

Environmental Noise Assessment

210 & 374 Burnhamthorpe Road West

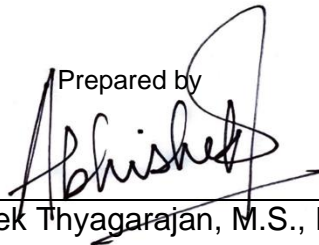
Proposed Residential Subdivision
Oakville, Ontario

June 21, 2023
Project: 120-0270

Prepared for

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Prepared by



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VALCOUSTICS

Canada Ltd.

Version History

| Version # | Date | Comments |
|-----------|---------------|--------------------------|
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Environmental Noise Assessment

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Proposed Residential Subdivision

Oakville, Ontario

EXECUTIVE SUMMARY

Valcoustics Canada Ltd. (VCL) was retained to prepare an Environmental Noise Assessment to address the potential noise impact from the existing environment onto the proposed residential subdivisions in support of the Draft Plan of Subdivision application submission to the Town of Oakville and the Regional Municipality of Halton. The project consists of two sites located adjacent to each other at 210 and 374 Burnhamthorpe Road West. It is understood that these two sites will be developed together. The development will consist of 307 townhouses and 290 single detached dwellings. VCL previously prepared a Noise Assessment for this development dated October 28, 2021. This updated report addresses changes to the site plan as well as comments from the Region of Halton.

The significant noise source in the vicinity is road traffic on William Halton Parkway, Neyagawa Boulevard and Old Burnhamthorpe Road. Internal Streets A (Carding Mill Trail) and B are also considered in the assessment. There are no stationary noise sources that are expected to have a significant impact at the subject site.

The sound levels on site have been determined and compared with the applicable Ministry of the Environment, Conservation and Parks (MECP) noise guideline limits to determine the need for noise mitigation.

To meet the applicable transportation noise source guideline limits at the proposed developments, the noise mitigation requirements are summarized below.

374 Burnhamthorpe

- Mandatory air conditioning is required for all townhouses in Blocks 291 – 293, 314 – 320, 337, 338, 342, and 360 exposed to Old Burnhamthorpe Road and William Halton Parkway;
- Provision for adding air conditioning at a later date is required for all townhouses in Blocks 345 – 349, which are at the intersection of Streets A and B; and
- For all townhouses and detached dwellings, exterior wall and window construction meeting the minimum non-acoustical requirement of the OBC is adequate to meet the indoor sound level criteria of the MECP noise guidelines.

Final requirements should be checked when detailed building plans are available. This could be done as a condition for obtaining a building permit.

210 Burnhamthorpe

- Mandatory air-conditioning is required for all townhomes in Block 338, closest to Old Burnhamthorpe Road; and
- For all townhouse dwellings, exterior wall and window construction meeting the minimum non-acoustical requirement of the OBC is adequate to meet the indoor sound level criteria of the MECP noise guidelines.

Final requirements should be checked when detailed building plans are available. This could be done as a condition for obtaining a building permit.

1.0 INTRODUCTION

1.1 SCOPE

Valcoustics Canada Ltd. (VCL) was retained to prepare an Environmental Noise Assessment to address the potential noise impact from the existing environment onto the proposed residential subdivision in support of the Draft Plan of Subdivision application submission to the Town of Oakville and the Regional Municipality of Halton. The project consists of two sites located adjacent to each other at 210 and 374 Burnhamthorpe Road West. It is understood that these two sites will be developed together. The development will consist of 307 townhouses and 290 single detached dwellings. The potential sound levels and noise mitigation measures needed for the proposed development to comply with the MECP noise guideline requirements are outlined herein.

1.2 THE SITE AND SURROUNDING AREA

The two adjacent sites are located along William Halton Parkway and Old Burnhamthorpe Road between Neyagawa Road and Sixth Line and are bounded by:

- William Halton Parkway with agricultural uses beyond, to the north;
- Agricultural uses with Neyagawa Boulevard beyond, to the west;
- Agricultural uses with Sixth Line beyond, to the east; and
- A wood lot and existing residential development beyond, to the south.

The 374 Burnhamthorpe site is identified as:

- Part of Lot 18 and 19
- Concession 1, N.D.S
- (Geographic Township of Trafalgar, County of Halton)
- Town of Oakville
- Regional Municipality of Halton

The 210 Burnhamthorpe site is identified as:

- Part of Lot 17
- Concession 1, North of Dundas Street
- Geographic Township of Trafalgar, County of Halton
- now in the Town of Oakville
- Regional Municipality of Halton

The Draft Plans for both sites have been consolidated into a single plan. Key Plan for both sites is included as Figure 1.

The study is based on the Draft Plan of Subdivision last revised April 17, 2023, prepared by Korsiak Urban Planning. The Draft Plan of Subdivision is included as Figure 2.

1.3 THE PROPOSED DEVELOPMENT

The development will consist of 307 townhouses and 290 single detached dwellings. All townhouses were assumed to be 3 storeys. The detached dwellings were assumed to be 2 storeys. Outdoor Living Areas (OLAs) are assumed to be provided above the garage for lane-based townhomes. For street townhomes and single detached residences, the rear yard is considered to be the OLA.

2.0 NOISE SOURCES

2.1 TRANSPORTATION SOURCES

The noise source with potential for impact on the proposed development is road traffic on William Halton Parkway, Nayagawa Boulevard, Old Burnhamthorpe Road, Street A (Carding Mill Trail) and Street B.

The road traffic data is summarized in Table 1. Correspondence is included as Appendix A.

Ultimate road Traffic data for William Halton Parkway and Neyagawa Boulevard was obtained from the Region of Halton. Truck percentages were calculated from the existing turning movement counts (TMC) provided by Halton Region.

