

Noise and Vibration Impact Study

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1.0 Introduction

At the request of 925 Main Street West (Hamilton) Ltd. (Client), Thornton Tomasetti (TT) presents this Noise and Vibration Impact Study (NVIS) regarding the planned development located at 925 Main Street West in Hamilton, ON (the Project).

This report is an update to the NVIS issued by TT on December 13, 2024, and reflects the changes in the height of the development, outdoor amenity areas, traffic volume forecasts, and accommodates the changes in the building footprint.

The purpose of this study is to assess the noise and vibration impacts on the Project from surrounding sources and the noise impact of the Project on surrounding noise sensitive areas. This report is intended to support the Official Plan Amendment and Zoning By-law Amendment (OPA/ZBA) application for the Project as a feasibility study.

Where applicable, this report will provide noise control recommendations to meet the requirements of the relevant Land Use Planning Authority (LUPA). LUPAs generally adopt the noise criteria developed by the Ontario Ministry of the Environment, Conservation and Parks (MECP), but may also have unique requirements.

Where predicted noise impacts are lower than applicable action thresholds identified, the project should be designed to meet the Ontario Building Code (OBC) as a minimum standard.

2.0 Site and Surrounding Area

2.1 Project Location

The Project is located on the southwest corner of the intersection of Main Street West and Longwood Road South.

The Project is bordered on the north and west by residential land uses. The Project is bordered on the east by commercial land uses. The Project is bordered on the south by open spaces. The broader neighborhood includes more residential uses to the north of the Project, and research and development institutional uses to the south of the Project. The Project is located approximately 100m north of the Ontario Highway 403 and 650m northeast of the CPR Aberdeen Freight railway.

TT understands that the Hamilton LRT is also planned to run along Main Street West at the center of the roadway in the vicinity of the Project. Additionally, a spur line coming off the main corridor towards Longwood Road connects the main line to a planned Operations, Maintenance and Storage Facility (OMSF) that is located south of Frid Street and Chatham Street. As the LRT system is not yet built, TT has referred to the following documents published by the City of Hamilton when analyzing the noise and vibration of impact of the LRT project to the Project.

- *Noise and Vibration Impact Assessment, Proposed Light Rail Transit System, City of Hamilton*, prepared by J.E. Coulter Associates Limited, dated August 2, 2011.

- *Detailed Vibration Impact Assessment, Proposed B-Line Light Rail Transit System, City of Hamilton*, prepared by J.E. Coulter Associates Limited, dated March 19, 2013.
- *City of Hamilton and Metrolinx, Hamilton Light Rail Transit (LRT), Environmental Project Report (EPR) Addendum, Appendix C-9: Noise and Vibration Report*, prepared by J.E. Coulter Associates Limited, dated July 17, 2017.

An illustration of the project location and surrounding area is provided in Figure 1.

2.2 Zoning & Official Plan

The Project site is zoned as TOC1 “Transit Oriented Corridor Mixed Use Medium Density” under the City of Hamilton Zoning By-Law No. 05-200, and is designated as “Mixed Use – Medium Density” under the City of Hamilton’s Official Plan. Surrounding areas are zoned for more residential and mixed use areas.

Based on Open Hamilton Development Applications website, TT understands that no other significant developments or redevelopments are planned in the surrounding area that could potentially introduce new surrounding noise sources or receptors that might impact or be impacted by the development.

A zoning map is presented in Figure 2.

2.3 Planned Development

The Project will consist of a new mixed use apartment building, comprised of two towers. The east tower will have 29 stories while the west tower will have 26 stories, and has a maximum height of approximately 99m. A connecting bridge connects the two towers and the building will include ground floor commercial spaces. The Project is expected to include two standby power generators on the rooftops and centralized heating, ventilation and air conditioning (HVAC) systems.

The proposed plan is provided in Figure 3.

2.4 Site Inspection

TT personnel attended the Project site on June 6, 2023 in order to inspect the acoustical environment in the area around the Project.

Transportation noise at the Project site was observed to be dominated by traffic noise from the nearby Main Street West and the Ontario Highway 403. Transportation noise from adjacent roadways and the planned Hamilton LRT is discussed in Section 5.0 of this report.

No other individual stationary noise sources on surrounding properties were distinguishable from the Project site, but an inspection of publicly accessible areas of the surrounding neighborhood did identify potentially significant stationary noise sources (roof top HVAC units, etc.) as well as stationary noise from the planned OMSF of the Hamilton LRT. Stationary noise sources are discussed in Section 6.0 of this report.

2.1 Topography

Based on the observed and/or reported conditions on and around the Project site, the local topography is expected to be approximately flat. A reference elevation of 96m was used for modelling in this report, based on the elevation drawings (drawings 2.40 and 2.41), dated November 13, 2025, prepared by KNYMH Inc., and provided to TT by the Client.

3.0 Ministry of the Environment Conservation and Parks

The MECP does not have direct authority in approving land use planning decisions, but their guidance documents have been widely adopted by LUPAs. The MECP's *Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning* (NPC-300) provides province wide guidance regarding assessment standards and criteria for evaluating noise impacts from transportation sources such as roads, railways and aircraft; as well as stationary sources such as mechanical equipment, and industrial facilities. In preparing this report, TT has referred to *Part A Background* and *Part C Land Use Planning* of NPC-300.

This NIS report has been prepared to support land use planning decisions, and is not intended to support an application for an Environmental Compliance Approval (ECA) in accordance with *Part B Stationary Sources* of NPC-300, and Section 9 of the Environmental Protection Act.

4.0 Land Use Planning Authority

In addition to adopting the MECP's recommended standards and criteria, some LUPAs impose additional requirements on applications for development approval. The LUPA for this Project is the City of Hamilton which generally defers to the MECP's guidelines as documented in NPC-300.

5.0 Transportation Noise Assessment

5.1 Critical Transportation Noise Receptors

NPC-300 defines a point of reception for the assessment of transportation noise sources as either the Plane of Window (POW) of a noise sensitive indoor space or an Outdoor Living Area (OLA) representing an area of a noise sensitive land use intended for quiet enjoyment of the outdoor environment.

The POW receptor(s) most likely to be affected by transportation noise are those representing the residential suites of the Project that have maximum exposure to Main Street West, Longwood Road South, and the Ontario Highway 403. Specifically, POW receptors were assessed for the most north, south, east and west façades of the planned structure, at the highest elevation with windows.

Based on provided plans of the Project, TT understands that one potential OLA will be present, which is the Level 7 Rooftop Amenity. This OLA has been assessed. There are other terraces, and individual suites will have balconies, however because these are less than 4m in depth they have not been considered as OLAs.

The elevation of relevant floor levels of the Project is summarized in Table 1.

Table 1: Construction Elevations

Floor Level	Elevation (m)	Floor Height (m)	Midpoint Height (m)
1	99.5	3.5	-
5	114.15	18.15	19.95
6	117.75	21.75	23.55
7	121.35	25.35	-
26	179.3	83.3	84.83
29	188.45	92.45	94.25
Roof (W)	182.9	86.9	-
Roof (E)	192.05	96.05	-

The locations of the critical receptors for transportation noise are summarized in Table 2 and shown in Figure 4. POW elevations were taken to be the midpoint height of the highest floor with windows, and the OLA elevation was taken to be 1.5m above Level 7. TT understands that a 1.5 m tall parapet is included in the design, surrounding the perimeter of the Level 7 Rooftop Amenity.

Table 2: Points of Reception – Transportation Noise

Receptor ID	Receptor Description	Receptor Location
POW1	East façade, highest window (east tower)	Façade centre, 94.25m above ground
POW2	South façade, highest window (east tower)	Façade centre, 94.25m above ground
POW3	West façade, highest window (east tower)	Façade centre, 84.83m above ground
POW4	North façade, highest window (west tower)	Façade centre, 94.25m above ground
POW5	North façade, highest window (Level 6 podium)	Façade centre, 23.55m above ground
POW6	East façade, highest window (Level 5 podium)	Façade centre, 19.95m above ground
OLA1	Level 7 Rooftop Amenity	Centre, 26.85m above ground

5.2 Transportation Noise Sources

5.2.1 Road Noise Sources

Main Street West (adjacent to the north), Longwood Road South (adjacent to the east), and the Ontario Highway 403 (~100m to the south) represent the significant road noise sources for the Project.

