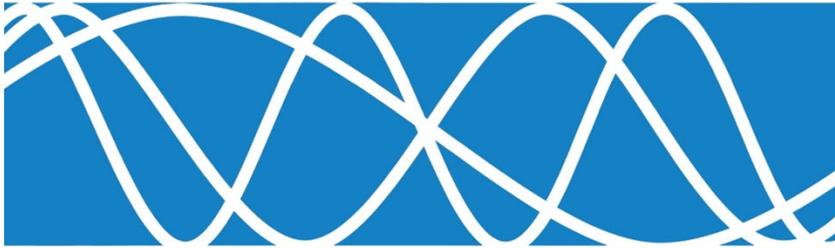


Noise Feasibility Study

Proposed Residential Development, Part of Lots 6 and 7 Concession 8, New Survey, Milton, Ontario

June 9, 2025

HGC Project #: 02100987



Prepared for:

Mattamy Homes
6696 Financial Drive
Mississauga, Ontario
L5N 7J6

Version Control
Noise Feasibility Study, Proposed Residential Development, Part of Lots 6 and 7
Concession 8, New Survey, Milton, Ontario

Ver.	Date	Version Description	Prepared By
1.0	June 9, 2025	Noise Feasibility Study in support of the planning and approvals process	V. Garcia

Prepared by



Victor Garcia, P. Eng.



Howe Gastmeier Chapnik Limited

Limitations

This document was prepared solely for the addressed party and titled project or named part thereof and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Noise Vibration Acoustics (HGC). Further, the input of content from any document produced by HGC or related HGC intellectual property into any Artificial Intelligence tool is expressly prohibited. HGC accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees and will by such use or reliance be taken to confirm their agreement to indemnify HGC for all loss or damage resulting therefrom. HGC accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC based on information available at the time of preparation and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

Table of Contents

1	INTRODUCTION AND SUMMARY	1
2	SITE DESCRIPTION AND NOISE SOURCES	1
3	ROAD TRAFFIC NOISE ASSESSMENT.....	2
3.1	Road Traffic Noise Criteria	2
3.2	Traffic Sound Level Assessment.....	3
3.2.1	Road Traffic Data.....	3
3.2.2	Road Traffic Noise Predictions.....	4
3.3	Traffic Noise Recommendations	5
3.3.1	Outdoor Living Areas.....	5
3.3.2	Indoor Living Areas.....	6
3.3.3	Building Façade Constructions	6
4	WARNING CLAUSES	7
5	SUMMARY	8

Figure 1 – Key Plan

Figure 2 – Proposed Draft Plan Showing Prediction Locations

Figure 3 – Proposed Draft Plan Showing Barrier and Ventilation Requirements

APPENDIX A – Road Traffic Data

APPENDIX B – Sample STAMSON 5.04 Output

1 INTRODUCTION AND SUMMARY

HGC Noise Vibration Acoustics (HGC) was retained by Mattamy Homes to perform a noise feasibility study for a proposed residential development located to the northeast of the intersection of Trafalgar Road and Britannia Road, in the Town of Milton, Ontario. The proposed development will include single detached dwellings, townhouses, neighbourhood centres, medium density/mixed-use blocks, a school block, a storm water management pond along with associated roadways. The study is required by the municipality as part of the approvals process.

Road traffic data was obtained through correspondence with the Region of Halton and Tylin personnel. The data was used to predict future traffic sound levels at the proposed dwellings. The predicted sound levels were compared to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP), the Region of Halton and the Town of Oakville.

The sound level predictions indicate that sound levels will be within MECP guidelines inside the proposed dwellings. There are no specific acoustic requirements for the proposed.

