Final

41 Janefield Avenue
City of Guelph
Environmental Noise Report

ARCADIS

IBI GROUP

Prepared for Mezcon Construction Ltd.
by Arcadis IBI Group

October 20, 2023

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REVIEWER:	
AUTHORIZATION:	
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1 Introduction

IBI Group was retained to undertake an environmental noise study to examine the impacts of road traffic noise for the proposed lot severance located at 41 Janefield Avenue in Guelph, Ontario.

The subject lands consist of 41 Janefield Avenue and a portion of 35 Janefield Avenue with an approximate total area of 0.1868 hectares. The 41 Janefield Avenue property consists of a single-detached dwelling, a detached garage, and other accessory structures in the rear yard. These buildings and accessory structures will be demolished to develop the proposed semi-detached dwellings and detached accessory residential dwelling units. The 35 Janefield Avenue property also consists of a single-detached dwelling, attached garage, and accessory sheds in the rear yard. This building, along with the accessory structures, will be demolished to facilitate the lot addition to 41 Janefield Avenue. The properties are bounded by residential development to the north, south, and west, and Janefield Avenue to the east.

The lands are to be developed with a total of 12 dwelling units comprised of four semi-detached units on their own lots, each with a basement ARDU and a detached ARDU. To facilitate the proposed development, 41 Janefield Avenue is proposed to be severed into three lots.

Refer to the Site Plan and the Noise Information Plan (Figure 1) in **Appendix A** for a plan of the site and adjacent areas.

This report documents the noise analysis and findings to review the feasibility of the site from a noise perspective.

2 Background and Noise Criteria

The Ministry of Environment, Conservation and Parks (MECP, formerly MOE and MOECC) environmental noise guideline NPC-300 “Stationary and Transportation Sources – Approval and Planning” was used to determine the noise criteria for this project.

The primary noise sources that may impact the proposed residential sensitive receivers on the subject development are:

1. **Traffic Noise:**
    - Hanlon Parkway (Highway 6); and
    - College Avenue West.
2. **Stationary Noise**
    - Off-Site: There is a high school located approximately 230m to the north of the properties. Given this distance it is not expected that the High School site would be a significant source of stationary noise that would impact the subject properties. No other potential stationary noise sources in the vicinity of the properties were identified. Therefore, off-site stationary noise will not be reviewed further in this study.
    - On-Site: The development will include new residential lots that are will not include any stationary noise sources (i.e., rooftop HVAC, truck loading docks, etc.). Therefore, on-site stationary noise will not be reviewed further in this study.

As the proposed development is outside the zone of influence of railways and airports, rail traffic and air traffic noise are assumed not to be an issue and will not be reviewed further in this study.

2.1 Traffic Noise Criteria

For traffic noise, Section C6 and C7 of MECP's NPC-300 were referenced to determine the noise criteria for the development.

The criteria are shown in Table 1 and the mitigation and warning clause requirements are tabulated in Table 2.

Table 1 – MECP Road & Rail Traffic Noise Level Criteria

LOCATION	ASSESSMENT LOCATION	NOISE LEVEL CRITERIA (DBA)	
		ROAD	RAIL
Outdoor Living Areas (OLA) [1, 2] : Daytime (0700 to 2300)	Outdoor	65	55
Living area [3, 4] : Anytime	Indoor	45	40
Bedrooms [4] : Daytime (0700 to 2300)	Indoor	45	40
Nighttime (2300 to 0700)	Indoor	40	35

Notes:

1) *Train 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 combined for assessment of receiver impacts.*
3) *Residence area Dens, Hospitals, Nursing Homes, Schools, Daycares are 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 1** are exceeded.*

Table 2 – MECP Road & Rail Traffic Noise Mitigation and Warning Clause Requirements

LOCATION	NOISE LEVELS (DBA)		MITIGATION REQUIREMENT
	ROAD	RAIL [1]	
Outdoor Living Areas (Daytime- 0700 to 2300)	Less than 55		i) No control required.
	55 to 60		i) Physical control required, **OR** ii) Type A warning clause required.
	Greater than 60		i) Physical control required (reduce noise to 55dBA), **AND** ii) Type B warning clause required.
Outside Living Room Window (Daytime- 0700 to 2300)	Less than 55		i) No control required.
	55 to 65		i) Forced air heating with provision of A/C required, **AND** ii) Type C warning clause required.
	Greater than 65		i) Central air conditioning required, **AND** ii) Type D warning clause required, **AND** iii) Special building components potentially required.
Outside Bedroom Window (Nighttime- 2300 to 0700)	Less than 50		i) No control required.
	50 to 60		i) Forced air heating with provision of A/C required, **AND** ii) Type C warning clause required.
	Greater than 60		i) Central air conditioning required, **AND** ii) Type D warning clause required, **AND** iii) Special building components potentially required.

Notes:
1) *Train whistle noise is excluded except for building component analysis where it is included;*
2) *Road and Rail noise is combined except for building component analysis where it is assessed separately.*

3 Noise Sources & Modelling Methods

The following sections describe the identified noise sources pertinent to the subject development.

3.1 Road Noise

The traffic volumes and other data for Hanlon Parkway and College Street West were obtained from the MTO and the City of Guelph, respectively (refer to **Appendix B)**. The traffic volumes along with other relevant traffic data are summarized in Table 3. Assuming a 2024 construction date, the noise levels have been calculated for the year 2034.

Table 3 – Road Traffic Data

ITEM	HANLON PARKWAY (2019)	COLLEGE AVENUE WEST (2018)
AADT	38,100 vpd	10,360 vpd
Years of Growth	15	16
% Growth	2.5	2.0
% Medium Trucks	3.5	1.1
% Heavy Trucks	3.5	1.1
Road Grade	2%	2%
Speed Limit	70 kph	50 kph
Day/Night Split	66.7/33.3	90/10

The noise levels produced by road traffic along Hanlon Parkway and College Avenue West were modelled/predicted utilizing MECP's computer modelling software "STAMSON 5.04". The intermediate surface was modelled as absorptive.

4 Free Field Analysis

A "Free Field Analysis" is an analysis of noise without any structures or features to provide noise mitigation. From this analysis, the limits at which noise impact may be of issue can be determined, and from this the need for warning clauses, noise barriers, and/or special building components can be further reviewed, and the need established.

4.1 Road Noise

A free field analysis was completed for the road traffic noise on Hanlon Parkway and College Avenue West. The results of this analysis are shown in Table 4 and graphically on Figure 1 in **Appendix A**.

