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PRELIMINARY
ENVIRONMENTAL NOISE REPORT

PROPOSED RESIDENTIAL DEVELOPMENT
1840-1850 BLOOR STREET
CITY OF MISSISSAUGA
REGION OF PEEL

JADE
ACOUSTICS

Prepared for
1840-1850 Bloor Street
c/o Ranee Management

March 11, 2020
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SUMMARY

The proposed residential development is located at 1840 to 1850 Bloor Street in the City of Mississauga. The proposed development includes two residential towers and associated podium. The site is affected by road traffic noise and by existing industrial operations.

The environmental noise guidelines NPC-300 for transportation and stationary noise sources of the Ministry of the Environment, Conservation and Parks (MOE), set out sound level limits for both the indoor (transportation sources only) and outdoor space (both transportation and stationary sources). Sound levels due to the nearby roads and the existing industrial sources were determined and compared to the MOE and Region of Peel/City of Mississauga guidelines to determine the appropriate mitigation measures.

Using road traffic data obtained from the City of Mississauga, the sound levels for various locations in the residential development were determined. The analysis of the noise sources associated with the critical industrial developments was based on information collected by Jade Acoustics Inc. during a site visit and from other similar facilities available in Jade Acoustics Inc. files.

No mitigation measures are required to address road traffic noise, based on the current analysis. When final building plans are available, sound level predictions and architectural requirements should be verified, to ensure applicable guidelines are met.

The mechanical drawings and detailed information regarding the mechanical equipment associated with the proposed development, including but not limited to rooftop HVAC units and garage fans were not available at the time of preparation of this noise report. Once mechanical drawings are available, additional noise analysis will need to be conducted to determine if the selected mechanical equipment requires noise mitigation measures.

Several options have been investigated in this preliminary report to address the stationary noise sources. Section 5.2 provides details.

The proposed residential development was evaluated using the MOE noise criteria for stationary sources applicable to both a Class 1 area and a Class 4 area.

Currently, the proposed site is considered to be a Class 1 area; therefore, if the Class 4 option is chosen, the land use planning authority would need to approve the new classification based on the noise analysis and incorporate a Class 4 designation in a site specific zoning by-law or alternate planning document, as determined by the City.

Where minor excesses exist and noise mitigation measures are required, future occupants will be advised through the use of warning clauses.

1.0 INTRODUCTION

Jade Acoustics Inc. was retained by 1840 to 1850 Bloor Street to prepare a Preliminary Environmental Noise Report to investigate the potential noise impact on the proposed residential development to the satisfaction of the City of Mississauga and Regional Municipality of Peel.

An evaluation of the potential acoustic impact between the suite units and all internal acoustic matters is outside of the scope of work of this preliminary report, as is construction related noise and vibration.

The proposed site is identified as:

1840-1850 Bloor Street
Lot 1, Registered Plan 775
City of Mississauga
Region of Peel

The proposed residential development is located at 1840 to 1850 Bloor Street in the City of Mississauga. Surrounding land uses are existing residential and industrial developments. The proposed development is located outside the NEF/NEP 25 contour line of Toronto Pearson International Airport.

The analysis was based on:

- Concept site plan and architectural plans prepared by IBI Group dated January 7, 2020, received January 8, 2020;
- Road traffic information provided by the City of Mississauga;
- Site visit conducted by Jade Acoustics Inc. on November 5, 2019; and
- Completed industrial questionnaire and operational information from staff at Wajax.

A Key Plan is attached as Figure 1.

Figure 2 shows the proposed residential development which includes two (2) towers and associated podium, an outdoor at-grade amenity space and new internal roads.

2.0 NOISE SOURCES

2.1 Transportation Sources

2.1.1 Road

The primary ground transportation noise source of potentially adverse impact is the road traffic on Bloor Street.

The ultimate road traffic data for Bloor Street was provided by the City of Mississauga.

See Appendix A for correspondence regarding the road traffic information and Table 1 for a summary of traffic information.

This site is not impacted by rail or aircraft noise.

2.2. Stationary Sources

2.2.1 Stationary Sources within the Development

The identified mechanical sources of noise which may acoustically impact the adjacent residential developments include, but may not be limited to rooftop equipment and garage exhaust fans. These potential noise sources will be addressed in a detailed noise report when information becomes available, through the building permit process.

2.2.2 Stationary Sources External to the Development

There are existing industrial buildings located to the south of the proposed site. The buildings are shown on Figures 1 and 3 to 6 and include the two Wajax buildings to the south of the subject site.

A questionnaire was provided to Wajax in order to gain a better understanding of their operations. The completed questionnaire has been included in Appendix F.

Additional information regarding operations at the Wajax facility was obtained through discussions with Wajax staff.

Section 4.2 includes details of the noise assessment.

3.0 ENVIRONMENTAL NOISE CRITERIA

The environmental noise criteria used for residential developments in the City of Mississauga, Region of Peel and the Ontario Ministry of the Environment, Conservation and Parks (MOE) environmental noise criteria are contained in Appendix B and summarized below.

The Ontario Ministry of the Environment, Conservation and Parks document "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", dated August 2013, released October 21, 2013, (updated final version # 22) has been used in this assessment.

3.1 Transportation Sources

3.1.1 Indoors

If the nighttime (11:00 p.m. to 7:00 a.m.) sound level in terms of Leq at the exterior face of a bedroom or living/dining room window is equal to or greater than 60 dBA and/or if the daytime (7:00 a.m. to 11:00 p.m.) sound level in terms of Leq at the exterior face of a living/dining room or bedroom window is greater than 65 dBA, means must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For nighttime sound levels (LeqNight) greater than 50 dBA to less than or equal to 59 dBA on the exterior face of a bedroom or living/dining room window or daytime sound levels (LeqDay) greater than 55 dBA to less than or equal to 65 dBA on the exterior face of a bedroom or living/dining room window, there need only be the provision for adding central air conditioning by the occupant at a later date. This typically involves a ducted heating system sized to accommodate the addition of central air conditioning by the occupant at a later date. A warning clause advising the occupant of the potential interference with some activities is also required.

As required by the MOE, to determine the building component requirements the indoor noise criteria for road traffic noise is 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for the living/dining rooms during nighttime hours and 45 dBA (Leq16hour) for the living/dining rooms and bedrooms during daytime hours. These criteria are used to determine the architectural requirements.

3.1.2 Outdoors

For the outdoor amenity areas, a design goal of 55 dBA daytime (7:00 a.m. to 11:00 p.m.) sound level is used for road traffic. In some cases an excess not exceeding 5 dBA is considered acceptable. Where the unmitigated sound levels during the day exceed 55 dBA (Leq16hour, daytime) but are less than 60 dBA (Leq16hour, daytime), a warning clause is

required and mitigation should be considered. Where the unmitigated sound levels during the daytime hours exceed 60 dBA, mitigation measures and a warning clause are required.

The definition of outdoor amenity area as defined by the MOE is given below.

"Outdoor Living Area (OLA)

(applies to impact assessments of transportation sources) means that part of a noise sensitive land use that is:

- intended and designed for the quiet enjoyment of the outdoor environment; and
- readily accessible from the building.

The OLA includes:

- backyards, front yards, gardens, terraces or patios;
- balconies and elevated terraces (e.g. rooftops), with a minimum depth of 4 metres, that are not enclosed, provided they are the only outdoor living area (OLA) for the occupant; or
- common outdoor living areas (OLAs) associated with high-rise multi-unit buildings."

In this case all proposed balconies of the residential units are less than 4.0 m deep and as such are not considered to be noise sensitive receptors.

For both the indoor and outdoor conditions where the acoustical criteria are exceeded, warning clauses must be placed in offers of purchase and sale and/or lease agreements and included in the development agreement.

3.2 Stationary Sources

The guidelines of the Ontario Ministry of the Environment, Conservation and Parks (MOE) for stationary sources are to be used for the industrial facilities.

The MOE has recently published the document NPC-300 titled "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning".

The MOE also has vibration guidelines with respect to stationary sources, NPC-207. These guidelines require that the peak vibration velocities not exceed 0.3 mm/s at the point of reception during the day or night.