2 SITE DESCRIPTION AND NOISE SOURCES

Figure 1 shows a key plan which identifies the location of the proposed development. The residential development is located to the northeast of the intersection of Trafalgar Road and Britannia Road, specifically on Part of Lots 6 and 7 Concession 8, New Survey in the Town of Milton, Ontario. The proposed draft plan prepared by Korisak Urban Planning dated May 28, 2025 is included as Figure 2, also showing the prediction locations. The proposed development will include single detached dwellings, townhouses, medium density blocks, storm water management pond, a school block, mixed-use blocks, along with associated roadways.

HGC personnel visited the site in the month of April 2025. The surrounding lands are primarily existing agricultural lands. The development land is fairly flat. The primary source of noise is road traffic noise from Trafalgar Road and Britannia Road. The Wyldewood Golf and Country Club is located on the west side of Trafalgar Road as well as a Petro Canada gas station to the northwest of the intersection of Trafalgar Road and Britannia Road. To the southwest of the intersection of Trafalgar Road and Britannia Road are TERRA Greenhouses, and a Landsource Organix Blower Truck facility. Sounds from this site were not audible at the time of the site visit, additionally there is an existing dwelling located to the southeast of the intersection of Trafalgar Road and Britannia Road, closer to these sources than the subject site. There are no other significant sources of stationary noise within 500 m of the subject site.

3 ROAD TRAFFIC NOISE ASSESSMENT

3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Part C release date October 21, 2013 and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [LEQ] in units of A weighted decibels [dBA].

Table 1: Road Traffic Noise Criteria

Space	Daytime LEQ(16 hour) Road	Nighttime LEQ(8 hour) Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00. Nighttime refers to the time period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is

used in reference to an outdoor patio, backyard, terrace, children's playground or other area where passive recreation is expected to occur.

The guidelines in the MECP publication allow the sound level limit in an OLA to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the property agreements, offers of purchase and sale and rental agreements to the properties. Where future OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible. The Region of Halton's minimum noise barrier height is 2.4 m and the maximum is 3.5 m. the remainder of the barrier height can be made up with an earth berm. The Region of Halton has recently requested barriers for sound levels to achieve 57 dBA.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where future nighttime sound levels outside bedroom windows will exceed 60 dBA or future daytime sound levels outside living/dining/bedroom windows will exceed 65 dBA. Forced air ventilation with ducts sized to accommodate the future installation of air conditioning is required when nighttime sound levels at bedroom windows will be in the range of 51 to 60 dBA or when daytime sound levels at living/dining/bedroom windows will be in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the nighttime plane of window sound level will be greater than 60 dBA or the daytime plane of window sound level will be greater than 65 dBA. The use of warning clauses to notify future residents of possible excesses is also required.

3.2 Traffic Sound Level Assessment

3.2.1 Road Traffic Data

Ultimate annual average daily traffic (AADT) for Trafalgar Road and Britannia Road was obtained from the Region of Halton, and is provided in Appendix A. A speed limit of 60 km/h was used for the roadways. For Trafalgar Road, existing commercial vehicle percentages of 8.8% split into 3.0% medium trucks and

5.8% heavy trucks; and commercial vehicle percentage of 6.0% split into 3.0% medium trucks and 3.0% heavy trucks was provided for Britannia Road. An assumed day/night split of 90%/10% was also used for the roadways.

Road traffic data for Street B was provided by Tylin personnel in the form of projected AADT volumes for the year 2041. A commercial vehicle percent of 3.0%, split into 2.0% medium trucks and 1.0% heavy trucks along with a day/night split of 90%/10% was assumed for the roadway. A speed limit of 50 km/h was assumed for Street B. Table 2 summarizes the traffic data used in the analysis.

Table 2: Future Road Traffic Data

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km/h]
			Medium	Heavy	
Trafalgar Road <i>Ultimate</i>	51 000	90 / 10	3.0	5.8	60
Britannia Road <i>Ultimate</i>	51 000	90 / 10	3.0	3.0	60
Street B <i>Projected to 2041</i>	4 590	90 / 10	2.0	1.0	50

3.2.2 Road Traffic Noise Predictions

Future traffic sound levels were predicted using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B.