Table 4 – Traffic Noise Free Field Analysis Results

FREE FIELD LIMIT	DISTANCE FROM HANLON PARKWAY	DISTANCE FROM COLLEGE AVENUE WEST
65 dBA (Day)	47.44m	<15m
60 dBA (Day)	94.93m	21.78m
55 dBA (Day)	190.01m	43.60m
60 dBA (Night)	107.36m	<15m
50 dBA (Night)	463.06m	37.68m

In reference to Table 4 and the **Appendix A** Noise Information Plan, the following observations are made:

Hanlon Parkway

- The daytime acoustical impact on sensitive areas located within 190.01 metres of the centreline of Hanlon Parkway will have noise levels in excess of 55 dBA which exceeds the minimum daytime noise level criteria. Portions of the development are within this offset distance.
- The nighttime acoustical impact on sensitive areas located within 463.06 metres of the centreline of Hanlon Parkway will have noise levels in excess of 50 dBA which exceeds the minimum nighttime noise level criteria. Portions of the development are within this offset distance.

College Avenue West

- The daytime acoustical impact on sensitive areas located within 43.60 metres of the centreline of College Avenue West will have noise levels in excess of 55 dBA which exceeds the minimum daytime noise level criteria. Since the development is located beyond this offset distance, and daytime road noise from College Avenue West will not be considered further.
- The nighttime acoustical impact on sensitive areas located within 37.68 metres of the centreline of College Avenue West will have noise levels in excess of 50 dBA which exceeds the minimum nighttime noise level criteria. Since the development is located beyond this offset distance, and nighttime road noise from College Avenue West will not be considered further.

5 Receiver Locations

To facilitate the analysis, various sensitive receiver locations were identified. All receivers were located at worst case locations (most exposed) for both daytime and nighttime periods for noise received from traffic sources. For daytime noise, the receiver is located at the building façade at a height of 1.5 metres off the ground. For nighttime noise, the receiver is located at the building façade at a height of 4.5 metres off the ground. For outdoor daytime noise, the outdoor living area (OLA) receiver is located 1.5 meters off the ground at a distance of 3.0 meters from the rear dwelling façade.

5.1 On-Site Receivers

Sensitive receiver locations were established on the proposed development. These on-site receiver locations are shown on the Noise Information Plan in **Appendix A** and summarized in Table 5.

Table 5 – On-Site Traffic Noise Receiver Locations and Data

RECEIVER	LOCATION	DISTANCE FROM HANLON PARKWAY	EXPOSURE	NO. OF ROWS OF HOUSES	DENSITY OF FIRST ROW (%)
Receiver A	West Façade West Units (Floor 1)	87.22	-90 to 90	1	80
Receiver B	Rear Yard OLA East Units	118.84	-90 to 90	1	80
Receiver C	West Façade East Units (Floor 1 & 2)	121.84	-90 to 90	1	80

6 Results

The following sections review the modelled/predicted on-site noise impacts.

6.1 Road Noise

Results of the STAMSON noise modelling for the road noise are included in **Appendix C** and summarized in Table 6. Note, the intermediate surface between the noise sources and the receivers were modelled as having an absorptive surface, and the intermediate rows of houses were taken into consideration.

Table 6 – Un-Attenuated Road Traffic Noise Levels (dBA)

RECEIVER	DAYTIME	NIGHTTIME	CRITERIA DAY/NIGHT (**D**BA)
A	54.9	54.9	55/ 50
B	52.8	-	55/ -
C	53.5	53.5	55/ 50

As shown in Table 6, noise levels at the receivers do not exceed 65 dBA and 60 dBA during the daytime and nighttime, respectively, but do exceed the 50 dBA nighttime criteria for Receivers A and B. Accordingly, physical mitigation will not be required, however warning clauses will be required.

For STAMSON modelling results, refer to **Appendix C.**

7 Conclusions and Recommendations

The following specific recommendation is provided:

Recommendation #1 (All Units)

Due to the exceedance of the MECP noise criteria for nighttime acoustical levels from road traffic from Hanlon Parkway, all units are to be fitted with forced air heating with provision for air conditioning. Further, these residential units shall include Warning Clause 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 level limits of the Municipality and the Ministry of the Environment."

Based on the preceding we conclude that the subject development can be designed appropriately to address noise impacts.