Traffic data for Main Street West and Longwood Road was obtained from the City of Hamilton's Transportation Operations & Maintenance department which provided peak traffic volumes (AM and PM) and corresponding vehicle class percentages. Note that the closest traffic counts for Longwood Road is between Devon Place and Dufferin Street (located further north of the project) and was used in the absence of adjacent road traffic data.

Traffic data for the Ontario Highway 403 at the Main Street Interchange in Hamilton was obtained from the *Provincial Highways Traffic Volumes 1988 - 2021* document published by Ontario's Ministry of Transportation (MTO). Truck volumes for the highway were obtained from the same document (Truck AADT column).

Road traffic data is presented in Appendix B.

For Main Street West and Longwood Road South, the highest hourly volumes of vehicles recorded in the data were identified and converted to AADT values by adding the highest AM and PM peak hour volumes (of the three-day recordings) together and multiplying by 5. AADT estimates are summarized in Table 3.

Table 3: Traffic Data Summary

Street	Section	Time Period	Vehicle	
			Year	Volume
Longwood Road South	South of Main Street West	AM Peak	2022	207
		PM Peak	2022	237
		Daily	2022	2220
Main Street West	West of Longwood Road South	AM Peak	2017	3042
		PM Peak	2017	3448
		Daily	2017	32450

The total Annual Average Daily Traffic (AADT) was projected forward to 2038 (10 years after expected completion) using a growth rate of 2% per year from the noted year of measurement.

The traffic data from the City of Hamilton provides vehicle volume percentages based on vehicle length. Medium trucks were assumed to be between 8.5m to 12.9m, while heavy trucks were assumed to be greater than 13m.

Posted speed limits on the Ontario Highway 403, Main Street West, and Longwood Road South are 90, 50 and 40 km/h, respectively. Road grades were assumed to be 0% in the area under review. The day/night split was assumed to be 90%/10%.

The Ontario Highway 403 eastbound and westbound roads were considered separately and each assigned half of the AADT. Moreover, because Main Street West is more than four lanes, it was also split into two separate roads each of which was assigned half of the AADT.

The traffic data used in the sound level calculations is summarized in Table 4.

Table 4: Road Traffic Data Summary

Parameter	Highway 403 (Eastbound)	Highway 403 (Westbound)	Main Street W (Eastbound)	Main Street W (Westbound)	Longwood Rd S
AADT	58,500 (2021)	58,500 (2021)	16,225 (2022)	16,225 (2022)	2,220 (2017)
% Annual Growth	2%	2%	2%	2%	2%
Years of Annual Growth	17	17	16	16	21
% Medium Trucks	15%	15%	2.2%	2.2%	13.6%
% Heavy Trucks	5%	5%	2.0%	2.0%	6.6%
% Day (16h) / Night (8h)	90% / 10%	90% / 10%	90% / 10%	90% / 10%	90% / 10%
Speed Limit	90 km/h	90 km/h	50 km/h	50 km/h	40 km/h
Gradient	0%	0%	0%	0%	0%

5.2.2 Rail Noise Sources

No rail lines located within 300m of the Project have been identified. However, the planned Hamilton LRT and the associated OMSF are expected to impact the Project when it is completed and in operation.

Two LRT operation noise sources have been analyzed in this report: The first source is the B-line corridor operation noise source which is located directly north of the Project running through the center of the Main Street West. The other source is the spur line that connects the B-line to the OMSF along Longwood Road per the 2017 *Environmental Project Report (EPR) Addendum*.

Traffic volumes for the B-line corridor were obtained from the 2011 *Noise and Vibration Impact Assessment* (B-Line NVIA) which lists the 2021 predicted LRT traffic volumes.

The traffic volumes for the spur line connecting to the OMSF were obtained from the 2017 *Environmental Project Report (EPR) Addendum*. The EPR report mentions that there will be a planned maximum of 25 LRVs being serviced at the OMSF daily. However, the report also provides approximate vehicle movements (LRVs Exiting and LRVs Returning) through the OMSF site throughout the day at certain hours with a total of 36 LRV movements per day. TT has assessed the spur line traffic noise assuming that the 36 daily movements were assigned to the daytime and nighttime hours as per the timetable provided on the report.

These volumes were assumed to be traffic volumes at the Project completion date of 2031 and were Projected to 2038 with a 2.5% growth rate for rail sources. A 60km/h speed limit was assumed for the LRTs.

Both the B-Line NVIA and the EPR modeled each LRT movement as 2 medium truck movements, therefore TT has made the same assumption.

Table 5: Predicted LRT Traffic Volumes

Parameter	Hamilton B-Line LRT	OMSF Spur Line
Train Type	2x Medium Truck	2x Medium Truck
Day Volumes (07:00 - 23:00)	377	18
Night Volumes (23:00 - 07:00)	72	18

5.3 Transportation Sound Level Limits

5.3.1 Outdoor Living Areas

Impacts to OLAs from road traffic are assessed against a 16-hour daytime (07:00 – 23:00) equivalent sound pressure level (L_{eq}) reported in dBA. The MECP outdoor sound level limits and the sliding scale of required noise reduction measures for road noise at OLAs are listed in Table 6.

Table 6: MECP Outdoor Sound Level Limit & Mitigation for OLAs – Road Traffic

Category	Sound Level $L_{eq,16hr}$ (dBA)	Mitigation Measures	NPC-300 Warning Clause Required
Outdoor Limit	55	None	None
OLA Mitigation	56 - 60	Optional	Type A unless sound level

Category	Sound Level $L_{eq,16hr}$ (dBA)	Mitigation Measures	NPC-300 Warning Clause Required
Threshold			brought below 55 dBA
OLA Mitigation Threshold	>60	Required to achieve sound level below 60 dBA	Type B unless sound level brought below 55 dBA

5.3.2 Indoor Living Areas

Impacts to indoor living areas are assessed against a 16-hour daytime (07:00 – 23:00) and 8-hour nighttime (23:00 – 07:00) equivalent sound pressure level (L_{eq}) reported in dBA, at the relevant POW receptors.

Requirements for ventilation and warning clauses to address transportation noise impacts to the project Façades are determined based on the impact of road transportation sources. The applicable POW sound level limits and the sliding scale of required ventilation measures and warning clauses are listed in Table 7.

Table 7: POW Sound Level Limit: Ventilation & Warning Clauses – Road Traffic

Category	Daytime $L_{eq,16hr}$ (dBA)	Nighttime $L_{eq,8hr}$ (dBA)	Mitigation Measures	NPC-300 Warning Clause Required
POW Limit	55	50	None	None
POW Mitigation Threshold Living & Bedrooms	56 - 65	51 – 60	Include forced air heating and provision for central air conditioning	Type C
POW Mitigation Threshold Living & Bedrooms	>65	>60	Include central air conditioning	Type D

Requirements for building construction to address transportation noise impacts to indoor sound levels are determined independently for road and rail noise, with the resulting requirements then being combined logarithmically. The applicable indoor and POW sound level limits and required noise reduction measures for road noise in the indoor environment are listed in Table 8.

Table 8: Indoor Sound Level Limit: Construction Requirements – Road Traffic

Category	Daytime $L_{eq,16hr}$ (dBA)	Nighttime $L_{eq,8hr}$ (dBA)	Total $L_{eq,24hr}$ (dBA)	Mitigation Measures
Road Sound Level Indoor Limit Living Rooms / Bedrooms	45 / 45	45 / 40	-	Not Applicable
Road POW Sound Level Living & Bedrooms	>65	>60	-	Design building components to achieve indoor sound level limit

5.4 Transportation Sound Level Predictions

The predicted noise impacts described below are based on the conditions identified in current drawings and information provided to TT at the time of this report and include any barriers, or other measures currently planned for the Project, but do not include additional noise measures identified in Section 5.5 of this report.

5.4.1 Unmitigated Road & Rail Traffic

Calculations of road & rail traffic sound levels were performed using STAMSON 5.04, the software implementation of the MECP ORNAMENT model, which was developed and published by the MECP for transportation noise prediction. Only daytime sound levels are considered for outdoor amenity areas. The calculated sound levels at the receptors are presented in Table 9.