Sound levels were predicted at the façade during the daytime and nighttime hours to investigate ventilation requirements, as well as in the OLAs to investigate acoustic barrier requirements. The results of these predictions, without mitigation, are summarized in Table 3.

Table 3: Future Road Traffic Sound Levels, [dBA], Without Mitigation

Prediction Location	Description	Daytime in OLA LEQ(16 hour)	Daytime at Façade LEQ(16 hour)	Nighttime at Façade LEQ(8 hour)
[A]	Dwellings with flanking exposure Street B	57	61	54
[B]	Dwellings with some flanking/backing exposure to Trafalgar Road	58	60	54
[C]	Dwellings flanking onto Street B	55	60	53

3.3 Traffic Noise Recommendations

The predictions indicate that the future traffic sound levels will exceed MECP guidelines at the facades with exposure to Trafalgar Road. Recommendations to address these excesses are discussed below.

3.3.1 Outdoor Living Areas

The predicted daytime sound levels in the OLAs with some backing exposure to Trafalgar Road (prediction location [A]) will be up to 57 dBA, which is 2 dBA in excess of the MECP’s limit of 55 dBA. The 2 dBA sound level excess is acceptable to the MECP if it is acceptable to the municipality. No further mitigation is recommended.

The predicted daytime sound levels in the OLAs with some backing exposure to Trafalgar Road (prediction location [B]) will be up to 59 dBA, which is 4 dBA in excess of the MECP’s limit of 55 dBA. The 3 dBA sound level excess is acceptable to the MECP if it is acceptable to the municipality with the use of a noise warning clause.

The predicted daytime sound levels in the OLA’s of the remainder of the lots are less than 55 dBA, thus physical mitigation is not required.

3.3.2 Indoor Living Areas

The predicted future sound levels of the proposed dwellings along Street B or closest to Trafalgar Road (prediction locations [A] to [C]) have predicted sound levels between 56 and 65 dBA during the daytime hours and between 51 to 60 dBA during the nighttime hours. To address these excesses, these dwellings require the provision for the future installation of air conditioning at the occupant's discretion. These dwellings are indicated on Figure 3.

The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-216 and NPC-300, as applicable.

3.3.3 Building Façade Constructions

All of the proposed dwellings within the development will have daytime sound levels of 65 dBA or less and nighttime sound levels of 60 dBA or less respectively. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the dwelling units.

Neighbourhood Centre, Medium Density/Mixed-Use, and Elementary School

Since the details of the siting, density and height of the buildings are not known, a detailed noise study will be required for the Neighbourhood Centre, Medium Density/Mixed-Use, and Elementary School to determine the acoustic requirements (acoustic barriers, ventilation and building façade construction) when siting, grading, building elevations and floor plans are available.

4 WARNING CLAUSES

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements for all the dwellings with anticipated traffic noise sound level excesses and the presence of the neighbourhood centre, medium density/mixed-use, and elementary school blocks. The following noise warning clauses are required.

A suggested wording for future dwellings with sound level excesses of the MECP criteria but do not require physical mitigation measures is given below.

Type A:

Purchasers/tenants are advised that sound levels due to increasing road 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.

Suitable wording for future dwellings requiring the provision for the future installation of air conditioning at the occupant's discretion is given below.

Type C:

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 limits of the Municipality and the Ministry of the Environment.

A suggested wording for dwellings adjacent to the mixed-use blocks and elementary school block where sound levels will at times be audible is given below.

Type E:

Purchasers/tenants are advised that due to the proximity of the adjacent commercial and/or institutional facilities, noise from the facilities may at times be audible.



These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

5 SUMMARY

The following list as well as Table 4 summarize the recommendations made in this report. The reader is referred to Figure 3, as well as previous sections of the report where these recommendations are applied and discussed in more detail.