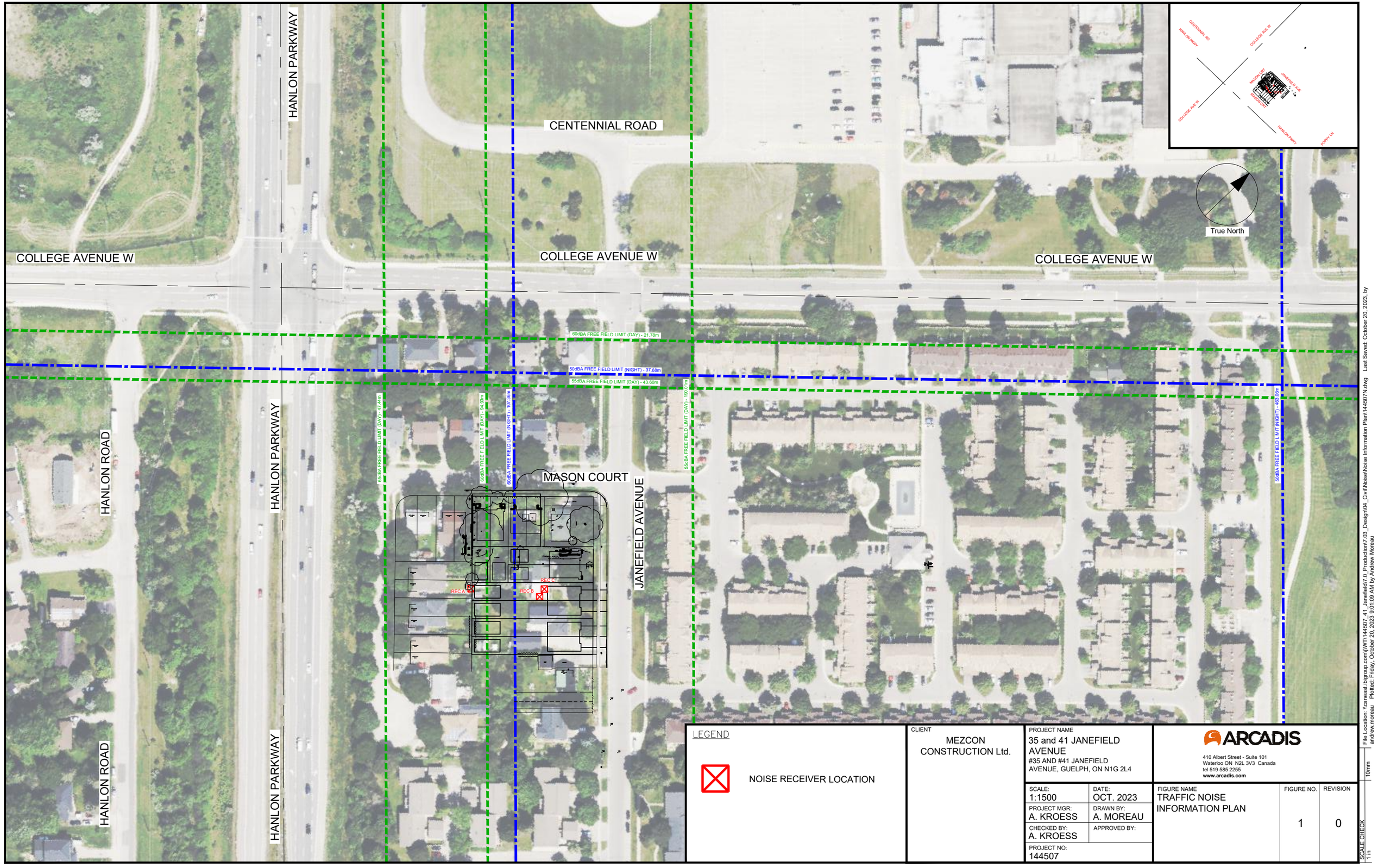
* * * * * * * * * * * * * * *

Yours truly

ARCADIS IBI GROUP

Andy Kroess, M.Eng., P.Eng

Appendix A – Noise Information Plan



LEGEND

NOISE RECEIVER LOCATION

CLIENT
MEZCON CONSTRUCTION Ltd.

PROJECT NAME
35 and 41 JANEFIELD AVENUE
#35 AND #41 JANEFIELD AVENUE, GUELPH, ON N1G 2L4

ARCADIS
410 Albert Street - Suite 101
Waterloo ON N2L 3V3 Canada
tel 519 585 2255
www.arcadis.com

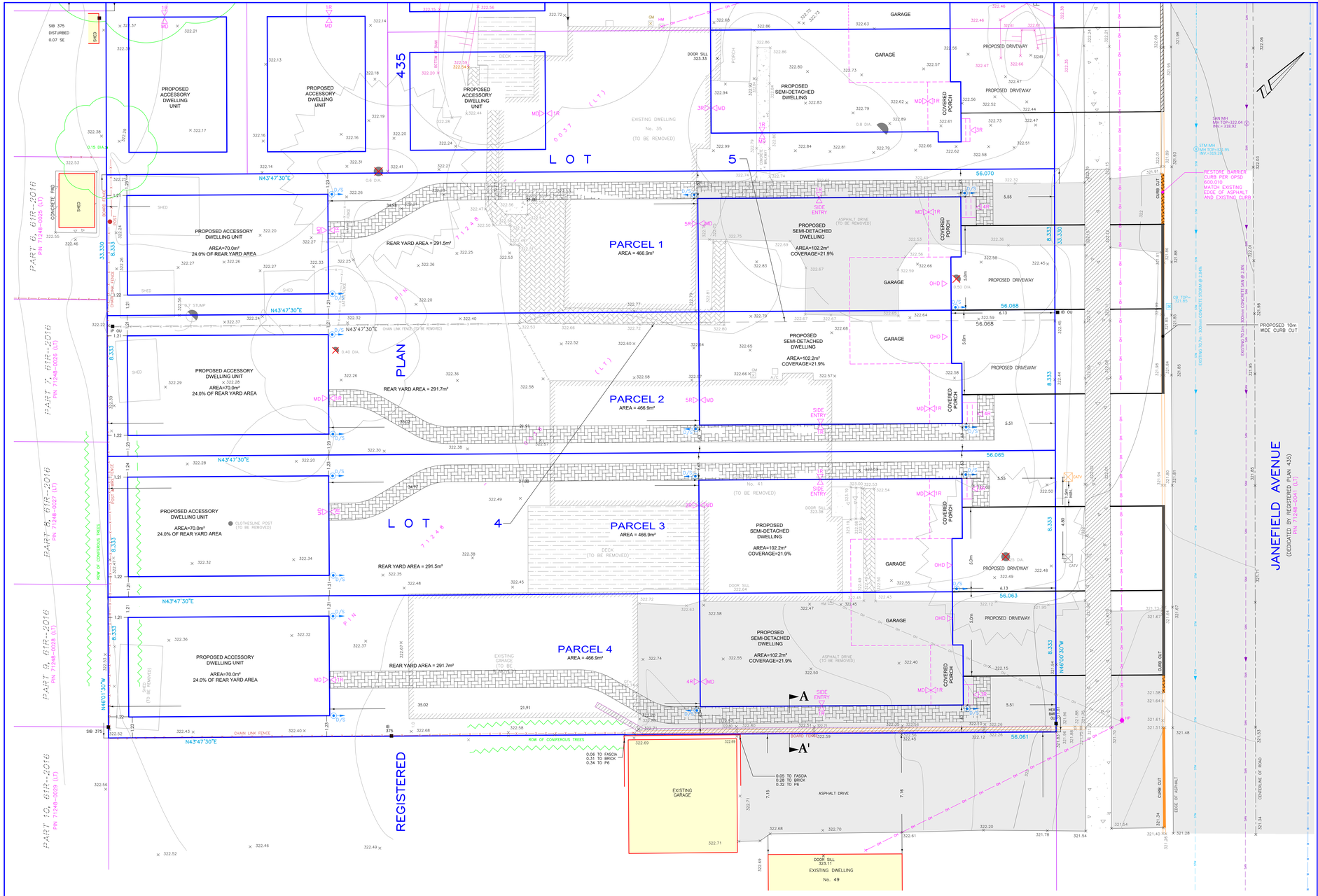
SCALE:	DATE:
1:1500	OCT. 2023
PROJECT MGR: A. KROESS	DRAWN BY: A. MOREAU
CHECKED BY: A. KROESS	APPROVED BY:
PROJECT NO: 144507	

FIGURE NAME: TRAFFIC NOISE INFORMATION PLAN

FIGURE NO.	REVISION
1	0

SCALE CHECK 1 in 10mm

File Location: \\caneast.ibigroup.com\\WT\144507_41_Janefield\7.0_Production\7.03_Design\04_Civil\Noise\Noise Information Plan\144507N.dwg Last Saved: October 20, 2023, by andrew.moreau Plotted: Friday, October 20, 2023 9:01:09 AM by Andrew Moreau