The MOE recognizes the need for back-up beepers/alarms as safety devices and as such does not have any guidelines or criteria to address these sources.

It should be noted that the MOE guidelines do not require that the source be inaudible, but rather that specific sound level limits be achieved.

With respect to stationary sources of noise in urban areas, the MOE guidelines require that the sound level due to the stationary source at the building façade and outdoor amenity spaces not exceed the sound level due to road traffic and in certain situations due to rail traffic in any hour of source operation, subject to specific exclusions. Tables C-5, C-6, C-7 and C-8, included in Appendix B, provide the exclusion limit values of one-hour equivalent sound level (Leq,dBA) and impulsive sound level (L_{lm},dBAI).

In general, if the criteria for a stationary source of noise are exceeded, the MOE recommends that control be implemented at the source rather than at the receiver. Alternatively, if the receiver is set back from the source or if a physical barrier is constructed so that the criteria can be met at the receiver, no additional mitigative measures are required. In addition, a warning clause in offers of purchase and sale and/or lease agreements noting the proximity of dwellings to such a source should be considered. Treatment of the receptor building by the use of suitable exterior wall and window construction and central air conditioning to keep windows closed is not an acceptable solution to the MOE in Class 1 and 2 areas (urban). In addition, a warning clause in offers of purchase and sale and/or lease agreements noting the proximity of dwellings to such a source should be considered.

A Class 4 designation of a proposed residential use can be used to permit higher sound levels from neighbouring stationary sources. Based on the NPC-300 guidelines, Class 4 areas can only be established in Class 1 or 2 areas in proximity to existing, lawfully established stationary sources. This is not applicable in areas with existing noise sensitive land use(s) unless they are redeveloped/rezoned/replaced with new noise sensitive land use(s). Classification of a Class 4 area is subject to formal confirmation from the land use planning authority and continues as long as the stationary source(s) can potentially operate (i.e. until change in zoning).

Class 4 does not exempt the evaluation of the noise impact of the noise sources associated with the proposed building on the noise sensitive receptors within the proposed building.

Limits for Class 4 areas shown in Tables C-5, C-6, C-7 and C-8 assume closed windows together with a ventilation system which is in most situations, central air conditioning.

4.0 NOISE IMPACT ASSESSMENT

4.1 Transportation Sources

Road Traffic

Sound levels at the outdoor amenity spaces and at the building envelopes of the proposed residential dwellings in terms of Leq, the energy equivalent continuous sound levels for both day (16 hours) and night (8 hours) were predicted using ORNAMENT, the MOE Traffic Noise Prediction Model for road traffic. See Table 2 for a detailed summary. Appendix C contains sample calculations of the predicted sound levels.

Where applicable, screening by the existing residential developments surrounding the proposed site was included in the predictions.

For Building C, north façade (worst case receptor), the unmitigated sound levels at the façade are predicted to be up to 54 dBA for the daytime period (16 hours) between 7:00 a.m. and 11:00 p.m. and up to 47 dBA for the nighttime period (8 hours) between 11:00 p.m. and 7:00 a.m.

For Building D, north façade (worst case receptor), the unmitigated sound levels at the façade are predicted to be up to 53 dBA for the daytime period (16 hours) between 7:00 a.m. and 11:00 p.m. and up to 46 dBA for the nighttime period (8 hours) between 11:00 p.m. and 7:00 a.m. For the west façade, the unmitigated daytime and nighttime sound levels are predicted to be up to 52 dBA and 45 dBA, respectively.

The central at-grade outdoor amenity area is predicted to have a daytime sound level (16 hours) less than 55 dBA.

Where the sound level limits are expected to be exceeded, mitigative measures and warning clauses are required.

4.2 Stationary Sources

At the time of completion of this report, contact with the neighbouring industrial business to the south (Wajax) was completed. The noise sources and approach to noise source modelling are based on information collected through a questionnaire and correspondence with Wajax staff, as noted in Section 2.2.

Potentially significant noise sources associated with the neighbouring Wajax facilities included in the analysis are:

- rooftop HVAC units;
- rooftop exhaust fans;

- machinery repair operations;
- non-refrigerated tractor trailer manoeuvering;
- non-refrigerated tractor trailer idling; and
- loading/unloading and associated impulses.

Appendix D includes information regarding the sound power levels used in the calculations.

Figures 3 to 6 show the location of the industrial buildings and noise sources analyzed.

For most of the rooftop HVAC units, duty cycles of 100% (daytime), 70% (evening) and 25% (nighttime) were accounted for in the analysis. A duty cycle of 100% for any hour during the daytime period was used for exhaust fans, during expected operating hours of the facilities.

Although facility operations occur between 7:00 a.m. and 5:00 p.m., Wajax staff have indicated that delivery trucks may arrive on-site before 7:00 a.m. and wait for the facility to open. For this reason, night truck manoeuvering and reduced idle times were used.

The unmitigated sound levels in terms of one hour Leq were calculated for the façades (and relevant outdoor amenity areas) of all proposed buildings using the CadnaA 2020 MR1 computer program, which uses International Standard Analytical Code ISO 9613-2. As the existing topography has no significant ground elevation changes, flat ground was used in the calculations.

Tables A and B were prepared showing the results of the analysis at the worst case building façades, without the inclusion of special mitigation measures. Figures 3 and 4 show the predicted unmitigated sound levels at all building façades, and relevant outdoor amenity spaces.

As shown in Tables A and B, the predicted sound levels at some of the proposed building façade locations exceed the Class 1 sound level limits; therefore, mitigation measures are required.

The predicted sound levels were also compared with the MOE Class 4 exclusion sound level limits of 60 dBA (daytime and evening hours) and 55 dBA (nighttime), for completeness. As shown in Tables A and B, exceedances were not predicted; therefore, mitigation measures are not required to meet the Class 4 sound level limits.

TABLE A

SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITHOUT MITIGATION MEASURES

Worst Case Receptor On	Predicted Sound Level (dBA)					
	Daytime/Evening (7:00 a.m. to 11:00 p.m.)			Nighttime (11:00 p.m. to 7:00 a.m.)		
	Predicted	Limit	Exceedance (Class 1/ Class 4)	Predicted	Limit	Exceedance (Class 1/ Class 4)
Building C	52	50*/60**	Yes/No	47	45*/55**	Yes/No
Building D	54	50*/60**	Yes/No	49	45*/55**	Yes/No
Podium	54	50*/60**	Yes/No	49	45*/55**	Yes/No
Podium OLA	55	50*/60**	Yes/No	N/A	N/A	N/A

* Class 1 exclusion sound level limit.

** Class 4 exclusion sound level limit.

TABLE B

SUMMARY OF PREDICTED SOUND LEVELS DUE TO IMPULSIVE NOISE SOURCES WITHOUT MITIGATION MEASURES

Worst Case Receptor On	Predicted Sound Level (dBA)					
	Daytime/Evening (7:00 a.m. to 11:00 p.m.)			Nighttime (11:00 p.m. to 7:00 a.m.)		
	Predicted	Limit	Exceedance (Class 1/ Class 4)	Predicted	Limit	Exceedance (Class 1/ Class 4)
Building C	53	50*/60**	Yes/No	N/A	45*/55**	N/A
Building D	54	50*/60**	Yes/No	N/A	45*/55**	N/A
Podium	53	50*/60**	Yes/No	N/A	45*/55**	N/A
Podium OLA	53	50*/60**	Yes/No	N/A	N/A	N/A

* Class 1 exclusion sound level limit.

** Class 4 exclusion sound level limit.

5.0 NOISE ABATEMENT MEASURES

5.1 Transportation Sources

5.1.1 Indoors

Architectural Component Requirements

Indoor sound level criteria for road traffic can be achieved in all cases by using appropriate architectural elements for external wall, roof, window and exterior door construction. MOE indoor criteria for road traffic noise are 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for the living/dining rooms during nighttime hours and 45 dBA (Leq16hour) for the living/dining rooms and bedrooms during daytime hours. These criteria have been used in this report. The characteristic spectra for the noise sources have been accounted for in the determination of the architectural components. Appendix E contains a sample calculation of architectural component selection.