Future traffic data for Street A (Carding Mill Trail) and Street B applicable to year 2030 was taken from the Traffic Impact Study prepared by CGH Transportation, dated October 2021. A multiplication factor of 10 was applied to convert the PM peak hour counts to the 24-hour volumes. A growth rate of 2% compounded annually was applied to obtain the future (year 2033) traffic volumes. This growth rate is suggested by the traffic impact study. Truck percentage was taken from the traffic impact study. Medium/heavy truck split was assumed to 60% / 40% of the total trucks.

Traffic volumes on the other internal streets within the development and other surrounding roadways are anticipated to be minor and no significant noise impact is expected.

TABLE 1 ROAD TRAFFIC DATA

| Roadway | Year | 24-hour Volume ⁽¹⁾ | % Trucks | | Day/Night (%) | Speed Limit (kph) |
|---------------------------------------|-------------|-------------------------------|----------|-------|---------------|-------------------|
| | | | Medium | Heavy | | |
| William Halton Parkway ⁽²⁾ | Ultimate | 36000 | 0.7 | 1.6 | 90/10 | 60 |
| Nayagawa Blvd ⁽²⁾ | Ultimate | 36000 | 0.8 | 1.5 | 90/10 | 60 |
| Old Burnhamthorpe Road ⁽³⁾ | 2030 (2033) | 5201 (5409) | 1.2 | 0.8 | 90/10 | 60 |
| Street A ⁽³⁾ | 2030 (2033) | 1591 (1655) | 1.2 | 0.8 | 90/10 | 50 |
| Street B ⁽³⁾ | 2030 (2033) | 1561 (1623) | 1.2 | 0.8 | 90/10 | 50 |

Notes:

- (1) AADT – Annual Average Daily Traffic.
- (2) Obtained from the Region of Halton.
- (3) Taken from the Traffic Impact Study prepared by CGH Transportation dated March 2021.

2.2 STATIONARY SOURCES

The are no stationary noise sources that are expected to have a significant impact at the subject site based on a visit to the area on September 3, 2020.

3.0 ENVIRONMENTAL NOISE GUIDELINES

The applicable noise guidelines for new residential development are those in MECP Publication NPC-300, “Environmental Noise Guideline, Stationary, and Transportation Sources – Approval and Planning”.

The environmental noise guidelines of the MECP, as provided in Publication NPC-300, are discussed briefly below and summarized in Appendix B.

3.1 TRANSPORTATION SOURCE NOISE GUIDELINES

3.1.1 Architectural Elements

In the daytime (0700 to 2300), the indoor criterion for road noise is $L_{eq Day}^{(1)}$ of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq Night}^{(2)}$ of 45 dBA for sensitive spaces such as living/dining rooms and dens and 40 dBA for bedrooms. The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound level limits, based on the applicable outdoor sound level on the facades.

3.1.2 Ventilation

In accordance with the MECP noise guideline for road traffic sources, if the daytime sound level, $L_{eq Day}$, at the exterior face of a noise sensitive window is greater than 65 dBA, means must be

- (1) 16-hour energy equivalent sound level (0700-2300 hours).
- (2) 8-hour energy equivalent sound level (2300-0700 hours).

provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels between 56 dBA and 65 dBA inclusive, there need only be the provision for adding air conditioning at a later date. A warning clause advising the occupant of the potential interference with some activities is also required. At nighttime, air conditioning would be required when the sound level exceeds 60 dBA ($L_{eq\ Night}$) at a noise sensitive window (provision for adding air conditioning is required when greater than 50 dBA).

3.1.3 Outdoors

For outdoor amenity areas (“Outdoor Living Areas” – OLAs), the guideline is $L_{eq\ Day}$ of 55 dBA, with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title. Note that for road traffic sources, a balcony is not considered an OLA, unless it is the only OLA for the occupant, and it is:

- at least 4 m in depth; and
- unenclosed.

3.2 REGION OF HALTON

The Noise Abatement Guidelines for the Region of Halton specifies the requirement for the height of noise abatement walls to be a minimum 2.4 m to a maximum of 3.5 m, as measured from the barrier base elevation.

4.0 NOISE IMPACT ASSESSMENT

4.1 ANALYSIS METHOD

Using the road traffic data in Table 1, the sound levels, in terms of $L_{eq\ Day}$ and $L_{eq\ Night}$, were determined using STAMSON V5.04 – ORNAMENT, the computerized road traffic noise prediction models of the MOE.

The daytime and nighttime sound levels at the building facades were taken at 7.5 m above grade for the townhouses and at 4.5 m above grade for the detached dwellings representing the top floor plane of windows.

At the rear yard OLAs, sound levels were assessed at a height of 1.5 m above grade and 3 m from the midpoint of the rear Facade for the townhouses and detached dwellings. For the lane-based townhomes, the OLA sound level was taken at 1.5 m above the garage.

4.2 SOUND LEVEL PREDICTIONS

4.2.1 374 Burnhamthorpe

The highest daytime/nighttime sound levels of 59 dBA/53 dBA is predicted to occur at the north Facade of the Block 337 exposed to William Halton Parkway and Old Burnhamthorpe Road. The highest unmitigated daytime OLA sound level of 52 dBA is predicted to occur at the Block 337 OLA.

Inherent screening of each building face due to its orientation to the noise source was considered. To be conservative, screening from the future development within the proposed development and the vicinity was not taken into account in the assessment.

Table 2 summarizes the predicted sound levels at specific locations in the subdivision.

4.2.2 210 Burnhamthorpe

The highest unmitigated daytime/nighttime sound levels of 60 dBA/ 54 dBA is predicted to occur at the north Facade of the townhouse Block 338, closest to Old Burnhamthorpe road. The highest unmitigated daytime OLA level of 47 dBA is predicted to occur at the OLA of same townhouse dwelling.

Inherent screening of each building face due to its orientation to the noise source was considered. Screening by the proposed development at 374 Burnhamthorpe site was also considered.

Table 2 summarizes the predicted sound levels outdoors at specific locations.

