipment	Tunnel	Parking Lot	Platform	Building	Corridor
Auger Drill Rig	0.0007	-	0.0007	0.0006	-
Backhoe	-	0.0000	0.0000	0.0000	0.0000
Compactor (ground)	-	0.0010	0.0007	0.0006	0.0007
Concrete Mixer Truck	-	0.0009	0.0006	0.0005	0.0006
Concrete Pump Truck	-	0.0009	0.0006	0.0005	0.0006
Crane	0.0006	-	0.0006	0.0005	0.0006
Dozer	-	0.0010	0.0007	0.0006	0.0007
Dump Truck	0.0006	0.0009	0.0006	0.0005	0.0006
Excavator	0.0007	0.0010	0.0007	0.0006	0.0007
Flat Bed Truck	0.0006	0.0009	0.0006	0.0005	-
Front End Loader	0.0007	0.0010	0.0007	0.0006	0.0007
Grader	-	0.0010	0.0007	0.0006	0.0007
Pickup Truck	-	0.0009	-	-	-
Roller	-	0.0024	-	0.0015	0.0016
Vacuum Excavator (Vac-truck)	-	0.0009	0.0006	0.0005	-
Ballast Regulator	-	-	-	-	0.0000
Tamper Machine	-	-	-	-	0.0007
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

Damage Assessment

$PPV_{equip} = PPV_{ref} * (7.6/D)^{1.5}$

where:

PPV_{ref} = reference vibration level at 25 ft/7.6 m
D = distance from equipment to receiver (in metres)

Annoyance Assessment

$V_{RMS} = PPV_{equip}/\text{Crest Factor}$

where:

Crest Factor=4

DISTANCE SUMMARY		
POR ID	Construction Area	Source-receiver Distance (m)
Highway 27 Bridge	Tunnel	340
Highway 27 Bridge	Parking Lot	90
Highway 27 Bridge	Platform	270
Highway 27 Bridge	Building	450
Highway 27 Bridge	Track Modifications	24.5

DAMAGE ASSESSMENT (PPV, mm/s)					
Equipment	Tunnel	Parking Lot	Platform	Building	Corridor
Auger Drill Rig	0.008	-	0.011	0.005	-
Backhoe	-	0.002	0.000	0.000	0.014
Compactor (ground)	-	0.055	0.011	0.005	0.390
Concrete Mixer Truck	-	0.047	0.009	0.004	0.333
Concrete Pump Truck	-	0.047	0.009	0.004	0.333
Crane	0.006	-	0.009	0.004	0.333
Dozer	-	0.055	0.011	0.005	0.390
Dump Truck	0.006	0.047	0.009	0.004	0.333
Excavator	0.008	0.055	0.011	0.005	0.390
Flat Bed Truck	0.006	0.047	0.009	0.004	-
Front End Loader	0.008	0.055	0.011	0.005	0.390
Grader	-	0.055	0.011	0.005	0.390
Pickup Truck	-	0.047	-	-	-
Roller	-	0.131	-	0.012	0.921
Vacuum Excavator (Vac-truck)	-	0.047	0.009	0.004	-
Ballast Regulator	-	-	-	-	0.014
Tamper Machine	-	-	-	-	0.390
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

ANNOYANCE ASSESSMENT (RMSV,mm/s)					
Equipment	Tunnel	Parking Lot	Platform	Building	Corridor
Auger Drill Rig	0.002	-	0.003	0.001	-
Backhoe	-	0.000	0.000	0.000	0.003
Compactor (ground)	-	0.014	0.003	0.001	0.098
Concrete Mixer Truck	-	0.012	0.002	0.001	0.083
Concrete Pump Truck	-	0.012	0.002	0.001	0.083
Crane	0.002	-	0.002	0.001	0.083
Dozer	-	0.014	0.003	0.001	0.098
Dump Truck	0.002	0.012	0.002	0.001	0.083
Excavator	0.002	0.014	0.003	0.001	0.098
Flat Bed Truck	0.002	0.012	0.002	0.001	-
Front End Loader	0.002	0.014	0.003	0.001	0.098
Grader	-	0.014	0.003	0.001	0.098
Pickup Truck	-	0.012	-	-	-
Roller	-	0.033	-	0.003	0.230
Vacuum Excavator (Vac-truck)	-	0.012	0.002	0.001	-
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