LEGEND

- OHD — OVERHEAD HYDRO
- FE — FENCE
- BL — BELL
- GAS — GAS LINE
- SAN — EXISTING SANITARY SEWER
- SAN — PROPOSED SANITARY SEWER
- WM — WATERMAIN
- STM — STORM
- PROPOSED SILT FENCE
- EDGE OF BUSH
- CENTRELINE OF ROAD
- 330.93 — EXISTING GRADE
- (322.73) — PROPOSED GRADE
- 3:1 MAXIMUM SLOPE
- DIRECTION OF FLOW
- HP — HYDRO POLE
- LS — LIGHT STANDARD
- BELL — BELL PEDESTAL
- CATV — TV PEDESTAL
- FH — FIRE HYDRANT
- CB — CATCH BASIN
- MH — MANHOLE
- WV — WATER VALVE
- DOWNSPOUT
- SUMP PUMP DISCHARGE
- GRAVEL
- CONCRETE
- ASPHALT
- PAVESTONE
- CONIFEROUS TREE
- DECIDUOUS TREE
- TREE TO BE REMOVED

NOTES:

- CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE CITY OF GUELPH DEVELOPMENT STANDARDS MANUAL AND THE ONTARIO BUILDING CODE.
- ALL PROPOSED CONSTRUCTION TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATION HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS
- MATCH TO EXISTING GRADE AT ALL LOT LINES. ATTEMPTS ARE TO BE MADE TO ENSURE ANY ABUTTING LOTS WITH DRAINAGE OUTLETTING ONTO THE SUBJECT PROPERTY WILL CONTINUE TO DO SO.
- ANY GRADING WORKS THAT EXTEND INTO THE ABUTTING PROPERTIES MAY ONLY BE DONE WITH THE WRITTEN PERMISSION OF THE AFFECTED PROPERTY OWNER.
- BOULEVARD PORTION OF DRIVE TO BE PAVED.
- MAXIMUM DRIVEWAY WIDTH IS 5.0m.
- ALL WORK IN RIGHT OF WAY TO BE COMPLETED BY CITY APPROVED CONTRACTORS AT THE OWNER'S EXPENSE.
- 0.5m MINIMUM BETWEEN DRIVEWAY AND NEAREST LOT LINE MUST BE LANDSCAPED SPACE (E.G. GRASS, ETC.).
- RESTORE BOULEVARD WITH 200m MIN. TOPSOIL AND SEED/SOD.
- IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION FOR THE FOUNDATION, A GEOTECHNICAL ENGINEER SHALL BE CONSULTED.
- IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THE FOOTINGS ARE PLACED ABOVE THE SEASONAL GROUNDWATER LEVELS.
- PROPOSED RETAINING WALLS TO BE DESIGNED BY OTHERS. IF A WALL EXCEEDS 1.0M HEIGHT IT IS TO BE ENGINEERED.

SERVICING NOTES:

- WORK IN MUNICIPAL RIGHT-OF-WAY TO BE BY CITY APPROVED CONTRACTOR AT THE OWNER'S EXPENSE.
- THE LOCATION OF SERVICES ON THIS DRAWING ARE ONLY APPROXIMATE AND BASED ON SURFACE FEATURES LOCATED AT THE TIME OF THE TOPOGRAPHIC SURVEY AND FROM CITY RECORDS. PRIOR TO ANY CONSTRUCTION IT IS THE RESPONSIBILITY OF THE CONTRACTOR/BUILDER TO ENSURE THE EXACT LOCATION OF ALL UTILITIES.
- SANITARY SERVICE TO BE 100mm DIA. PVC SDR28 @ 2.0% MINIMUM SLOPE.
- STORM SERVICE TO BE 150mm DIA. PVC SDR28 @ 2.0% MINIMUM SLOPE.
- WATER SERVICE TO BE 25mm DIA. TYPE "K" SOFT COPPER.
- BUILDER IS RESPONSIBLE TO ENSURE GRAVITY CONNECTION TO SANITARY SERVICE.
- IF THE PROPOSED UNDERSIDE OF FOOTING DOES NOT ALLOW A GRAVITY CONNECTION THEN A SEWAGE EJECTOR WILL BE REQUIRED.
- SEWAGE EJECTOR TO BE INSTALLED AS PER OBC AND MUNICIPAL REQUIREMENTS.
- SUMP PUMP TO DISCHARGE TO THE STORM SERVICE PER CITY OF GUELPH STANDARD DRAWING 3-75.
- SERVICES TO BE INSTALLED PER CITY OF GUELPH STANDARD DRAWING 3-55 FOR PARCELS 1 AND 2 AND CITY OF GUELPH STANDARD DRAWING 3-56 FOR PARCELS 3 AND 4.

SEDIMENT AND EROSION CONTROL NOTES:

- ALL SEDIMENT CONTROL FENCING TO BE INSPECTED AND INSTALLED PRIOR TO THE COMMENCEMENT OF ANY GRADING OR EXCAVATING.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY ADDITIONAL EROSION CONTROL MEASURES.
- ALL EROSION CONTROL MEASURES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED BY RESTORATION OF GROUND COVER.
- TPF TO BE A COMBINED EROSION AND SEDIMENT CONTROL (ESC) FENCE (I.E. SEDIMENT FENCE) AND TREE PROTECTION FENCING. (TPF) IS RECOMMENDED WHERE TREES ARE SITUATED ADJACENT TO THE LIMIT OF DISTURBANCE. TPF MAY TAKE THE FORM OF 1200mm HIGH PAGE-WIRE FENCING SECURED TO IRON T-BAR POSTS AT 2400mm ON CENTRE, IN ACCORDANCE WITH THE TREE TECHNICAL MANUAL (SECTION 4.3 AND TREE PROTECTION ZONE FENCE DETAIL UFT.1.1)."

UNDERGROUND SERVICES:

SANITARY: BASED ON LOCATION OF MANHOLES AND SERVICE DRAWING No. 2E-54 AND 2F-95 FROM THE CITY OF GUELPH

STORM: BASED ON LOCATION OF MANHOLES AND SERVICE DRAWING No. 2E-54 AND 2F-95 FROM THE CITY OF GUELPH

WATER: BASED DRAWING No. 2E-54 AND 2F-95 FROM THE CITY OF GUELPH

PROPOSED ELEVATIONS DETACHED DWELLING

		PARCEL 1	PARCEL 2	PARCEL 3	PARCEL 4
TOP OF FOUNDATION	=	(322.87)	(322.87)	(322.58)	(322.58)
UNDERSIDE OF FOOTING	=	(320.02)	(320.02)	(319.73)	(319.73)
BASEMENT FLOOR	=	(320.28)	(320.28)	(319.99)	(319.99)
FINISHED FLOOR	=	(323.24)	(323.24)	(322.87)	(322.87)
GARAGE SLAB	=	(322.49)	(322.49)	(322.18)	(322.18)
GARAGE CUT	=	(0.38)	(0.38)	(0.40)	(0.40)

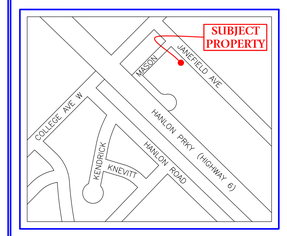
NOTES:

- ELEVATIONS BASED ON 8'-6" FOUNDATION WALL HEIGHT, 4" SLAB AND 6" FOOTINGS.
- BUILDER IS TO ENSURE ADEQUATE FROST PROTECTION FOR FOUNDATION.

