



# Environmental Noise Assessment

**1315 Silver Spear Road, Mississauga**

## **Starlight Investments**

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SLR Project No.: 241.031124.00001

November 14, 2023

Revision: 0

## Revision Record

<b>Revision</b>	<b>Date</b>	<b>Prepared By</b>	<b>Checked By</b>	<b>Authorized By</b>
0	November 14, 2023	Sabah Ersum	Keni Mallinen	Keni Mallinen



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## 1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Starlight Investments to prepare an environmental noise assessment for the proposed development at 1315 Silver Spear Road in Mississauga, Ontario (“the Project site”). This report is in support of the planned Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) application for the proposed development.

### 1.1 Focus of Report

In keeping with the Ministry of Environment, Conservation and Parks (MECP), City of Mississauga and the Peel Region requirements, this report examines the potential for:

- Impacts of the environment on the proposed development;
- Impacts of the proposed development on the environment; and
- Impacts of the proposed development on itself.

Mechanical systems associated with the development (e.g., cooling and ventilation equipment) have not been sufficiently designed at this stage and can be assessed at a future date, if required. A general discussion has been included in this report to address the impacts of the proposed development on the environment and on itself.

### 1.2 Nature of the Surroundings

The Project site is surrounded by the following:

- Burnhamthorpe Road East, residential dwellings/townhouses, a gas station/car wash, and low- and high-rise commercial buildings beyond to the north;
- The Burnhamthorpe Library, high-rise residential buildings and low-rise commercial buildings along Dixie Road to the east;
- Mid-rise residential buildings, Silver Spear Road, and detached residential dwellings to the south; and
- A mid-rise residential building and detached residential homes to the west.

A context plan is shown in **Figure 1**.

### 1.3 Description of Proposed Development

The proposed development is located approximately 140 m west of the intersection of Burnhamthorpe Road East and Dixie Road. There is an existing 8-storey apartment building (1315 Silver Spear Road Apartments) on the Project site adjacent to Silver Spear Road that will remain. A parking lot is located north of the existing apartment building and south of Burnhamthorpe Road. The parking lot will be partially removed to accommodate the proposed development.

The proposed development will consist of a 9-storey residential building with 3 levels of underground parking. The ground floor will have the lobby, indoor amenities spaces, as well as residential dwelling units. Levels 2 to 9 will contain residential dwelling units. Access to the Project site will be via Burnhamthorpe Road East and from Silver Spear Road.

Development drawings are provided for reference in **Appendix A**.



## Part 1: Impacts of the Environment on the Development

In evaluating potential impacts of the environment on the proposed development, the focus of this report is assessment of:

- Transportation noise from surrounding roadways; and
- Stationary noise from surrounding industries/facilities on the development.

The nearest railway is located more than 2.5 km south of the proposed development. Based on guidance outlined in the document entitled “Guidelines for New Development in Proximity to Railway Operations” prepared for the Railway Association of Canada and the Federation of Canadian Municipalities (RAC/FCM), the proposed development is outside of the recommended minimum noise influence area for Principal Main Lines (i.e., 300m). Therefore, rail traffic noise has not been considered further in this assessment.

The proposed development is also located outside of the Noise Exposure Forecast (NEF) 25 contour for Toronto Pearson International Airport; therefore, an assessment of aircraft noise is not required.

## 2.0 Transportation Noise Impacts

### 2.1 Transportation Noise Sources

Transportation sources with the potential to produce road traffic noise at the proposed development include:

- Burnhamthorpe Road East; and
- Dixie Road.

Road traffic sound levels from Burnhamthorpe Road East and Dixie Road have been predicted, and this information has been used to identify façade, ventilation, and warning clause recommendations/ requirements for the proposed development.

### 2.2 Surface Transportation Noise Criteria

#### 2.2.1 Ministry of Environment Publication NPC-300

##### Noise-Sensitive Development

Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-300 provides sound level criteria for noise-sensitive developments. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A – Background. **Tables 1 to 4** summarize the applicable surface transportation (road and rail) criteria.

##### Location-Specific Criteria

**Table 1** summarizes criteria in terms of energy equivalent sound levels ( $L_{eq}$ ) for specific noise-sensitive locations. Both outdoor and indoor locations are identified, with the focus of outdoor areas being amenity spaces. Indoor criteria vary with sensitivity of the space. As a result, Sleeping Quarters have more stringent criteria than Living/Dining room spaces.



**Table 1: NPC-300 Sound Level Criteria for Road and Rail Noise**

Type of Space	Time Period	Energy Equivalent Sound Level $L_{eq}$ [5] (dBA)		Assessment Location
		Road	Rail [1]	
Outdoor Amenity Area	Daytime (0700-2300h)	55	55	Outdoors [2]
Living/Dining Room [3]	Daytime (0700-2300h)	45	40	Indoors [4]
	Night-time (2300-0700h)	45	40	Indoors [4]
Sleeping Quarters	Daytime (0700-2300h)	45	40	Indoors [4]
	Night-time (2300-0700h)	40	35	Indoors [4]

**Notes:** [1] Whistle noise is excluded for OLA noise assessments and included for Living/Dining Room and Sleeping Quarter assessments, where applicable.  
 [2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.  
 [3] Residence area Dens, Hospitals, Nursing Homes, Schools, Daycares are also included. During the nighttime period, Schools and Daycares are excluded.  
 [4] An assessment of indoor noise levels is required only if the criteria in **Table 4** are exceeded.  
 [5]  $L_{eq}$  – the energy equivalent sound level, integrated over the time period shown.

### Outdoor Living Areas

**Table 2** summarizes the noise mitigation requirements for communal outdoor amenity areas (“Outdoor Living Areas” or “OLAs”).

For the assessment of outdoor sound levels, total surface transportation noise is determined by combining road and rail traffic sound levels. Whistle noise from trains is not included in the determination of outdoor sound levels.

**Table 2: NPC-300 OLA Sound Level Criteria for Road and Rail Noise**

Time Period	OLA Energy Equivalent Sound Level $L_{eq}$ (dBA)	Mitigation Requirements/Warning Clause Recommendations
Daytime (0700-2300h)	$\leq 55$	<ul style="list-style-type: none"> <li>None</li> </ul>
	56 to 60 inc.	<ul style="list-style-type: none"> <li>Noise barrier OR Type A Warning Clause</li> </ul>
	$> 60$	<ul style="list-style-type: none"> <li>Noise barrier to reduce noise to 55 dBA OR</li> <li>Noise barrier to reduce noise to 60 dBA and Type B Warning Clause</li> </ul>

### Ventilation and Warning Clauses

**Table 3** summarizes recommendations for ventilation where windows would potentially have to remain closed as a means of noise control. Despite implementation of ventilation measures where recommended, if sound levels exceed the guideline limits in **Table 1**, warning clauses advising future occupants of the potential excesses are also recommended. Warning clauses also apply to OLAs.





**Table 3: NPC-300 Ventilation and Warning Clause Recommendations**

Assessment Location	Time Period	Energy Equivalent Sound Level – $L_{eq}$ (dBA)		Ventilation and Warning Clause Recommendations <sup>[2]</sup>
		Road	Rail <sup>[1]</sup>	
Outdoor Living Area	Daytime (0700-2300h)	56 to 60 incl.		Type A Warning Clause
Plane of Window	Daytime (0700-2300h)	≤ 55		None
		56 to 65 incl.		Forced Air Heating with provision to add air conditioning + Type C Warning Clause
		> 65		Central Air Conditioning + Type D Warning Clause
	Night-time (2300-0700h)	51 to 60 incl.		Forced Air Heating with provision to add air conditioning + Type C Warning Clause
		> 60		Central Air Conditioning + Type D Warning Clause
<b>Notes:</b> [1] Whistle noise is excluded from assessment. [2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements				

**Building Component Requirements**

**Table 4** provides sound level thresholds which, if exceeded, trigger a requirement for the building shell components (i.e., exterior walls, windows) to be designed accordingly to meet the applicable indoor sound criteria.

**Table 4: NPC-300 Building Component Assessment Requirements**

Assessment Location	Time Period	Energy Equivalent Sound Level – $L_{eq}$ (dBA)		Component Requirements
		Road	Rail <sup>[1]</sup>	
Plane of Window	Daytime (0700-2300h)	> 65	> 60	Designed/ Selected to Meet Indoor Requirements <sup>[2]</sup>
	Night-time (2300-0700h)	> 60	> 55	
<b>Notes:</b> [1] Whistle noise is included in assessment [2] Building component requirements are assessed separately for Road and Rail, and then combined for a resultant sound isolation parameter.				



## 2.3 Traffic Data and Future Projections

### 2.3.1 Road Traffic Data

Ultimate annual average daily traffic (AADT) volumes and details (daytime/night-time splits, medium/heavy truck percentages and speed limits) for Burnhamthorpe Road East were obtained from the traffic data provided by the City of Mississauga Transportation and Works Department.

The Peel Region Public Works Transportation Division provided ultimate AADT volumes and details (daytime/night-time splits, medium/heavy truck percentages and speed limits) for Dixie Road.

Copies of traffic data and calculations are provided for reference in **Appendix B. Table 5** summarizes the road traffic data used in the analysis.

**Table 5: Summary of Road Traffic Data Used in Transportation Analysis**

Roadway	Ultimate Traffic Volumes AADT	% Day/Night Volume Split		Commercial Vehicle Breakdown		Vehicle Speed (km/hr)
		Daytime	Night-time	% Medium Trucks	% Heavy Trucks	
Burnhamthorpe Road East <sup>[1]</sup>	35,500	90	10	2.75	2.25	60
Dixie Road <sup>[2]</sup>	48,600	90	10	1.35 (Day) 2.00 (Night)	6.89 (Day) 4.82 (Night)	60

**Notes:** [1] Based on data provided by City of Mississauga.  
[2] Based on data provided by Peel Region.

## 2.4 Predicted Sound Levels

Future road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software package. Roadways were modelled as line sources of sound, with sound emission rates calculated using the ORNAMENT algorithms, the road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP’s ORNAMENT or STAMSON v5.04 road traffic noise models. A STAMSON validation file and output are included for reference in **Appendix C**.

Sound levels were predicted along the facades of the proposed development using the “building evaluation” feature of Cadna/A. This feature allows for noise levels to be predicted across the entire façade of a structure. OLA sound levels were assessed at the centre of the rooftop amenity spaces at a height of 1.5 m above the rooftop. An at-grade OLA was also assessed at a standing height of 1.5 m above grade.

Global ground absorption was conservatively considered to be reflective ( $G = 0.0$ ), and 1 m topographic contours for the Project site and surrounding area were included in the model.

It was determined that Burnhamthorpe Road East has a 2.9% change in grade between Golden Orchard Drive and Dixie Road. This was considered in the road traffic analysis in accordance with the guidance in the ORNAMENT document.



### 2.4.1 Façade Sound Levels

Predicted worst-case façade sound levels due to road traffic are presented in **Table 6**.

The predicted daytime and night-time road traffic sound levels along all building facades associated with the proposed development are shown in **Figure 2** (daytime) and **Figure 3** (night-time).

**Table 6: Summary of Predicted Worst-Case Transportation Façade Sound Levels**

Building	Façade <sup>[1]</sup>	Maximum Predicted Road Traffic Sound Levels <sup>[2]</sup>	
		L <sub>eq</sub> Daytime (dBA)	L <sub>eq</sub> Night-time (dBA)
Proposed Development – 9 Storeys	North	71	64
	East	68	61
	South	60	53
	West	67	60

**Notes:** [1] Building façade roadway sound levels are shown in **Figure 2** (daytime) and **Figure 3** (night-time)  
[2] Sound levels presented above are the highest for the identified building façade.

The façade road traffic sound levels are predicted to exceed 65 dBA and 60 dBA during the daytime and night-time periods, respectively (i.e., the thresholds described in **Table 4**) at some locations within the proposed development. Therefore, an assessment of building components is required. Refer to **Section 2.5.1**.

### 2.4.2 Outdoor Living Area Sound Levels

The Outdoor Living Areas (OLAs) of the proposed development are located at the rooftop amenity on the east and west side of the mechanical penthouse, and at grade, southeast of the proposed development building. The assessment locations are shown in **Figure 4**.

Predicted OLA sound levels from the surrounding roadways are presented in **Table 7** and shown in **Figure 4**.

**Table 7: Summary of Predicted Transportation Outdoor Living Area Sound Levels**

OLA Assessment Location	Assessment Location Description	Predicted Sound Level, L <sub>eq</sub> Daytime (dBA)
OLA-1	Rooftop Amenity	58
OLA-2	Rooftop Amenity	60
OLA-3	At-Grade Amenity	60

Predicted roadway sound levels at the OLAs are 60 dBA or lower. Therefore, warning clauses will be required. Refer to **Section 2.5.3**.



## 2.5 Noise Control Measures

### 2.5.1 Façade Assessment

#### 2.5.1.1 Building Components

An assessment of indoor noise levels is required because façade sound levels due to road traffic exceed 65 dBA during the daytime periods on the north, east and west building façade of the proposed development.

Indoor sound levels and required facade Sound Transmission Classes (STCs) were estimated using the procedures outlined in National Research Council Building Practice Note 56 (BPN-56). Detailed floor plans and elevation drawings were not available at the time of the assessment. The preliminary façade requirements analysis is therefore based on the following assumptions.

- Non-glazing portions of the exterior walls are assumed to have a rating of STC 45 (i.e., representing a spandrel panel construction);
- For living/dining rooms, 70% of the exterior facade is vision glass/patio doors and rooms have intermediate absorption; and
- For bedrooms, 70% of the exterior wall is vision glass and rooms have intermediate absorption.

The building façade requirements based on the road traffic façade sound levels and assumptions listed above are outlined in **Table 8** for residential units with one exposed façade, and for applicable corner units with two exposed facades.

**Table 8: Summary of Façade Glazing Requirements for Proposed Development**

Building	Applicable Façade(s)/ Location(s)	Non-Glazing Components <sup>[1]</sup>	Glazing STC Requirements <sup>[1]</sup>	
			Living/Dining Room	Bedroom
Proposed Development – 9 Storeys	North	45	OBC	32
	East	45	OBC	OBC
	South	45	OBC	OBC
	West	45	OBC	OBC
	Northwest Corner	45	30	33
	Northeast Corner	45	31	34

Notes: [1] OBC = meeting the minimum non-acoustical requirements of the Ontario Building Code, with a rating of STC 29 for windows and STC 45 for exterior walls.

Where upgraded glazing is required, the combined glazing and frame assembly must be constructed to ensure the overall sound isolation performance of the entire window unit meets the specified STC rating. It is recommended that the window manufacturer’s test data be reviewed to confirm the required acoustical performance is achieved.

The building façade requirements should be reviewed by an acoustical consultant when detailed suite layouts and elevations are available.



### 2.5.1.2 Ventilation and Warning Clause Recommendations

The sound level triggers for warning clauses are summarized in **Table 3**. Where recommended, the warning clauses should be included in agreements registered on Title for the residential units and included in all agreements of purchase and sale or lease and all rental agreements.

Based on the predicted façade sound levels, an MECP Type D warning clause and central air conditioning are recommended for all residential units in the development.

Ventilation and warning clause recommendations are summarized in **Appendix D**.

## 2.5.2 Outdoor Living Area Assessment

### 2.5.2.1 Warning Clause Recommendations

The predicted OLA sound levels associated with the proposed development are 60 dBA or lower.

An MECP Type A warning clause is therefore recommended for all residential units in the development.

OLA warning clause recommendations are summarized in **Appendix D**.

## 3.0 Stationary Source Noise Assessment

A site visit to the Project site and surrounding area was completed by SLR personnel on September 22, 2023. The focus of the site visit was to identify nearby facilities with the potential for stationary source noise impacts at the proposed development. The site was found to be primarily surrounded by institutional and residential land uses.

Noise sources in the area requiring assessment were determined primarily based on the MECP Guideline D-6 Potential Influence Areas. The library and gas station near the proposed development are considered to be Class I industries, in which a 70 m area of influence is typically applied for assessing stationary sources. There are no Class II industries within 300 m of the Project site, or Class III industries within 1000 m. Therefore, no Class II or III industries have been considered in this assessment.