A sample sound level calculation is included in Appendix C.

TABLE 2 UNMITIGATED SOUND LEVELS OUTDOORS⁽¹⁾

| Location | Source | Distance (m) ⁽²⁾ | L _{eq} Day (dBA) | L _{eq} Night (dBA) |
|---|------------------------|-----------------------------|---------------------------|-----------------------------|
| 374 Burnhamthorpe | | | | |
| R1 - Block 337 NW Corner North Facade | William Halton Parkway | 82 | 58 | 51 |
| | Old Burnhamthorpe | 27 | 55 | 48 |
| | Total | - | 59 | 53 |
| R2 - Block 336 NW Corner West Facade | William Halton Parkway | 118 | 52 | 45 |
| | Total | - | 52 | 45 |
| R3 - Block 291 NW Corner North Facade | William Halton Parkway | 130 | 55 | 48 |
| | Old Burnhamthorpe | 111 | 39 | 33 |
| | Total | - | 55 | 48 |
| R4 - Block 317 Lot 1 NW Corner North Facade | William Halton Parkway | 127 | 55 | 49 |
| | Old Burnhamthorpe | 127 | 35 | 28 |
| | Total | - | 55 | 49 |
| R5 - Block 314 NW Corner North Facade | William Halton Parkway | 119 | 56 | 49 |
| | Old Burnhamthorpe | 119 | 33 | 26 |
| | Neyagawa Blvd | 392 | 45 | 39 |
| | Total | - | 56 | 49 |
| R6 - Lot 1 NW Corner West Facade | William Halton Parkway | 362 | 44 | 37 |
| | Neyagawa Blvd | 347 | 47 | 41 |
| | Total | - | 49 | 42 |

.../cont'd

TABLE 2 UNMITIGATED SOUND LEVELS OUTDOORS⁽¹⁾ (CONTINUED)

| Location | Source | Distance (m) ⁽²⁾ | Leq Day (dBA) | Leq Night (dBA) |
|---|------------------------|-----------------------------|---------------|-----------------|
| R7 - Block 349 NE Corner North Facade | Street A | 18 | 49 | 42 |
| | Street B | 15 | 53 | 46 |
| | Total | - | 54 | 47 |
| OLA1 Block 337 Westerly Elevated Deck | William Halton Parkway | 95 | 52 | - |
| | Total | - | 52 | - |
| OLA2 Block 336 Westerly Elevated Deck | William Halton Parkway | 117 | 50 | - |
| | Total | - | 50 | - |
| OLA3 Block 314 Westerly Rear Yard | William Halton Parkway | 132 | 45 | - |
| | Neyagawa Blvd | 398 | 44 | - |
| | Total | - | 48 | - |
| OLA4 Lot 1 Rear Yard | William Halton Parkway | 365 | 45 | - |
| | Neyagawa Blvd | 345 | 46 | - |
| | Total | - | 48 | - |
| 210 Burnhamthorpe | | | | |
| R8 - Block 360 NE Corner North Facade | William Halton Parkway | 145 | 54 | 47 |
| | Old Burnhamthorpe | 16 | 59 | 53 |
| | Total | - | 60 | 54 |
| R9 - Block 335 NE Corner East Facade | Old Burnhamthorpe | 51 | 49 | 42 |
| | Total | - | 49 | 42 |
| OLA5 – Block 360 Easterly Elevated Deck | Old Burnhamthorpe | 29 | 47 | - |
| | Total | - | 47 | - |
| OLA6 - Block 335 Easterly Elevated Deck | Old Burnhamthorpe | 48 | 47 | - |
| | Total | - | 47 | - |

Notes:

- (1) Daytime/nighttime receptors were taken at the top floor windows. OLA receptors were taken at 1.5 m above grade/deck elevation.
- (2) Distance indicated is from the centreline of the noise sources to Facade or OLA.
- (3) Daytime/nighttime receptors were taken at the top floor windows. OLA receptors were taken at 1.5 m above grade/deck elevation.
- (4) Distance indicated is from the centreline of the noise sources to Facade or OLA.

4.3 NOISE ABATEMENT REQUIREMENTS

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

- a) Architectural elements to achieve acceptable indoor noise guidelines for transportation sources; and
- b) Design features to protect the OLA's.

Noise abatement requirements are summarized in Table 3 and the notes to Table 3.

4.3.1 Indoors

The indoor sound level guidelines can be achieved by using appropriate construction for exterior walls, windows, and doors. In determining the worst-case architectural requirements for the townhouse and single-detached units, exterior wall and window areas were assumed to be 80% and 30%, respectively, of the associated floor area at a corner room with facades exposed directly or at an angle to the road traffic noise source, for both living/dining areas and sleeping quarters.

210 Burnhamthorpe

- Mandatory air conditioning is required for all townhouses in Blocks 291 – 293, 314 – 320, 337, 338, 342, and 360 exposed to Old Burnhamthorpe Road and William Halton Parkway;
- Provision for adding air conditioning at a later date is required for all townhouses in Blocks 345 – 349, which are at the intersection of Streets A and B; and
- For all townhouses and detached dwellings, exterior wall and window construction meeting the minimum non-acoustical requirement of the OBC is adequate to meet the indoor sound level criteria of the MECP noise guidelines.

374 Burnhamthorpe

- Mandatory air-conditioning is required for all townhomes in Block 338, closest to Old Burnhamthorpe Road; and
- For all townhouse dwellings, exterior wall and window construction meeting the minimum non-acoustical requirement of the OBC is adequate to meet the indoor sound level criteria of the MECP noise guidelines.

Note, the window frames themselves must also be designed to ensure that the overall sound isolation performance for the entire window unit meets the sound isolation requirement. This must be confirmed by the window manufacturer through the submission of acoustical test data.

The final sound isolation requirements should be reviewed when architectural plans are developed. Wall and window constructions should also be reviewed at this point to ensure that they will meet the required sound isolation performance.