PROPOSED ACCESSORY DWELLING UNIT

		PARCEL 1	PARCEL 2	PARCEL 3	PARCEL 4
FINISHED FLOOR	=	(322.70)	(322.70)	(322.70)	(322.70)

KEYMAP

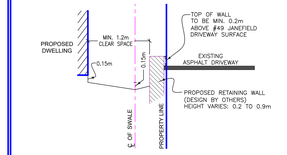


ZONING: RESIDENTIAL (R2)
(NEW SEMI-DETACHED DWELLINGS)

REQUIRED		PROPOSED
MINIMUM LOT AREA	= 230m²	466.9m²
MINIMUM LOT FRONTAGE	= 7.5m	8.333m
MINIMUM FRONT YARD	= 6.0m	6.12m
MINIMUM REAR YARD	= 7.5m	34.97m
MINIMUM INTERIOR SIDE YARD	= 1.2m	1.63m
MAXIMUM COVERAGE	= 40%	21.9%
MAXIMUM DRIVEWAY WIDTH	= 3.5m	5.0m (A)

ZONING REQUESTS:
(A) TO PERMIT A MAXIMUM DRIVEWAY WIDTH OF 5.0m VS. 3.5m REQUIRED IN SECTION 4.13.7.2.3

CROSS-SECTION A-A'
SCALE: 1:50



RETAINING WALL NOTES

- RETAINING WALLS DESIGNED BY OTHERS.
- RETAINING WALLS TO BE PROVIDED WITH GUARDS AS REQUIRED BY THE ONTARIO BUILDING CODE.
- RETAINING WALLS TO BE CONSTRUCTED ENTIRELY WITHIN THE SUBJECT PROPERTY. NO PORTION OF WALL / FOOTING / SUPPORTS TO ENCROACH ONTO #49 JANEFIELD.
- TOP OF WALL TO BE MINIMUM 0.20m ABOVE #49 JANEFIELD DRIVEWAY SURFACE.

SURVEY INFORMATION:

BENCHMARK REFERENCE:
ELEVATIONS ARE BASED ON GPS OBSERVATIONS FROM PERMANENT REFERENCE STATIONS IN THE NAD83 (CSRS-2010) COORDINATE SYSTEM, WITH HEIGHTS CONVERTED TO ORTHOMETRIC ELEVATIONS ON THE CGVD28 DATUM (1978 ADJUSTMENT) WITH GEOID MODEL HTv2.0, AS SUPPLIED BY NATURAL RESOURCES CANADA.

BENCHMARK:
1. NAIL IN SIDEWALK NEAR NORTH CORNER OF SUBJECT PROPERTY HAVING AN ELEVATION OF 322.72 METRES.

TOPOGRAPHIC SURVEY DATE:
THIS TOPOGRAPHIC SURVEY WAS COMPLETED ON THE 8th DAY OF SEPTEMBER, 2023.

SITE PLAN FOR:
#35 AND #41 JANEFIELD AVENUE
ALL OF LOT 4 & PART OF LOT 5
REGISTERED PLAN 435
CITY OF GUELPH
COUNTY OF WELLINGTON

PREPARED FOR: MEZCON CONSTRUCTION LTD.

PROJECT No. 31828-22 & 32565-23

DRAWING SCALE 1 : 100
0 1 2 5

THE INTENDED PLOT SIZE OF THIS PLAN IS 1219mm IN WIDTH BY 610mm IN HEIGHT. THE ORIGINAL VERSION OF THIS PLAN WAS CREATED IN COLOUR.

METRIC:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NO.	REVISION	BY	DATE

DRAWING REVISION SCHEDULE

CALL BEFORE YOU DIG

THE LOCATION OF SERVICES ON THIS DRAWING ARE ONLY APPROXIMATE AND BASED ON SURFACE FEATURES LOCATED AT THE TIME OF THE TOPOGRAPHIC SURVEY. PRIOR TO ANY CONSTRUCTION IT IS THE RESPONSIBILITY OF THE CONTRACTOR/BUILDER TO ENSURE THE EXACT LOCATION OF ALL UTILITIES.

Van Harten
LAND SURVEYORS - ENGINEERS

Kitchener/Waterloo Ph: 519-742-8371 | Guelph Ph: 519-821-2763 | Orangeville Ph: 519-940-4110

www.vanharten.com info@vanharten.com

DRAWN BY: S.A.P. / C.E. | DESIGNED BY: K.C. | CHECKED BY: K.C.

Oct 16, 2023-2:25:54 PM
G:\GUELPH\4351\acad\SITE SITESERV PT LOT 4&5 (31828-22 & 32565-23 MEZCON) UTM 2010.dwg

Appendix B – Traffic Information

Andy Kroess

From: Gwen Zhang <Gwen.Zhang@guelph.ca>
Sent: Tuesday, February 14, 2023 4:59 PM
To: Andy Kroess
Cc: Munshif Muccaram; Shophan Daniel
Subject: RE: 27 Janefield Ave, Traffic Data

Hi Andy,

We only have traffic data from 2016 ATRs and 2018 TMCs for College Avenue between Highway 6 and Janefield Avenue. In general, these pre-COVID traffic volumes are higher than those post-COVID. Based on these two sets of data, the AADT was estimated at approximately 10,360 vpd.

We suggest using a 2% annual growth rate that is in line with City's population growth.

The posted speed limit on College Avenue will remain at 50 km/h until mid-2024.

If you have more recent traffic data from MTO, we suggest you obtain the percentages for medium and heavy trucks on College Avenue. Alternatively you can purchase the 2016 ATRs from the city by email traffic@guelph.ca.

If you have any questions, please contact us.

Regards,

Gwen Zhang, M.Sc., P.Eng (she/her), Transportation Planning Engineer
Engineering and Transportation Services
T 519-822-1260 x 2638
E gwen.zhang@guelph.ca

From: Andy Kroess <Andy.Kroess@IBIGroup.com>
Sent: February 10, 2023 2:02 PM
To: Shophan Daniel <Shophan.Daniel@guelph.ca>
Subject: 27 Janefield Ave, Traffic Data

Hello Shophan,

I will be preparing an environmental noise report for the property located at 27 Janefield Ave as per the attached meeting notes.