The Burnhamthorpe Library was identified on current aerial photography and during the site visit as a potential source of stationary noise, and it is located within 70 m of the Project site (shown in **Figure 5**). Therefore, stationary noise from the facility was assessed. Additionally, SLR identified a Shell car wash/gas station/Jiffy Lube auto shop at 1349 Burnhamthorpe Road east, west of Dixie Road. Although this facility is more than 70 m away, assessment of noise from the facility was included for completeness due to the observed south-facing car wash exit.

No other stationary sources of noise were identified in proximity to the proposed development that require further assessment.

## 3.1 Stationary Source Modelling

Based on information obtained during the site visit, and a review of aerial photography, the sources of noise with the potential to produce noise at the proposed development have been identified. Sound levels for the sources were determined based on at-grade measurements collected during the site visit on September 22, 2023, and information contained in the SLR in-house database.



Modelled facilities and sources of noise include:

- Burnhamthorpe Library – 3650 Dixie Road # 101
  - 12 rooftop HVAC units, ranging in size from 5 tons to 30 tons; and
- Shell Gas Station/Jiffy Lube – 1349 Burnhamthorpe Road East
  - Car wash entrance;
  - Car wash exit dryer;
  - Two vehicle vacuums;
  - Up to 10 vehicles idling in the car wash queue;
  - Two rooftop HVAC units associated with the Shell and Jiffy Lube; and
  - Breakout noise from the Jiffy Lube Bay doors (considering impact wrench and compressed air noise from the auto shop).

Sound levels from stationary sources were modelled using Cadna/A, a software implementation of the internationally recognized ISO-9613-2 environmental noise propagation algorithms. Cadna/A / ISO-9613 is the preferred noise model of the MECPP. The ISO-9613 equations account for:

- Source to receiver geometry;
- Distance attenuation;
- Atmospheric absorption;
- Reflections off of the ground and ground absorption;
- Reflections off of vertical walls; and
- Screening effects of buildings, terrain, and purpose-built noise barriers (noise walls, berms, etc.).

The following additional parameters were used in the modelling, which are consistent with providing a conservative (predictable worst-case assessment of noise levels):

- Temperature: 10°C;
- Relative Humidity: 70%;
- Ground Absorption G:  $G = 0.0$  (reflective) as the default global parameter;
- Reflection: One (1) order of reflection was used (accounts for noise reflecting from walls);
- Wall Absorption Coefficients: Set to 0.21 or 0.37 (21%/37% of energy is absorbed, 79%/63% reflected); and
- Terrain: 1 m topographical contours obtained from City of Mississauga Open Data Portal.

A summary of the sound levels used in the analysis and equipment operating conditions is included in **Appendix E**. All stationary sources modelled are shown in **Figure 5**.



### 3.2 Stationary Source Noise Criteria

MECP guidelines for stationary source noise impacting residential developments are given in MECP Publication NPC-300. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A – Background.

The acoustic environment surrounding the proposed development is generally dominated by roadway noise from Burnhamthorpe Road East and Dixie Road during all periods of the day. Therefore, the proposed development is considered to be located in a Class 1 area.

The sound level limits for steady sound sources are expressed as a 1-hr equivalent sound level ( $L_{eq}$  (1 hr) values, in dBA) and is the higher of the NPC-300 exclusionary limits or the existing background sound level. The NPC-300 minimum exclusionary stationary source guidelines for a Class 1 Area are summarized in **Table 9** for continuous, steady sound sources.

**Table 9: NPC-300 Class 1 Continuous, Steady Source Sound Level Limits**

Point of Reception Category	Time Period	Minimum Exclusionary Sound Level Limit $L_{eq}(1\text{-hr})$ , dBA <sup>[1]</sup>
Outdoors	Daytime (0700-1900h)	50
	Evening (1900-2300h)	50
	Night-time (2300-0700h)	N/A <sup>[3]</sup>
Plane of Window <sup>[2]</sup>	Daytime (0700-1900h)	50
	Evening (1900-2300h)	50
	Night-time (2300-0700h)	45
<b>Notes:</b> [1] Or minimum hourly $L_{eq}$ of background noise; whichever is higher. [2] Applicable for windows opening into “noise-sensitive spaces” as defined in NPC-300. [3] Sound level limits during night-time hours are not applicable at outdoor points of reception.		

Since ambient sound levels were anticipated to exceed the NPC-300 exclusionary limits for most facades and time periods, minimum hourly sound levels for daytime, evening and night-time hours from Burnhamthorpe Road East and Mississauga Road were assessed and the corresponding applicable guideline limits were determined.

**Table 10** summarizes the current road traffic volumes and details applied in the ambient noise modelling.

Minimum hourly traffic volumes as a percentage of the AADT for Dixie Road were based on data from the SLR database for typical arterial roadways. Minimum hourly traffic volumes as a percentage of the 24-hour traffic volume for Burnhamthorpe Road East were based on year 2016 hourly traffic counts provided by the City of Mississauga. Copies of traffic data and calculations are provided for reference in **Appendix B**.



**Table 10: Summary of Road Traffic Data Used to Determine Minimum 1-hr Ambient Sound Levels**

Roadway Link	Current Traffic Volumes	Minimum Day/Evening/Night Hour Volume % of AADT			Commercial Vehicle Breakdown		Vehicle Speed (km/hr)
		Daytime	Evening	Night-time	% Medium Trucks	% Heavy Trucks	
Burnhamthorpe Road East <sup>[1]</sup>	26,346	4.6	2.3	0.2	2.75	2.25	60
Dixie Road <sup>[2]</sup>	22,100	4.3	3.1	0.4	1.35 (Day) 2.00 (Night)	6.89 (Day) 4.82 (Night)	60

**Notes:** [1] Year 2016 24-hour traffic volume provided by City of Mississauga.  
[2] Year 2019 AADT data provided by Peel Region.

As with the transportation noise assessment, ambient roadway noise was modelled as line sources of sound using the Cadna/A computer model. The minimum hourly  $L_{eq}$  for the ambient sound levels were found to exceed the NPC-300 minimum exclusionary guideline limits during most periods of the day at most assessment locations on the facades of the proposed development.

Surrounding facility noise impacts were assessed against the higher of the modelled ambient noise levels and the exclusionary limits calculated using road traffic data summarized in **Table 10**. Ambient sound levels are shown in **Figure 6** (daytime), **Figure 7** (evening) and **Figure 8** (night-time).

### 3.3 Predicted Stationary Source Sound Levels

The “building evaluation” feature of Cadna/A was used to assess facade sound levels on the proposed development. This feature allows for noise levels to be predicted across the entire façade of a structure.

Outdoor sound levels were assessed at a height of 1.5 m above the rooftop and at-grade amenity area, at all usable locations within these amenity spaces.

#### 3.3.1 Façade Sound Levels

A summary of the predicted sound levels on each façade due to simultaneous operation of all modelled stationary sources are shown in **Table 11** and summarized in **Figure 9** (daytime/evening) and **Figure 10** (night-time), respectively. Stationary source operating scenarios are provided for reference in **Appendix E**. The daytime and evening operating scenarios were considered to be the same.

The differences between the existing ambient sound levels and the stationary noise sound levels are shown in **Figure 11**, **Figure 12** and **Figure 13** for daytime, evening, and night-time periods, respectively.

Predicted stationary sound levels at all façade locations associated with proposed development were determined to be below ambient sound levels or NPC-300 Class 1 minimum exclusionary limits during worst-case daytime, evening and night-time hours.





**Table 11: Summary of Predicted Stationary Source and Ambient Façade Sound Levels**

Building	Façade	Predicted Stationary Source Sound Levels – $L_{eq}(1\text{-hr})$ (dBA)			Ambient Sound Levels $L_{eq}(1\text{-hr})$ (dBA)		
		$L_{eq}$ Day (dBA)	$L_{eq}$ Evening (dBA)	$L_{eq}$ Night (dBA)	$L_{eq}$ Day (dBA)	$L_{eq}$ Evening (dBA)	$L_{eq}$ Night (dBA)
Proposed Development – 9 Storeys	North	52	52	44	≤ 68	≤ 65	≤ 54
	East	55	55	48	≤ 66	≤ 63	≤ 52
	South	51	51	45	≤ 58	≤ 56	≤ 46
	West	29	29	22	≤ 65	≤ 62	≤ 51

**Notes:** [1] Façade locations are identified on **Figure 9** and **Figure 10**.  
[2] Sound levels shown represent the calculated worst-case impact along the identified facade.

An MECP Type E warning clause is recommended for all residential units due to the proximity of the proposed development to nearby noise sources.

### 3.3.2 Outdoor Sound Levels

The predicted sound levels at outdoor points of reception are summarized in **Table 12** and shown in **Figure 14** for daytime and evening periods. The predicted sound levels at the outdoor points of reception are predicted to be below the minimum ambient daytime and evening sound levels due to road traffic at all outdoor amenity area locations. Therefore, mitigation is not required.

**Table 12: Summary of Predicted Stationary Source Outdoor Sound Levels**

Outdoor Assessment Location <sup>[1]</sup>	Stationary Source Sound Levels <sup>[2]</sup>		Ambient Sound Levels <sup>[3]</sup>	
	$L_{eq}$ Daytime (dBA)	$L_{eq}$ Evening (dBA)	$L_{eq}$ Daytime (dBA)	$L_{eq}$ Evening (dBA)
OPOR-1	39	39	55	53
OPOR-2	46	46	58	56
OPOR-3	43	43	57	55

**Notes:** [1] Outdoor assessment locations are shown in **Figure 14**.



## **Part 2: Impacts of the Development on Itself**

### **4.0 Stationary Source Noise from the Development on Itself**

At the time of this assessment, mechanical systems for the proposed development have not been sufficiently designed to complete a detailed assessment of stationary source noise from the development on itself.

For common mechanical systems that will be implemented as part of the proposed development, sound levels from all noise-generating equipment should comply with the guideline limits in MECP Publication NPC-300. The potential noise from mechanical equipment in the proposed development (such as from make-up air units, cooling towers, parking garage exhaust fans, emergency generators, etc.) should be assessed as part of the final building design. The applicable criteria can be met at all on-site receptors through appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers) into the design. This can be confirmed either later in the site plan approval process, or at the building permit approval stages.

If individual air conditioning systems are to be implemented for individual residential units within the proposed development, the sound levels from each unit should meet the requirements of MECP Publication NPC-216.

It is recommended that the mechanical systems be reviewed by an acoustical consultant prior to final equipment selection.



## **Part 3: Impacts of the Development on the Surrounding Area**

### **5.0 Stationary Source Noise from the Development on the Surroundings**

With respect to the acoustic environment of the area, it is expected that the proposed development will have a negligible effect on neighbouring noise-sensitive properties.

Traffic related to the proposed development will be small relative to the existing traffic volumes within the area and is not of concern with respect to potential transportation noise.

Other sources associated within the proposed development with the potential to generate noise are mechanical equipment (e.g., air conditioning units, make up air units, cooling units, and parking garage exhaust fans). Sound levels due to operation of these sources should meet MECP Publication NPC-300 noise guidelines at all off-site noise sensitive receptors.

Off-site sound levels are not expected to be of concern are not anticipated because systems will be designed to ensure that the applicable noise guidelines are met at on-site receptors.

Regardless, off-site sound levels from mechanical equipment should be assessed as part of the final building designs. The applicable criteria can be met at all surrounding receptors through the use of routine mitigation measures, including the appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers, barriers) into the designs.

If individual air conditioning systems are to be implemented for individual residential units within the proposed development, the sound levels from each unit should meet the requirements of MECP Publication NPC-216.

It is recommended that the mechanical systems be reviewed by an acoustical consultant prior to final selection of equipment.



## 6.0 Conclusions and Recommendations

The potential for noise impacts on and from the proposed development have been assessed. Impacts of the environment on the development, the development on itself, and the development on the surrounding area have been considered. Based on the results of this assessment, the following conclusions have been reached:

### Transportation Noise

- An assessment of transportation sound levels from surrounding roadways has been completed.
- Based on transportation façade sound levels upgraded glazing is required within the development, as outlined in outlined in **Section 2.5.1**.
- Ventilation and warning clause recommendations are outlined in **Section 2.5.2**.
  - Mandatory air conditioning and MECP Type D warning clauses are required for all residential units in the development noted in **Section 2.5.2** and **Appendix D**.
- Transportation sound levels at the rooftop amenity areas are predicted to be 60 dBA or lower. Therefore, MECP Type A warning clause is recommended.
- Warning clauses should be included in agreements registered on Title for the residential units and included in agreements of purchase and sale/rental agreements.
  - Warning clause recommendations are summarized in **Appendix D**.

### Stationary Source Noise

- A review of the surrounding stationary noise sources was completed by SLR personnel during a site visit to the area and through available aerial photography.
- Stationary source noise impacts were assessed for Burnhamthorpe Library and a nearby Gas Station/Car Wash/Jiffy Lube.
- Stationary source sound levels were determined to be below the higher of the minimum hourly ambient sound levels or NPC-300 Class 1 minimum exclusionary limits at all locations within the proposed development.
- As the proposed development is located in proximity to stationary noise sources, a Type E warning clause is recommended for all residential units.

### Overall Assessment

- Noise from the environment on the proposed development can be adequately controlled with the inclusion of upgraded glazing, ventilation and warning clause recommendations as detailed in **Part 1** of this report.
- Noise from the proposed development on itself is not expected to be of concern and can be adequately controlled by following the design guidance outlined in **Part 2** of this report.
- Noise from the proposed development on the surroundings is expected to meet the applicable guideline limits, and can be adequately controlled by following the design guidance outlined in **Part 3** of this report.



- As the mechanical systems for the proposed development have not been designed in detail, the acoustical design should be reviewed by an acoustical consultant during site plan approval process, or as part of the final building design.

Regards,

**SLR Consulting (Canada) Ltd.**



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## 7.0 References

Federation of Canadian Municipalities and the Railway Association of Canada, Guidelines for New Development in Proximity to Railway Operations, 2013.

International Organization for Standardization, ISO 9613-2: Acoustics – Attenuation of Sound During Propagation Outdoors Part 2: General Method of Calculation, Geneva, Switzerland, 1996.

Ontario Ministry of the Environment, Conservation and Parks, 1989, Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT).

Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300: Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, 2013.

Ontario Ministry of the Environment, Conservation and Park, STAMSON v5.04: Road, Rail and Rapid Transit Noise Prediction, 1996.

Ontario Ministry of the Environment and Energy, Publication NPC-216: Residential Air Conditioning Devices, 1993.





# Figures



## **Environmental Noise Assessment**

1315 Silver Spear Road, Mississauga

**Starlight Investments**


SLR Project No.: 241.031124.00001

November 14, 2023

Legend	
	Proposed Development - Building
	Project Property Line (approx.)



<b>STARLIGHT INVESTMENTS</b>
1315 SILVER SPEAR ROAD, MISSISSAUGA
CONTEXT PLAN

	Scale: 1:5,000	METRES
	Date: Nov. 14, 2023	Rev 1.0
	Project No. 241.031124.00001	Figure No. 1







**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED FAÇADE SOUND LEVELS – ROAD TRAFFIC – DAYTIME

True North



Scale:

1:500

METRES

Date: Nov. 14, 2023

Rev 1.0

Figure No.