Architectural plans including suite layouts were not available at this time. Once final dwelling plans become available, the noise control requirements should be re-evaluated.

In determining the architectural requirements, it is assumed that the worst case residential condition would involve a corner living/dining room. The exterior walls would be 30% and the windows 50% of the associated floor area for both the wall perpendicular to the noise source and the wall parallel to the noise source.

Based on the preliminary analysis, for the worst case receptors, windows and exterior doors need to be STC 18 and exterior walls need to be STC 21 to provide the mitigation required for noise due to road traffic.

These STC ratings comply with the minimum structural and safety requirements provided by standard construction practices; therefore, standard window, exterior door and exterior wall construction is acoustically acceptable. These requirements will need to be reviewed once the final architectural plans are available.

The acoustical performance of a window as a whole depends on glass configuration/thickness, air space, material used for frames and construction details, including seals. Therefore, the acoustical performance of the glass configuration alone expressed as a sound transmission class (STC) rating, generally available in the literature, does not address the STC rating of the whole window. Glass configurations with different frame materials and/or construction details often produce different STC ratings. Therefore, it is recommended that prior to installation, the window manufacturers provide proof (STC test

results of window configuration from an accredited laboratory) that their windows meet the required STC ratings.

Ventilation Requirements

Where the sound level is equal to or greater than 60 dBA (at night) at the outside face of a bedroom window or living/dining room window or exceeds 65 dBA (during the day) on the outside face of a bedroom window or living/dining room window, the indoor noise criteria would not be met with open windows and provisions must be made to permit the windows to remain closed. The MOE requires central air conditioning. In addition, a warning clause is needed. Based on the analysis, no buildings require central air conditioning. See Table 3 and Figure 2.

Where the sound level is exceeded by 1 dB to 10 dB (i.e. LeqNight greater than 50 dBA to less than or equal to 59 dBA and LeqDay greater than 55 dBA to less than or equal to 65 dBA), the provision for adding central air conditioning by the occupants and a warning clause is required. This is not practicable in multi-tenant dwellings. Therefore, central air conditioning is generally used. Provision for adding central air conditioning is not required for any buildings. See Table 3 and Figure 2.

Although there are no ventilation requirements for the proposed development, it is anticipated that all residential units will be provided with central air conditioning.

See Table 3 and notes to Table 3 for details of minimum noise abatement measures required.

5.1.2 Outdoors

The outdoor amenity area is required to be exposed to a sound level of 55 dBA or less during the day. A 5 dBA increase is considered acceptable in certain situations. Typically, if the sound level is above 55 dBA, some form of mitigation is recommended and warning clauses are required. Where the sound levels exceed 60 dBA, mitigation and warning clauses are required.

In all cases, sound levels less than 55 dBA are predicted at the outdoor amenity area, as noted in Section 4.1 and Table 2.

Since the predicted sound levels are less than 55 dBA at the at-grade common outdoor amenity area, sound barriers are not required and are therefore not proposed at the subject site.

Once the final outdoor amenity space layouts are available, the requirement for mitigation measures should be revisited.

All balconies and other private terraces which are less than 4.0 m in depth are not considered a noise sensitive space that require mitigation.

Where an excess will remain or where mitigation measures are required, a warning clause should be placed in offers of purchase and sale and/or lease agreements and in the development agreement. Warning clause requirements are listed in Table 3 and specific wording is included in the Notes to Table 3.

5.2 Stationary Sources

As discussed in Section 4.2, based on the stationary noise source review, noise mitigation measures are required to achieve the MOE sound level limits.

Based on the analysis, the Class 1 sound level limits will not be met in all cases, without the use of physical mitigation measures at the source; the Class 4 sound level limits are predicted to be met without the addition of physical mitigation measures (see Tables A and B). The following options to address the stationary noise sources have been considered in this preliminary report:

- Option 1 - The use of physical mitigation measures in the form of acoustic barriers (wing walls) at the loading bays on the existing Wajax buildings to achieve the MOE Class 1 sound level limits; or
- Option 2 - Designation of the new residential development as Class 4.

Tables C and D, below, show the predicted results with the incorporation of physical mitigation measures in the form of 5.0 m high wing walls installed at the loading bays, as shown on Figures 5 and 6. The predicted sound levels were compared only with the Class 1 sound level limits as it was previously shown that the Class 4 limits were met without the inclusion of physical mitigation measures.

Based on the MOE NPC-300 guidelines, Class 4 designation can be used for new sensitive land uses adjacent to lawfully established stationary sources if approved by the municipality. Mandatory central air conditioning would also be required to satisfy the Class 4 requirements.

Currently, the proposed site is considered to be a Class 1 area; therefore, the land use planning authority would need to approve the new classification based on the noise analysis and incorporate Class 4 designation in a site specific zoning by-law or alternative planning document that remains registered, as approved by the City of Mississauga.

More details regarding each of the mitigation options are summarized below. The mitigation options would need to be reviewed with the City of Mississauga to determine the preferred approach.

Option 1

This option would include the physical mitigation of noise sources associated with the Wajax industrial development.

Mitigation measures could include a 5.0 m high wing wall at the northwest side of each loading bay, with a length at least great enough to fully shield idling trucks.

Should this option be selected, discussions with Wajax would be needed to review the option in order to determine the feasibility of constructing the proposed acoustic barriers at the facility.

Option 2

As the predicted unmitigated sound levels are within the Class 4 sound level limits, the incorporation of the Class 4 designation at the lands by the City would be required.

TABLE C

SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITH MITIGATION MEASURES

Worst Case Receptor On	Predicted Sound Level (dBA)					
	Daytime/Evening (7:00 a.m. to 11:00 p.m.)			Nighttime (11:00 p.m. to 7:00 a.m.)		
	Predicted	Limit*	Exceedance (Class 1)	Predicted	Limit*	Exceedance (Class 1)
Building C	47	50	No	42	45	No
Building D	49	50	No	44	45	No
Podium	49	50	No	44	45	No
Podium OLA	49	50	No	N/A	N/A	N/A

* Class 1 exclusion sound level limit.

TABLE D

SUMMARY OF PREDICTED SOUND LEVELS DUE TO IMPULSIVE NOISE SOURCES WITH MITIGATION MEASURES

Worst Case Receptor On	Predicted Sound Level (dBA)					
	Daytime/Evening (7:00 a.m. to 11:00 p.m.)			Nighttime (11:00 p.m. to 7:00 a.m.)		
	Predicted	Limit*	Exceedance (Class 1)	Predicted	Limit*	Exceedance (Class 1)
Building C	45	50	No	N/A	45	N/A
Building D	48	50	No	N/A	45	N/A
Podium	47	50	No	N/A	45	N/A
Podium OLA	47	50	No	N/A	N/A	N/A

* Class 1 exclusion sound level limit.

Due to their proximity to the existing industrial buildings, all proposed suites should be provided with a proximity warning clause notifying the purchasers/tenants that the activities and/or equipment associated with the industrial buildings may at times be audible. See Table 3 and Notes to Table 3

6.0 RECOMMENDATIONS

1. The requirements as stipulated in Table 3 should be incorporated in the development.

2. The mitigation options to address the stationary sources should be reviewed with the City of Mississauga to determine the preferred approach prior to implementation.

3. A detailed environmental noise report should be prepared once the final site plan, architectural plans, mechanical plans and grading plan are available to ensure the appropriate criteria are achieved.

7.0 CONCLUSIONS

Based on the acoustical analysis, with the incorporation of the appropriate acoustical abatement measures, it is feasible to develop these lands for residential use. In accordance with City and Ministry implementation guidelines, where mitigation is required, future purchasers will be advised through the use of warning clauses.

Respectfully submitted,

JADE ACOUSTICS INC.

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Michael Bechbache, P.Eng.

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FOR Chris B. Kellar P.Eng.

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8.0 REFERENCES

1. "Model Municipal Noise Control By-Law", Final Report, by the Ontario Ministry of the Environment, August, 1978.

2. ORNAMENT – "Ontario Road Noise Analysis Method for Environment and Transportation", Ontario Ministry of the Environment, October, 1989.