Are you able to provide traffic data for College Ave. W.?

- AADT
- % medium trucks
- % heavy trucks

- Annual growth rate
- Posted speed limit

I will need to include this road along with the Hanlon for the assessment.

I have obtained Hanlon data from the MTO.

Thank you.

Andy Kroess M ENG P ENG

Senior Water Resources Engineer

410 Albert Street, Suite 101
Waterloo ON N2L 3V3 Canada
tel +1 519 585 2255 ext 63203

College Ave W @ Janefield Ave

Total Count Diagram

Municipality: Guelph
Site #: 0000000001
Intersection: College Ave W & Janefield Ave
TFR File #: 1
Count date: 13-Jun-2018

Weather conditions:
Sunny

Person(s) who counted:
Mark

**** Signalized Intersection ****

Major Road: College Ave W runs W/E

North Leg Total:	1324
North Entering:	849
North Peds:	21
Peds Cross:	⋈

Cyclists	0	1	0	1
Trucks	16	0	1	17
Cars	250	64	517	831
Totals	266	65	518	

Cyclists	2
Trucks	16
Cars	457
Totals	475

East Leg Total:	6093
East Entering:	2790
East Peds:	41
Peds Cross:	⧖

Cyclists	Trucks	Cars	Totals
5	70	2862	2937

Centennial Rd

Cars	Trucks	Cyclists	Totals
115	1	0	116
2373	36	4	2413
233	28	0	261
2721	65	4	

College Ave W

N
W E
S

Cyclists	Trucks	Cars	Totals
1	8	122	131
8	49	2376	2433
0	7	598	605
9	64	3096	

College Ave W

Cars	Trucks	Cyclists	Totals
3230	65	8	3303

Janefield Ave

Peds Cross:	⧖
West Peds:	37
West Entering:	3169
West Leg Total:	6106

Cars	895			
Trucks	35			
Cyclists	1			
Totals	931			

Cars	239	220	337	796
Trucks	18	7	15	40
Cyclists	1	1	0	2
Totals	258	228	352	

Peds Cross:	⋈
South Peds:	18
South Entering:	838
South Leg Total:	1769

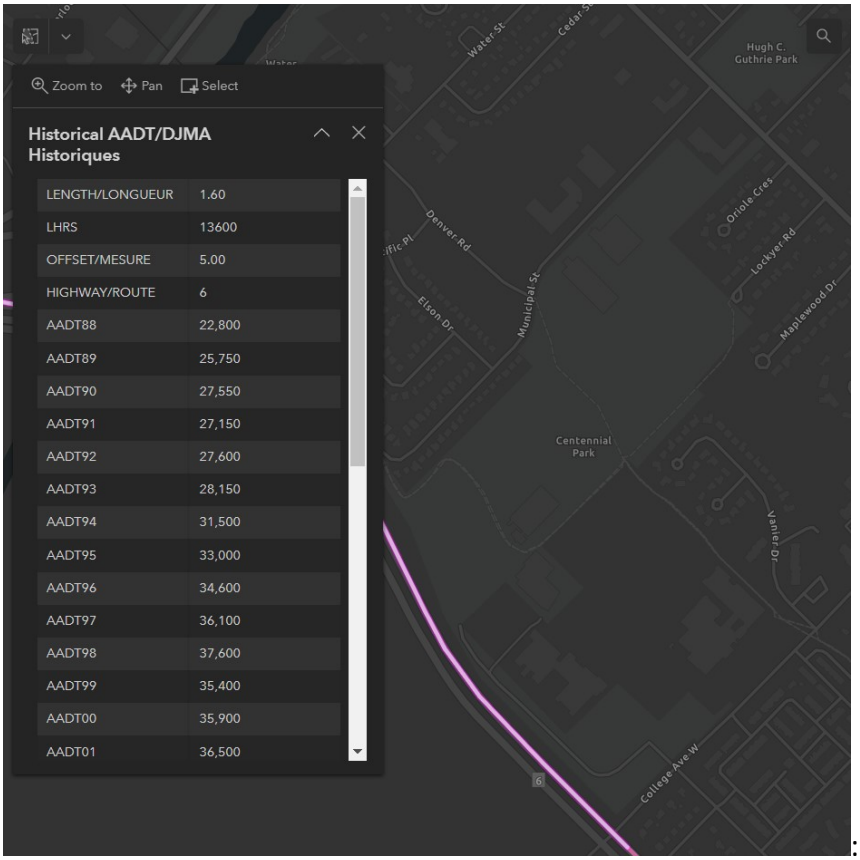
Comments

Total Traffic = 2937 + 3303 = 6240
Total Trucks = 70 + 65 = 135
Trucks = 2.2%
Assume 1.1% Medium, 1.1% Heavy