Damage Assessment

$PPV_{equip} = PPV_{ref} * (7.6/D)^{1.5}$

where:

PPV_{ref} = reference vibration level at 25 ft/7.6 m
D = distance from equipment to receiver (in metres)

Annoyance Assessment

$V_{RMS} = PPV_{equip}/\text{Crest Factor}$

where:

Crest Factor=4

DISTANCE SUMMARY		
POR ID	Construction Area	Source-receiver Distance (m)
Saand Building	Tunnel	30
Saand Building	Parking Lot	45
Saand Building	Platform	17
Saand Building	Building	60
Saand Building	Track Modifications	7.4

DAMAGE ASSESSMENT (PPV, mm/s)					
Equipment	Tunnel	Parking Lot	Platform	Building	Corridor
Auger Drill Rig	0.288	-	0.676	0.102	-
Backhoe	-	0.006	0.024	0.004	0.083
Compactor (ground)	-	0.157	0.676	0.102	2.352
Concrete Mixer Truck	-	0.134	0.577	0.087	2.009
Concrete Pump Truck	-	0.134	0.577	0.087	2.009
Crane	0.246	-	0.577	0.087	2.009
Dozer	-	0.157	0.676	0.102	2.352
Dump Truck	0.246	0.134	0.577	0.087	2.009
Excavator	0.288	0.157	0.676	0.102	2.352
Flat Bed Truck	0.246	0.134	0.577	0.087	-
Front End Loader	0.288	0.157	0.676	0.102	2.352
Grader	-	0.157	0.676	0.102	2.352
Pickup Truck	-	0.134	-	-	-
Roller	-	0.370	-	0.240	5.548
Vacuum Excavator (Vac-truck)	-	0.134	0.577	0.087	-
Ballast Regulator	-	-	-	-	0.083
Tamper Machine	-	-	-	-	2.352
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

Damage Assessment

$PPV_{equip} = PPV_{ref} * (7.6/D)^{1.5}$

where:

PPV_{ref} = reference vibration level at 25 ft/7.6 m
D = distance from equipment to receiver (in metres)

ANNOYANCE ASSESSMENT (RMSV,mm/s)					
Equipment	Tunnel	Bus shelter	Platform	Building	Corridor
Auger Drill Rig	0.072	-	0.169	0.025	-
Backhoe	-	0.001	0.006	0.001	0.021
Compactor (ground)	-	0.039	0.169	0.025	0.588
Concrete Mixer Truck	-	0.033	0.144	0.022	0.502
Concrete Pump Truck	-	0.033	0.144	0.022	0.502
Crane	0.062	-	0.144	0.022	0.502
Dozer	-	0.039	0.169	0.025	0.588
Dump Truck	0.062	0.033	0.144	0.022	0.502
Excavator	0.072	0.039	0.169	0.025	0.588
Flat Bed Truck	0.062	0.033	0.144	0.022	-
Front End Loader	0.072	0.039	0.169	0.025	0.588
Grader	-	0.039	0.169	0.025	0.588
Pickup Truck	-	0.033	-	-	-
Roller	-	0.092	-	0.060	1.387
Vacuum Excavator (Vac-truck)	-	0.033	0.144	0.022	-
Front End Loader	-	-	-	-	0.021
Grader	-	-	-	-	0.588
Welder/Torch	NEGLIGIBLE				
Generator					
Compressor					
Pneumatic Tools					

Annoyance Assessment

$V_{RMS} = PPV_{equip}/\text{Crest Factor}$

where:

Crest Factor=4