**2**

Project No.  
241.031124.00001



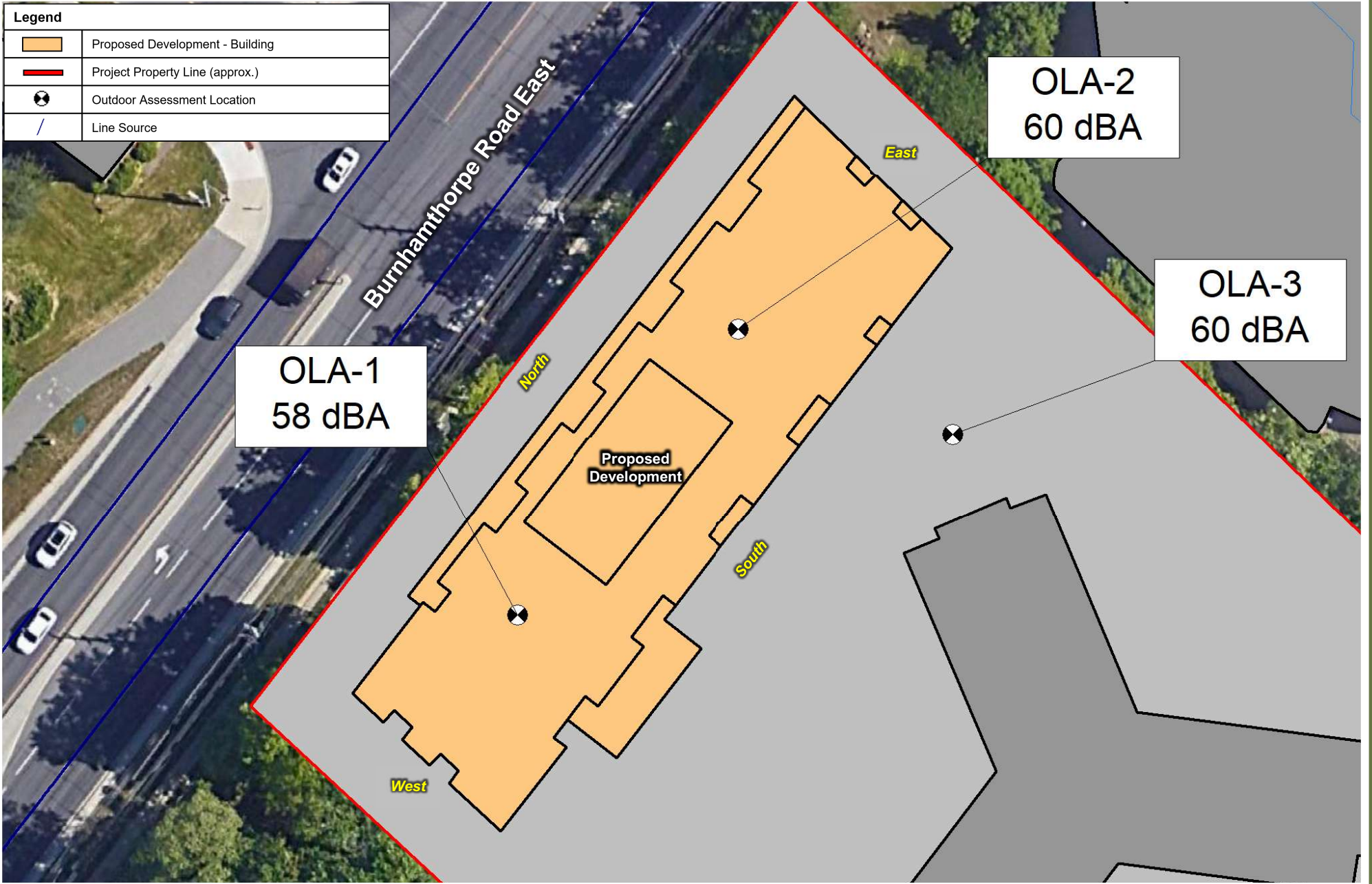


**STARLIGHT INVESTMENTS**  
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 PREDICTED FAÇADE SOUND LEVELS – ROAD TRAFFIC – NIGHT-TIME

True North  
 Scale: 1:500  
 Date: Nov. 14, 2023  
 Project No. 241.031124.00001

METRES  
 Rev 1.0  
 Figure No. 3





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED OUTDOOR LIVING AREA SOUND LEVELS – ROAD TRAFFIC – DAYTIME

True North



Scale:

1:500

METRES

Date: Nov. 14, 2023

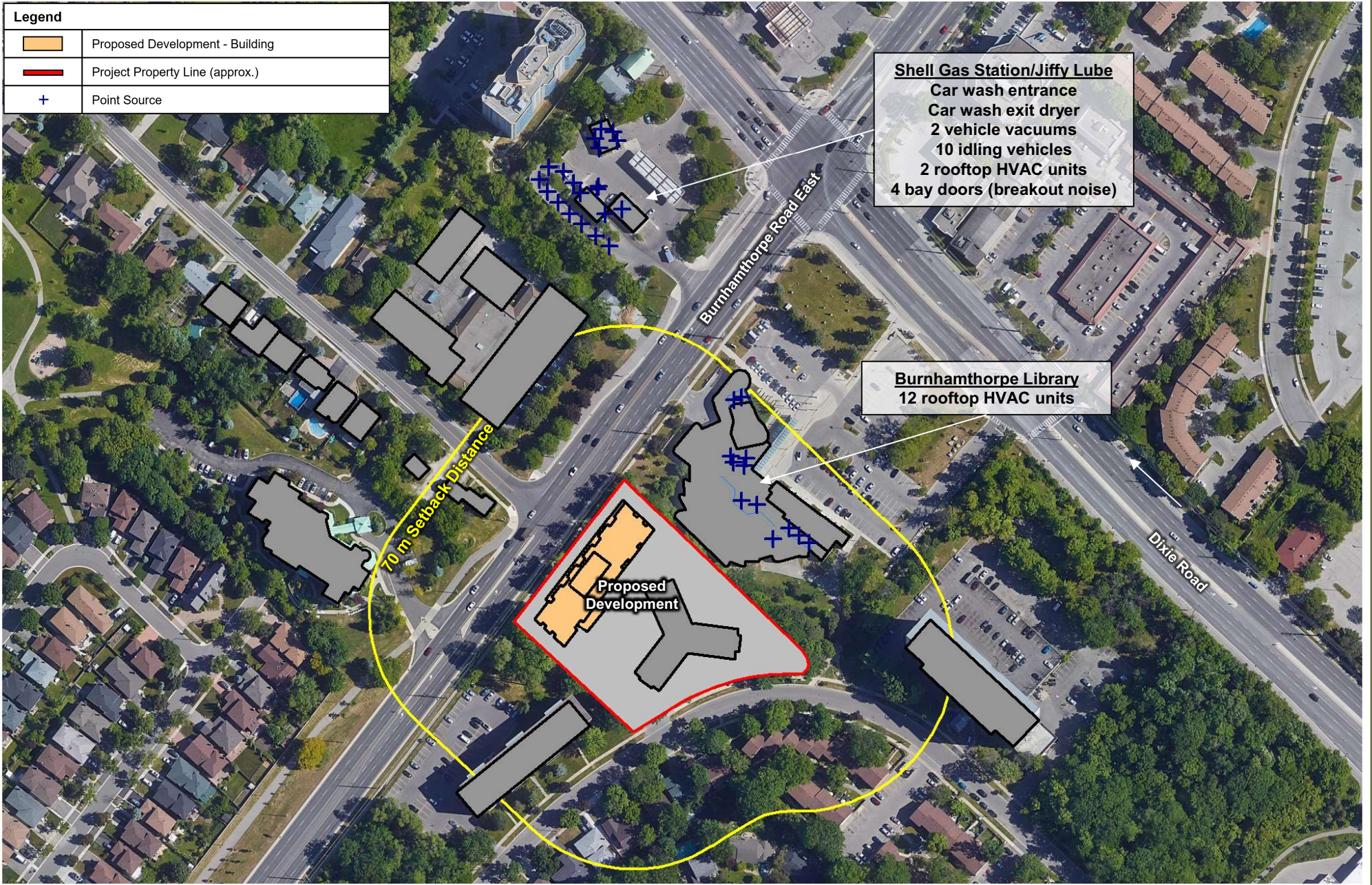
Rev 1.0

Figure No.

**4**

Project No.  
241.031124.00001





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA  
 SURROUNDING STATIONARY SOURCE LOCATIONS

True North



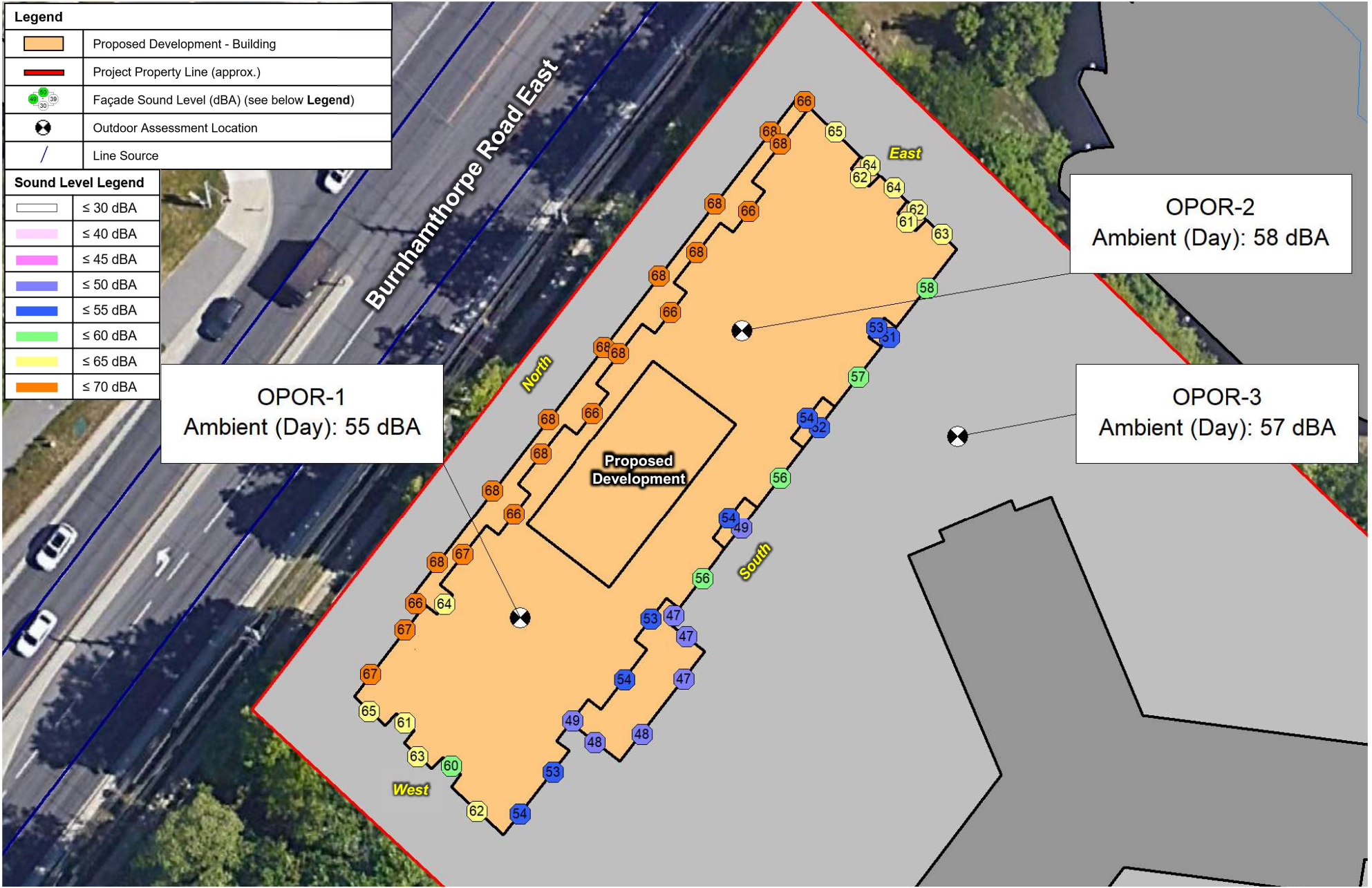
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Date: Nov. 14, 2023 Rev 1.0 Figure No.

Project No.  
 241.031124.00001

**5**





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED AMBIENT SOUND LEVELS – ROAD TRAFFIC – DAYTIME

True North



Scale:

1:500

METRES

Date: Nov. 14, 2023

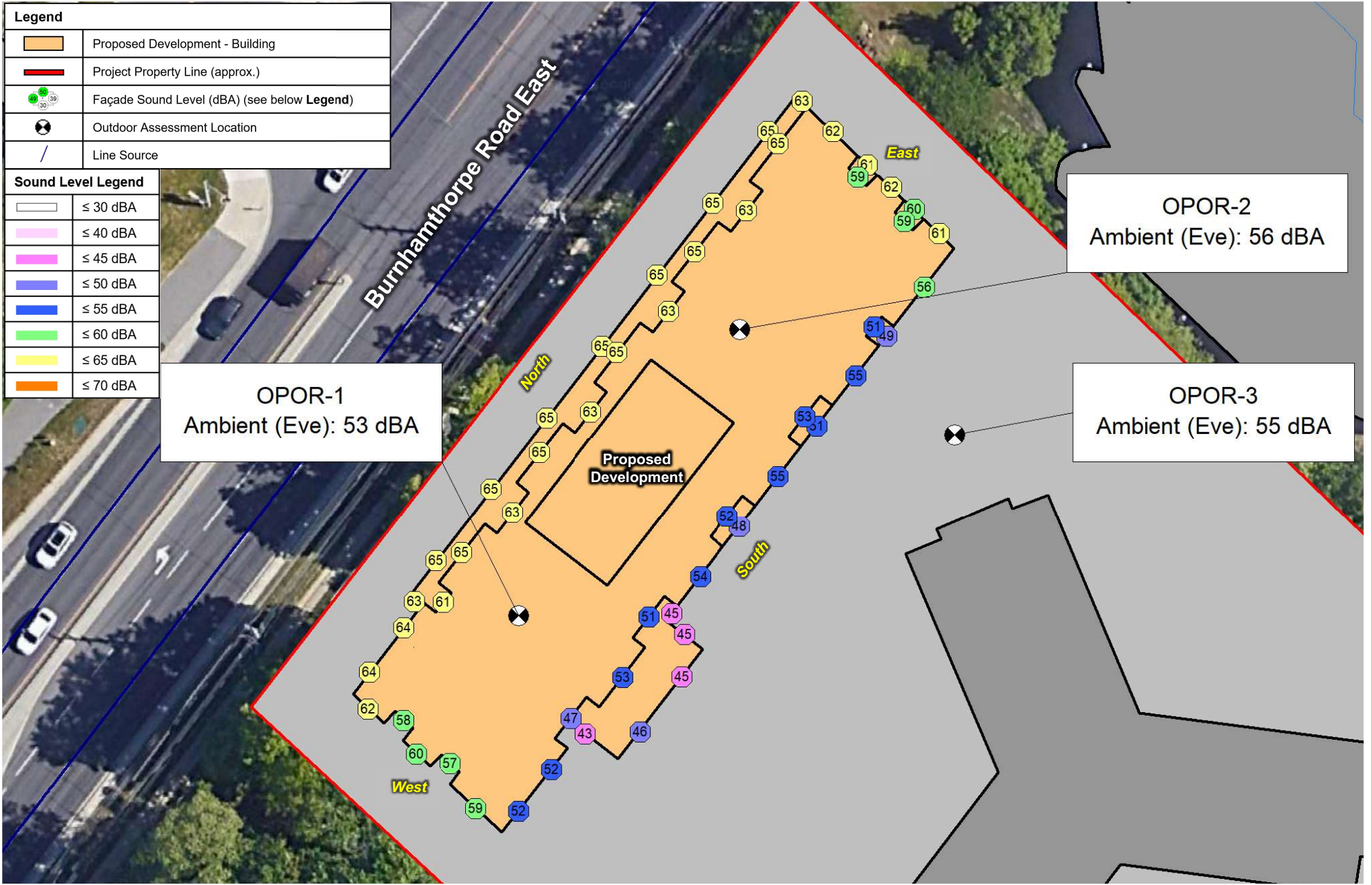
Rev 1.0

Figure No.