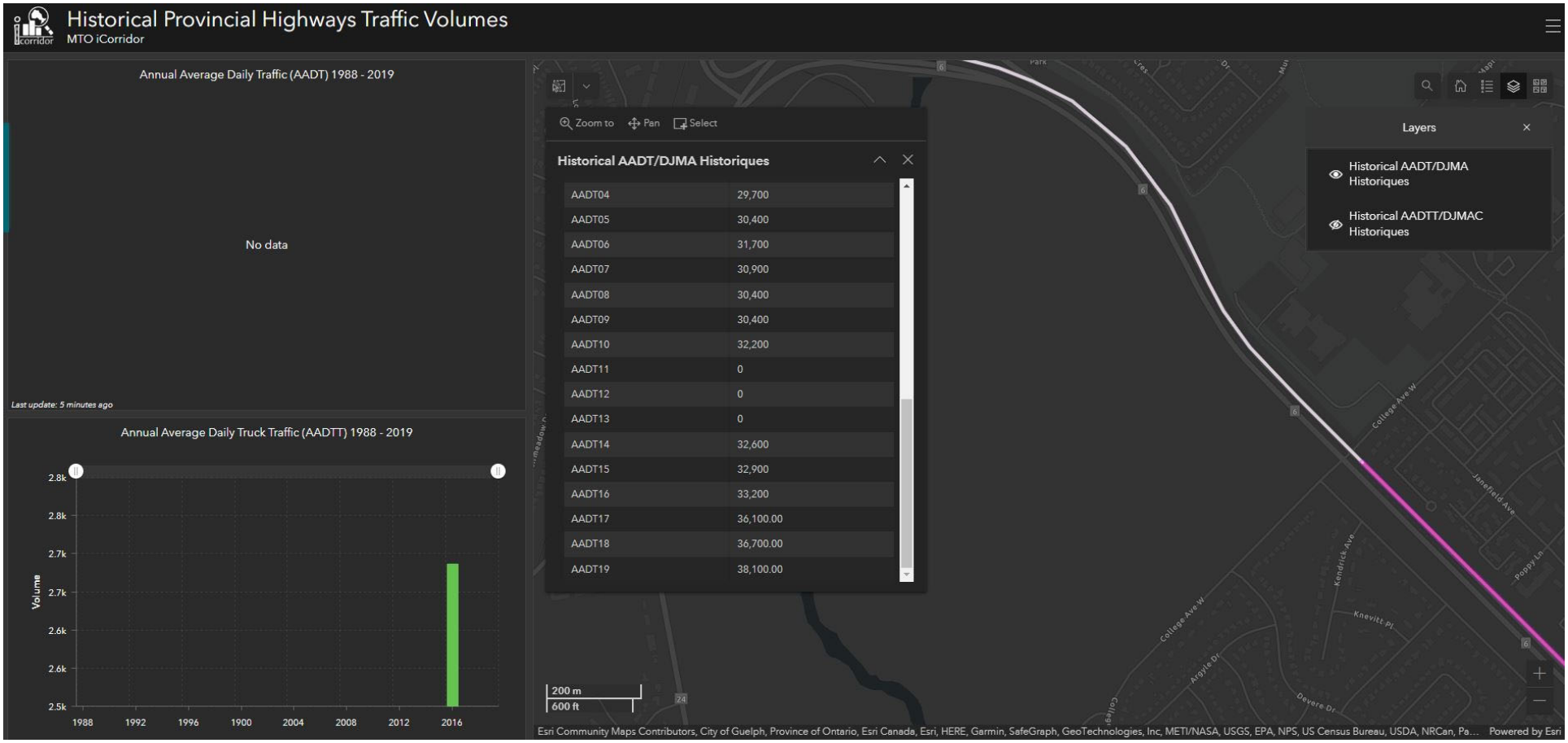
Andy Kroess

From: iCorridor (MTO) <iCorridor@ontario.ca>
Sent: Friday, February 10, 2023 9:03 AM
To: Andy Kroess
Subject: Re: AADT Data Request - Highway 6

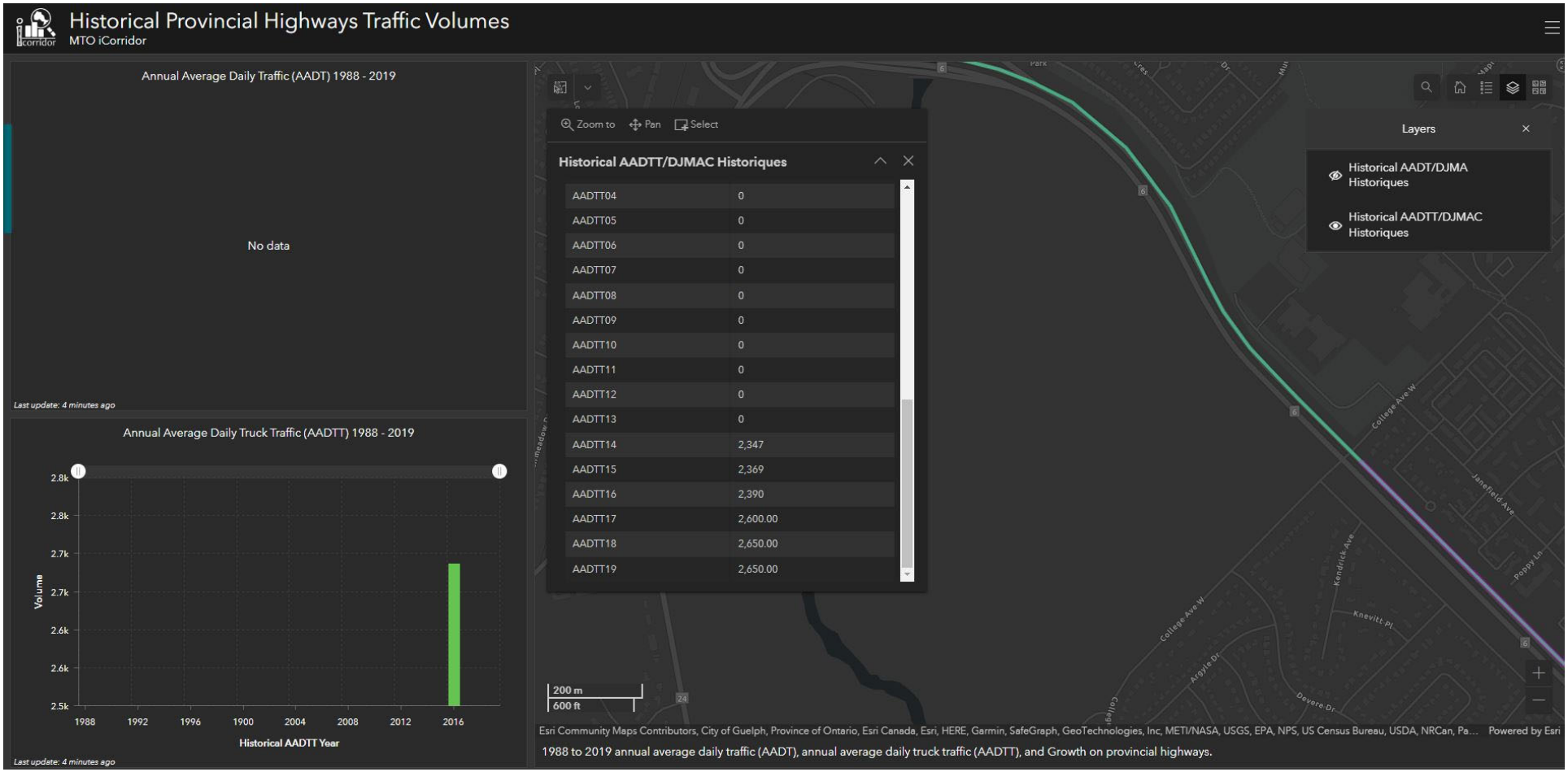
You can get some of what you are looking for on the public facing map tool here, by zooming to your location and clicking on the selected features. We have AADT and AADTT (trucks) but no medium vs. heavy. Speed limit you can get lots of publicly available sources.