3. "Building Practice Note No. 56: Controlling Sound Transmission into Buildings'", by J.D. Quirt, Division of Building Research, National Research Council of Canada, September, 1985.

4. "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Ontario Ministry of the Environment and Climate Change, Publication NPC-300, August, 2013, released October 21, 2013 (updated final version #22).

5. "Impulse Vibration Residential Buildings", Ontario Ministry of Environment, Publication NPC-207 (Draft), November, 1983.

6. "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", Region of Peel, November, 2012.

TABLE 1

PROPOSED RESIDENTIAL DEVELOPMENT

1840-1850 BLOOR STREET

CITY OF MISSISSAUGA

REGION OF PEEL

SUMMARY OF ROAD TRAFFIC INFORMATION

ROAD	BLOOR STREET
AADT* (Ultimate)	18,700
No. of Lanes	4
Speed (km/hr)	50
Medium Trucks (%)	1.65
Heavy Trucks (%)	1.35
Gradient (%)	<2
Day/Night Split (%)	90/10

* AADT: Annual Average Daily Traffic.

TABLE 2

PROPOSED RESIDENTIAL DEVELOPMENT

1840-1850 BLOOR STREET

CITY OF MISSISSAUGA

REGION OF PEEL

PREDICTED UNMITIGATED SOUND LEVELS
OUTDOORS DUE TO ROAD TRAFFIC

Building	Location*	Source	Distance (m)	Leq (dBA)			
				Day (7:00 a.m. to 11: 00 p.m.)		Night (11:00 p.m. to 7:00 a.m.)	
				Separate	Combined	Separate	Combined
Building C	North Façade	Bloor Street	100	54	--	47	--
Building D	North Façade	Bloor Street	149	53	--	46	--
	West Façade	Bloor Street	151	52	--	45	--
Podium	Fourth Storey OLA	Bloor Street	106	48	--	--	--

* Wall receiver is worst case residential storey. The outdoor living area receiver is located at a height of 1.5 m above grade.

TABLE 3

PROPOSED RESIDENTIAL DEVELOPMENT

1840-1850 BLOOR STREET

CITY OF MISSISSAUGA

REGION OF PEEL

SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES
DUE TO TRANSPORTATION NOISE SOURCES

Buildings (Suites)	Air Conditioning (1)	Exterior Wall STC Rating (2)	Window STC Rating (3)	Sound Barrier (4)	Warning Clause (5)
All buildings (suites)	Mandatory*	Up to STC 21	Up to STC 18	No	A, B, C, D**

* See Section 5.1.2 for details. Dwelling designs are anticipated to include central air conditioning.

** Warning clause "D" will be needed if the development is designated as Class 4.

See Notes to Table 3 on following pages. See Section 5.2 for discussions regarding noise mitigation measures required to address stationary noise sources.

NOTES TO TABLE 3

1. Means must be provided to allow windows to remain closed for noise control purposes.

2. STC – Sound Transmission Class Rating (Reference ASTM-E413). Values shown are based on preliminary calculations using standard assumptions. See text for details.

3. STC – Sound Transmission Class Rating (Reference ASTM-E413). Values shown are based on preliminary calculations using standard assumptions. See text for details.
   A sliding glass walkout door should be considered as a window and be included in the percentage of glazing. Requirements are to be finalized once building plans are available.

4. Suggested warning clauses to be included in the development agreement and to be included in offers of purchase and sale or lease agreements on designated buildings (suites):

   A. "Purchasers/tenants are advised that despite the inclusion of noise control features in this development area and within the dwelling units, noise due to increasing road traffic may continue to be of concern, occasionally interfering with the activities of the occupants as the sound level may exceed the noise criteria of the Municipality and the Ontario Ministry of the Environment, Conservation and Parks. I, the purchaser hereby agree to place this clause in all subsequent offers of purchase and sale when I sell the property."

   B. "Purchasers/tenants are advised that the dwelling unit was fitted with a central air conditioning system in order to permit closing of windows for noise control."

   C. "Purchasers/tenants are advised that this residential unit is in proximity to the existing industrial buildings whose activities may at times be audible."

   D. "Purchasers/tenants are advised that sound levels due to the adjacent industrial buildings are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed. The residential area has been designated Class 4 as defined by the Ministry of the Environment, Conservation and Parks guidelines."

N.T.S.

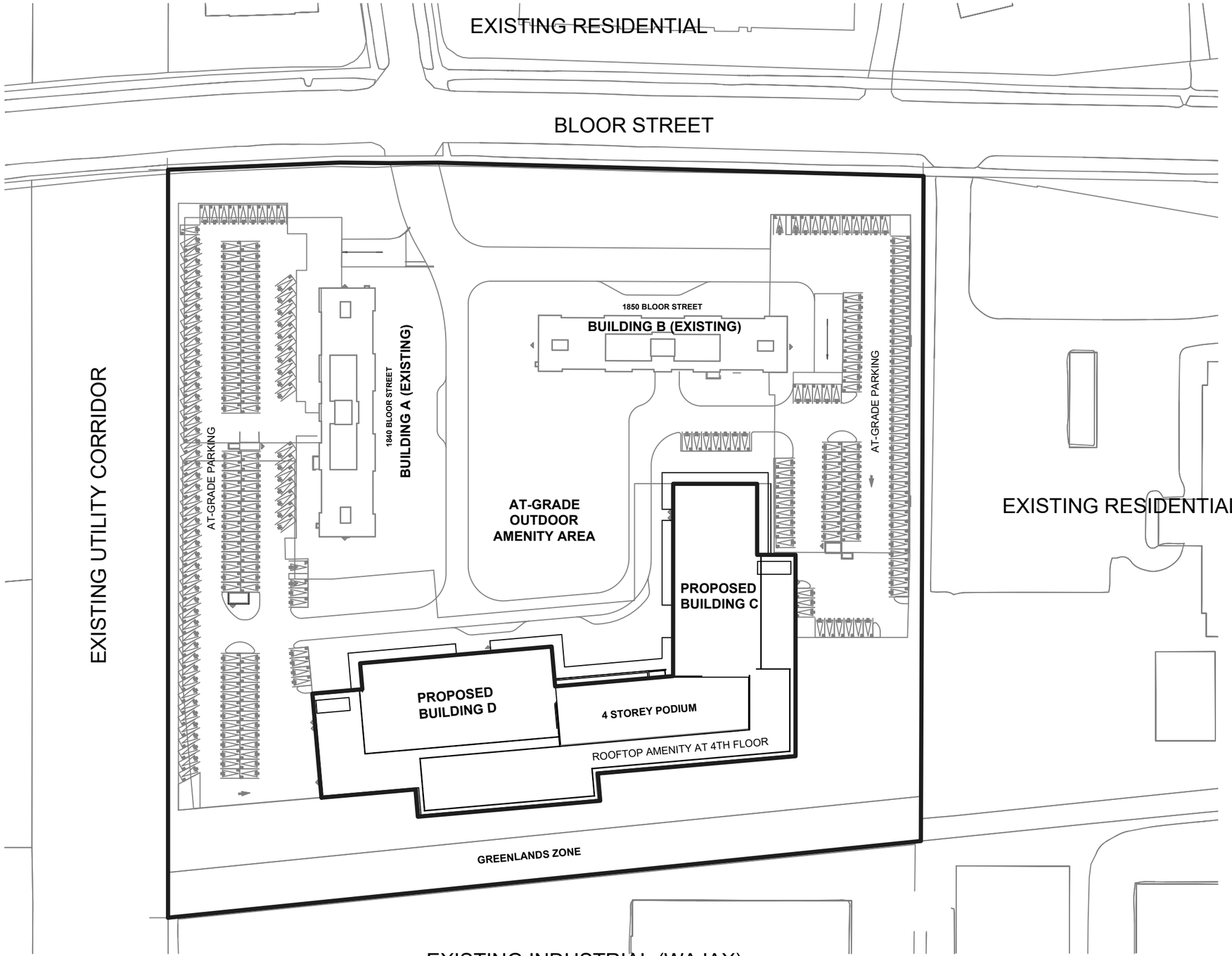
Proposed Residential Development
1840-1850 Bloor Street
City of Mississauga

Date: March 2020 **File: 19-135**

KEY PLAN

FIGURE 1

JADE ACOUSTICS



N.T.S.