1. The provision for the future installation of air conditioning at the occupant's discretion is required for dwellings along Street B or closest to Trafalgar Road.
2. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the OBC will provide adequate sound insulation for the proposed dwellings.
3. Warning clauses should be used to inform future residents of the road traffic sound level excesses and presence of the mixed-use blocks and elementary school block.
4. When the siting information for the neighbourhood centre, medium density/mixed-use blocks, and for the elementary school block, noise studies should be performed to determine the acoustic requirements for the sites to determine the impact of road traffic noise on the proposed buildings and to determine the impact of any stationary sources of noise on the adjacent residential dwellings in accordance with NPC-300.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.



Table 4: Summary of Noise Control Requirements and Noise Warning Clauses

Lot/Block No.	Acoustic Barrier	*Ventilation Requirements	Type of Warning Clause	STC Requirements LR/BR
Lots 1 – 8, 232, 233, 242 – 245, 253 – 267, 270 – 277, 289 – 292	--	Provision for A/C	A, C	OBC
Lots 293, 294, and Blk 402 (southern end unit)	--	Provision for A/C	A, C, E	OBC
Lots 374 – 386, Blks 400, 401, and 402 (remaining units)	--	--	E	OBC
Neighbourhood Centre Blocks	O	O	O	O
Medium Density/Mixed-Use Blocks	O	O	O	O
Elementary School	O	O	O	O

Note:

-- no specific requirement

* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.

O – When siting information is available for these blocks, a detailed noise study should be conducted to determine the acoustic requirements (acoustic barriers, ventilation, and building façade construction) when siting, grading, building elevations and floor plans are available and in the case of the mixed-use blocks, to ensure compliance with NPC-300.



Figure 1 - Key Plan

**DRAFT PLAN OF SUBDIVISION
FILE 24T -**

**PART OF LOTS 6 AND 7
CONCESSION 8, NEW SURVEY**

(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)
**TOWN OF MILTON
REGIONAL MUNICIPALITY OF HALTON**



KEY MAP
N.T.S. **SUBJECT PROPERTY**

OWNER'S AUTHORIZATION

I HEREBY AUTHORIZE KORSIAK URBAN PLANNING TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF MILTON FOR APPROVAL.

SIGNED _____ DATE _____
Owner Name
White Squadron Development Corporation
Street Address
City, ON XXX XXX

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED DATE May 12, 2025
Ross DenBroeder, Ontario Land Surveyor

rpe R-PE SURVEYING LTD.
ONTARIO LAND SURVEYORS
643 CHRISLEA ROAD, SUITE 7, WOODBRIDGE, ONTARIO L4L 8A3
Tel: (416) 635-5000 Fax: (416) 635-5001

ADDITIONAL INFORMATION (UNDER SECTION 51 (17) OF THE PLANNING ACT)

- A) SHOWN ON PLAN
- B) SHOWN ON PLAN
- C) SHOWN ON PLAN
- D) SHOWN ON PLAN
- E) SHOWN ON PLAN
- F) SHOWN ON PLAN
- G) SHOWN ON PLAN
- H) MUNICIPAL AND PIPED WATER TO BE PROVIDED
- I) CLAY LOAM
- J) SHOWN ON PLAN
- K) SANITARY AND STORM SEWERS TO BE PROVIDED
- L) SHOWN ON PLAN

LAND USE SCHEDULE

Land Use	Lots/Blocks	Block Total	Area (ha)	Units
Single Detached	1-397	397	13.08	397
Townhouse	398-426	29	3.08	155
Medium Density Residential II	427, 428	2	3.06	
Medium Density Mixed Use	429	1	1.06	
Neighbourhood Centre Mixed Use II	430-432	3	6.79	
Elementary School	433	1	2.64	
Park Type 2	434	1	2.43	
Village Square	435, 436	2	0.72	
Open Space Block	437, 445	2	0.10	
Natural Heritage System (NHS)	438-440	3	33.57	
Stormwater Management Pond Block	441	1	1.74	
Servicing Block	442-444	3	0.05	
0.3m Reserve	446	1	0.00	
16m ROW (4,354 m)			7.07	
20m ROW (813 m)			1.71	
24m ROW (274 m)			0.69	
Total	1-446	446	77.79	552