[Historical Provincial Highways Traffic Volumes | MTO iCorridor (arcgis.com)]



2019 AADT = 38,100



2019 AADT = 38,100
2019 AADTT = 2,650

% Trucks = 2,650/38,100 = 7.0%
Assume 3.5% Medium,, 3.5% Heavy

Appendix C – STAMSON Output

FREE-FIELDS

STAMSON 5.0 NORMAL REPORT
Date: 07-03-2023 10:19:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: HANFF.te Time Period: Day/Night 16/8 hours
Description: Hanlon Parkway - Free Fields Daytime/Nighttime

Road data, segment # 1: Hanlon Pkwy (day/night)

Car traffic volume : 34213/17104 veh/TimePeriod *
Medium truck volume : 1288/644 veh/TimePeriod *
Heavy truck volume : 1288/644 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38100
Percentage of Annual Growth : 2.50
Number of Years of Growth : 15.00
Medium Truck % of Total Volume : 3.50
Heavy Truck % of Total Volume : 3.50
Day (16 hrs) % of Total Volume : 66.67

Data for Segment # 1: Hanlon Pkwy (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 47.44 / 107.36 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hanlon Pkwy (day)

Source height = 1.37 m

ROAD (0.00 + 65.00 + 0.00) = 65.00 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.66 74.76 0.00 -8.30 -1.46 0.00 0.00 0.00 65.00

Segment Leq : 65.00 dBA

Total Leq All Segments: 65.00 dBA

Results segment # 1: Hanlon Pkwy (night)

Source height = 1.37 m

ROAD (0.00 + 60.00 + 0.00) = 60.00 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.57 74.76 0.00 -13.45 -1.31 0.00 0.00 0.00 60.00

Segment Leq : 60.00 dBA

Total Leq All Segments: 60.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.00
(NIGHT): 60.00

STAMSON 5.0 NORMAL REPORT
Date: 07-03-2023 10:20:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: COLLFF.te Time Period: Day/Night 16/8 hours
Description: College Ave. W. - Free Fields Daytime/Nighttime

Road data, segment # 1: College Ave (day/night)

Car traffic volume : 12518/1391 veh/TimePeriod *
Medium truck volume : 141/16 veh/TimePeriod *
Heavy truck volume : 141/16 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 10360
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 1.10
Heavy Truck % of Total Volume : 1.10
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: College Ave (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 21.78 / 37.68 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: College Ave (day)

Source height = 1.02 m

ROAD (0.00 + 60.00 + 0.00) = 60.00 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.66 64.15 0.00 -2.69 -1.46 0.00 0.00 0.00 60.00

Segment Leq : 60.00 dBA

Total Leq All Segments: 60.00 dBA

Results segment # 1: College Ave (night)

Source height = 1.03 m

ROAD (0.00 + 50.00 + 0.00) = 50.00 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.58 57.66 0.00 -6.34 -1.33 0.00 0.00 0.00 50.00

Segment Leq : 50.00 dBA

Total Leq All Segments: 50.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.00
(NIGHT): 50.00

RECEIVERS

STAMSON 5.0 NORMAL REPORT
Date: 19-10-2023 11:08:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: reca.te Time Period: Day/Night 16/8 hours
Description: Receiver A - Daytime & Nighttime Noise

Road data, segment # 1: Hanlon Pkwy (day/night)

Car traffic volume : 34213/17104 veh/TimePeriod *
Medium truck volume : 1288/644 veh/TimePeriod *
Heavy truck volume : 1288/644 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38100
Percentage of Annual Growth : 2.50
Number of Years of Growth : 15.00
Medium Truck % of Total Volume : 3.50
Heavy Truck % of Total Volume : 3.50
Day (16 hrs) % of Total Volume : 66.67

Data for Segment # 1: Hanlon Pkwy (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 87.22 / 87.22 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hanlon Pkwy (day)

Source height = 1.37 m

ROAD (0.00 + 54.85 + 0.00) = 54.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.76	0.00	-12.69	-1.46	0.00	-5.76	0.00	54.85

Segment Leq : 54.85 dBA

Total Leq All Segments: 54.85 dBA

Results segment # 1: Hanlon Pkwy (night)

Source height = 1.37 m

ROAD (0.00 + 54.85 + 0.00) = 54.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.76	0.00	-12.69	-1.46	0.00	-5.76	0.00	54.85

Segment Leq : 54.85 dBA

Total Leq All Segments: 54.85 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.85
(NIGHT): 54.85

STAMSON 5.0 NORMAL REPORT
Date: 19-10-2023 11:08:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: recb.te Time Period: Day/Night 16/8 hours
Description: Receiver B - Daytime Noise

Road data, segment # 1: Hanlon Pkwy (day/night)

Car traffic volume : 34213/17104 veh/TimePeriod *
Medium truck volume : 1288/644 veh/TimePeriod *
Heavy truck volume : 1288/644 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38100
Percentage of Annual Growth : 2.50
Number of Years of Growth : 15.00
Medium Truck % of Total Volume : 3.50
Heavy Truck % of Total Volume : 3.50
Day (16 hrs) % of Total Volume : 66.67

Data for Segment # 1: Hanlon Pkwy (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 118.84 / 118.84 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hanlon Pkwy (day)

Source height = 1.37 m

ROAD (0.00 + 52.77 + 0.00) = 52.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.76	0.00	-14.92	-1.46	0.00	-5.61	0.00	52.77

Segment Leq : 52.77 dBA

Total Leq All Segments: 52.77 dBA

Results segment # 1: Hanlon Pkwy (night)

Source height = 1.37 m

ROAD (0.00 + 52.77 + 0.00) = 52.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.76	0.00	-14.92	-1.46	0.00	-5.61	0.00	52.77

Segment Leq : 52.77 dBA

Total Leq All Segments: 52.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.77
(NIGHT): 52.77

STAMSON 5.0 NORMAL REPORT
Date: 19-10-2023 11:08:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: recc.te Time Period: Day/Night 16/8 hours
Description: Receiver C - Daytime & Nighttime Noise

Road data, segment # 1: Hanlon Pkwy (day/night)

Car traffic volume : 34213/17104 veh/TimePeriod *
Medium truck volume : 1288/644 veh/TimePeriod *
Heavy truck volume : 1288/644 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38100
Percentage of Annual Growth : 2.50
Number of Years of Growth : 15.00
Medium Truck % of Total Volume : 3.50
Heavy Truck % of Total Volume : 3.50
Day (16 hrs) % of Total Volume : 66.67

Data for Segment # 1: Hanlon Pkwy (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 121.84 / 121.84 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hanlon Pkwy (day)

Source height = 1.37 m

ROAD (0.00 + 53.54 + 0.00) = 53.54 dBA

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.57 74.76 0.00 -14.32 -1.31 0.00 -5.60 0.00 53.54

Segment Leq : 53.54 dBA

Total Leq All Segments: 53.54 dBA

Results segment # 1: Hanlon Pkwy (night)

Source height = 1.37 m

ROAD (0.00 + 53.53 + 0.00) = 53.53 dBA

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 90 0.57 74.76 0.00 -14.32 -1.31 0.00 -5.60 0.00 53.53

Segment Leq : 53.53 dBA

Total Leq All Segments: 53.53 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.54
(NIGHT): 53.53