Table 9: Calculated Sound Levels due to Road Sources

POR ID	Predicted Transportation Sound Levels (dBA)					
	Daytime (07:00–23:00) $L_{eq,16hr}$			Nighttime (23:00–07:00) $L_{eq,8hr}$		
	Road	Rail	Combined	Road	Rail	Combined
POW1	74	60	74	67	56	68
POW2	76	42	76	70	45	70
POW3	72	56	72	65	52	65
POW4	69	61	69	62	57	63
POW5	69	62	70	63	57	64
POW6	74	56	74	67	53	68
OLA1	60	41	60	-	-	-

The STAMSON calculation outputs for the traffic noise predictions are attached in Appendix C.

5.5 Transportation Noise Control Recommendations

Noise control recommendations for the identified critical receptors and the corresponding noise sensitive land uses that they represent in the proposed redevelopment are summarized in Table 10 and Figure 6 and discussed in the subsequent sections.

Table 10: Transportation Noise Control Measures Summary

POR ID	Noise Barrier	Ventilation	Warning Clause	Building Components
POW1	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
POW2	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
POW3	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
POW4	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
POW5	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
POW6	N/A	Central Air Conditioning	Type D	Designed to achieve indoor sound level criteria
OLA1	Optional	N/A	Type A*	N/A

*Unless mitigation (barrier) is installed to reduce the sound level to 55 dBA or lower.

5.5.1 Outdoor Living Areas – Barriers

The sound level at the OLA associated with the Level 7 Rooftop Amenity is expected to be greater than 55 dBA and equal to or lower than 60 dBA, and therefore it may be desirable to implement a noise barrier in order to reduce the sound level to 55 dBA or less at this OLA. NPC-300 requires either the implementation of such a barrier, or the inclusion of a Type A warning clause in applicable land title and/or development agreement documents. If noise mitigation for the OLA is implemented such that the sound levels in the OLA are expected to be 55 dBA or lower, no warning clause is required.

The proposed noise barrier height for the OLA is summarized in Table 11 and illustrated in Figure 6.

Table 11: OLA Barrier Specifications

Receptor ID	Mitigation Level	Predicted Sound Level $L_{eq}(16h, day)$ dBA
OLA1	Unmitigated	60
	Optional Barrier: South terrace perimeter, 3.5m above floor	55

NPC-300 indicates that typical noise barriers, if constructed, should have a minimum surface density (face weight) of 20 kg/m². Barriers should be structurally sound, appropriately designed to withstand wind and snow load, and constructed without cracks or surface gaps. Any gaps under the barrier that are necessary for drainage purposes should be minimized and localized, so that the acoustical performance of the barrier is maintained. To improve the visual characteristics of the barrier, transparent elements may be included, if they meet the above conditions.

5.5.2 Indoor Living Areas - Ventilation

Sensitive receptors along the all the façades of the Project are expected to face POW sound levels above 65 dBA during the 16-hour day (07:00 – 23:00) and/or 60 dBA during the 8-hour night (23:00 – 07:00) due to road noise, therefore central air conditioning will be required for all residential units.

TT understands that the Project plan includes central air conditioning for the entirety of the Project, therefore the above noted requirements are expected to be met.

5.5.3 Indoor Living Areas - Building Components

Sensitive receptors along all the façade of the Project are expected to face POW sound levels above 65 dBA during the 16-hour day (07:00 – 23:00) and/or 60 dBA during the 8-hour night (23:00 – 07:00) due to road noise, therefore building components on these façades must be designed to achieve the indoor sound level limit.

As the building design is at an early stage, the construction of the building envelope is not yet confirmed. Table 12 shows TT's estimation of the maximum exterior wall, fixed window, and operable window component areas as a percentage of the floor area of a typical room and the minimum recommended STC requirement of each component. If a component with a higher STC rating than the noted requirement is used, then the maximum allowable area of that component may increase, and if a component occupies a smaller area the STC rating required may decrease.

Table 12: Building Envelope Requirements

Component	Maximum Component Area as Percentage of Floor Area	STC Required
Sensitive Spaces Along the South Façades of the Project		
Solid Exterior	100%	45
Fixed Glazing	50%	41
Operable Glazing	50%	41
Sensitive Spaces Along the East Facades of the Project		
Solid Exterior	100%	43
Fixed Glazing	50%	39
Operable Glazing	50%	39
Sensitive Spaces Along the West Facades of the Project		
Solid Exterior	100%	41
Fixed Glazing	50%	37
Operable Glazing	50%	37
Sensitive Spaces Along the North Facades of the Project		
Solid Exterior	100%	39
Fixed Glazing	50%	35
Operable Glazing	50%	35

Note that these building components are required only for exterior walls of sensitive spaces, such as bedrooms and living rooms. The remaining façades of the Project must meet minimum OBC requirements for the glazing and exterior wall constructions.

5.5.4 Example Constructions

Unless otherwise specified, all building components must meet the minimum construction requirements set out in OBC. Examples of building components that are expected to meet the identified STC requirements above are as follows. Example constructions are based on *Building Research Note No. 148* (BRN-148) published by the National Research Council of Canada in 1980 and are provided for reference only. Installed performance should be confirmed with material suppliers and/or as part of an architectural acoustics report.

Exterior wall

For exterior walls, the following construction(s) are recommended in order to meet the identified STC requirements:

- South façades, solid exterior (BRN-148: EW4 - STC 46):
- 12.7mm gypsum board

- vapour barrier
- 38 x 89 mm studs
- 50 mm (or thicker) mineral wool or glass fibre batts
- Sheathing
- 20mm stucco
- East and west façades, solid exterior (BRN-148: EW3 - STC 43):
 - 12.7mm gypsum board
 - vapour barrier
 - 38 x 89 mm studs
 - 50 mm (or thicker) mineral wool or glass fibre batts
 - Sheathing
 - 38 x 89 mm studs
 - Sheathing
 - Asphalt roofing material
- North façades, solid exterior (BRN-148: EW1 - STC 38):
 - 12.7mm gypsum board
 - vapour barrier
 - 38 x 89 mm studs
 - 50 mm (or thicker) mineral wool or glass fibre batts
 - Sheathing
 - wood siding or metal siding and fibre backer board

Glazing

For fixed windows, the following glazing constructions are recommended in order to meet the identified STC requirements:

- South façades, inoperable window (STC 41):
6.35mm glass, 13mm airspace, 3mm glass, 1.5mm PVB, 3mm glass
- East façades, inoperable window (STC 39):
6.35mm glass, 13mm airspace, 3mm glass, 0.76mm PVB, 3mm glass
- West façades, inoperable window (STC 37):
6mm glass, 14mm airspace, 5mm glass
- North façades, inoperable window (STC 35):
6mm glass, 13mm airspace, 6mm glass

For operable windows, the following glazing constructions are recommended in order to meet the identified STC requirements:

- South façades, operable window (STC 41):
6.35mm glass, 13mm airspace, 3mm glass, 1.5mm PVB, 3mm glass
- East façades, operable window (STC 39):
6.35mm glass, 13mm airspace, 3mm glass, 0.76mm PVB, 3mm glass
- West façades, operable window (STC 37):
6mm glass, 14mm airspace, 5mm glass
- North façades, operable window (STC 35):
6mm glass, 13mm airspace, 6mm glass

These provided glazing constructions are noted for reference only – STC of installed components should be verified with the window manufacturer. Window frames may create flanking paths for noise and could reduce the STC rating of windows compared to the rating of glazing alone; manufacturer specifications for window performance should be based on testing of window constructions that are similar or equivalent to the planned installation. Window constructions with equivalent or greater STC values to the glazing recommendations above are expected to be acceptable.

5.5.5 Warning Clauses

The following examples of warning clause wordings are based on applicable guidance documents and TT's experience regarding common requests from stakeholders. Precise wordings may be modified by the Client with input from the relevant LUPA(s) and legal counsel if required.

The **Type A** warning clause is required to be included in the development agreements for the Project if one or more representative OLA receptors is predicted to be exposed to transportation sound pressure levels greater than 55 dBA and less than or equal to 60 dBA, and mitigations to reduce the sound level to 55 dBA or less are not provided. The Type A warning clause is as follows:

"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, Conservation and Parks."

The **Type D** warning clause is required to be included in the development agreements for specific dwelling units if one or more representative POW receptors is predicted to be exposed to transportation sound pressure levels greater than 65 dBA during the 16-hour day (07:00 – 23:00) or 60 dBA during the 8-hour night (23:00 – 07:00) and the Project includes central air conditioning. The Type D warning clause is as follows:

"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks."