4.3.2 Outdoors

374 Burnhamthorpe

The unmitigated daytime OLA sound levels at all dwelling units are expected to be below the 55 dBA design objective recommended by MECP guidelines. Sound barriers are therefore not required for noise control purposes.

210 Burnhamthorpe

The unmitigated daytime OLA sound levels at all dwelling units are expected to be below the 55 dBA design objective recommended by MECP guidelines. Sound barriers are therefore not required for noise control purposes.

4.3.3 Warning Clauses

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Where the guideline sound level limits are exceeded, appropriate warning clauses should be registered on title or included in the development agreement that is registered on title. The warning clauses should also be included in agreements of Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation.

Table 3 and the notes to Table 3 summarize the warning clauses for the site.

TABLE 3 MINIMUM NOISE ABATEMENT MEASURES

| Location | Air Conditioning ⁽¹⁾ | Exterior Wall ⁽²⁾ | Window STC Rating ⁽³⁾ | Sound Barrier ⁽⁴⁾ | Warning Clauses ⁽⁵⁾ |
|---|------------------------------------|------------------------------|----------------------------------|------------------------------|--------------------------------|
| 374 Burnhamthorpe | | | | | |
| Blocks 291 – 293, 314 – 320, 337, 338, 342, and 360 | Mandatory | OBC | OBC | - | A + B + C + D + F |
| Blocks 345 – 349 | Provision for adding | | | | A + E |
| All remaining dwellings | No special acoustical requirements | | | | A |
| 210 Burnhamthorpe | | | | | |
| Block 338 | Mandatory | OBC | OBC | - | A + B + C + D + F |
| All remaining dwellings | No special acoustical requirements | | | | A |

Notes to Table 3 on the following page.

Notes to Table 3:

- (1) Where methods must be provided to allow windows to remain closed for noise control purposes, a commonly used technique is that of air conditioning.
- (2) STC - Sound Transmission Class Rating (Reference ASTM-E413). Analyses were based upon the assumption that wall and window areas are as indicated in Section 4.3.1 of text. Requirements should be checked once floor plans have been finalized and exterior wall construction details are defined.
- (3) STC values are based upon the assumption that all wall and window areas are as indicated in Section 4.3.1 of text. Requirements should be checked once floor plans have been finalized and exterior wall construction details are defined.
- (4) If provided, sound barriers must be of solid construction with no gaps, cracks or holes, and must meet a minimum surface density of 20 kg/m². Suitable material can include wood, concrete metal sandwich panel, glazing or a combination of these.
- (5) The warning clauses to be registered on title and be included in Offers of Purchase and Sale for designated lots:
 - A. "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may on occasions 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, Conservation and Parks."
 - B. "Purchasers/tenants are advised that this development and associated blocks/units are directly adjacent/in close proximity to a Regional Road. Halton's Regional roads are classified as major arterial roadways and as such:
 - a. Serve mainly inter-regional and regional travel demands;
 - b. May serve an Intensification corridor;
 - c. Accommodate all truck traffic; Accommodate higher order transit services and high occupancy vehicle lanes;
 - d. Connect urban areas in different municipalities;
 - e. Carry high volumes of traffic;
 - f. Distribute traffic to and from Provincial Freeways and Highways; and
 - g. Accommodate active transportation."
 - C. Truck traffic is permitted on all Regional Roads and is one of the functions of the Regional road network. Therefore, despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic will interfere with some activities of the dwelling occupants, including any raised patio and/or balcony, as sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.
 - D. Purchasers are advised that ground floor units with balconies with direct unobstructed access to the Regional road system and/or the Active Transportation Network will not be eligible under the retrofit provisions of the Region's Noise Attenuation Policy/Noise Abatement Guidelines in the future.
 - E. This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments 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."
 - F. "This dwelling unit has been supplied with an 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 the Municipality and the Ministry of the Environment, Conservation and Parks."
- (6) All exterior doors shall be fully weather-stripped.

5.0 CONCLUSIONS

With the incorporation of the recommended noise mitigation measures, the indoor and outdoor transportation noise guidelines can be met. Future occupants will be made aware of the potential noise situation through warning clauses, as per MECP guidelines.

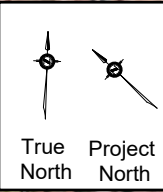
The approvals and administrative procedures are available to ensure that the noise requirements are implemented.

6.0 REFERENCES

1. PC STAMSON 5.04, “Computer Program for Road Traffic Noise Assessment”, Ontario Ministry of the Environment.
2. Building Practice Note No. 56: “Controlling Sound Transmission into Buildings”, by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.
3. “Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (URBAN)”, Ontario Ministry of the Environment, Publication NPC-205, October 1995.
4. “Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning”, Ontario Ministry of the Environment, Publication NPC-300, August 2013
5. “Noise Abatement Guidelines – Regional Official Plan Guidelines”, Halton Region, 2009.