**6**

Project No.  
241.031124.00001





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED AMBIENT SOUND LEVELS – ROAD TRAFFIC – EVENING

True North



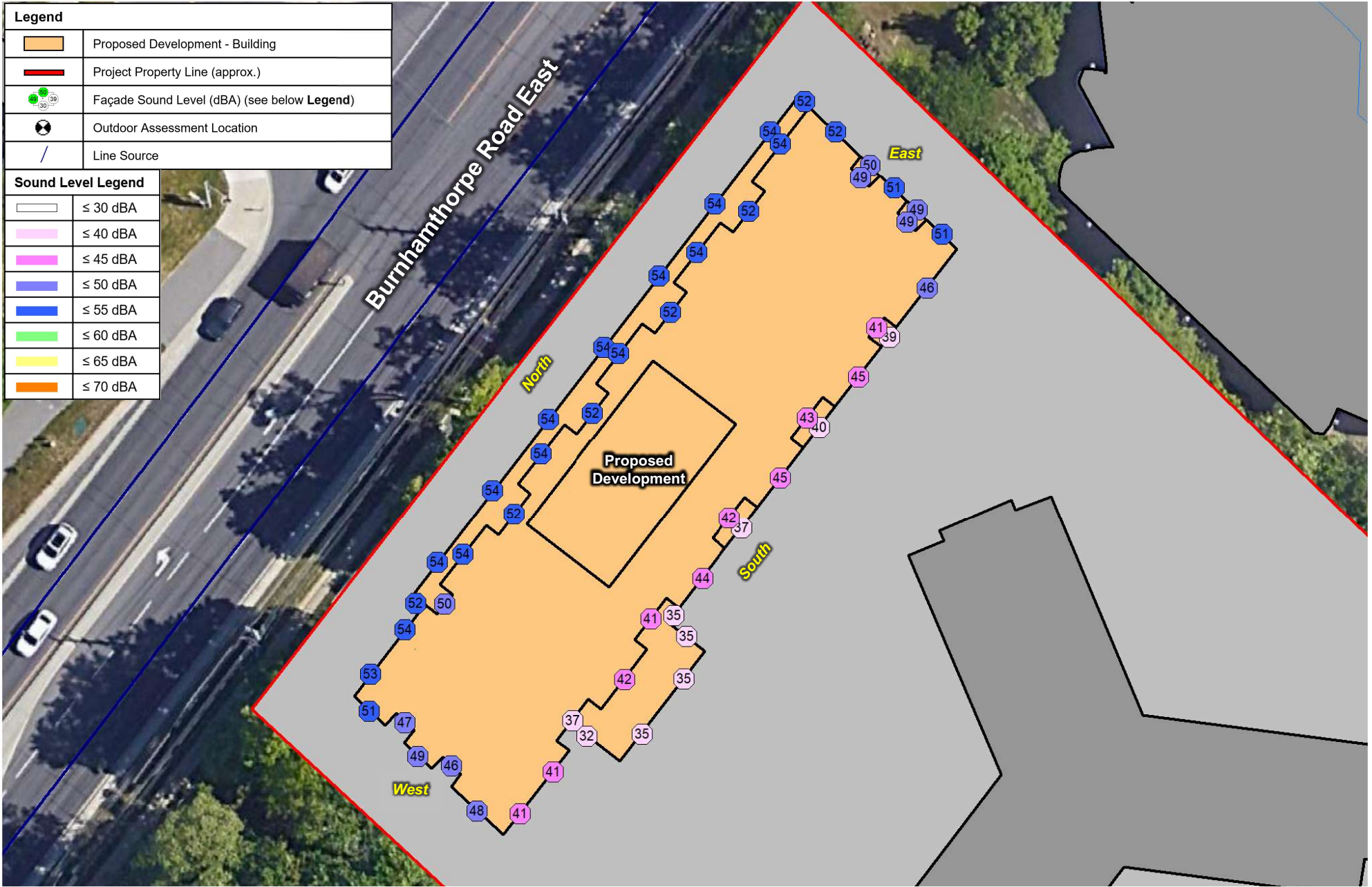
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Project No.  
241.031124.00001

7





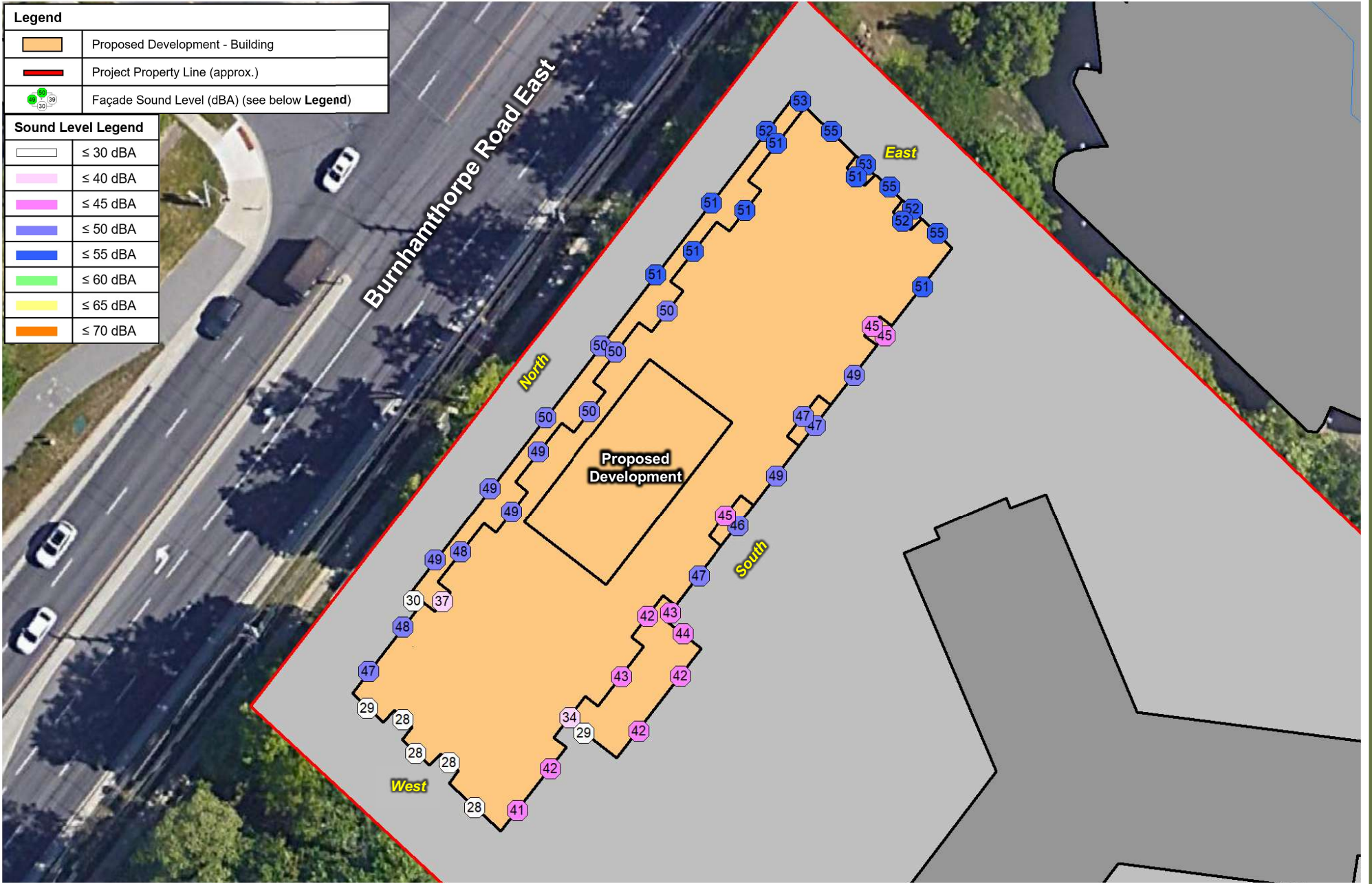
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	Project Property Line (approx.)
	Façade Sound Level (dBA) (see below Legend)
	Outdoor Assessment Location
	Line Source

Sound Level Legend	
	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA

<b>STARLIGHT INVESTMENTS</b>		Scale: 1:500	METRES
1315 SILVER SPEAR ROAD, MISSISSAUGA		Date: Nov. 14, 2023	Rev 1.0
<b>PREDICTED AMBIENT SOUND LEVELS – ROAD TRAFFIC – NIGHT-TIME</b>		Project No. 241.031124.00001	Figure No. <b>8</b>

	Scale: 1:500	METRES
	Date: Nov. 14, 2023	Rev 1.0
	Project No. 241.031124.00001	Figure No. <b>8</b>





**STARLIGHT INVESTMENTS**  
 1315 SILVER SPEAR ROAD, MISSISSAUGA  
 PREDICTED FAÇADE SOUND LEVELS – STATIONARY SOURCES –  
 DAYTIME/EVENING

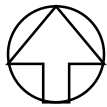
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 Date: Nov. 14, 2023 Rev 1.0  
 Project No. 241.031124.00001

Figure No.  
**9**







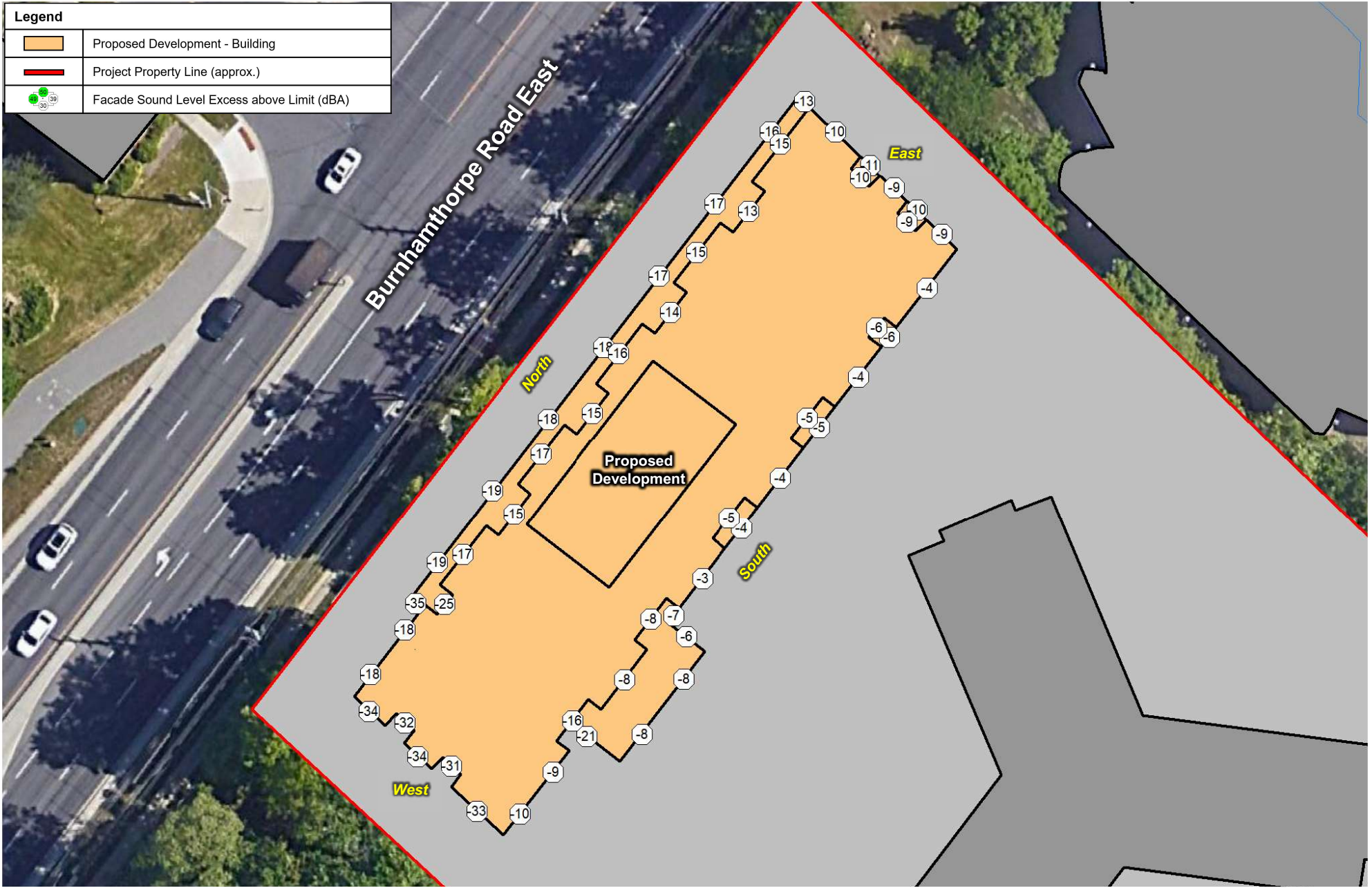
Legend	
	Proposed Development - Building
	Project Property Line (approx.)
	Façade Sound Level (dBA) (see below Legend)

Sound Level Legend	
	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA

<b>STARLIGHT INVESTMENTS</b>
1315 SILVER SPEAR ROAD, MISSISSAUGA
<b>PREDICTED FAÇADE SOUND LEVELS – STATIONARY SOURCES – NIGHT-TIME</b>

	Scale: 1:500	METRES
	Date: Nov. 14, 2023	Rev 1.0
	Project No. 241.031124.00001	Figure No. <b>10</b>





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED FAÇADE SOUND LEVELS EXCESSES – STATIONARY SOURCES – DAYTIME

True North



Scale: 1:500 METRES

Date: Nov. 14, 2023 Rev 1.0 Figure No.

Project No. 241.031124.00001

**11**





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED FAÇADE SOUND LEVELS EXCESSES – STATIONARY SOURCES –  
EVENING

True North



Scale:

1:500

METRES

Date: Nov. 14, 2023

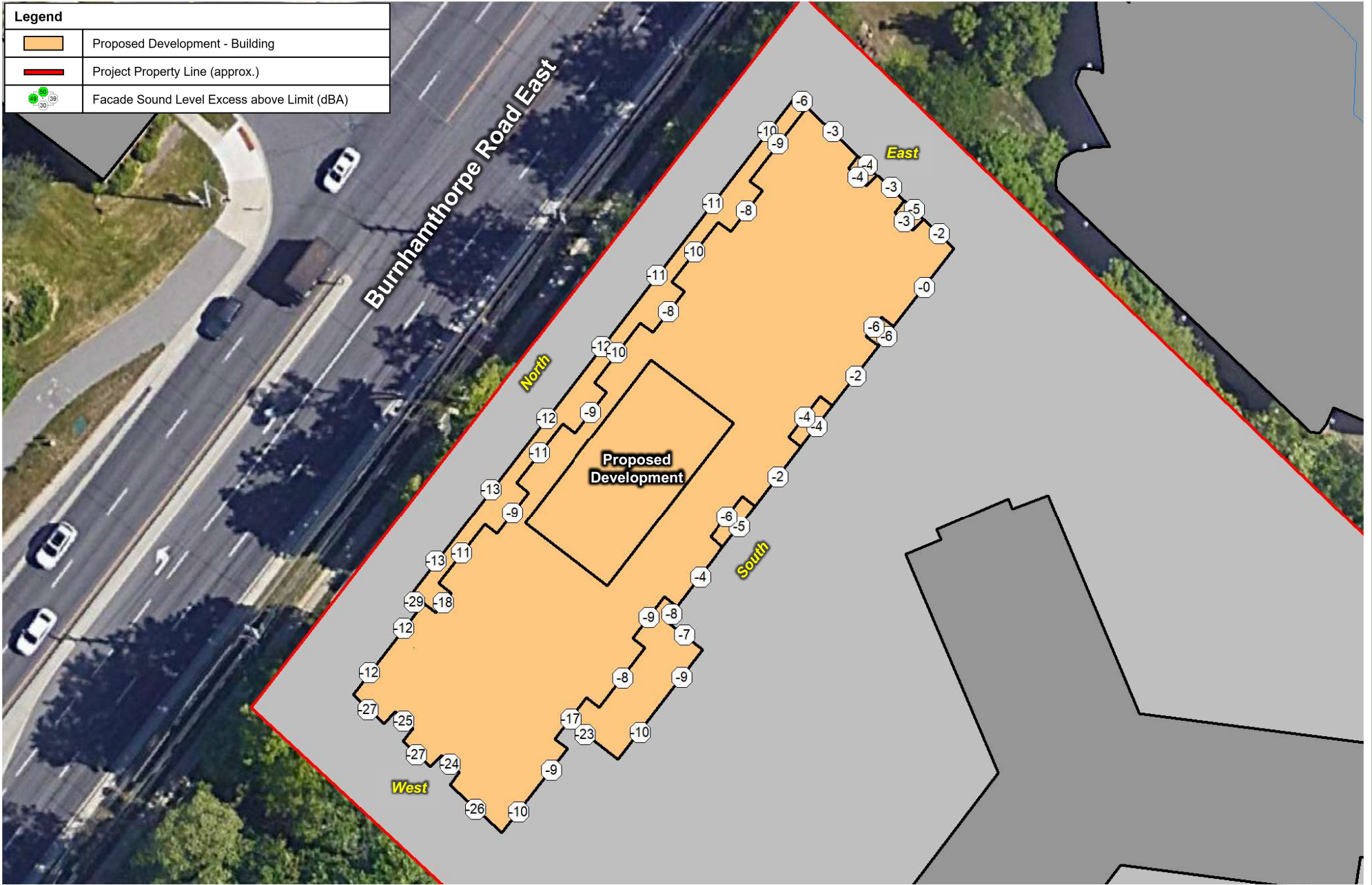
Rev 1.0

Figure No.