Proposed Residential Development
1840-1850 Bloor Street
City of Mississauaga

Date: March 2020 Our File: 19-135

JADE ACOUSTICS

PLAN OF DEVELOPMENT

FIGURE 2

17614100 17614150 17614200 17614250 17614300 17614350 17614400 17614450 17614500 17614550

4831350 4831300 4831250 4831200 4831150 4831100 4831050

Bloor Street

Existing Buildings

Building C

5247

Outdoor Amenity Area

5449

R1
LeqD 55 dBA

Building D

5449

Existing Wajax B

HVAC

Idling Truck

Truck Route

Existing Utility Corridor

Exhaust Fans

Existing Wajax A

Idling Truck

Repair Bay Doors

HVAC

Idling Truck

© Google

N

JADE ACOUSTICS

Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: March 2020 | Jade File: 19-135

PROPOSED RESIDENTIAL DEVELOPMENT
1840-1850 BLOOR STREET
CITY OF MISSISSAUGA

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE AND PREDICTED SOUND LEVELS WITHOUT MITIGATION MEASURES

FIGURE 3

17614100 17614150 17614200 17614250 17614300 17614350 17614400 17614450 17614500 17614550

4831350 4831300 4831250 4831200 4831150 4831100 4831050

Bloor Street

Existing Buildings

Building C

53

Outdoor Amenity Area

53

R1
LeqD 53 dBA

Existing Wajax B

Building D

54

Impulses

Existing Wajax A

Existing Utility Corridor

Impulses

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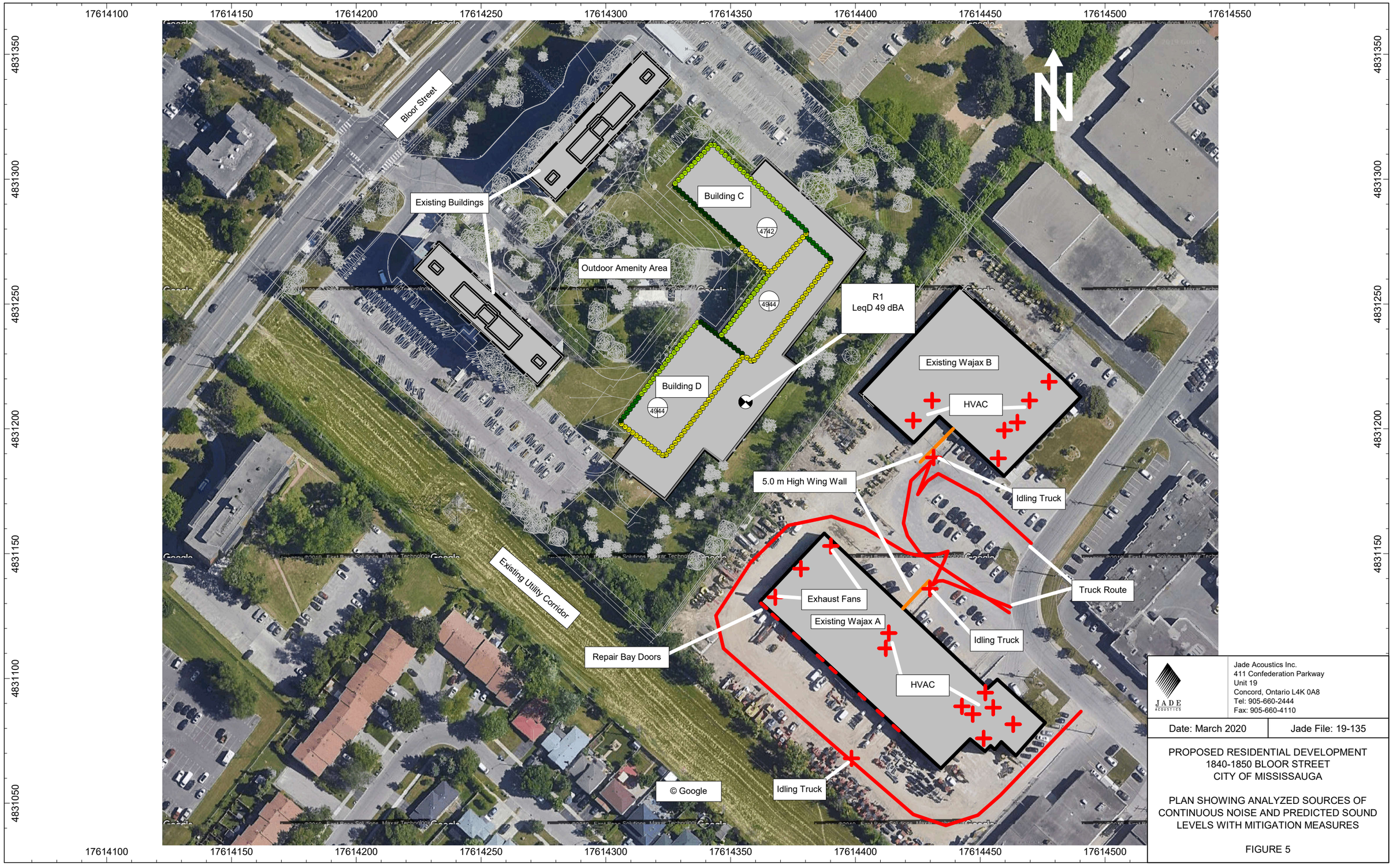
PROPOSED RESIDENTIAL DEVELOPMENT
1840-1850 BLOOR STREET
CITY OF MISSISSAUGA

PLAN SHOWING ANALYZED SOURCES OF IMPULSIVE NOISE AND PREDICTED SOUND LEVELS WITHOUT MITIGATION MEASURES

FIGURE 4



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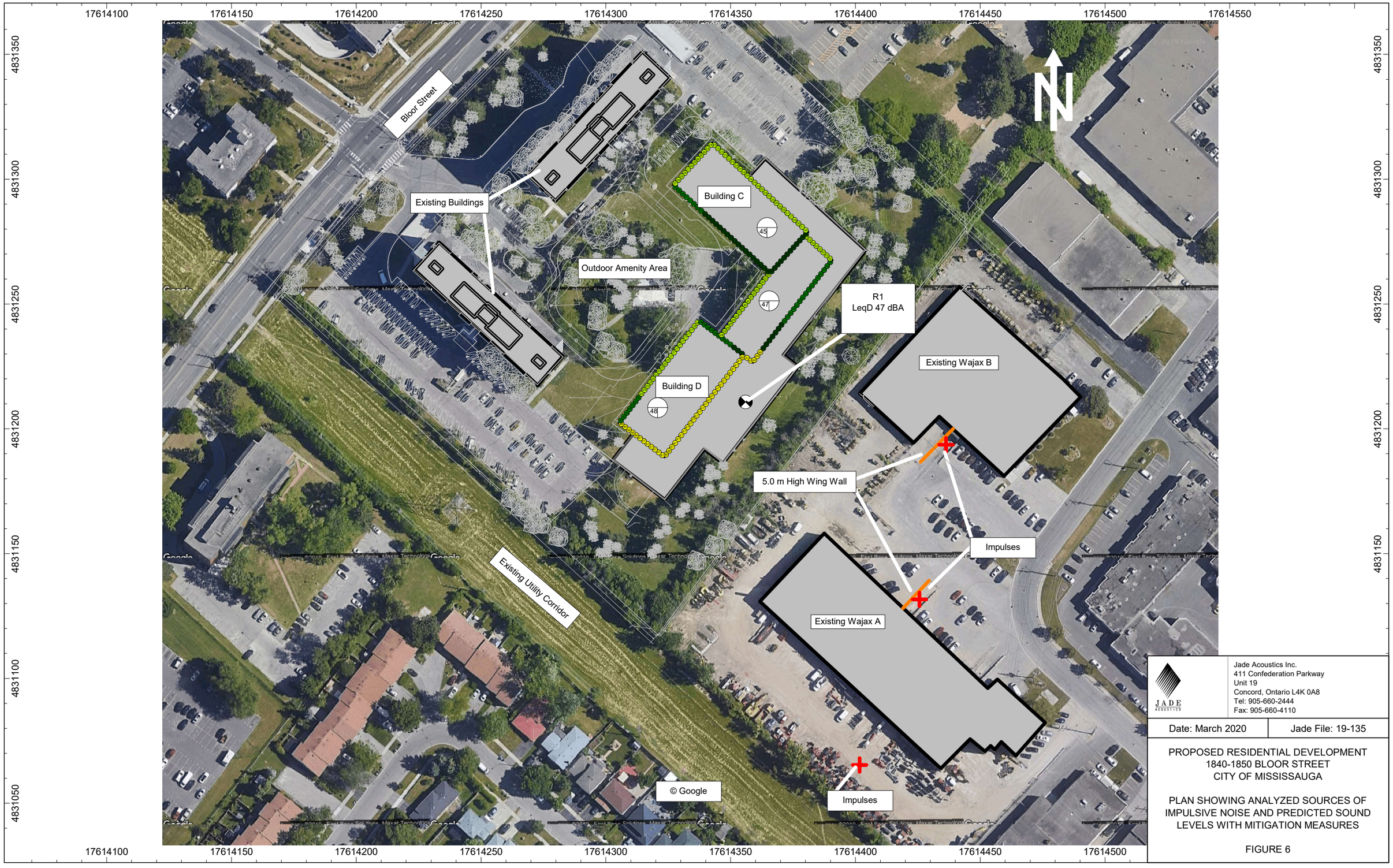
PROPOSED RESIDENTIAL DEVELOPMENT
1840-1850 BLOOR STREET
CITY OF MISSISSAUGA