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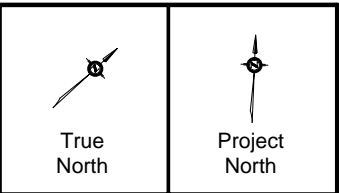
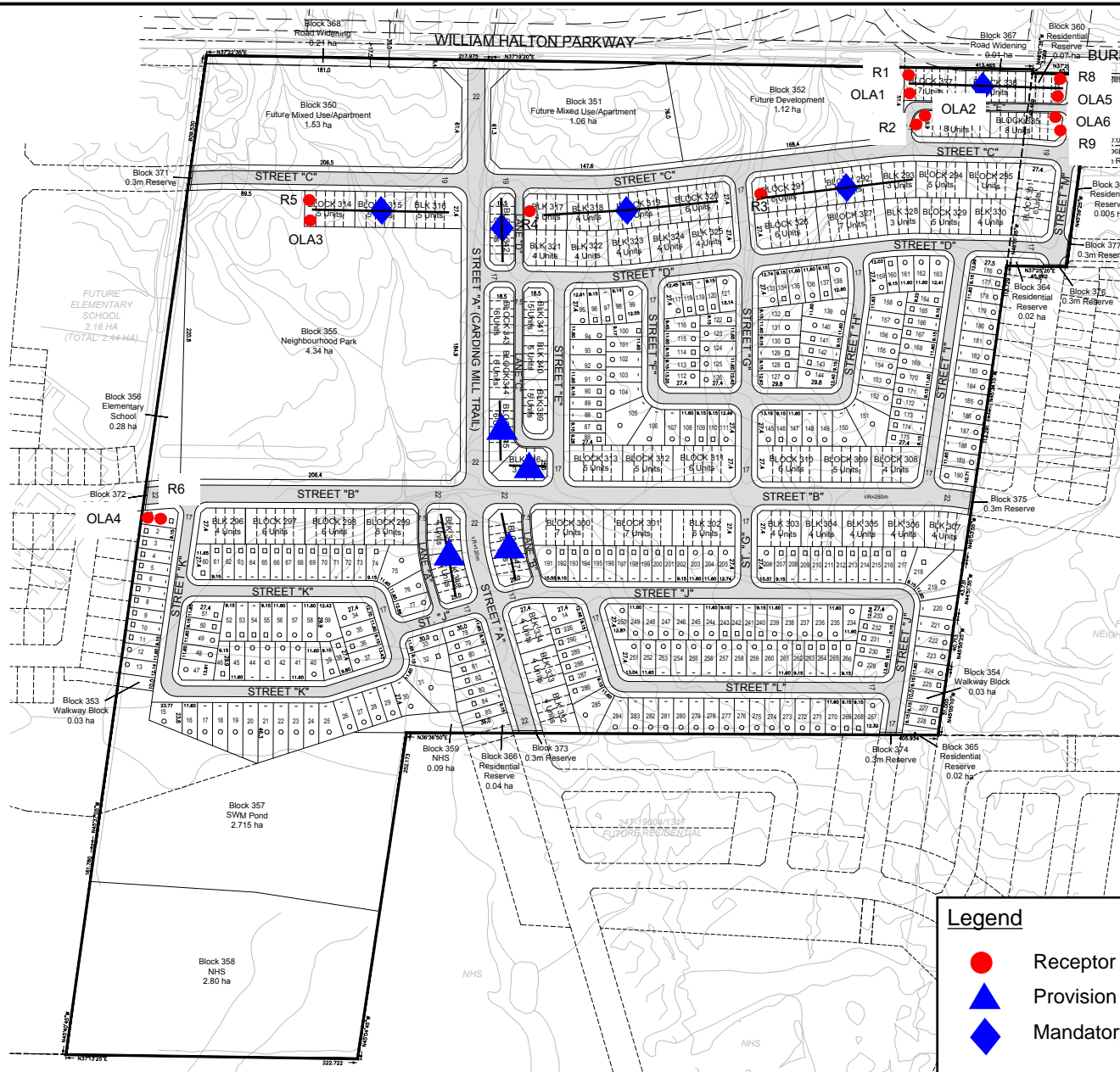
SITE - 210 Burnhamthorpe Road

SITE - 374 Burnhamthorpe Road



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|--------------|---|-------------|---------------------|
| Title | Key Plan | Date | May 12, 2023 |
| Project Name | Remington Eno - 210 & 374 Burnhamthorpe Road | Project No. | 120-0270 |

Figure
1



Base drawing prepared by Korsiak Urban Planning

Legend

- Receptor Location
- ▲ Provision for air-conditioning
- ◆ Mandatory air-conditioning



Title
Draft Plan of Subdivision

Project Name
Remington Eno - 210 & 374 Burnhamthorpe Road

Date
May 12, 2023

Project No.
120-0270

Figure
2

APPENDIX A

ROAD TRAFFIC DATA

Sam Du

From: Krusto, Matt <Matt.Krusto@halton.ca>
Sent: July 22, 2020 9:56 AM
To: Vivek Shankar
Subject: RE: Road Traffic Data Request, 1200270.000 - Burnhamthorpe Rd W, 210 & 374-Noise

Hi Vivek,

Please use the following for the future traffic assumptions (volume assumptions are 4 lane near/at capacity scenarios):

-William Halton Parkway (Burnhamthorpe Road): 36,000, 4% medium, 2% heavy, 4 lanes, ultimate ROW is 35m, posted speed 60 km/h, day/night split is usually 90/10 (document in the report is recommending something else), grade – use existing grade (William Halton Parkway (new road) will be on the existing Burnhamthorpe Road alignment/grade for the section east of Neyagawa Boulevard (general area of the development lands). This will have to be determined in the field.

-Neyagawa Boulevard: 36,000, 4% medium trucks, 2% heavy trucks, 4 lanes, ultimate ROW is 42m, posted speed 60 km/h, day/night split is usually 90/10 (document in the report is recommending something else), grade – use existing for Neyagawa Boulevard (to be determined in the field).

For existing traffic data, please send your request to our Road Operations group at trafficdatarequests@halton.ca

I hope this helps.