SDE CALCULATIONS

Unit Type	Blocks	Units	SDE*
Single Detached	1-397	397	397.0
Townhouse	398-426	155	125.6
Totals		552	522.6

* SDE Factors:
Single Detached - 1.00
Townhouse - 0.81

May 28, 2025	First Submission	A	KC
DATE	REVISION	DWG	BY

NOTES:

- *Local/Local corner radii = 5m
- *Local/Collector daylight triangle = 7.5m
- *Collector/Collector daylight triangle = 10m
- *Collector/Regional Road daylight triangle = 15m
- *Pavement illustration is diagrammatic



SCALE 1:2000 May 28, 2025

DRAWN BY: KC CHECKED BY:

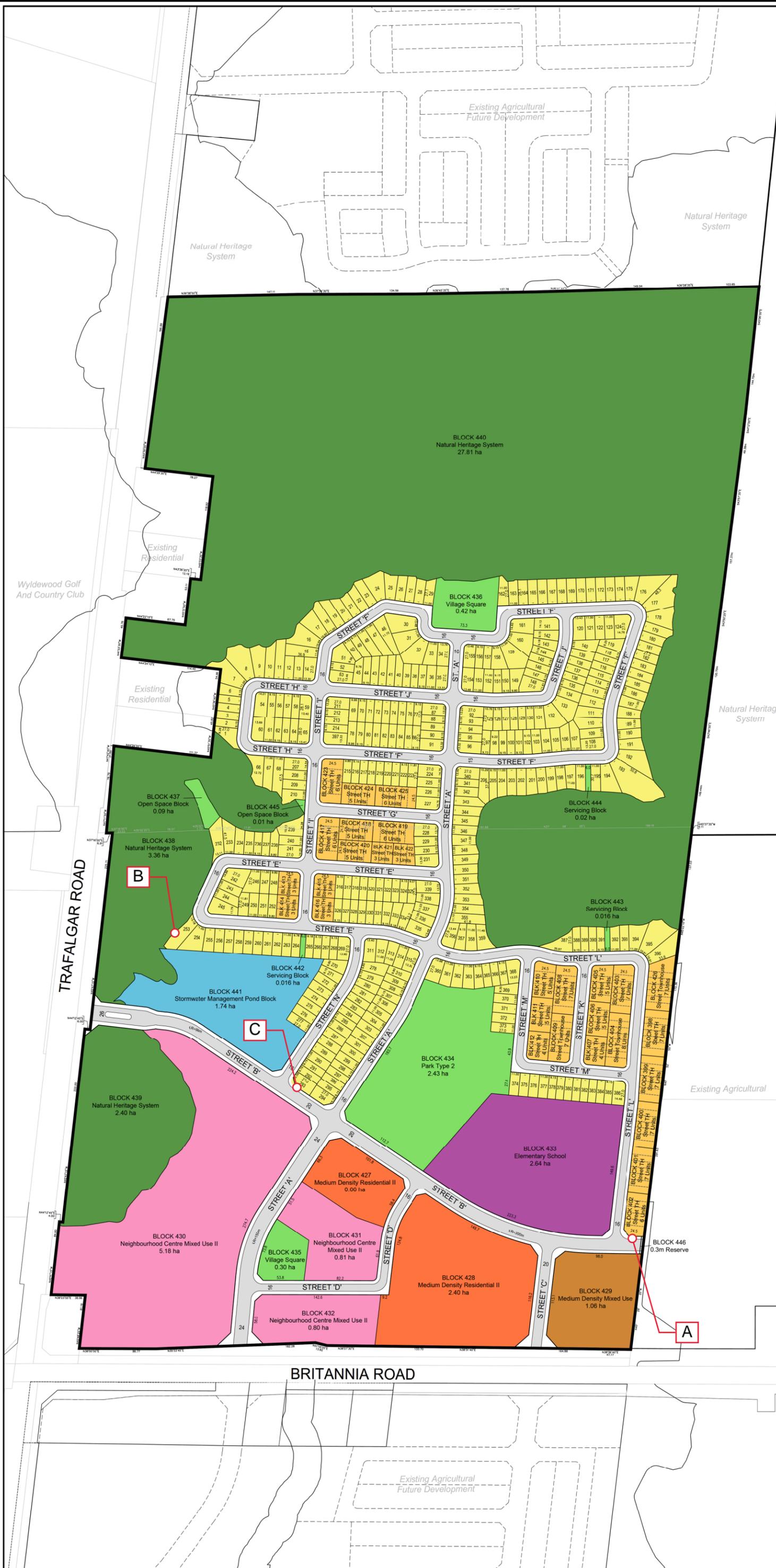


Figure 2 - Proposed Draft Plan Showing Prediction Locations

LEGEND

 Provision for the future installation of air conditioning at the occupant's discretion

**DRAFT PLAN OF SUBDIVISION
FILE 24T -**

**PART OF LOTS 6 AND 7
CONCESSION 8, NEW SURVEY**

(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)
**TOWN OF MILTON
REGIONAL MUNICIPALITY OF HALTON**



KEY MAP
N.T.S.   **SUBJECT PROPERTY**

OWNER'S AUTHORIZATION
I HEREBY AUTHORIZE KORSIAK URBAN PLANNING TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF MILTON FOR APPROVAL.

SIGNED _____ DATE _____
Owner Name
White Squadron Development Corporation
Street Address
City, ON XXX XXX

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED  DATE May 12, 2025
Ross Den Broeder, Ontario Land Surveyor

rpe R-PE SURVEYING LTD.
ONTARIO LAND SURVEYORS
643 CHRISLEA ROAD, SUITE 7, WOODBRIDGE, ONTARIO L4L 8A3