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE AND PREDICTED SOUND LEVELS WITH MITIGATION MEASURES

FIGURE 5



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PROPOSED RESIDENTIAL DEVELOPMENT
1840-1850 BLOOR STREET
CITY OF MISSISSAUGA

PLAN SHOWING ANALYZED SOURCES OF IMPULSIVE NOISE AND PREDICTED SOUND LEVELS WITH MITIGATION MEASURES

FIGURE 6

APPENDIX A

CORRESPONDENCE REGARDING TRAFFIC DATA

NOISE REPORT FOR PROPOSED DEVELOPMENT

Date:	17-Oct-19

REQUESTED BY:

Name:	Michael Bechbache
Company:	Jade Acoustics Inc

PREPARED BY:

Name	Bertuen Mickle
Tel#:	(905) 615-3200

MISSISSAUGA

Location:	Bloor Street West- North/West of Fieldgate Drive
ID#	431

ON SITE TRAFFIC DATA

Specific	Street Names				
[redacted]	Bloor Street West				
AADT:	18,700				
# of Lanes:	4 Lanes				
% Trucks:	3%				
Medium/Heavy Trucks Ratio:	55/45				
Day/Night Split:	90/10				
Posted Speed Limit:	50 km/h				
Gradient Of Road:	<2%				
Ultimate R.O.W:	30m				

Comments:	Ultimate Traffic Data Only (2041 ADT)

APPENDIX B

ENVIRONMENTAL NOISE CRITERIA

ONTARIO MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MOE)

Reference: "Environmental Noise Guidelines Stationary and Transportation Sources – Approval and Planning", Publication NPC-300, August, 2013, released October 21, 2013 (updated final version # 22).

SOUND LEVEL CRITERIA FOR ROAD AND RAIL NOISE

TABLE C-1

Sound Level Limit for Outdoor Living Areas

Road and Rail

Time Period	L_{eq} (16) (dBA)
16 hr, 07:00 - 23:00	55

TABLE C-2

Indoor Sound Level Limits
Road and Rail

Type of Space	Time Period	L_{eq} (dBA)	
		Road	Rail
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	07:00 – 23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	23:00 – 07:00	45	40
Sleeping quarters	07:00 – 23:00	45	40
	23:00 – 07:00	40	35

SOUND LEVEL CRITERIA FOR AIRCRAFT NOISE

TABLE C-3

Outdoor Aircraft Noise Limit

Time Period	NEF/NEP
24-hour	30

TABLE C-4

Indoor Aircraft Noise Limit
(Applicable over 24-hour period)

Type of Space	Indoor NEF/NEP*
Living/dining/den areas of residences, hospitals, nursing/retirement homes, schools, daycare centres, etc.	5
Sleeping Quarters	0

* The indoor NEF/NEP values in Table C-4 are used to determine acoustical insulation requirements based on the NEF/NEP contour maps.

SOUND LEVEL CRITERIA FOR STATIONARY SOURCES

TABLE C-5

Exclusion Limit Values of One-Hour Equivalent Sound Level (L_{eq}, dBA)
Outdoor Points of Reception

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50	50	45	55
19:00 – 23:00	50	45	40	55

TABLE C-6

Exclusion Limit Values of One-Hour Equivalent Sound Level (L_{eq}, dBA)
Plane of Window of Noise Sensitive Spaces

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50	50	45	60
19:00 – 23:00	50	50	40	60
23:00 – 07:00	45	45	40	55

TABLE C-7

Exclusion Limit Values for Impulsive Sound Level (L_{LM}, dBAI)
Outdoor Points of Reception

Time of Day	Actual Number of Impulses in Period of One-Hour	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 23:00	9 or more	50	50	45	55
	7 to 8	55	55	50	60
	5 to 6	60	60	55	65
	4	65	65	60	70
	3	70	70	65	75
	2	75	75	70	80
	1	80	80	75	85

TABLE C-8

Exclusion Limit Values of Impulsive Sound Level (L_{LM}, dBAI)
Plane of Window - Noise Sensitive Spaces (Day/Night)

Actual Number of Impulses in Period of One-Hour	Class 1 Area (07:00-23:00) / (23:00-07:00)	Class 2 Area (07:00-23:00) / (23:00-07:00)	Class 3 Area (07:00-19:00) / (19:00-07:00)	Class 4 Area (07:00-23:00) / (23:00-07:00)
9 or more	50/45	50/45	45/40	60/55
7 to 8	55/50	55/50	50/45	65/60
5 to 6	60/55	60/55	55/50	70/65
4	65/60	65/60	60/55	75/70
3	70/65	70/65	65/60	80/75
2	75/70	75/70	70/65	85/80
1	80/75	80/75	75/70	90/85

SUPPLEMENTARY SOUND LEVEL LIMITS

Indoor limits for transportation sources applicable to noise sensitive land uses are specified in Table C-2 and Table C-4. Table C-9 and Table C-10 are expanded versions of Table C-2 and Table C-4, and present guidelines for acceptable indoor sound levels that are extended to land uses and developments which are not normally considered noise sensitive. The specified values are maximum sound levels and apply to the indicated indoor spaces with the windows and doors closed. The sound level limits in Table C-9 and Table C-10 are presented as information, for good-practice design objectives.

TABLE C-9

Supplementary Indoor Sound Level Limits
Road and Rail

Type of Space	Time Period	L_{eq} (Time Period) (dBA)	
		Road	Rail
General offices, reception areas, retail stores, etc.	16 hours between 07:00 – 23:00	50	45
Living/dining areas of residences, hospitals, schools, nursing/retirement homes, daycare centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc.	16 hours between 07:00 – 23:00	45	40
Sleeping quarters of hotels/motels	8 hours between 23:00 – 07:00	45	40
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	8 hours between 23:00 – 07:00	40	35

TABLE C-10

Supplementary Indoor Aircraft Noise Limit
(Applicable over 24-hour period)

Type of Space	Indoor NEF/NEP*
General offices, reception areas, retail stores, etc.	15
Individual or semi-private offices, conference rooms, etc.	10
Living/dining areas of residences, sleeping quarters of hotels/motels, theatres, libraries, schools, daycare centres, places of worship, etc.	5
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	0

* The indoor NEF/NEP values in Table C-10 are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements.

ENVIRONMENTAL NOISE CRITERIA

REGION OF PEEL

Reference: "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", November, 2012.