Thanks,

Matt

Matt Krusto

Transportation Planning Coordinator

Infrastructure Planning & Policy

Public Works

Halton Region

905-825-6000, ext. 7225 | 1-866-442-5866



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From: Vivek Shankar <vivek@valcoustics.com>

Sent: Tuesday, July 21, 2020 8:33 AM

Burnhamthorpe Rd W @ Neyagawa Blvd

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Halton Region
Site #: 0000003297
Intersection: Neyagawa Blvd & Burnhamthorpe R
TFR File #: 3
Count date: 4-Dec-2019

Weather conditions:
Overcast/Wet
Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Neyagawa Blvd runs N/S

North Leg Total: 897

North Entering: 317

North Peds: 0

Peds Cross: \times

| | | | | |
|---------------|-----------|------------|-----------|-----|
| Heavys | 2 | 7 | 2 | 11 |
| Trucks | 0 | 4 | 2 | 6 |
| Cars | 56 | 216 | 28 | 300 |
| Totals | 58 | 227 | 32 | |



| | |
|---------------|------------|
| Heavys | 2 |
| Trucks | 1 |
| Cars | 577 |
| Totals | 580 |

East Leg Total: 684
 East Entering: 306
 East Peds: 0
 Peds Cross: \times

| | | | |
|--------|--------|------|--------|
| Heavys | Trucks | Cars | Totals |
| 16 | 1 | 294 | 311 |

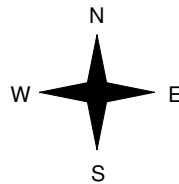


Neyagawa Blvd

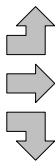
| | | | |
|------------|----------|----------|--------|
| Cars | Trucks | Heavys | Totals |
| 12 | 0 | 0 | 12 |
| 76 | 0 | 6 | 82 |
| 212 | 0 | 0 | 212 |
| 300 | 0 | 6 | |



Burnhamthorpe Rd W



| | | | |
|-----------|----------|------------|--------|
| Heavys | Trucks | Cars | Totals |
| 1 | 0 | 38 | 39 |
| 4 | 0 | 61 | 65 |
| 9 | 0 | 121 | 130 |
| 14 | 0 | 220 | |



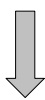
Burnhamthorpe Rd W



| | | | |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 368 | 3 | 7 | 378 |

Peds Cross: \times
 West Peds: 0
 West Entering: 234
 West Leg Total: 545

| | | | | | | |
|---------------|------------|---------------|------------|------------|------------|-----|
| Cars | 549 | Cars | 162 | 527 | 279 | 968 |
| Trucks | 4 | Trucks | 1 | 1 | 1 | 3 |
| Heavys | 16 | Heavys | 8 | 1 | 1 | 10 |
| Totals | 569 | Totals | 171 | 529 | 281 | |



Neyagawa Blvd

Peds Cross: \times
 South Peds: 0
 South Entering: 981
 South Leg Total: 1550

Comments

Burnhamthorpe Rd W @ Neyagawa Blvd

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 11:30:00

To: 12:30:00

Municipality: Halton Region
Site #: 0000003297
Intersection: Neyagawa Blvd & Burnhamthorpe R
TFR File #: 3
Count date: 4-Dec-2019

Weather conditions:
Overcast/Wet
Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Neyagawa Blvd runs N/S

North Leg Total: 209

North Entering: 93

North Peds: 0

Peds Cross: \times

| | | | | |
|---------------|----------|-----------|-----------|----|
| Heavys | 0 | 5 | 1 | 6 |
| Trucks | 0 | 3 | 0 | 3 |
| Cars | 5 | 70 | 9 | 84 |
| Totals | 5 | 78 | 10 | |



Heavys 1

Trucks 3

Cars 112

Totals 116

East Leg Total: 288

East Entering: 137

East Peds: 0

Peds Cross: \times

| | | | |
|--------|--------|------|--------|
| Heavys | Trucks | Cars | Totals |
| 1 | 2 | 91 | 94 |

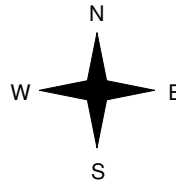


Neyagawa Blvd

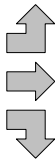
| | | | |
|------------|----------|----------|--------|
| Cars | Trucks | Heavys | Totals |
| 7 | 3 | 0 | 10 |
| 22 | 1 | 0 | 23 |
| 102 | 0 | 2 | 104 |
| 131 | 4 | 2 | |



Burnhamthorpe Rd W



| | | | |
|----------|----------|-----------|--------|
| Heavys | Trucks | Cars | Totals |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 23 | 23 |
| 1 | 1 | 63 | 65 |
| 1 | 1 | 89 | |



Burnhamthorpe Rd W



| | | | |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 145 | 3 | 3 | 151 |

Peds Cross: \times

West Peds: 1

West Entering: 91

West Leg Total: 185

| | | | | | | |
|---------------|------------|---------------|-----------|------------|------------|-----|
| Cars | 235 | Cars | 64 | 102 | 113 | 279 |
| Trucks | 4 | Trucks | 1 | 0 | 3 | 4 |
| Heavys | 8 | Heavys | 1 | 1 | 2 | 4 |
| Totals | 247 | Totals | 66 | 103 | 118 | |



Neyagawa Blvd

Peds Cross: \times

South Peds: 0

South Entering: 287

South Leg Total: 534

Comments

Burnhamthorpe Rd W @ Neyagawa Blvd

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Municipality: Halton Region
Site #: 0000003297
Intersection: Neyagawa Blvd & Burnhamthorpe R
TFR File #: 3
Count date: 4-Dec-2019

Weather conditions:

Overcast/Wet

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Neyagawa Blvd runs N/S

North Leg Total: 671

North Entering: 446

North Peds: 0

Peds Cross: \times

| | | | | |
|---------------|----------|------------|-----------|-----|
| Heavys | 0 | 1 | 1 | 2 |
| Trucks | 0 | 0 | 0 | 0 |
| Cars | 9 | 419 | 16 | 444 |
| Totals | 9 | 420 | 17 | |



Heavys 4

Trucks 4

Cars 217

Totals 225

East Leg Total: 618

East Entering: 336

East Peds: 0

Peds Cross: \times

| | | | |
|--------|--------|------|--------|
| Heavys | Trucks | Cars | Totals |
| 1 | 1 | 72 | 74 |

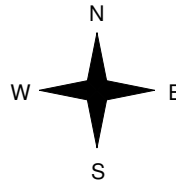


Neyagawa Blvd

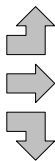
| | | | |
|------------|----------|----------|--------|
| Cars | Trucks | Heavys | Totals |
| 32 | 0 | 3 | 35 |
| 24 | 0 | 1 | 25 |
| 276 | 0 | 0 | 276 |
| 332 | 0 | 4 | |