**12**

Project No.  
241.031124.00001





**STARLIGHT INVESTMENTS**

1315 SILVER SPEAR ROAD, MISSISSAUGA

PREDICTED FAÇADE SOUND LEVELS EXCESSES – STATIONARY SOURCES  
– NIGHT-TIME

True North



Scale: 1:500 METRES

Date: Nov. 14, 2023 Rev 1.0 Figure No.

Project No.  
241.031124.00001

**13**







# Appendix A Development Drawings

## Environmental Noise Assessment

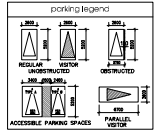
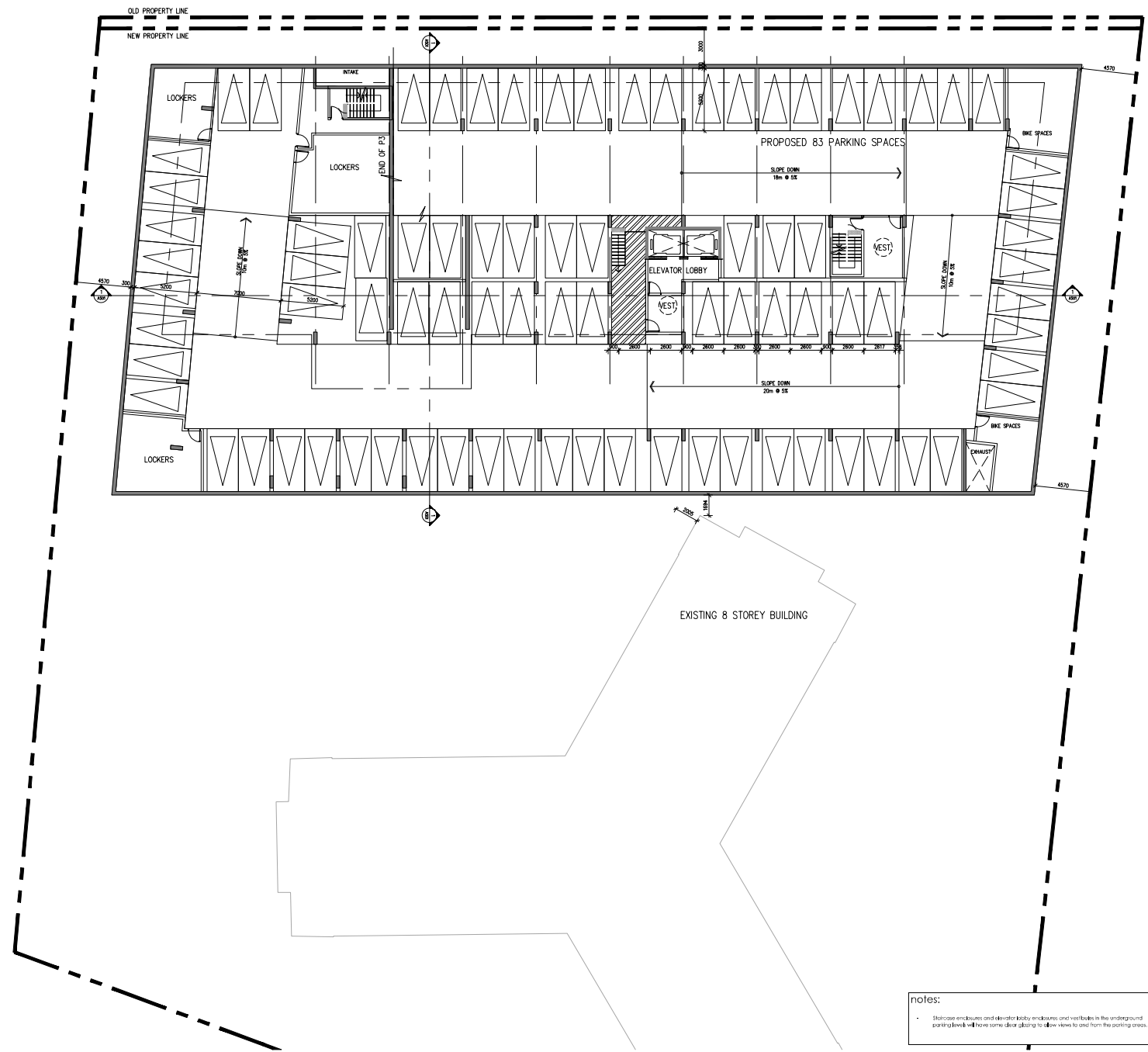
1315 Silver Spear Road, Mississauga

**Starlight Investments**

SLR Project No.: 241.031124.00001

November 14, 2023





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**notes:**

- |                             |          |
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| 12. issued for rezoning     | 11.10.23 |
| 11. issued for SPA          | 11.09.18 |
| 10. issued for rezoning     | 11.09.18 |
| 9. issued for client review | 09.21.18 |
| 8. issued for client review | 09.12.18 |
| 7. issued for rezoning      | 11.13.17 |
| 6. issued for client review | 05.11.17 |
| 5. issued for client review | 10.27.16 |
| 4. pre-submission meeting   | 10.12.16 |
| 3. issued for client review | 10.05.16 |
| 2. issued for client review | 04.04.16 |
| 1. pre-submission meeting   | 06.25.15 |

**architectural team :**  
 mark zwicker  
 artem panomarenko



planning:  
 john d. rogers and associates inc.  
 structural:  
 electrical:  
 mechanical:  
 landscape:  
 site services:

project:  
 1315 Silver Spear Road  
 mississauga, ontario

p3

nov. 10, 2023  
 1:150  
 14-40  
 cp



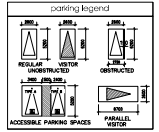
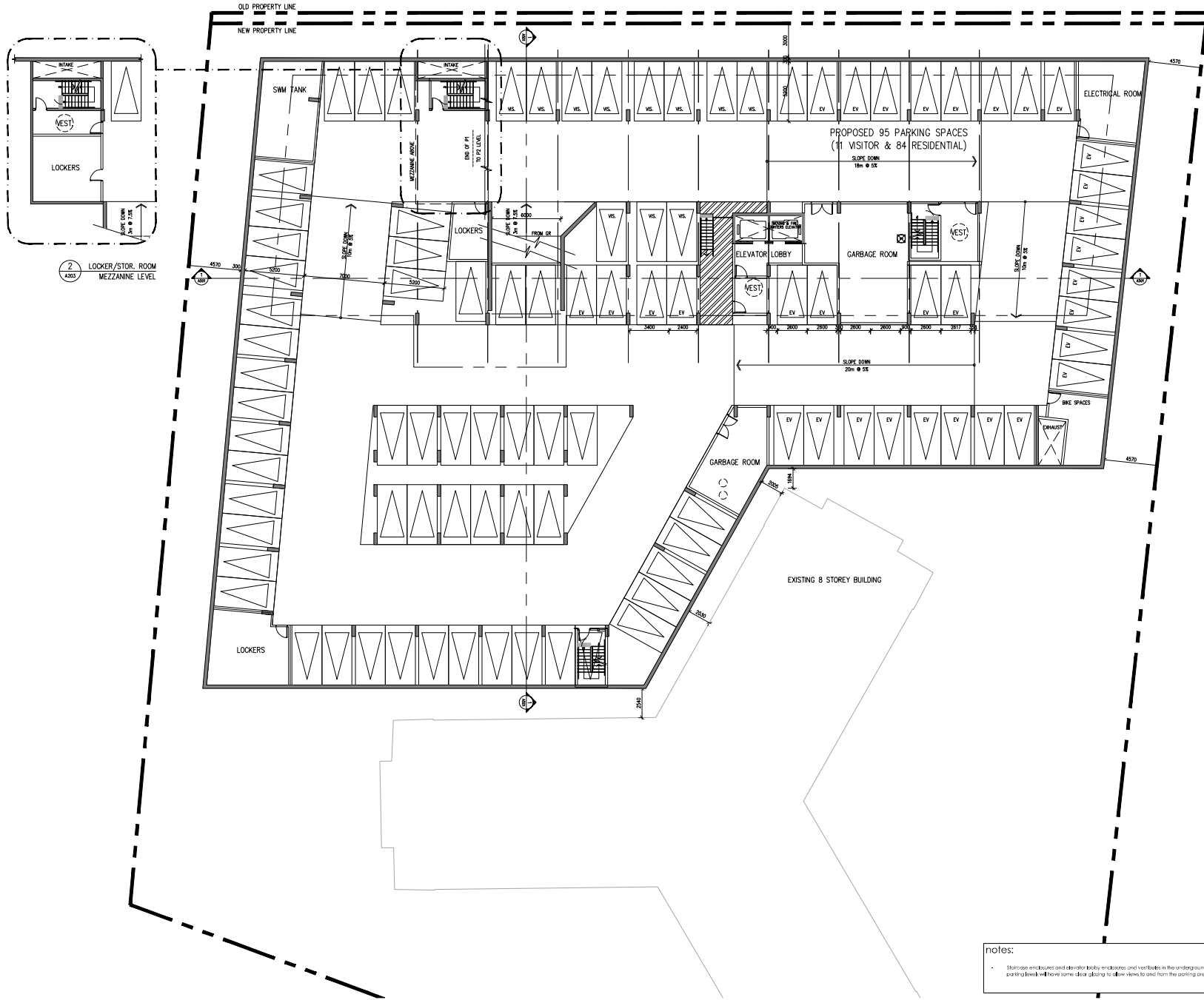
**notes:**

- Sloped enclosures and elevator lobby enclosures and vestibules in the underground parking level will have some clear glazing to allow views to and from the parking areas.

drawing number:  
**A201**







Construction of the parking design is approved by the City of Mississauga. The drawing is not to be used for construction until all necessary permits and approvals are obtained. The City of Mississauga is not responsible for the design of the parking spaces or the construction of the parking spaces.

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- 11. issued for SPA 11.09.18
- 10. issued for rezoning 11.09.18
- 9. issued for client review 09.21.18
- 8. issued for client review 09.12.18
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- 6. issued for client review 05.11.17
- 5. issued for client review 10.27.16
- 4. pre-submission meeting 10.12.16
- 3. issued for client review 10.05.16
- 2. issued for client review 04.04.16
- 1. pre-submission meeting 05.25.15

architectural team :  
 mark zwicker  
 artem panomarenko



planning:  
 john d. rogers and associates inc.  
 architect:  
 electric:  
 mechanical:  
 landscape:  
 site services:

project:  
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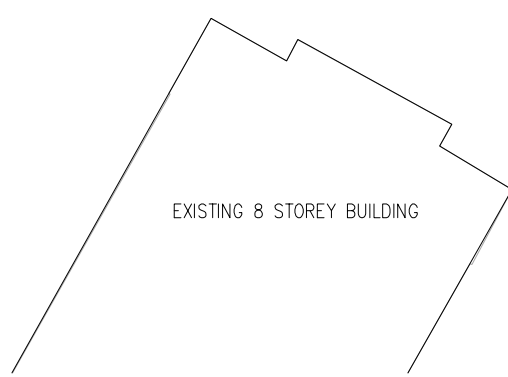
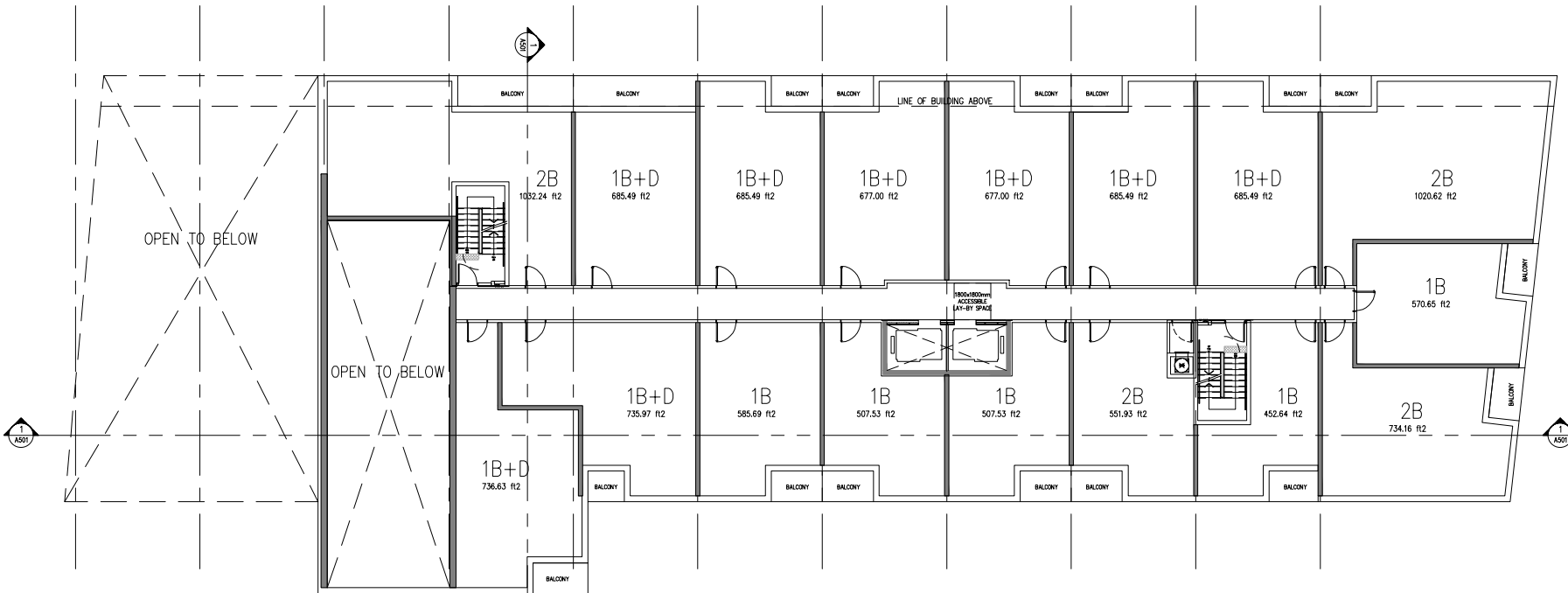
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 14-40  
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A203

notes:  
 - Slopscape enclosures and elevator lobby enclosures and vestibules in the underground parking levels will have some clear glazing to allow views to and from the parking areas.