ROAD TRAFFIC NOISE

TYPE OF SPACE	TIME PERIOD	SOUND LEVEL LIMIT Leq*
Outdoor living area	7:00 a.m. – 11:00 p.m.	Leq (16 hr) = 55 dBA
Outside bedroom window	11:00 p.m. – 7:00 a.m.	Leq (8 hr) = 50 dBA
Indoor (bedrooms, hospitals)	11:00 p.m. – 7:00 a.m.	Leq (8 hr) = 40 dBA
Indoor (living rooms, hotels, private offices, reading rooms)	7:00 a.m. – 11:00 p.m.	Leq (16 hr) = 45 dBA
Indoor (general offices, shops)	7:00 a.m. – 11:00 p.m.	Leq (16 hr) = 50 dBA

* Leq, measured in A-weighted decibels (dBA), is the value of the constant sound level which would result in exposure to the same total sound level as would the specified time varying sound, if the constant sound level persisted over an equal time interval.

.

APPENDIX C

SAMPLE CALCULATION OF PREDICTED SOUND LEVELS DUE TO ROAD TRAFFIC

APPENDIX C-1
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 19-135
NAME: 1840-1850 Bloor Street
REFERENCE DRAWINGS: Concept Plan
LOCATION: Building C, North Façade, top residential floor

Noise Source:	Bloor Street
Segment Angle:	20 to 90
Time Period:	16 hr. (day)
Distance (m):	100

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	65.88
Distance Correction (dBA):	-8.26
Finite Element Correction (dBA):	-4.10
Allowance for Future Growth (dBA):	incl.
LeqDay (dBA):	53.52

* Leq determined using the computerized model of the Ministry of the Environment Noise Assessment Guidelines, STAMSON Version 5.04 (ORNAMENT). See attached printouts.

APPENDIX C-2
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 19-135
NAME: 1840-1850 Bloor Street
REFERENCE DRAWINGS: Concept Plan
LOCATION: Building C, North Façade, top residential floor

Noise Source:	Bloor Street
Segment Angle:	20 to 90
Time Period:	8 hr. (night)
Distance (m):	100

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	59.33
Distance Correction (dBA):	-8.26
Finite Element Correction (dBA):	-4.10
Allowance for Future Growth (dBA):	incl.
LeqNight (dBA):	46.97

* Leq determined using the computerized model of the Ministry of the Environment Noise Assessment Guidelines, STAMSON Version 5.04 (ORNAMENT). See attached printouts.

```
STAMSON 5.0        NORMAL REPORT        Date: 26-02-2020 13:53:37
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: cnorth.te            Time Period: Day/Night 16/8 hours
Description: Building C North Wall bldg req

Road data, segment # 1: Bloor (day/night)
----------------------------------------
Car traffic volume  : 16325/1814  veh/TimePeriod  *
Medium truck volume :   278/31    veh/TimePeriod  *
Heavy truck volume  :   227/25    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  18700
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Bloor (day/night)
----------------------------------------
Angle1   Angle2           :  20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 100.40 / 100.40 m
Receiver height           :  24.00 / 24.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Bloor (day)
---------------------------------

Source height = 1.08 m

ROAD (0.00 + 53.52 + 0.00) = 53.52 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.00  65.88   0.00  -8.26  -4.10   0.00   0.00   0.00  53.52
-------------------------------------------------------------------------------

Segment Leq : 53.52 dBA

Total Leq All Segments: 53.52 dBA

Results segment # 1: Bloor (night)
-----------------------------------

Source height = 1.08 m

ROAD (0.00 + 46.97 + 0.00) = 46.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.00  59.33   0.00  -8.26  -4.10   0.00   0.00   0.00  46.97
-------------------------------------------------------------------------------

Segment Leq : 46.97 dBA

Total Leq All Segments: 46.97 dBA


TOTAL Leq FROM ALL SOURCES (DAY): 53.52
                           (NIGHT): 46.97
```

APPENDIX D

SAMPLE CALCULATION OF SOUND LEVELS DUE TO STATIONARY SOURCES - CADNAA

Point sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
Regular Truck	~	!01!	98.9	98.9	98.9	Lw	TruckPassby		0	0	0				60	0	20	0		(none)	2.4	r	17614429.9	4831135.89	2.4
Regular Truck	~	!01!	98.9	98.9	98.9	Lw	TruckPassby		0	0	0				60	0	20	0		(none)	2.4	r	17614431.4	4831188.49	2.4
Regular Truck	~	!01!	98.9	98.9	98.9	Lw	TruckPassby		0	0	0				60	0	20	0		(none)	2.4	r	17614398.5	4831067.92	2.4
EF1	~	!01!	81.4	81.4	81.4	Lw	EF		0	0	0				60	0	0	0		(none)	4	g	17614367.9	4831132.5	8.5
EF2	~	!01!	81.4	81.4	81.4	Lw	EF		0	0	0				60	0	0	0		(none)	2	g	17614390.2	4831153.04	6.5
RTU1	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614378.2	4831143.99	5.6
RTU2	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614412.2	4831112.06	5.6
RTU3	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614413.4	4831118.15	5.6
RTU4	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614442.7	4831088.8	5.6
RTU5	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614447	4831085.63	5.6
RTU6	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614455.2	4831088.3	5.6
RTU7	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614452	4831094.3	5.6
RTU8	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614451.4	4831075.96	5.6
RTU9	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614463.2	4831081.63	5.6
RTU10	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614423.2	4831203.35	5.6
RTU11	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614430.7	4831211.35	5.6
RTU12	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614459.7	4831199.35	5.6
RTU13	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614457.2	4831188.18	5.6
RTU14	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614464.9	4831202.52	5.6
RTU15	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614469.7	4831211.35	5.6
RTU16	~	!01!	80.1	80.1	80.1	Lw	FivetHVAC		0	0	0				60	42	15	0		(none)	1.1	g	17614477.5	4831218.86	5.6
Loading Impulses		!03!	99.2	99.2	99.2	Lw	IMP-10*LOG10(3)		0	0	0				60	0	0	0		(none)	2.4	r	17614425.7	4831131.62	2.4
Loading Impulses		!03!	99.2	99.2	99.2	Lw	IMP-10*LOG10(3)		0	0	0				60	0	0	0		(none)	2.4	r	17614436.3	4831193.61	2.4
Loading Impulses		!03!	99.2	99.2	99.2	Lw	IMP-10*LOG10(3)		0	0	0				60	0	0	0		(none)	2.4	r	17614401.7	4831065.33	2.4

Line sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			KO	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h)
Truck Delivery	~	l01!	84.5	-15.5	84.5	58.9	-41.1	58.9	PWL-Pt	TruckPassby		0	0	0							0		(none)	1	0	1	10
Truck Delivery	~	l01!	80.9	-19.1	80.9	58.9	-41.1	58.9	PWL-Pt	TruckPassby		0	0	0							0		(none)	1	0	1	10

Barriers

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
			left	right		horz.	vert.	Begin		End	
					(m)	(m)	(m)	(m)		(m)	
Barrier	~	!02!	0.21	0.21				4.5	r		
Barrier	~	!02!	0.21	0.21				4.5	r		
Barrier		!04!	0.21	0.21				4.5	r		
Barrier		!04!	0.21	0.21				4.5	r		

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
Existing Wajax B			x	0	0.37	4.5	r
Existing Wajax A			x	0	0.37	4.5	r
BuildingA			x	0	0.37	40.5	r
BuildingB			x	0	0.37	40.5	r
ProposedBldg3st			x	0	0.37	10.65	r
ProposedBldg4st			x	0	0.37	13.6	r
ProposedBldg18stS			x	0	0.37	51.6	r
ProposedBldg18stN			x	0	0.37	51.6	r
BuildingBMPH2			x	0	0.37	43.5	r
BuildingBMPH1			x	0	0.37	43.5	r
BuildingBMPH4			x	0	0.37	43.5	r
BuildingBMPH3			x	0	0.37	46.5	r
BuildingAMPH2			x	0	0.37	43.5	r
BuildingAMPH3			x	0	0.37	46.5	r
BuildingAMPH4			x	0	0.37	43.5	r
BuildingAMPH1			x	0	0.37	43.5	r

APPENDIX E

SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION

APPENDIX E-1
SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION*

FILE: 19-135
NAME: 1840-1850 Bloor Street
REFERENCE DRAWINGS: Concept Plan
LOCATION: Building C, North Façade, top residential floor

ROAD

Room: Corner Living Room

Wall area as a percentage of floor area:	North:	30%
	West:	30%
Window area as a percentage of floor area:	North:	50%
	West:	50%
Number of components:	4	
Outdoor Daytime Leq:	North:	54 (+3 for reflections) = 57 dBA
	West:	51 (+3 for reflections) = 54 dBA
Indoor Leq:	45	
Noise Reduction (dBA):	North:	12
	West:	9
Noise Spectrum:	**Mixed Road and Distant Aircraft**	
Absorption:	Intermediate	

APPROPRIATE ELEMENTS

		STC Rating
Exterior Wall	North	STC 21
	West	STC 18
Window	North	STC 18
	West	STC 15

* Based upon "Controlling Sound Transmission into Buildings", Building Practice Note 56 by National Research Council of Canada, September, 1985.