6.0 Stationary Noise Assessment

6.1 Critical Stationary Noise Receptors

NPC-300 defines a point of reception for the assessment of stationary noise sources as any location on a noise sensitive land use where noise from a stationary source is received. This typically includes both points of reception on building façades, representing the plane-of-window of noise sensitive spaces (POR) and outdoor points of reception representing areas such as balconies, gardens, patios, and terraces (OPOR). These locations may be the same or different from the POW and OLA receptors identified as part of a transportation noise assessment.

6.1.1 Project Receptors

The project point of reception (PPOR) and project outdoor point of reception (POPOR) receptor(s) on the Project most likely to be affected by stationary noise sources are those representing the residential suites that have maximum exposure to stationary noise sources associated with the surrounding properties in each direction, and the project itself.

Similar to the transportation noise assessment, TT understands that a total of 3 potential POPORs will be present, including the Level 7 Rooftop Amenity. Each of these POPORs has been assessed. Individual suites will have balconies, however because these are less than 4m in depth they have not been considered as POPORs.

The locations of the critical receptors on the Project for stationary noise are summarized in Table 13 and shown in Figure 5. PPORs were assessed using a grid of receptors across the full façade, and POPORs were assessed at the most impacted point(s) within 30m of a building façade, 1.5m above ground/floor level.

Table 13: Project Points of Reception – Stationary Noise

Receptor ID	Receptor Description	Receptor Location
PPOR1	East façade	Building evaluation of full façade
PPOR2	South (and inner) façades	Building evaluation of full façade
PPOR3	West façade	Building evaluation of full façade
PPOR4	North façade	Building evaluation of full façade
POPOR1	Level 7 Outdoor Amenity	Centre, 1.5m above floor

6.1.2 Surrounding Receptors

The surrounding point of reception (SPOR) and surrounding outdoor point of reception (SOPOR) receptor(s) most likely to be affected by stationary noise from the Project include those associated with residential areas to the north and west of the Project, as well as the institutional area located northeast of the Project. Areas south and directly east of the project are commercial and office spaces and are therefore not considered to be noise sensitive.

The locations of the critical receptors in the surrounding area for stationary noise from the Project are summarized in Table 14, and shown in Figure 5. SPORs and SOPORs were assessed at the most impacted points associated with each cardinal direction.

Table 14: Surrounding Points of Reception – Stationary Noise

Receptor ID	Receptor Description	Receptor Location
SPOR1	Residential building west of Project	east façade, 981 Main St W
SPOR2	Residential building west of Project	east façade, 1001 Main St W
SPOR3	Institutional building northeast of Project	southwest façades, 700 Main St W
SPOR4	Residential area north of Project	2 nd floor (4.5m), south façade centre, 930 Main St W
SPOR5	Residential area west of Project	2 nd floor (4.5m), south façade centre, 980 Main St W

Receptor ID	Receptor Description	Receptor Location
SPOR6	Residential area west of Project	2 nd floor (4.5m), south façade centre, 998 Main St W
SOPOR1	Residential area north of Project	Pool area of 1001 Main St W, 1.5m above ground
SOPOR2	Residential area west of Project	Front yard of 930 Main St W, 1.5m above ground
SOPOR3	Residential area west of Project	Front yard of 980 Main St W, 1.5m above ground

6.2 Stationary Noise Sources

NPC-300 defines a stationary source of noise as one or more sources of sound that are normally operated within a given property. Stationary sources typically include mechanical equipment such as Heating, Ventilation and Air Conditioning (HVAC) equipment, standby power generators with routine testing, and heavy vehicle traffic (truck idling, driving, and loading).

Certain sources of noise, such as residential air conditioners, passenger automobile traffic in parking lots, or temporary noise such as that related to construction are not considered to be stationary sources in NPC-300 and are not assessed in this report. These sources are typically handled in a more qualitative fashion by applicable noise by-laws.

6.2.1 Project Sources

Due to the early stage of planning for the Project, detailed information regarding stationary noise sources at the project is not currently available. TT understands that major mechanical equipment will be housed inside the mechanical penthouse at the rooftop level. Outdoor mechanical equipment shall be designed to meet NPC-300 sound level limits for stationary noise sources at the surrounding receptors. Source sound power levels identified in this report are estimated and provided for preliminary planning purposes only, this information will need to be confirmed in a future revision or addendum to this report and may rise or fall.

Emergency generator noise sources associated with the Project were illustrated on a previous drawing provided by the Client. Table 15 and Figure 5 provide a summary of the generator sound power levels and location. Note that the locations assessed were assumptions in the absence of the generator locations in the most recent drawings.

The project will include two indoor truck loading docks. Truck noise emissions including driving along an anticipated path through the Project and idling at each loading dock for up to 5 min/hr were modelled. Loading is expected to occur inside the loading docks and is not expected to be a significant stationary source. Table 15 and Figure 5 provide a summary of the assumed sound power levels and conditions.

Table 15: Project Stationary Noise Sources

Source ID	Source Description	Source Location	Source Sound Pressure		Source Sound Power	Source Type	Notes & Assumptions
			dBA	@ m	dBA		
GEN01	Standby Generator	1.5m above roof (West tower)	79	7	108*	Emergency	Daytime only

Source ID	Source Description	Source Location	Source Sound Pressure		Source Sound Power	Source Type	Notes & Assumptions
			dBA	@ m	dBA		
GEN02	Standby Generator	1.5m above roof (East tower)	79	7	108*	Emergency	Daytime only
PTRID01 – 02	Truck idling	1.5m above ground	-	-	99	Steady	5 min/hr
PTRDR01	Truck driving	1.5m above ground	-	-	101	Steady	2 trucks/hr @ 10 km/hr

*Sound power level estimated based on manufacturer's specifications of sound pressure level at a distance, assuming 100% sphere propagation.

6.2.2 Surrounding Sources

Based on a review of satellite imagery and field inspection, exterior HVAC equipment have been identified in the area surrounding the project. Table 16 and Figure 5 provide a summary of the assumed surrounding stationary source data. Because TT was unable to inspect equipment installed on surrounding properties, the following assumptions have been made:

- Equipment with no visible fans was assumed to be heating only, and/or located in an acoustical enclosure, therefore noise impacts from this equipment are assumed to be negligible;
- "Small" HVAC equipment (1-2 visible fans) was assumed to have a sound power level of approximately 82 dBA (based on Carrier model 48HCD07)
- "Large" HVAC equipment (3-4 visible fans) was assumed to have a sound power level of approximately 85 dBA (3 dBA more than Carrier model 48HCD07)
- Chillers were assumed to have a sound power level of approximately 94 dBA (based on a McQuay AWS 190CDS Chiller)
- Railyard activities from the CPR Aberdeen Freight railyard were modelled using train idling and railyard activities based on TT's sound level and measurement database.

Table 16: Surrounding Stationary Noise Sources

Source ID	Source Description	Source Location	Source Sound Power	Source Type	Notes & Assumptions
			dBA		
HVAC01 – 02, HVAC07 – 10, HVAC13 – 14	"Small" HVAC units	Surrounding roof tops	82	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
HVAC03 – 06, HVAC11 – 12	"Large" HVAC units	Surrounding roof tops	85	Steady	60 min/hr (07:00 – 23:00)

Source ID	Source Description	Source Location	Source Sound Power	Source Type	Notes & Assumptions
			dBA		
					30 min/hr (23:00 – 07:00)
CH01 – CH02	Chiller	Surrounding roof tops	94	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
INS01 – 03	Train Idling	CP Aberdeen Railyard	106	Steady	30min/hr
SNS01	Railyard Activities	CP Aberdeen Railyard	106	Steady	60min/hr (Area Source)

*Sound power level estimated based on manufacturer's specifications of sound pressure level at a distance, assuming 100% sphere propagation.