Tel: (416) 635-5000 Fax: (416) 635-5001

ADDITIONAL INFORMATION (UNDER SECTION 51 (17) OF THE PLANNING ACT)

A) SHOWN ON PLAN	G) SHOWN ON PLAN
B) SHOWN ON PLAN	H) MUNICIPAL AND PIPED WATER TO BE PROVIDED
C) SHOWN ON PLAN	I) CLAY LOAM
D) SHOWN ON PLAN	J) SHOWN ON PLAN
E) SHOWN ON PLAN	K) SANITARY AND STORM SEWERS TO BE PROVIDED
F) SHOWN ON PLAN	L) SHOWN ON PLAN

LAND USE SCHEDULE

Land Use	Lots/Blocks	Block Total	Area (ha)	Units
Single Detached	1-397	397	13.08	397
Townhouse	398-426	29	3.08	155
Medium Density Residential II	427, 428	2	3.06	
Medium Density Mixed Use	429	1	1.06	
Neighbourhood Centre Mixed Use II	430-432	3	6.79	
Elementary School	433	1	2.64	
Park Type 2	434	1	2.43	
Village Square	435, 436	2	0.72	
Open Space Block	437, 445	2	0.10	
Natural Heritage System (NHS)	438-440	3	33.57	
Stormwater Management Pond Block	441	1	1.74	
Servicing Block	442-444	3	0.05	
0.3m Reserve	446	1	0.00	
16m ROW (4,354 m)			7.07	
20m ROW (813 m)			1.71	
24m ROW (274 m)			0.69	
Total	1-446	446	77.79	552

SDE CALCULATIONS

Unit Type	Blocks	Units	SDE*
Single Detached	1-397	397	397.0
Townhouse	398-426	155	125.6
Totals		552	522.6

* SDE Factors:
Single Detached - 1.00
Townhouse - 0.81

May 28, 2025	First Submission	A	KC
DATE	REVISION	DWG	BY

NOTES:
*Local/Local corner radii = 5m
*Local/Collector daylight triangle = 7.5m
*Collector/Collector daylight triangle = 10m
*Collector/Regional Road daylight triangle = 15m
*Pavement illustration is diagrammatic