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notes:

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| 4. pre-submission meeting   | 10.12.16 |
| 3. issued for client review | 10.05.16 |
| 2. issued for client review | 04.04.16 |
| 1. pre-submission meeting   | 06.25.15 |

architectural team :

mark zwicker  
artem ponomarencu

planning:  
JOHN D. ROGERS AND ASSOCIATES INC.  
structural:  
electrical:  
mechanical:  
landscape:  
fire services:

project:  
1315 Silver Spear Road  
Mississauga, Ontario

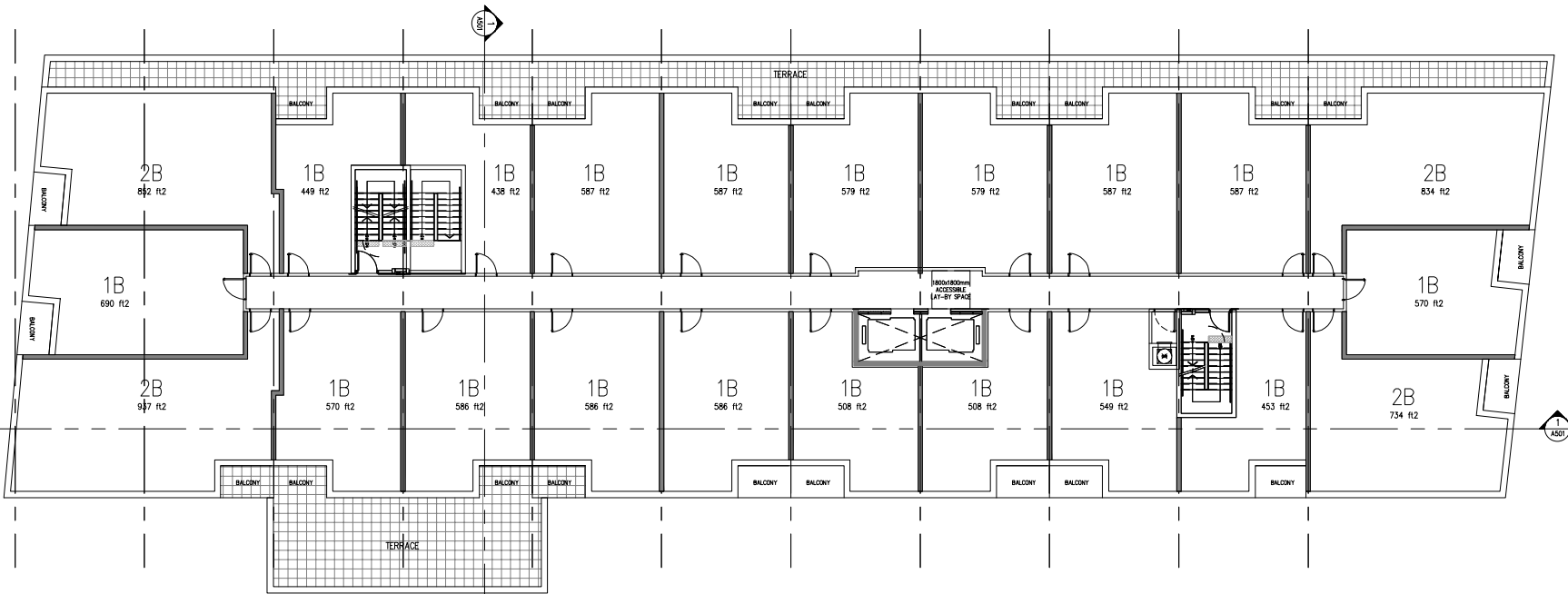
2nd fl. plan

nov. 10, 2023  
1: 100  
14-40  
ap

date:  
scale:  
project:  
drawn by:



drawing number:  
**A302**



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- 7. issued for rezoning 11.13.17
- 6. issued for client review 05.11.17
- 5. issued for client review 10.27.16
- 4. pre-submission meeting 10.12.16
- 3. issued for client review 10.06.16
- 2. issued for client review 04.04.16
- 1. pre-submission meeting 06.25.15

architectural team :  
 mark zwicker  
 artem ponomarencu



planning:  
 JOHN D. ROGERS AND ASSOCIATES INC.  
 structural:  
 electrical:  
 mechanical:  
 landscape:  
 fire services:

project:  
 1315 Silver Spear Road  
 Mississauga, Ontario

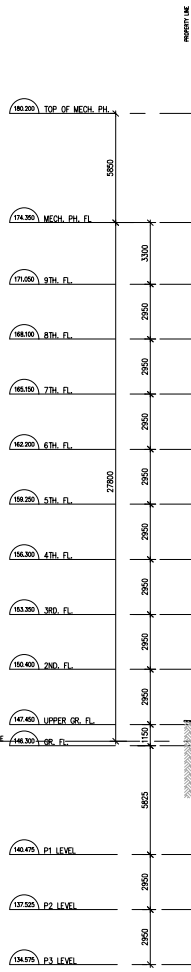
3rd fl. plan

nov. 10, 2023  
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 14-40  
 dp

drawing number:  
**A303**







Planner of the building shall be responsible for the building. The building shall be constructed in accordance with the Building Code of Ontario and the Ontario Building Code and all applicable laws and regulations. The building shall be constructed in accordance with the Building Code of Ontario and the Ontario Building Code and all applicable laws and regulations. The building shall be constructed in accordance with the Building Code of Ontario and the Ontario Building Code and all applicable laws and regulations.

Notes:

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|-----------------------------|----------|
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| 3. issued for client review | 10.06.16 |
| 2. issued for client review | 04.04.16 |
| 1. pre-submission meeting   | 06.25.15 |

architectural team :  
mark zwiaker  
artem ponomarengo

- planning: JONATHAN ROGERS AND ASSOCIATES INC.
- structural:
- electrical:
- mechanical:
- landscape:
- fire services:

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1315 Silver Spear Road  
Mississauga, Ontario

north elevation

nov. 10, 2023  
1:125  
14-40  
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**A401**



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Position of exposed or framed mechanical or electrical devices, fittings, and piping shall be indicated on this drawing. The Designer shall not be held liable for construction. Contractors to verify all existing conditions and dimensions prior to construction. The Designer shall not be held liable for construction. Contractors to verify all existing conditions and dimensions prior to construction.

notes:

- |                             |          |
|-----------------------------|----------|
| 12. issued for rezoning     | 11.10.23 |
| 11. issued for SPA          | 11.09.18 |
| 10. issued for rezoning     | 09.21.18 |
| 9. issued for client review | 09.12.18 |
| 8. issued for client review | 11.13.17 |
| 7. issued for rezoning      | 05.11.17 |
| 6. issued for client review | 10.27.16 |
| 5. issued for client review | 10.12.16 |
| 4. pre-submission meeting   | 10.06.16 |
| 3. issued for client review | 04.04.16 |
| 2. issued for client review | 06.25.15 |
| 1. pre-submission meeting   |          |

architectural team :  
 mark zwicker  
 artem ponomarenko



- planning: JOHN D. ROGERS AND ASSOCIATES INC.  
 electrical:  
 mechanical:  
 landscape:  
 fire services:

project:  
 1315 Silver Spear Road  
 Mississauga, Ontario

south elevation

nov. 10, 2023  
 1:125  
 14-40  
 OP

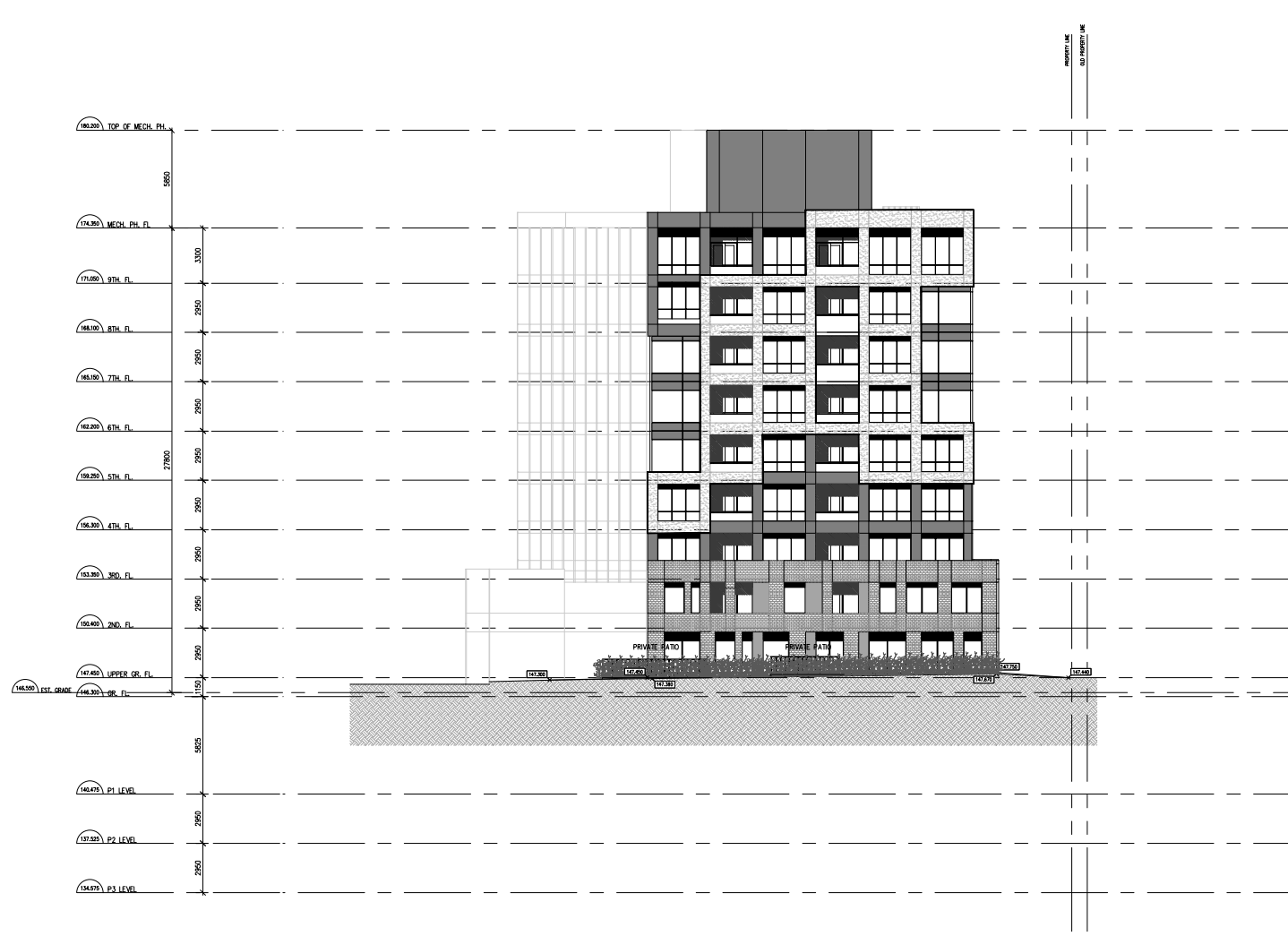


A402

architecture unfolded

info@unf.ca  
 416-291-1111





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Drawings are not to be used for construction. Contact the architect for more information. The architect is not responsible for the accuracy of the information provided by the client or for the accuracy of the information provided by the client's consultants.

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Notes:

- |                             |          |
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| 2. issued for client review | 06.25.15 |
| 1. pre-submission meeting   |          |

architectural team :

mark zwicker  
artem ponomarenko



planning:  
JOYCE D. ROGERS AND ASSOCIATES INC.


structural:  
electrical:  
mechanical:  
landscape:  
fire services:

project:  
1315 Silver Spear Road  
Mississauga, Ontario

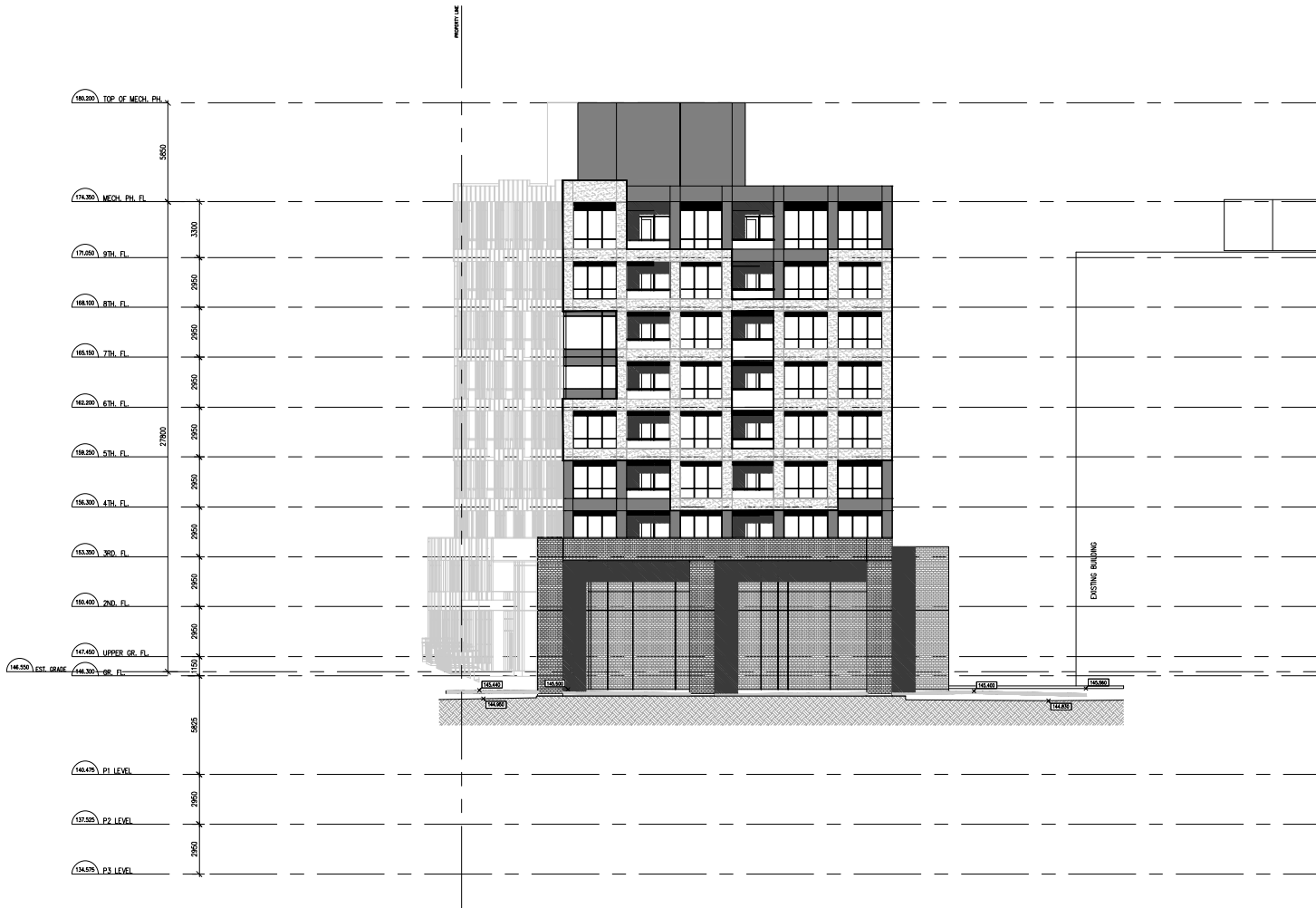
east elevation

nov. 10, 2023  
1:125  
14-40  
ap

done:  
scale:  
project:  
drawn by:



drawing number:  
**A403**



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 2. issued for client review 04.04.16  
 1. pre-submission meeting 06.25.15

architectural team :  
 mark zwicker  
 artem ponomarencu



planning:  
 JOHN D. ROGERS AND ASSOCIATES INC.  
 structural:  
 electrical:  
 mechanical:  
 landscape:  
 fire services:

project:  
 1315 Silver Spear Road  
 MASSAUGA, ONTARIO

west elevation

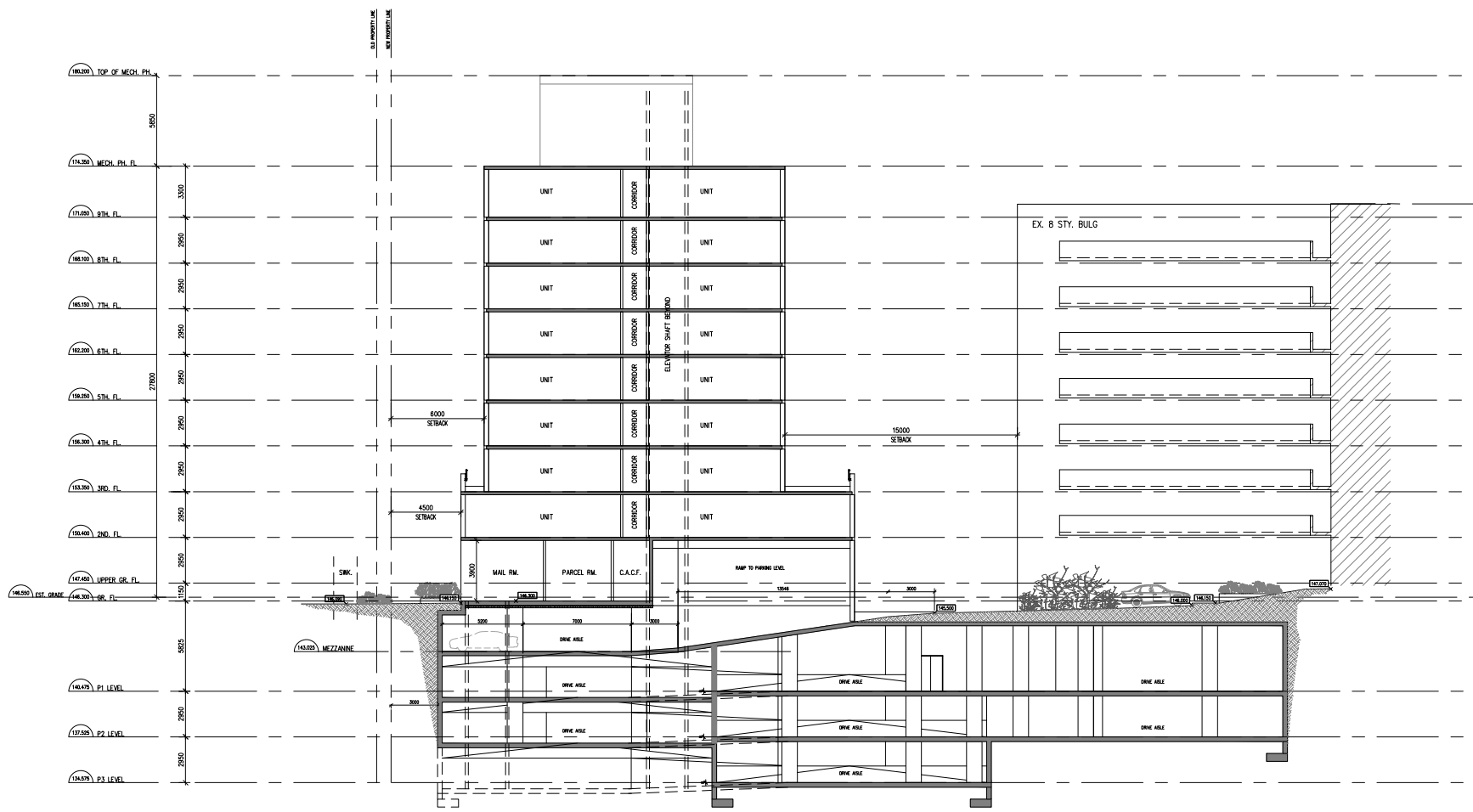
nov. 10, 2023  
 1:125  
 14-40  
 GP



A404

architecture unfolded

info@unf.ca  
 416-291-2141



Design of the building and design is owned by the Designer. The Designer shall not be responsible for any errors or omissions in the design. The Designer shall not be responsible for any errors or omissions in the design. The Designer shall not be responsible for any errors or omissions in the design.