Sound sources from the planned OMSF of the Hamilton LRT were analyzed in the 2017 *Environmental Project Report (EPR) Addendum*. These sources were provided as single number sound power levels only. Due to the early stage of the design, TT has assessed the impact of the OMSF using these sources at the most probable locations based on the site plan of the OMSF. The stationary noise sources and their sound levels are provided in Table 17 below:

Table 17: OMSF Equipment from the 2017 Environmental Project Report (EPR) Addendum

Source ID	Equipment Type	Quantity	Source Sound Power (dBA)	Source Type	Notes & Assumptions
AHU01 – 06	Air-Handling Unit	6	90	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
CT01	Cooling Tower	1	95	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
MUA01 – 02	Make-Up Air Unit	2	95	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
PBF01	Paint Booth Fan	1	85	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
EF01 – 10	Exhaust Fans	10	85	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)
DC01	Dust Collector Fans	1	110	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)

Source ID	Equipment Type	Quantity	Source Sound Power (dBA)	Source Type	Notes & Assumptions
CU01 – 02	Air-Conditioning Condensers	2	75	Steady	60 min/hr (07:00 – 23:00) 30 min/hr (23:00 – 07:00)

6.3 Project Area Classification

NPC-300 defines the applicable sound pressure level limit at a given receptor as the higher of a set exclusionary sound level limit based on the area classification of that receptor, or the actual background sound level at the location of the receptor, whichever is higher. In this report, the defined exclusionary limits were used for the purposes of assessing compliance.

The Project is currently located in a Class 1 area as defined in NPC-300, based on the surrounding area features and its distance from major roads.

6.3.1 Class 1 Area Exclusionary Sound Level Limits

NPC-300 defines a Class 1 area as having an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as “urban hum” during both day and night.

Table 18 provides a summary of the applicable exclusionary sound level limits for steady noise sources impacting receptors in a Class 1 area. Steady stationary noise sources are assessed against a 1 hour equivalent sound pressure level (L_{eq}) expressed in A-weighted decibels (dBA). Routine testing of emergency equipment, if applicable, is assessed separately from other stationary noise sources, and is compared to sound level limits that are 5 dBA higher than would otherwise apply.

Table 18: Class 1 Exclusionary Sound Level Limits – Steady Noise

Time Period	Normal Operations Steady Noise ($L_{eq,1hr}$ dBA)		Emergency Equipment Testing Steady Noise ($L_{eq,1hr}$ dBA)	
	POR	OPOR	POR	OPOR
Daytime (07:00 – 19:00)	50	50	55	55
Evening (19:00 – 23:00)	50	50	55	55
Nighttime (23:00 – 07:00)	45	-	50	-

6.4 Stationary Sound Level Predictions

Sound levels at the PORs due to the nearby stationary sources were calculated using the software CadnaA in accordance with the methods described in ISO 9613-2. The CadnaA calculation outputs are presented in Appendix E.

Testing of emergency equipment typically happens on a predictable, infrequent schedule, and can be done on one piece of equipment at a time. NPC-300 requires that these sources be assessed separately from other stationary noise sources. In the modelling conducted for the project, impacts from testing of each individual piece of emergency equipment have been reported separately. It is assumed that testing of emergency equipment will occur during daytime hours only (07:00 – 19:00).

The predicted noise impacts described below are based on the conditions identified in current drawings and information provided to TT at the time of this report and include any barriers, equipment specifications, or other measures currently planned for the Project, but do not include additional noise measures identified in Section 6.5 of this report.

6.4.1 Unmitigated Stationary Noise Impacts on the Project

The impact of stationary noise sources located on the project itself is not required to be assessed, as NPC-300 does not consider properties to be sensitive to their own noise sources: *“A land use that would normally be considered noise sensitive, such as a dwelling, but is located within the property boundaries of the stationary source is not considered a noise sensitive land use.”* As a due diligence measure, TT has still considered these sources, however compliance with the noise limitations identified in NPC-300 is not required for these sources.

Table 19 provides a summary of the modelling results for stationary noise impacts to the Project from surrounding sources only and Table 20 provides a summary of all stationary noise impacts to the Project. Appendix E contains the full modelling output and illustrations.

Table 19: Predicted Stationary Noise Source Impacts to the Project from Surrounding Sources

POR ID	Time Period	Steady Sound Level $L_{eq,1hr}$ (dBA)	Steady Sound Level Limit $L_{eq,1hr}$ (dBA)	Compliance
PPOR1	Daytime	49	50	Yes
	Evening	49	50	Yes
	Nighttime	46	45	Yes*
PPOR2	Daytime	49	50	Yes
	Evening	49	50	Yes
	Nighttime	46	45	Yes*
PPOR3	Daytime	45	50	Yes
	Evening	45	50	Yes
	Nighttime	45	45	Yes
PPOR4	Daytime	43	50	Yes
	Evening	43	50	Yes
	Nighttime	40	45	Yes
POPOR1	Daytime	45	50	Yes
	Evening	45	50	Yes

* The dust collector fan from the OMSF is the predominant noise source affecting the PPORs.

The 2017 *Environmental Project Report (EPR) Addendum* states that the dust collector will be required to have silencers (or will be chosen to have lower sound levels) which are expected to bring the noise levels down by at least 1 dB. Thus, noise due to stationary noise sources is predicted to meet the applicable sound level limits at all modeled receptors on the Project.

Table 20: Predicted Stationary Noise Source Impacts to the Project from All Sources

POR ID	Time Period	Steady Sound Level $L_{eq,1hr}$ (dBA)	Steady Sound Level Limit $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level (GEN01) $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level (GEN02) $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level Limit $L_{eq,1hr}$ (dBA)	Compliance
PPOR1	Daytime	49	50	39	68	55	N/A*
	Evening	49	50	-	-	-	N/A*
	Nighttime	46**	45	-	-	-	N/A*
PPOR2	Daytime	67	50	65	56	55	N/A*
	Evening	67	50	-	-	-	N/A*
	Nighttime	67	45	-	-	-	N/A*
PPOR3	Daytime	45	50	73	39	55	N/A*
	Evening	45	50	-	-	-	N/A*
	Nighttime	45	45	-	-	-	N/A*
PPOR4	Daytime	49	50	76	69	55	N/A*
	Evening	49	50	-	-	-	N/A*
	Nighttime	49	45	-	-	-	N/A*
POPOR1	Daytime	46	50	45	44	55	N/A*
	Evening	46	50	-	-	-	N/A*

*NPC-300 does not consider a building to be sensitive to its own noise sources, therefore the Steady / Emergency Sound Level Limits for impacts to the project building do not apply to project sources. These results are provided for design consideration only.

**For PPOR1, nighttime sound levels are again predominantly from the OMSF dust collector which will be mitigated with a silencer (or a unit with lower sound power level) per the 2017 *Environmental Project Report (EPR) Addendum*.

Noise due to truck activities (driving and idling) at the Project is predicted to exceed 50 dBA during the day and/or 45 dBA during the night at receptors PPOR2, and PPOR4. Noise due to emergency generator testing is predicted to exceed 55 dBA at receptors PPOR1, PPOR2, PPOR3, and PPOR4.

6.4.2 Unmitigated Project Stationary Noise Impacts on the Surrounding Area

In modelling the impact of stationary noise sources from the Project onto the surrounding area, TT has considered only the identified stationary sources associated with the project. The noise impact of existing stationary noise sources located in the surrounding area was not considered.

Table 21 provides a summary of the modelling results for stationary noise impacts to the surrounding area, and Appendix E contains the full modelling output and illustrations.

Table 21: Predicted Stationary Noise Source Impacts To The Surrounding Area

POR ID	Time Period	Steady Sound Level $L_{eq,1hr}$ (dBA)	Steady Sound Level Limit $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level (GEN01) $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level (GEN02) $L_{eq,1hr}$ (dBA)	Emergency Testing Sound Level Limit $L_{eq,1hr}$ (dBA)	Compliance
SPOR1	Daytime	43	50	46	38	55	Yes
	Evening	43	50	-	-	-	Yes
	Nighttime	43	45	-	-	-	Yes
SPOR2	Daytime	19	50	47	39	55	Yes
	Evening	19	50	-	-	-	Yes
	Nighttime	19	45	-	-	-	Yes
SPOR3	Daytime	26	50	46	47	55	Yes
	Evening	26	50	-	-	-	Yes
	Nighttime	26	45	-	-	-	Yes
SPOR4	Daytime	36	50	44	43	55	Yes
	Evening	36	50	-	-	-	Yes
	Nighttime	36	45	-	-	-	Yes
SPOR5	Daytime	24	50	44	40	55	Yes
	Evening	24	50	-	-	-	Yes
	Nighttime	24	45	-	-	-	Yes
SPOR6	Daytime	20	50	44	39	55	Yes
	Evening	20	50	-	-	-	Yes
	Nighttime	20	45	-	-	-	Yes
SOPOR1	Daytime	45	50	44	43	55	Yes
	Evening	45	50	-	-	-	Yes
SOPOR2	Daytime	37	50	45	43	55	Yes
	Evening	37	50	-	-	-	Yes
SOPOR3	Daytime	25	50	43	39	55	Yes
	Evening	25	50	-	-	-	Yes

Noise due to stationary noise sources is predicted to meet the applicable sound level limits at all modeled receptors in the surrounding area.