SCALE 1:2000 May 28, 2025

DRAWN BY: KC CHECKED BY:



Figure 3 - Proposed Draft Plan Showing Ventilation Requirements

Appendix A

Road Traffic Data



NOISE



VIBRATION



ACOUSTICS

Victor Garcia

From: Loro, Darren <Darren.Loro@halton.ca>
Sent: April 9, 2025 11:17 AM
To: Victor Garcia
Subject: RE: Road Traffic Data Request - Trafalgar Road & Britannia Road, Milton, Ontario

Hi Victor,

Thanks for confirming!

The following future traffic data inputs must be applied in the Noise Study analysis for Trafalgar Road and Britannia Road:

Trafalgar Road (2035)
AADT: 51,000 veh/day
Trucks: use existing medium and heavy vehicle %s
Lanes: 6

Britannia Road (2035)
AADT: 51,000 veh/day
Trucks: 3% medium/3% heavy
Lanes: 6

Existing TMC, AADT and 24-hour count data can be requested from accesshalton@halton.ca if needed.

Cheers,
Darren

From: Victor Garcia <vgarcia@hgcacoustics.com>
Sent: Tuesday, April 8, 2025 6:16 AM
To: Loro, Darren <Darren.Loro@halton.ca>
Subject: RE: Road Traffic Data Request - Trafalgar Road & Britannia Road, Milton, Ontario

Hi Darren,

It is for a site located to the north of the intersection of Trafalgar and Britannia.

Regards,

Victor Garcia, P.Eng
Senior Engineer, Associate
HGC NOISE VIBRATION ACOUSTICS
t: 905-826-4044 x242 e: vgarcia@hgcacoustics.com

The content of this email and any attachments prepared by HGC Noise Vibration Acoustics have [limitations](#).

From: Loro, Darren <Darren.Loro@halton.ca>
Sent: April 1, 2025 4:59 PM
To: Victor Garcia <vgarcia@hgcacoustics.com>
Subject: RE: Road Traffic Data Request - Trafalgar Road & Britannia Road, Milton, Ontario

Master Station	Description	Count Date	Total Vol	Lamp & end	Lamp & vol	off pk end	off pk vol	pm pk end	pk hr vol	hr vol	hr vol	pmid speed (km)	50% speed (km)	avg (km)	SP percent	Variance	exceeding (%)	accs	# and trk	# med trk/hrs	# hvy trk	%accs	%total trk	% med trk/hrs	% hvy trk	headway max (sec)	headway min (sec)	Temp min (C)	Temp max (C)	surface
100311	Trafalgar Road - between Britannia Road and Dewy Road	16-Dec-19	24,744	8:15	2,050	13:00	1,247	17:15	2,261	13,634	20,600	80	80	90	101.80	21.60	81.60%	21,964	413	740	1,014	89.5%	1.7%	3.0%	5.8%	1.45	83.52	0	11	Dry
100601	Britannia Road - between Eight Line and Trafalgar Road	16-Oct-19	15,075	8:45	1,529	14:00	996	17:45	1,551	8,579	12,634	80	70	74	85.60	5.60	25.30%	14,783	76	97	90	98.3%	0.5%	0.6%	0.6%	2.16	180.00	11	15	Dry

Appendix B

Sample STAMSON 5.04 Output



NOISE



VIBRATION



ACOUSTICS

Medium Truck % of Total Volume : 2.00
 Heavy Truck % of Total Volume : 1.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Street B (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 4.50 / 4.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: Britannia (day)

 Source height = 1.32 m

ROAD (0.00 + 56.02 + 0.00) = 56.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.58	73.40	0.00	-16.07	-1.31	0.00	0.00	0.00	56.02

 Segment Leq : 56.02 dBA

Results segment # 2: Street B (day)