Burnhamthorpe Rd W



| | | | |
|--------|--------|------|--------|
| Heavys | Trucks | Cars | Totals |
| 0 | 0 | 3 | 3 |
| 1 | 0 | 31 | 32 |
| 0 | 0 | 40 | 40 |
| 1 | 0 | 74 | |



Burnhamthorpe Rd W



| | | | |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 277 | 2 | 3 | 282 |

Peds Cross: \times

West Peds: 0

West Entering: 75

West Leg Total: 149

| | | | | | | |
|---------------|------------|---------------|-----------|------------|------------|-----|
| Cars | 735 | Cars | 39 | 182 | 230 | 451 |
| Trucks | 0 | Trucks | 1 | 4 | 2 | 7 |
| Heavys | 1 | Heavys | 0 | 1 | 1 | 2 |
| Totals | 736 | Totals | 40 | 187 | 233 | |



Neyagawa Blvd

Peds Cross: \times

South Peds: 0

South Entering: 460

South Leg Total: 1196

Comments

Burnhamthorpe Rd W @ Neyagawa Blvd

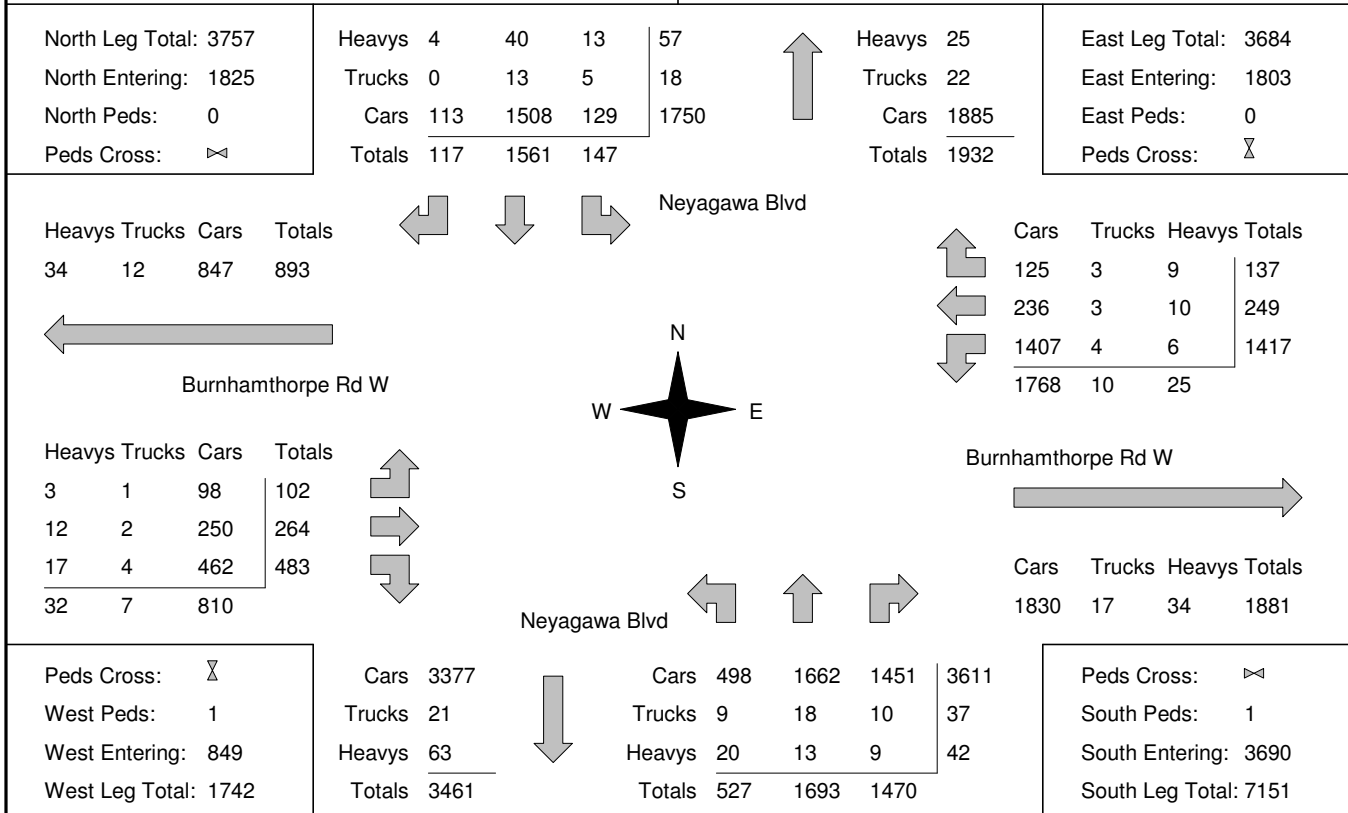
Total Count Diagram

Municipality: Halton Region
Site #: 0000003297
Intersection: Neyagawa Blvd & Burnhamthorpe R
TFR File #: 3
Count date: 4-Dec-2019

Weather conditions:
 Overcast/Wet
Person(s) who counted:
 Cam

**** Signalized Intersection ****

Major Road: Neyagawa Blvd runs N/S



Comments

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES

MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: “*Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning*”.