6.5 Stationary Noise Control Recommendations

6.5.1 Mitigation for Project Receptors

Potential exceedances of the applicable stationary sound level limits have been identified at PPOR2 (inner side of the two towers), in relation to steady noise, with most of the impacts being due to truck loading activities (driving and idling) from the Project loading docks. TT recommends a no-idling policy be implemented at the loading docks and to limit deliveries during the daytime hours only (07:00 – 19:00) to reduce the impact to the Project receptors. Combined with the upgraded façade and glazing construction

requirements identified in relation to transportation noise impacts, these measures are expected to result in an acceptable indoor environment for the impacted dwelling units.

Predicted exceedances due to emergency equipment testing were also found at receptors PPOR1, PPOR2, PPOR3, and PPOR4. To reduce these impacts and meet the recommended sound level limits the following mitigation measures could be employed:

- The generators can be re-selected to be a quieter unit, with a maximum sound power level of 87 dBA (sound pressure level of 62 dBA at 7m). This would achieve a steady sound level of 55 dBA or less at all Project receptors;
- Alternatively, acoustic walk-in enclosures around the outdoor generators can be selected to meet the aforementioned maximum sound level limits, as illustrated in Figure 6.

Note that the recommendations listed above are based on assumed sound power levels and should be confirmed as the design of the Project progresses. As the design of the project progresses, additional noise sources (underground parking garage exhaust fans, HVAC louvers, etc.) should be identified and added to the modeling conducted in order to ensure compliance with the applicable limits.

6.5.2 Mitigation for Surrounding Receptors

No predicted exceedances of the applicable stationary sound level limits at the surrounding receptors have been identified; therefore, no specific mitigation is recommended at this time.

7.0 Railway Vibration Assessment

Currently, there are no provincial guidelines for the impact of railway vibration in the land use approval process in Ontario. However, in May 2013, the Federation of Canadian Municipalities (FCM) and the Railway Association of Canada (RAC) issued *Guidelines for New Development in Proximity to Railway Operations* to address developments near railway operations. The FCM/RAC guidelines identify dwellings within 75 meters from railways alignments as susceptible to vibration impact and recommend an overall maximum vibration limit of 0.14 mm/sec root-mean-square (RMS) between 4 and 200 Hz.

The main sources of vibration expected to impact the Project are the Hamilton LRT B-Line and the spur line connecting the B-Line to the OMSF. As the Hamilton LRT is not yet built, vibration measurements are not possible. Thus, TT has referred to documents published by the City of Hamilton pertaining to environmental noise and vibration impacts of the Hamilton LRT B-line, specifically the 2013 *Detailed Vibration Impact Assessment* report and the 2017 *Environmental Project Report (EPR) Addendum*.

7.1 Predicted LRT Vibration Levels

7.1.1 Hamilton LRT B-Line and Spur Line to OMSF

Based on the document 2013 *Detailed Vibration Impact Assessment*, the section of the B-Line in the vicinity of the Project is recommended to have a Level 2 Embedded Rail Vibration Isolation System which provides vibration attenuation of 5-6 dB to attenuate vibration (and vibration-induced noise at the receptors) along the B-line corridor. This reduces the vibration of the receptors with similar distance as the Project to tracks from 0.18 mm/sec RMS to a vibration level of 0.05 mm/sec RMS (which is below

the recommended vibration limit). It is expected that the Spur Line will have lower speed and less traffic volume would therefore produce less vibration than the main B-line.

7.1.2 Spur Line Special Trackwork

Another significant vibration source is the impact vibration from the special trackwork that would connect the Spur Line to the main B-Line (frogs at crossovers). The 2017 *Environmental Project Report (EPR) Addendum* predicts that vibration levels from special trackwork would be 0.06 mm/sec RMS at 40m and 0.19 mm/sec at 0.19m. From available drawings and map data, the intersection where special trackwork is located is approximately 35m from the Project façade. Interpolation of the data at 35m puts the vibration level at around 0.11 mm/sec which is below the recommended vibration limit of 0.14 mm/sec. Moreover, the report recommends low-impact or moveable point frogs that can further reduce the vibration levels from the special trackwork.

8.0 Concluding Comments

Noise impacts associated with the proposed development at 925 Main Street West are expected to be able to meet all applicable LUPA noise requirements with the inclusion of noise control measures and warning clauses as summarized in Figure 6 and presented in Section 5.5 of this report for transportation noise sources and Section 6.5 of this report for stationary noise sources. The proposed development should therefore be approved.

As described in Section 6.4.1, the Project is not considered to be sensitive to its own stationary noise sources, but impacts from these sources to the Project have been assessed as part of this report. Although NPC-300 does not require these sources to be assessed for land use planning purposes, TT recommends that they be considered under separate cover, such as an architectural acoustics report.

As the design of the development proceeds, and mechanical equipment is selected, acoustical modelling of the impacts of this equipment should be confirmed in order to evaluate compliance with applicable sound limits at surrounding sensitive receptors, and confirm that impacts to the Project itself will be acceptable.

Please do not hesitate to contact us if there are any questions.

Yours Truly,

Thornton Tomasetti



Jedrael Pagtalunan, M.Sc., P.Eng.
Senior Engineer

Reviewed by:

Robert Fuller, P.Eng.
Project Engineer

Disclaimer

This report is provided in accordance with the contractual agreement between TT and the Client. In addition to our contractual obligations TT notes the following general disclaimers and qualifications regarding the content of this report.

In preparing this report, TT has relied upon the accuracy and completeness of information provided by the Client and other third parties (manufacturers, other consultants, etc.) and accepts no responsibility for errors or omissions by other parties in the information provided to TT.

This report has been prepared solely for the benefit of the Client and the content of this report is intended for informational purposes only. This report shall not be relied upon by any other parties, including but not limited to other consultants retained by the Client, or utilized for any other purposes.

Ultimate responsibility for the design and construction remains solely with the architect/engineer of record and/or the contractor(s). Achieving the required mitigation requirements relies on correct incorporation of mitigation recommendations into Architectural and Mechanical drawings and specifications, as well as correct installation during construction. It is recommended that the implementation of mitigation measures be reviewed by a qualified consultant.

On request, TT will provide a proposal for additional work such as to peer review mitigation measures or observe on-site conditions as appropriate; however, notwithstanding the foregoing, it is expressly understood and agreed that TT shall not have control or charge of, and shall not be responsible for the acts or omissions, including but not limited to means, methods, techniques, sequences and procedures, of the Design Professionals and/or Contractors performing design and/or construction on the Project. Accordingly, TT shall not be held responsible for the failure of any party to properly incorporate the mitigation measures stated in this report.

Appendix A: Figures

Figure 1: Project Location & Surroundings

Figure 2: Zoning Map

Figure 3: Project Site Plan

Figure 4: Transportation Noise PORs & Sources

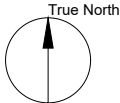
Figure 5: Stationary Noise PORs & Sources

Figure 6: Recommended Mitigation Measures



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TT PROJECT CODE

240009605

DRAWN BY:

JP

REVIEWED BY:

REVISION

#	DATE	DESCRIPTION
0	2023/06/19	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
1	2024/12/09	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
2	2026/01/28	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME

925 MAIN STREET
WEST
HAMILTON, ON

DRAWING NAME

FIGURE 1:
PROJECT LOCATION &
SURROUNDINGS

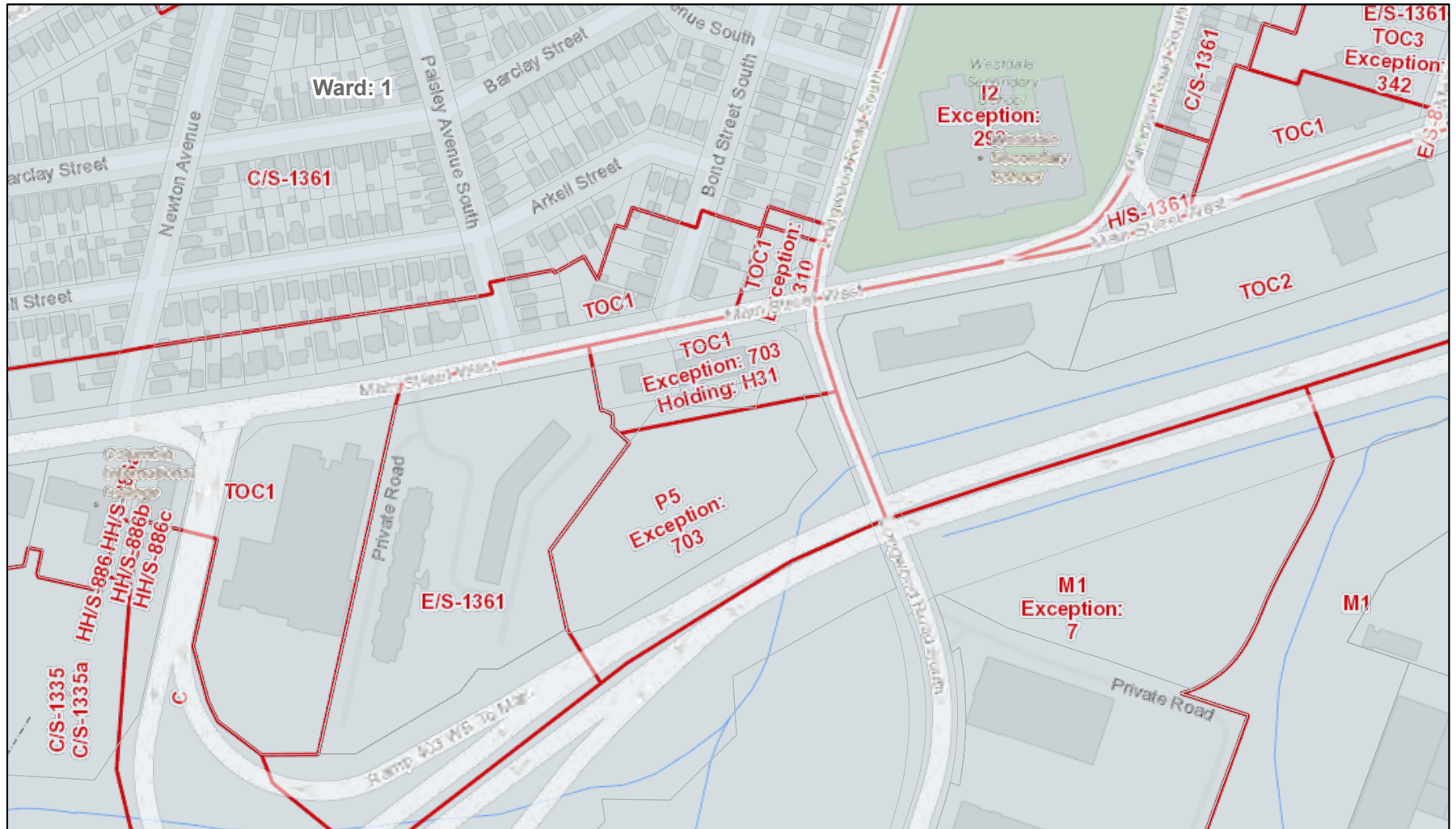
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DATE
2026/01/28

Project SK. No

SHEET
1 OF 1

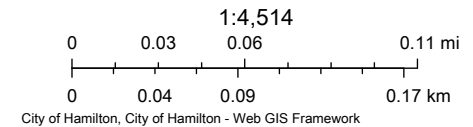
Interactive Zoning



5/30/2023, 3:11:56 PM

- Ward Boundary
- Community Boundary
- City Boundary
- Urban Boundary
- Property Parcels
- Zoning Compliance Review Required

- Zoning Boundaries
- Interim Control By-laws



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<https://www.hamilton.ca/build-invest-grow/planning-development/zoning/interactive-zoning-mapping>

Thornton Tomasetti

BY: JP

DATE: 06/19/2023

PROJECT: 925 Main St W (SW22324)

SUBJECT: Zoning Map

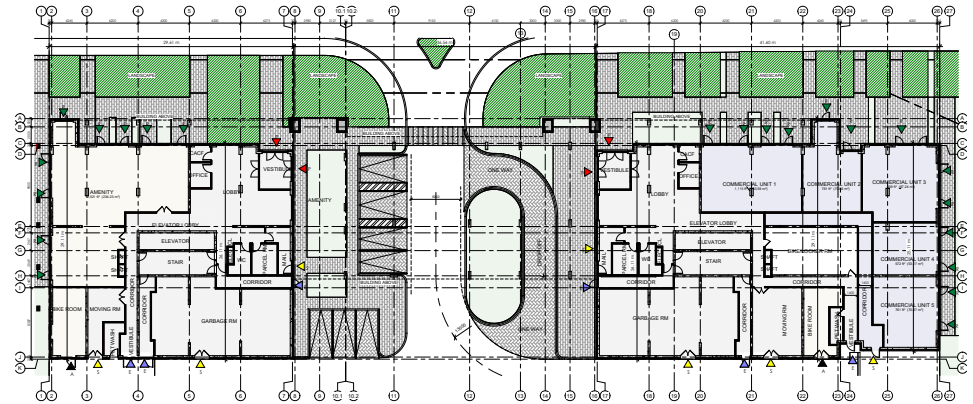
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**Figure 2:
Zoning Map**

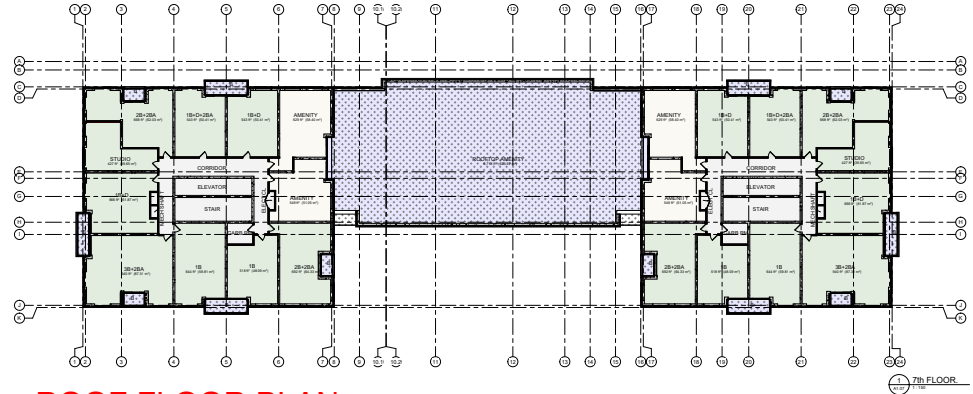


NORTH ELEVATION

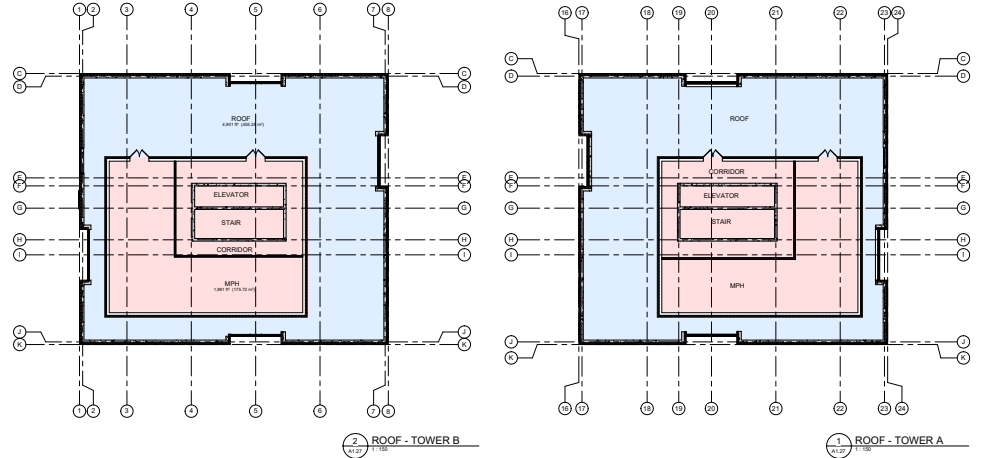
LEVEL 1 FLOOR PLAN



LEVEL 7 FLOOR PLAN



ROOF FLOOR PLAN



ThorntonTomasetti

PROJECT: 925 Main St W (240009605)

SUBJECT: Project Plans

REFERENCE: 21009 - 925 Main St_Draft Set (KNYMH)