Head Contract Documents are the project of the architect. The architect shall not be responsible for any errors or omissions in the design. The architect shall not be responsible for any errors or omissions in the design. The architect shall not be responsible for any errors or omissions in the design.

Drawings are intended for construction. Contractor to verify existing conditions and dimensions before construction. The architect shall not be responsible for any errors or omissions in the design. The architect shall not be responsible for any errors or omissions in the design. The architect shall not be responsible for any errors or omissions in the design.

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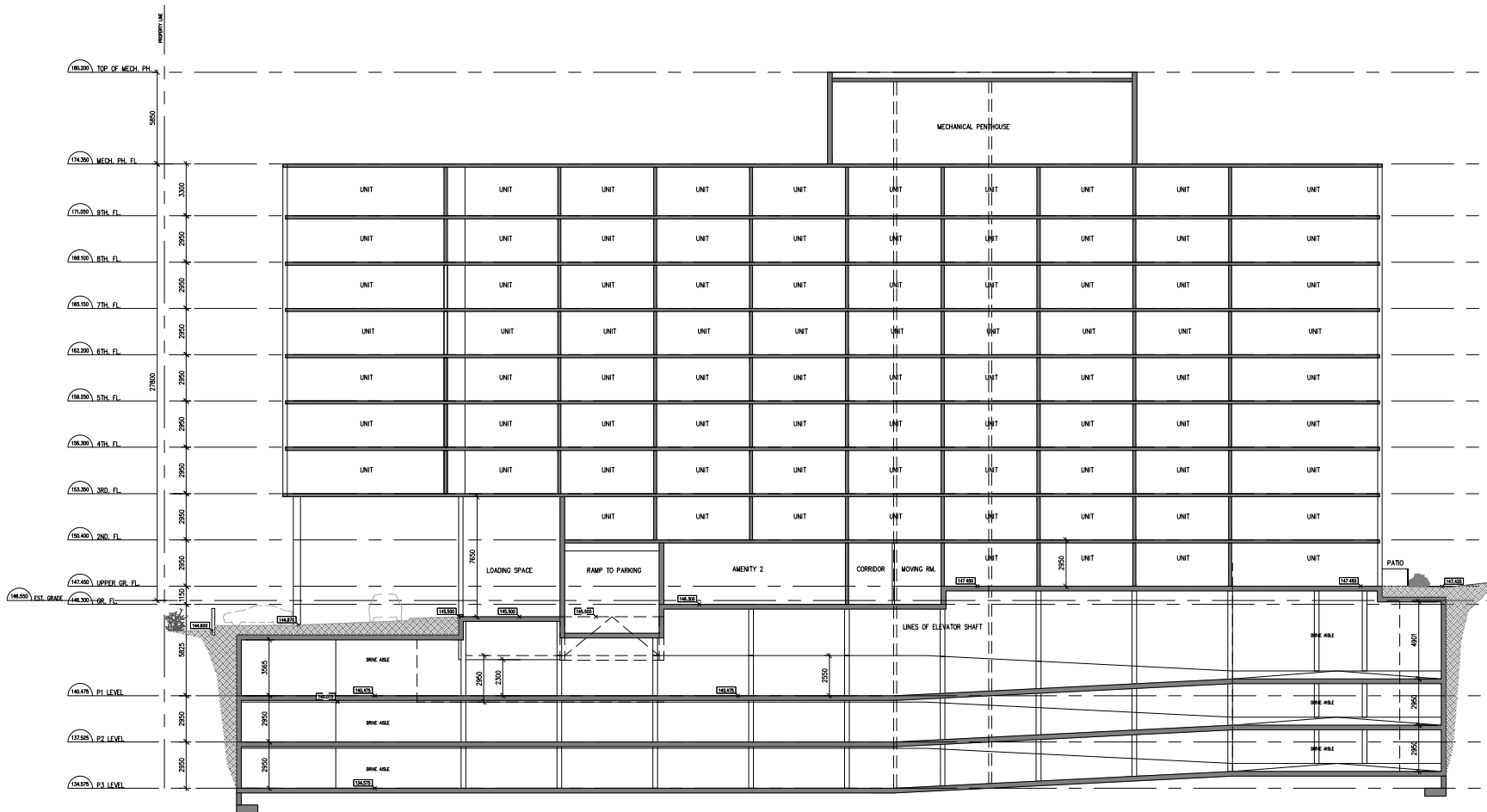
architectural team :  
 mark zwicker  
 ortem ponomarenko

drawing:  
 john d. rogers and associates inc.  
 architect  
 electrical  
 mechanical  
 landscape  
 site services

project:  
 1315 Silver Spear Road  
 mississauga, ontario

section

date:  
 nov. 10, 2023  
 scale:  
 1:125  
 14-40  
 op  
 drawn by:  
 draw no number  
 A501



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architectural team :  
 mark zwicker  
 ortem ponomarenko

drawing:  
 john d. rogers and associates inc.  
 architect  
 electrical  
 mechanical  
 landscape  
 site services

project:  
 1315 Silver Spear Road  
 mississauga, ontario

section

date:  
 nov. 10, 2023  
 scale:  
 1:125  
 14-40  
 project:  
 op  
 drawn by:  
 drawing number:  
 A502



# Appendix B Traffic Data and Calculations

## Environmental Noise Assessment

1315 Silver Spear Road, Mississauga

**Starlight Investments**

SLR Project No.: 241.031124.00001

November 14, 2023

Date: September 7, 2023  
 From: Sabah Ersum, SLR Consulting (Canada) Ltd  
 Re: Traffic Data Request – Dixie Road (280 m North of Bloor Street)

Sabah,  
 As per your request, we are providing the following 2019 traffic data:

	Existing	Ultimate
24 Hour Traffic Volume	35,158	48,600
# of Lanes	6	6
Day/Night Split	90/10	90/10
Day Trucks (% of Total Volume)	1.35% Medium 6.89% Heavy	1.35% Medium 6.89% Heavy
Night Trucks (% of Total Volume)	2.00% Medium 4.82% Heavy	2.00% Medium 4.82% Heavy
Right-of-Way Width	45 meters	
Posted Speed Limit	60 km/h	

Please note:

1. The current volume is not the Annual Average Daily Traffic, but the averaged raw volumes over three data collection days. If you need the Annual Average Traffic Volume, please visit the Peel Open Data website below:  
<http://opendata.peelregion.ca/data-categories/transportation/traffic-count-stations.aspx>
2. The ultimate volume is the planned volume during a level of service 'D' where a 2 second vehicle headway and a volume to capacity ratio of 0.9 is assumed. Traffic signals and hourly variations in traffic are also incorporated into the ultimate volume.

If you require further assistance, please contact at  
[transportationplanningdata@peelregion.ca](mailto:transportationplanningdata@peelregion.ca)

Thank you,

Ucchas Saha, MASc  
 Transportation Planner, Transportation Planning  
 Transportation Division, Public Works  
 Region of Peel

Date: 08-Sep-23

# NOISE REPORT FOR PROPOSED DEVELOPMENT

## REQUESTED BY:

Name: Sabah Ersum

Company: SLR Consulting

Location: 1. Burnhamthorpe Rd E (1315 Silver Spear Rd.)

## PREPARED BY:

Name: Naveda Dukhan C.E.T

Tel#: 905-615-3200 ext. 8948



ID# 601

## ON SITE TRAFFIC DATA

Specific	Street Names				
	1. Burnhamthorpe Rd E				
<b>AADT:</b>	35500				
<b># of Lanes:</b>	6 Lanes				
<b>% Trucks:</b>	5%				
<b>Medium/Heavy Trucks Ratio:</b>	55/45				
<b>Day/Night Split:</b>	90/10				
<b>Posted Speed Limit:</b>	60 km/hr				
<b>Gradient Of Road:</b>	2%				
<b>Ultimate R.O.W:</b>	50m				

### Comments:

Ultimate Traffic Data Only (2041)




## Volume Result Details by Hour Report

**Location.....** BURNHAMTHORPE RD E btwn BOUGH BEECHES BLVD & FIELDGATE DR  
**Municipality.....** Mississauga  
**Count Station.....**  
**Direction.....** Both Directions

Date	Time Period	Count	Peak Hour
Thursday, May 05, 2016			
	12:00 AM 01:00 AM	171	<input type="checkbox"/>
	01:00 AM 02:00 AM	97	<input type="checkbox"/>
	02:00 AM 03:00 AM	79	<input type="checkbox"/>
	03:00 AM 04:00 AM	48	<input type="checkbox"/>
	04:00 AM 05:00 AM	58	<input type="checkbox"/>
	05:00 AM 06:00 AM	196	<input type="checkbox"/>
	06:00 AM 07:00 AM	804	<input type="checkbox"/>
	07:00 AM 08:00 AM	1657	<input type="checkbox"/>
	08:00 AM 09:00 AM	1991	<input type="checkbox"/>
	09:00 AM 10:00 AM	1339	<input type="checkbox"/>
	10:00 AM 11:00 AM	1200	<input type="checkbox"/>
	11:00 AM 12:00 PM	1382	<input type="checkbox"/>
	12:00 PM 01:00 PM	1428	<input type="checkbox"/>
	01:00 PM 02:00 PM	1336	<input type="checkbox"/>
	02:00 PM 03:00 PM	1504	<input type="checkbox"/>
	03:00 PM 04:00 PM	1920	<input type="checkbox"/>
	04:00 PM 05:00 PM	2295	<input type="checkbox"/>
	05:00 PM 06:00 PM	2338	<input checked="" type="checkbox"/>
	06:00 PM 07:00 PM	1875	<input type="checkbox"/>
	07:00 PM 08:00 PM	1461	<input type="checkbox"/>
	08:00 PM 09:00 PM	1162	<input type="checkbox"/>
	09:00 PM 10:00 PM	886	<input type="checkbox"/>
	10:00 PM 11:00 PM	603	<input type="checkbox"/>
	11:00 PM 12:00 AM	516	<input type="checkbox"/>
<b>Total</b>		<b>26,346</b>	



# ORNAMENT - Sound Power Emissions & Source Heights

Ontario Road Noise Analysis Method for Environment and Transportation

Road Segment ID	Roadway Name	Link Description	Speed (kph)	Period (h)	Total Traffic Volumes	Auto %	Med %	Hvy %	Auto	Med	Heavy	Road Gradient (%)	PWL (dBA)	Source Height, s (m)
DixieRdNB_avg	Dixie Road, Northbound	Daytime Impacts	60	16	21870	91.8%	1.4%	6.9%	20074	295	1500	0	87.2	1.6
	Dixie Road, Northbound	Night-time Impacts	60	8	2430	93.2%	2.0%	4.8%	2264	49	117	0	79.7	1.5
DixieRdNB_min	Dixie Road, Northbound	Daytime Impacts	60	1	757	91.8%	1.4%	6.9%	695	10	52	0	84.7	1.6
	Dixie Road, Northbound	Evening-time Impacts	60	1	541	91.8%	1.4%	6.9%	496	7	37	0	83.2	1.6
DixieRdSB_avg	Dixie Road, Northbound	Night-time Impacts	60	1	64	93.2%	2.0%	4.8%	59	1	3	0	73.0	1.5
	Dixie Road, Southbound	Daytime Impacts	60	16	21870	91.8%	1.4%	6.9%	20074	295	1500	0	87.2	1.6
DixieRdSB_min	Dixie Road, Southbound	Night-time Impacts	60	8	2430	93.2%	2.0%	4.8%	2264	49	117	0	79.7	1.5
	Dixie Road, Southbound	Daytime Impacts	60	1	757	91.8%	1.4%	6.9%	695	10	52	0	84.7	1.6
BurnhamthorpeEB_UH_avg	Dixie Road, Southbound	Evening-time Impacts	60	1	541	91.8%	1.4%	6.9%	496	7	37	0	83.2	1.6
	Dixie Road, Southbound	Night-time Impacts	60	1	64	93.2%	2.0%	4.8%	59	1	3	0	73.0	1.5
BurnhamthorpeWB_DH_avg	Burnhamthorpe Rd E (1 dir, uphill)	Daytime Impacts	60	16	15975	95.0%	2.8%	2.3%	15176	439	359	2.9	84.1	1.2
	Burnhamthorpe Rd E (1 dir, uphill)	Night-time Impacts	60	8	1775	95.0%	2.8%	2.3%	1686	49	40	2.9	77.6	1.2
BurnhamthorpeEB_avg	Burnhamthorpe Rd E (1 dir, downhill)	Daytime Impacts	60	16	15975	95.0%	2.8%	2.3%	15176	439	359	0	83.2	1.2
	Burnhamthorpe Rd E (1 dir, downhill)	Night-time Impacts	60	8	1775	95.0%	2.8%	2.3%	1686	49	40	0	76.7	1.2
BurnhamthorpeEB_UH_min	Burnhamthorpe Rd E, Eastbound	Daytime Impacts	60	16	15975	95.0%	2.8%	2.3%	15176	439	359	0	83.2	1.2
	Burnhamthorpe Rd E, Eastbound	Night-time Impacts	60	8	1775	95.0%	2.8%	2.3%	1686	49	40	0	76.7	1.2
BurnhamthorpeWB_avg	Burnhamthorpe Rd E (1 dir, uphill)	Daytime Impacts	60	1	600	95.0%	2.8%	2.3%	570	17	14	2.9	81.9	1.2
	Burnhamthorpe Rd E (1 dir, uphill)	Evening-time Impacts	60	1	302	95.0%	2.8%	2.3%	286	8	7	2.9	78.9	1.2
BurnhamthorpeWB_min	Burnhamthorpe Rd E (1 dir, uphill)	Night-time Impacts	60	1	24	95.0%	2.8%	2.3%	23	1	1	2.9	67.9	1.2
	Burnhamthorpe Rd E, Westbound	Daytime Impacts	60	16	15975	95.0%	2.8%	2.3%	15176	439	359	0	83.2	1.2
BurnhamthorpeWB_DH_min	Burnhamthorpe Rd E, Westbound	Night-time Impacts	60	8	1775	95.0%	2.8%	2.3%	1686	49	40	0	76.7	1.2
	Burnhamthorpe Rd E (1 dir, downhill)	Daytime Impacts	60	1	600	95.0%	2.8%	2.3%	570	17	14	0	81.0	1.2
BurnhamthorpeWB_UH_min	Burnhamthorpe Rd E (1 dir, downhill)	Evening-time Impacts	60	1	302	95.0%	2.8%	2.3%	286	8	7	0	78.0	1.2
	Burnhamthorpe Rd E (1 dir, downhill)	Night-time Impacts	60	1	24	95.0%	2.8%	2.3%	23	1	1	0	67.0	1.2