| SPACE | SOURCE | TIME PERIOD | CRITERION |
|--|-------------------|--|--|
| Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc. | Road | 07:00 to 23:00 | 45 dBA |
| | Rail | 07:00 to 23:00 | 40 dBA |
| | Aircraft | 24-hour period | NEF/NEP 5 |
| Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres) | Road | 23:00 to 07:00 | 45 dBA |
| | Rail | 23:00 to 07:00 | 40 dBA |
| | Aircraft | 24-hour period | NEF/NEP 5 |
| Sleeping quarters | Road | 07:00 to 23:00 | 45 dBA |
| | Rail | 07:00 to 23:00 | 40 dBA |
| | Aircraft | 24-hour period | NEF/NEP 0 |
| Sleeping quarters | Road | 23:00 to 07:00 | 40 dBA |
| | Rail | 23:00 to 07:00 | 35 dBA |
| | Aircraft | 24-hour period | NEF/NEP 0 |
| Outdoor Living Areas | Road and Rail | 07:00 to 23:00 | 55 dBA |
| Outdoor Point of Reception | Aircraft | 24-hour period | NEF/NEP 30# |
| | Stationary Source | | |
| | Class 1 Area | 07:00 to 19:00 ⁽¹⁾ 19:00 to 23:00 ⁽¹⁾ | 50 ⁺ dBA 50 ⁺ dBA |
| | Class 2 Area | 07:00 to 19:00 ⁽²⁾ 19:00 to 23:00 ⁽²⁾ | 50 ⁺ dBA 45 ⁺ dBA |
| | Class 3 Area | 07:00 to 19:00 ⁽³⁾ 19:00 to 23:00 ⁽³⁾ | 45 ⁺ dBA 40 ⁺ dBA |
| | Class 4 Area | 07:00 to 19:00 ⁽⁴⁾ 19:00 to 23:00 ⁽⁴⁾ | 55 ⁺ dBA 55 ⁺ dBA |

.../cont'd

| SPACE | SOURCE | TIME PERIOD | CRITERION |
|--|-----------------------------------|-------------------------------|---------------------|
| Plane of a Window of Noise Sensitive Spaces | Stationary Source Class 1 Area | 07:00 to 19:00 ⁽¹⁾ | 50 ⁺ dBA |
| | | 19:00 to 23:00 ⁽¹⁾ | 50 ⁺ dBA |
| | | 23:00 to 07:00 ⁽¹⁾ | 45 ⁺ dBA |
| | Class 2 Area | 07:00 to 19:00 ⁽²⁾ | 50 ⁺ dBA |
| | | 19:00 to 23:00 ⁽²⁾ | 50 ⁺ dBA |
| | | 23:00 to 07:00 ⁽²⁾ | 45 ⁺ dBA |
| | Class 3 Area | 07:00 to 19:00 ⁽³⁾ | 45 ⁺ dBA |
| | | 19:00 to 23:00 ⁽³⁾ | 45 ⁺ dBA |
| | | 23:00 to 07:00 ⁽³⁾ | 40 ⁺ dBA |
| | Class 4 Area | 07:00 to 19:00 ⁽⁴⁾ | 60 ⁺ dBA |
| | | 19:00 to 23:00 ⁽⁴⁾ | 60 ⁺ dBA |
| | | 23:00 to 07:00 ⁽⁴⁾ | 55 ⁺ dBA |

- # may not apply to in-fill or re-development.
 * or the minimum hourly background sound exposure $L_{eq(1)}$, due to road traffic, if higher.
 (1) Class 1 Area: Urban.
 (2) Class 2 Area: Urban during day; rural-like evening and night.
 (3) Class 3 Area: Rural.
 (4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: "Environmental Noise Assessment in Land-Use Planning".

| EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA) | CHANGE IN SUBJECTIVE LOUDNESS ABOVE | MAGNITUDE OF THE NOISE PROBLEM | NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN) |
|--|--|-----------------------------------|---|
| No excess (<55 dBA) | — | No expected noise problem | None |
| 1 to 5 inclusive (56 to 60 dBA) | Noticeably louder | Slight noise impact | If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses. |
| 6 to 10 inclusive (61 - 65 dBA) | Almost twice as loud | Definite noise impact | Recommended. |
| 11 to 15 inclusive (66 - 70 dBA) | Almost three times as loud | Serious noise impact | Strongly Recommended. |
| 16 and over (>70 dBA) | Almost four times as loud | Very serious noise impact | Strongly Recommended (may be mandatory). |

APPENDIX C

SAMPLE SOUND LEVEL CALCULATION

Data for Segment # 2: Old BHT (day/night)

Angle1 Angle2 : -53.00 deg 60.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 27.00 / 27.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: WH Pkwy (day)

Source height = 1.12 m

ROAD (0.00 + 57.53 + 0.00) = 57.53 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|--------|--------|-------|--------|-------|--------|-------|-------|-------|-------|--------|
| -64 | 90 | 0.49 | 70.07 | 0.00 | -11.00 | -1.55 | 0.00 | 0.00 | 0.00 | 57.53 |

Segment Leq : 57.53 dBA

Results segment # 2: Old BHT (day)

Source height = 0.95 m

ROAD (0.00 + 54.89 + 0.00) = 54.89 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|--------|--------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| -53 | 60 | 0.50 | 61.12 | 0.00 | -3.82 | -2.40 | 0.00 | 0.00 | 0.00 | 54.89 |

Segment Leq : 54.89 dBA

Total Leq All Segments: 59.42 dBA

Results segment # 1: WH Pkwy (night)

Source height = 1.13 m

ROAD (0.00 + 51.01 + 0.00) = 51.01 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|--------|--------|-------|--------|-------|--------|-------|-------|-------|-------|--------|
| -64 | 90 | 0.49 | 63.55 | 0.00 | -11.00 | -1.55 | 0.00 | 0.00 | 0.00 | 51.01 |

Segment Leq : 51.01 dBA

Results segment # 2: Old BHT (night)

Source height = 0.92 m

ROAD (0.00 + 48.27 + 0.00) = 48.27 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|--------|--------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| -53 | 60 | 0.50 | 54.50 | 0.00 | -3.82 | -2.40 | 0.00 | 0.00 | 0.00 | 48.27 |

Segment Leq : 48.27 dBA

Total Leq All Segments: 52.86 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.42
(NIGHT): 52.86