 Source height = 1.00 m

ROAD (0.00 + 58.98 + 0.00) = 58.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	58.98	0.00	0.00	0.00	0.00	0.00	0.00	58.98

 Segment Leq : 58.98 dBA

Total Leq All Segments: 60.76 dBA

Results segment # 1: Britannia (night)

 Source height = 1.32 m

ROAD (0.00 + 49.49 + 0.00) = 49.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	49.49	0.00	0.00	0.00	0.00	0.00	0.00	49.49



-90	90	0.58	66.87	0.00	-16.07	-1.31	0.00	0.00	0.00	49.49
-----	----	------	-------	------	--------	-------	------	------	------	-------

Segment Leq : 49.49 dBA

Results segment # 2: Street B (night)

Source height = 1.02 m

ROAD (0.00 + 52.56 + 0.00) = 52.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	52.56	0.00	0.00	0.00	0.00	0.00	0.00	52.56

Segment Leq : 52.56 dBA

Total Leq All Segments: 54.30 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.76 dBA
 (NIGHT): 54.30 dBA



NOISE



VIBRATION



ACOUSTICS

Filename: aola.te Time Period: 16 hours

Description: OLA of dwellings with flanking exposure to Street B

Road data, segment # 1: Britannia

Car traffic volume : 43146 veh/TimePeriod *
Medium truck volume : 1377 veh/TimePeriod *
Heavy truck volume : 1377 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Britannia

Angle1 Angle2 : -90.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 162.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Britannia

Car traffic volume : 43146 veh/TimePeriod *
Medium truck volume : 1377 veh/TimePeriod *
Heavy truck volume : 1377 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Britannia

Angle1 Angle2 : 45.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 162.00 m
Receiver height : 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 45.00 deg Angle2 : 90.00 deg
Barrier height : 7.00 m
Barrier receiver distance : 3.00 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m



Reference angle : 0.00[▲]

Road data, segment # 3: Street B

Car traffic volume : 4007 veh/TimePeriod *
Medium truck volume : 83 veh/TimePeriod *
Heavy truck volume : 41 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Street B

Angle1 Angle2 : -90.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 20.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00[▲]

Road data, segment # 4: Street B

Car traffic volume : 4007 veh/TimePeriod *
Medium truck volume : 83 veh/TimePeriod *
Heavy truck volume : 41 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Street B

Angle1 Angle2 : 45.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 20.00 m
Receiver height : 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 45.00 deg Angle2 : 90.00 deg
Barrier height : 7.00 m
Barrier receiver distance : 3.00 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00[▲]

Results segment # 1: Britannia

Source height = 1.32 m



ROAD (0.00 + 53.96 + 0.00) = 53.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.66	73.40	0.00	-17.15	-2.29	0.00	0.00	0.00	53.96

Segment Leq : 53.96 dBA

Results segment # 2: Britannia

Source height = 1.32 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.32	1.50	1.50	1.50

ROAD (0.00 + 37.86 + 0.00) = 37.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
45	90	0.25	73.40	0.00	-12.87	-7.27	0.00	0.00	-15.39	37.86

Segment Leq : 37.86 dBA

Results segment # 3: Street B

Source height = 1.00 m

ROAD (0.00 + 54.61 + 0.00) = 54.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.66	58.98	0.00	-2.07	-2.29	0.00	0.00	0.00	54.61

Segment Leq : 54.61 dBA

Results segment # 4: Street B

Source height = 1.00 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.00	1.00	1.00	1.00



1.00 ! 1.50 ! 1.42 ! 1.42

ROAD (0.00 + 34.03 + 0.00) = 34.03 dBA

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq

45 90 0.26 58.98 0.00 -1.57 -7.32 0.00 0.00 -16.06 34.03

Segment Leq : 34.03 dBA

Total Leq All Segments: 57.38 dBA

TOTAL Leq FROM ALL SOURCES: 57.38 dBA



NOISE



VIBRATION



ACOUSTICS