APPENDIX F

COMPLETED QUESTIONNAIRE BY NEIGHBOURING BUSINESS

Jade Acoustics Inc. | Consulting Engineers | 411 Confederation Parkway, Unit 19, Concord, Ontario, L4K 0A8 | Tel: (905) 660-2444 | Fax: (905) 660-4110

December 9, 2019

Wajax Limited
3280 Wharton Way
Mississauga, Ontario
L4X 2C5

To Whom It May Concern:

Re: Information Request
Proposed Residential Development
1840-1850 Bloor Street
City of Mississauga
Our File: 19-135

JADE ACOUSTICS

As requested by the owner of the property at 1840-1850 Bloor Street and as required by the City of Mississauga, we are conducting a noise study for the above mentioned property, which is proposed for residential re-development. As part of the noise study, we are required by the Ministry of the Environment, Conservation and Parks to identify and quantify all potential noise sources. In order to do this adequately we have summarized the information we require regarding your operations. Please complete and return this form by fax or email. We will then contact you regarding a time and date to complete sound measurements (if required).

1. What is the primary function of your company? Equipment Sales, Rentals & Service

2. What are your hours of operation? 7 to 5pm
How many days per week? 5 monday to Friday

3. Is your operation seasonal? If so, describe the operations associated with different seasons. work is not normally seasonal but there is peaks & valley during the year

4. Are you currently operating at full capacity? If so, will you be operating at this level for the next several weeks? we are operating at normal to average capacity

5. If not, when do you anticipate being at full operating capacity? _____

6. What noise producing equipment do you have located: Paint booth Equipment

(a) internally? _____

(b) internally but exhausting/intaking to the exterior? Paint booth.

(c) externally? Equipment & forklift.

7. Does your company have any outside storage? If so, are there any activities such as forklifts or transport trucks which access the storage area? _____
Yes we park equipment & trucks (forklifts) outside.

8. How many trucks use the shipping area during the day and at night? 3 to 5.

9. Are shipping doors left open during the summer? Where are they located?
Yes.

10. Are there any planned modifications/expansions to your facility? _____
unknown @ this time.

11. Does your company have a valid Certificate of Approval (C of A) or Environmental Compliance Approval (ECA) from the Ministry of the Environment, Conservation and Parks which includes a noise assessment and noise mitigation measures, if required? If yes, please provide us with a copy of the Approvals documentation and copy of the noise assessment report. Yes

JADE ACOUSTICS

12. Other information _____

13. Contact Information

Name: Chris Chisholm

Position: Real Estate + Facilities Manager

Telephone No.: 905 288 2096

Fax No.: _____

E-mail: CChisholm@WAJAX.com

JADE ACOUSTICS

If you have any questions, please contact the undersigned. Thank you in advance for your assistance.

Yours truly,

JADE ACOUSTICS INC.

Per: _____

Kristofer Tassis, E.I.T.
kris@jadeacoustics.com

Per: _____

Chris B. Kellar, P.Eng.
Chris@jadeacoustics.com

KT/CK/jg
J:\Letters\2019\19-135 Dec 9-19 1840-1850 Bloor Street.doc

Ontario

Ministry of the Environment
Ministère de l Environnement

ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 9441-967PNX
Issue Date: March 27, 2013

Wajax GP Trust operating as Integrated Distribution Systems Limited
3280 Wharton Way
Mississauga, Ontario
L4X 2C5

Site Location: 3280 Wharton Way
Mississauga, Regional Municipality of Peel

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- sixteen (16) natural gas fired heating units, having a maximum combined thermal input of 3,933,248 kilojoules per hour;

- one (1) standby diesel generator set, and diesel storage tank, having a rating of 35 kilowatts;

- one (1) paint spray booth operating for less than 10 hours per week for the application of small volumes of touch up paint only;

- one (1) battery charging station;

- one (1) parts washer;

all in accordance with the Application for Approval (Air & Noise) dated February 6, 2012 and signed by Joe Di Luca, Branch Manager, Wajax GP Trust operating as Integrated Distribution Systems Limited, and all supporting information associated with the application including additional information provided by Golder Associates Ltd., dated February 29, 2012, and signed by Katherine Armstrong.

For the purpose of this environmental compliance approval, the following definitions apply:

(1) "Act" means the Environmental Protection Act;

(2) "Approval" means this Environmental Compliance Approval and Schedules to it, if any, including the application and supporting information;

(3) "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically located;

(4) "Equipment" means the paint spray booth described in the Owner's application(s), this Approval and in the supporting documentation referred to herein, to the extent approved by this Approval;

(5) "Manual" means a document or a set of documents that provide written instructions to staff of the Owner;

(6) "Ministry" means the Ontario Ministry of the Environment; and

(7) "Owner" means Wajax GP Trust operating as Integrated Distribution Systems Limited, and includes its successors and assignees.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Equipment in accordance with the description given in this Approval, application for approval of the Equipment and the submitted supporting documents and plans and specifications as listed in this Approval.

2. Where there is a conflict between a provision of any submitted document referred to in this Approval and the Conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

OPERATION AND MAINTENANCE

3. The Owner shall ensure that the Equipment is properly operated and maintained at all times. The Owner shall:

(1) prepare, not later than three (3) months after the date of this Approval, and update as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

(b) emergency procedures;

(c) procedures for any record keeping activities relating to operation and maintenance of the Equipment;

(d) the frequency of inspection and replacement of the filter material in the Equipment;

(e) procedures for recording and responding to environmental complaints; and

(f) appropriate measures to minimize odorous emissions from all potential sources.

(2) implement the recommendations of the operating and maintenance Manual.

RECORD RETENTION

4. The Owner shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Approval. These records as well as the Manual shall be made available to staff of the Ministry upon request. The Owner shall retain:

(1) all records on the maintenance, repair and inspection of the Equipment; and

(2) all records on the environmental complaints, including:

(a) a description, time and date of each incident;

(b) operating conditions (e.g. the product name(s) being sprayed, any upset conditions, etc.) at the time of the incident; and

(c) a description of the measures taken to address the cause of the incident and to prevent a similar occurrence in the future.

NOTIFICATION OF COMPLAINTS

5. The Owner shall notify the District Manager, in writing, of each environmental complaint and the measures taken to address the cause of the complaint within five (5) business days of the complaint.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition Nos. 1 and 2 are imposed to ensure that the Equipment is built and operated in the manner in which it was described for review and upon which approval was granted. These conditions are also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition No. 3 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulations and this Approval.

3. Condition No. 4 is included to require the Owner to keep records and provide information to staff of the Ministry so that compliance with the Act, the regulations and this Approval can be verified.

4. Condition No. 5 is included to require the Owner to notify staff of the Ministry so that compliance with the Act, the regulations and this Approval can be verified.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal s requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 27th day of March, 2013

Sherif Hegazy, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

BH/
c: District Manager, MOE Halton-Peel
Katie Armstrong, Golder Associates Ltd.