# Appendix C STAMSON Output File

## Environmental Noise Assessment

1315 Silver Spear Road, Mississauga

**Starlight Investments**

SLR Project No.: 241.031124.00001

November 14, 2023

Filename: silver2.te                    Time Period: 16 hours  
Description: STAMSON Validation - Sample Calculation

Road data, segment # 1: Burnham\_UH  
-----

Car traffic volume : 15176 veh/TimePeriod  
Medium truck volume : 439 veh/TimePeriod  
Heavy truck volume : 359 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 3 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Burnham\_UH  
-----

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 16.20 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Burnham\_DH  
-----

Car traffic volume : 15176 veh/TimePeriod  
Medium truck volume : 439 veh/TimePeriod  
Heavy truck volume : 359 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Burnham\_DH  
-----

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 28.00 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 3: Dixie\_NB

-----  
Car traffic volume : 20074 veh/TimePeriod  
Medium truck volume : 295 veh/TimePeriod  
Heavy truck volume : 1500 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Dixie\_NB

-----  
Angle1 Angle2 : -31.57 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 244.20 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 4: Dixie\_SB

-----  
Car traffic volume : 20074 veh/TimePeriod  
Medium truck volume : 295 veh/TimePeriod  
Heavy truck volume : 1500 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Dixie\_SB

-----  
Angle1 Angle2 : -32.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 227.30 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Burnham\_UH

Source height = 1.22 m

ROAD (0.00 + 68.72 + 0.00) = 68.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	69.05	0.00	-0.33	0.00	0.00	0.00	0.00	68.72

Segment Leq : 68.72 dBA

Results segment # 2: Burnham\_DH

Source height = 1.22 m

ROAD (0.00 + 65.45 + 0.00) = 65.45 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.16	0.00	-2.71	0.00	0.00	0.00	0.00	65.45

Segment Leq : 65.45 dBA

Results segment # 3: Dixie\_NB

Source height = 1.62 m

ROAD (0.00 + 52.50 + 0.00) = 52.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.00	72.17	0.00	-12.12	-7.56	0.00	0.00	0.00	52.50

Segment Leq : 52.50 dBA

Results segment # 4: Dixie\_SB

-----

Source height = 1.62 m

ROAD (0.00 + 52.87 + 0.00) = 52.87 dBA





Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.00	72.17	0.00	-11.81	-7.50	0.00	0.00	0.00	52.87

-----

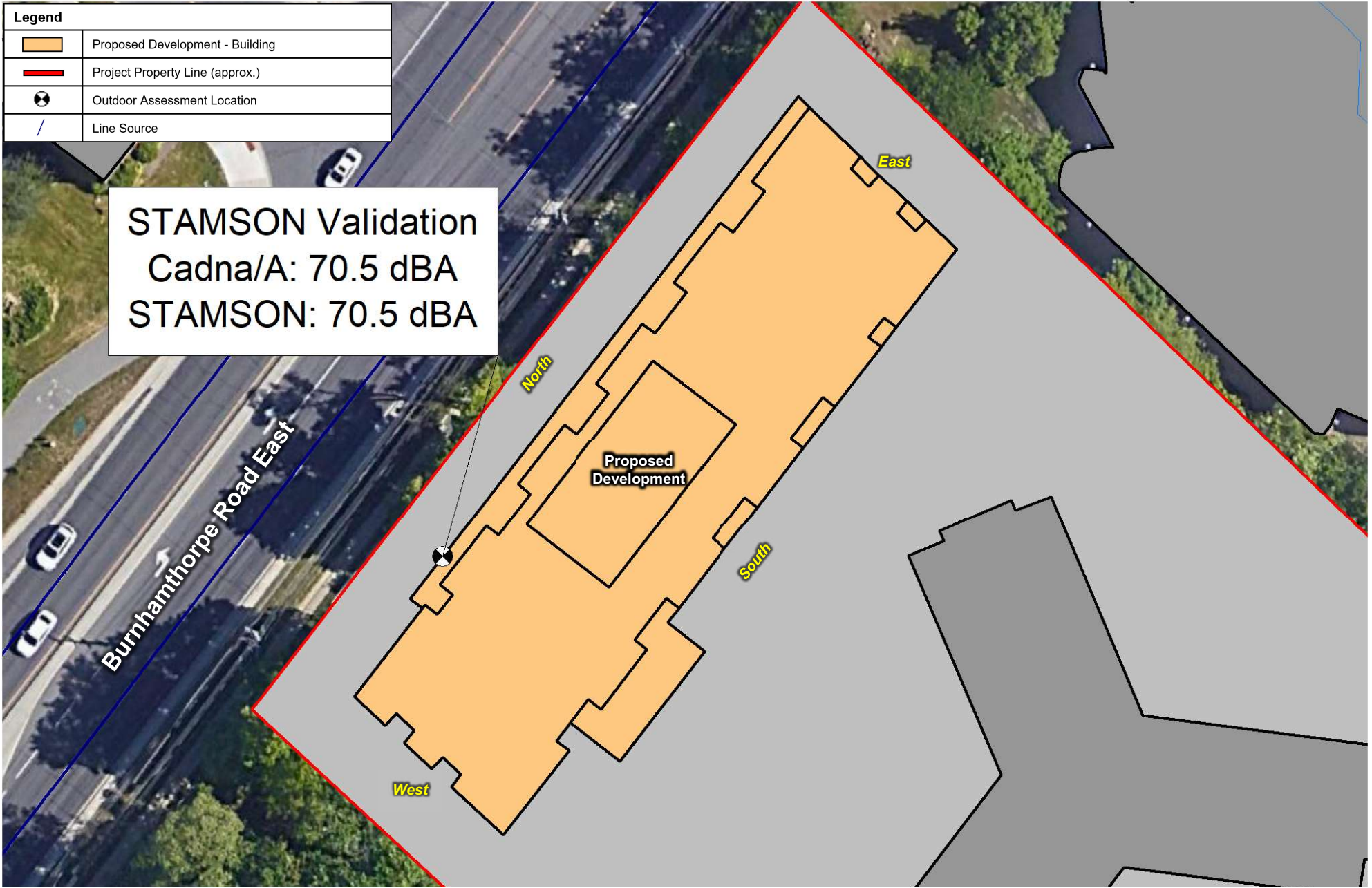
Segment Leq : 52.87 dBA

Total Leq All Segments: 70.54 dBA

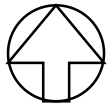
TOTAL Leq FROM ALL SOURCES: 70.54

Legend	
	Proposed Development - Building
	Project Property Line (approx.)
	Outdoor Assessment Location
	Line Source

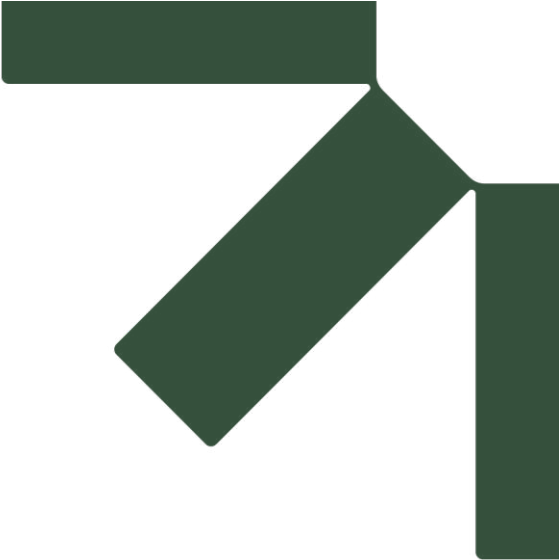
**STAMSON Validation**  
 Cadna/A: 70.5 dBA  
 STAMSON: 70.5 dBA



<b>STARLIGHT INVESTMENTS</b>
1315 SILVER SPEAR ROAD, MISSISSAUGA
COMPARISON OF CADNA/A AND STAMSON OUTPUT

	Scale:	1:500	METRES
	Date: Nov. 14, 2023	Rev 1.0	Figure No.
	Project No. 241.031153.00001		<b>C1</b>





# **Appendix D    Ventilation, Warning Clause and Mitigation Summary**

## **Environmental Noise Assessment**

1315 Silver Spear Road, Mississauga

**Starlight Investments**

SLR Project No.: 241.031124.00001

November 14, 2023



## Appendix D Ventilation, Warning Clause and Mitigation Summary

The following warning clauses are recommended for inclusion in agreements registered on Title for the residential units and included in all agreements of purchase and sale or lease, and all rental agreements.

A summary of the warning clause, ventilation and mitigation recommendations is included in **Table D.1**.

**MECP Type A:** “Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.”

**MECP Type D:** “This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.”

**MECP Type E:** “Purchasers/tenants are advised that due to the proximity of the adjacent institutional and commercial facilities, noise from the facilities may at times be audible.”

**Table D.1: Summary of Ventilation, Warning Clause and Mitigation Recommendations**

Development Location/Building	Barrier Recommendations	Ventilation Recommendations	Warning Clause Recommendations
Residential Building (9 Storeys)	None	Central AC	Type A, Type D, Type E





# Appendix E    Stationary Source Modelling Data

## **Environmental Noise Assessment**

1315 Silver Spear Road, Mississauga

**Starlight Investments**

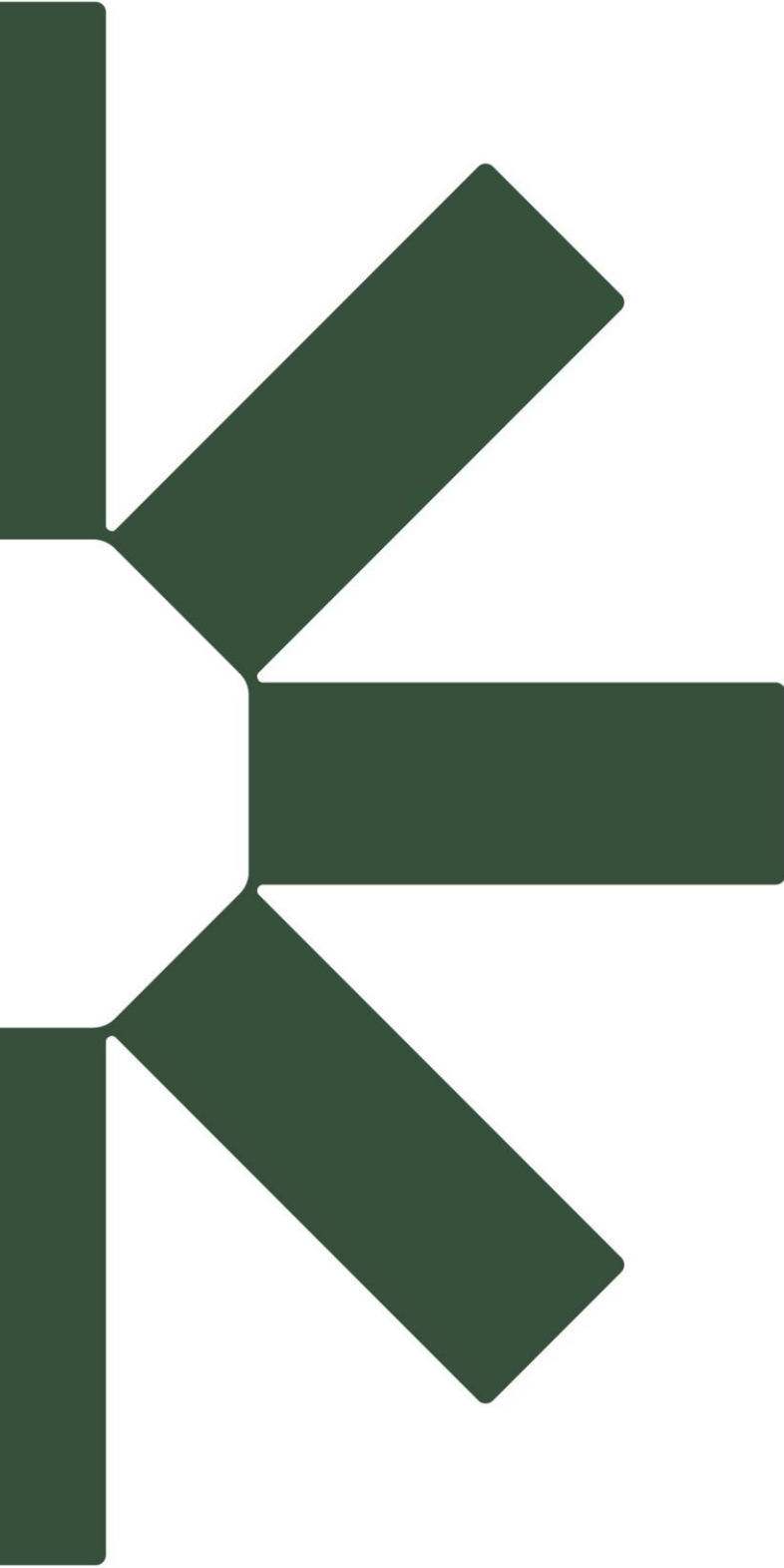
SLR Project No.: 241.031124.00001

November 14, 2023

**STATIONARY SOURCE MODELLING DATA**

Source Description	Maximum Sound Power Level (1/1 Octave Bands) (dB)									Modelled Sound Power Level (dBA)	Source Notes
	31.5	63	125	250	500	1000	2000	4000	8000		
<b>Burnhamthorpe Library</b>											
Rooftop HVAC - 5 ton - x4 units	77.0	80.0	81.0	81.0	80.0	78.0	74.0	70.0	64.0	82.5	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours - Operates 15 minutes per hour during night-time hours
Rooftop HVAC - 10 ton - x8 units	80.0	83.0	84.0	84.0	83.0	81.0	77.0	73.0	67.0	85.5	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours - Operates 15 minutes per hour during night-time hours
Rooftop HVAC - 30 ton - x1 unit	-	-	100.1	93.6	93.2	90.0	83.8	79.0	73.1	94.8	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours - Operates 15 minutes per hour during night-time hours
<b>Shell Gas Station &amp; Car Wash/Jiffy Lube</b>											
Rooftop HVAC - 5 ton - x1 unit	77.0	80.0	81.0	81.0	80.0	78.0	74.0	70.0	64.0	82.5	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours - Operates 30 minutes per hour during night-time hours
Rooftop HVAC - 10 ton - x1 unit	80.0	83.0	84.0	84.0	83.0	81.0	77.0	73.0	67.0	85.5	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours - Operates 30 minutes per hour during night-time hours
Car Wash (entrance) - x1 unit	86.2	88.3	84.5	84.2	85.8	82.1	82.1	80.9	76.8	89.0	Based on historical SLR data - Operates 6 minutes per hour during daytime/evening hours - Operates 1 minute per hour during night-time hours
Car Wash (exit) - x1 unit	102.1	109.7	106.2	107.2	104.3	103.1	100.7	95.2	89.2	107.9	Based on measurement by SLR staff conducted September 22, 2023 - Operates 12 minutes per hour during daytime/evening hours - Operates 2 minutes per hour during night-time hours
Bay Door Breakout Noise - Impact wrench - x4 unit	82.6	77.9	82.4	75.8	79.3	78.4	85.6	85.1	84.9	91.0	Based on historical SLR data - Operates 1 minutes per hour during daytime/evening hours - Additional +10 dB penalty applied in Cadna/A for quasi-steady impulsive sound quality
Bay Door Breakout Noise - Compressed Air - x2 unit	101.1	100.5	95.8	89.3	86.0	86.3	83.5	84.8	80.8	92.1	Based on historical SLR data - Operates 10 minutes per hour during daytime/evening hours - Additional +5 dB penalty applied in Cadna/A for tonal sound quality
Car vacuum - x2 unit	80.2	83.8	81.4	90.2	78.4	81.2	84.6	87.0	84.0	91.8	Based on historical SLR data - Operates 30 minutes per hour during daytime/evening hours - Operates 5 minutes per hour during night-time hours
Car Idling - x10 unit	-	85.0	80.0	75.0	72.0	70.0	69.0	65.0	55.0	76.0	Based on historical SLR data - Operates 60 minutes per hour during daytime/evening hours





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