BY: JP

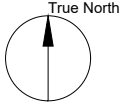
DATE: 01/28/2026

**Figure 3:
Project Plans**



Thornton Tomasetti

366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com



TT PROJECT CODE

240009605

DRAWN BY:

JP

REVIEWED BY:

REVISION

#	DATE	DESCRIPTION
0	2023/06/19	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
1	2024/12/09	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
2	2026/01/28	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME

925 MAIN STREET
WEST
HAMILTON, ON

DRAWING NAME

FIGURE 4:
TRANSPORTATION NOISE
PORS & SOURCES

SCALE

ON DRAWING

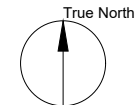
Project SK. No

DATE

2026/01/28

SHEET

1 OF 1



TT PROJECT CODE

240009605

DRAWN BY:

JP

REVIEWED BY:

REVISION

#	DATE	DESCRIPTION
0	2023/06/20	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
1	2024/12/09	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
2	2026/01/28	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION



PROJECT NAME

925 MAIN STREET
WEST
HAMILTON, ON

DRAWING NAME

FIGURE 5:
STATIONARY NOISE
PORS & SOURCES

SCALE
ON DRAWING

DATE
2026/01/28

Project SK. No

SHEET
1 OF 1

*STC recommendations based on assumed maximum exterior wall, fixed window, and operable window component areas as a percentage of the floor area of a typical room.

Exterior wall:
STC 39 (100%)
Operable glazing:
STC 35 (50%)
Fixed glazing:
STC 35 (50%)

Exterior wall:
STC 41 (100%)
Operable glazing:
STC 37 (50%)
Fixed glazing:
STC 37 (50%)

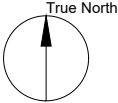
Exterior wall:
STC 43 (100%)
Operable glazing:
STC 39 (50%)
Fixed glazing:
STC 39 (50%)

Exterior wall:
STC 45 (100%)
Operable glazing:
STC 41 (50%)
Fixed glazing:
STC 41 (50%)

Optional:
Select rooftop generators with an overall maximum sound power levels of 87 dBA
OR
Implement acoustic enclosures around the generators to achieve the above sound levels.

Level 7 Rooftop Amenity
Optional: 3.5m barrier

Thornton Tomasetti
366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com



TT PROJECT CODE		
240009605		
DRAWN BY: JP		
REVIEWED BY:		
REVISION		
#	DATE	DESCRIPTION
0	2023/06/20	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
1	2024/12/09	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
2	2026/01/28	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME	
925 MAIN STREET WEST HAMILTON, ON	
DRAWING NAME	
FIGURE 6: RECOMMENDED MITIGATION MEASURES	
SCALE ON DRAWING	DATE 2026/01/28
Project SK. No	SHEET 1 OF 1

Appendix B: Traffic Data

Pagtalunan, Jediael

From: Perez Miller, Giancarlo <Giancarlo.PerezMiller@hamilton.ca>
Sent: May 25, 2023 9:24 AM
To: Pagtalunan, Jediael
Cc: Hawash, Khaled
Subject: RE: AADT Traffic Data Request - 925 Main Street W
Attachments: Midblock 2022 - Main St W, between Dow Ave and Newton Ave (May 31-Jun 03) VOLUME.xls; Midblock 2022 - Main St W, between Dow Ave and Newton Ave (May 31-Jun 03) WB CLASS.xls; Midblock 2017 - Longwood Rd N, between Devon Pl and Dufferin St (Sep 19-22) NB CLASS.xls; Midblock 2017 - Longwood Rd N, between Devon Pl and Dufferin St (Sep 19-22) SB CLASS.xls; Midblock 2017 - Longwood Rd N, between Devon Pl and Dufferin St (Sep 19-22) VOLUME.xls; Midblock 2022 - Main St W, between Dow Ave and Newton Ave (May 31-Jun 03) EB CLASS.xls

Good morning,

Please see attached data requested.

In the coming day(s) an invoice will be forwarded to you for payment for the provided data.

Thank you and have a nice day,

Giancarlo Perez Miller

Database Technologist
Roadway Safety
Transportation Division
Public Works
(905) 546-2424 Ext.2067



From: Pagtalunan, Jediael <JPagtalunan@ThorntonTomasetti.com>

Sent: Wednesday, May 24, 2023 11:32 AM

To: Perez Miller, Giancarlo <Giancarlo.PerezMiller@hamilton.ca>

Subject: RE: AADT Traffic Data Request - 925 Main Street W

Thank you, Giancarlo,

We would like to order the following:

- Midblock 2022 - Main St W, between Dow Ave and Newton Ave (May 31-Jun 03) VOLUME, CLASSIFICATION
- Midblock 2017 - Longwood Rd N, between Devon Pl and Dufferin St (Sep 19-22) VOLUME, CLASSIFICATION

Sincerely,

Jed Pagtalunan, M.Sc. | Scientist

Prepared For: City of Hamilton

Prepared By: **PYRAMID Traffic Inc.**

Location: Longwood Rd N, btwn Devon Pl & Dufferin St

Start Date: Tuesday Sep 19, 2017

Site ID: 1

Interval: 15 min.

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary	Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
0:15	6	2		12:15	14	10	121
0:30	5	3		12:30	14	19	125
0:45	3	1		12:45	13	9	115
1:00	2	2	24	13:00	18	18	115
1:15	1	0	17	13:15	15	13	119
1:30	2	0	11	13:30	17	15	118
1:45	0	0	7	13:45	22	13	131
2:00	2	0	5	14:00	16	21	132
2:15	1	0	5	14:15	14	17	135
2:30	1	0	4	14:30	18	19	140
2:45	0	0	4	14:45	8	24	137
3:00	0	1	3	15:00	19	12	131
3:15	1	0	3	15:15	14	20	134
3:30	0	1	3	15:30	30	20	147
3:45	0	0	3	15:45	21	26	162
4:00	0	1	3	16:00	18	18	167
4:15	1	0	3	16:15	29	18	180
4:30	0	2	4	16:30	23	16	169
4:45	0	0	4	16:45	23	29	174
5:00	2	3	8	17:00	21	15	174
5:15	0	1	8	17:15	22	25	174
5:30	1	4	11	17:30	27	18	180
5:45	0	3	14	17:45	32	29	189
6:00	1	5	15	18:00	40	26	219
6:15	0	5	19	18:15	25	21	218
6:30	3	10	27	18:30	35	14	222
6:45	2	8	34	18:45	31	18	210
7:00	2	12	42	19:00	26	19	189
7:15	3	14	54	19:15	20	20	183
7:30	5	16	62	19:30	28	21	183
7:45	10	24	86	19:45	23	27	184
8:00	13	25	110	20:00	23	25	187
8:15	13	36	142	20:15	14	20	181
8:30	12	32	165	20:30	19	19	170
8:45	16	36	183	20:45	22	15	157
9:00	20	42	207	21:00	16	10	135
9:15	18	19	195	21:15	13	8	122
9:30	15	19	185	21:30	15	10	109
9:45	11	24	168	21:45	10	6	88
10:00	17	15	138	22:00	12	8	82
10:15	9	20	130	22:15	8	7	76
10:30	19	12	127	22:30	4	4	59
10:45	8	19	119	22:45	9	1	53
11:00	12	24	123	23:00	6	2	41
11:15	17	16	127	23:15	5	4	35
11:30	14	15	125	23:30	4	1	32
11:45	10	22	130	23:45	4	1	27
12:00	14	22	130	0:00	7	2	28

AM Peak: 207

PM Peak: 222

24 HR VOLUME: 2408

Prepared For: City of Hamilton

Prepared By: [PYRAMID Traffic Inc.](#)

Location: Longwood Rd N, btwn Devon Pl & Dufferin St

Start Date: Wednesday Sep 20, 2017

Site ID: 1

Interval: 15 min.

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary	Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
0:15	5	2		12:15	14	10	147
0:30	5	1		12:30	9	12	130
0:45	0	1		12:45	15	21	121
1:00	0	0	14	13:00	14	22	117
1:15	2	0	9	13:15	11	14	118
1:30	2	0	5	13:30	16	18	131
1:45	0	0	4	13:45	11	13	119
2:00	2	1	7	14:00	13	16	112
2:15	0	0	5	14:15	19	21	127
2:30	0	1	4	14:30	17	31	141
2:45	2	0	6	14:45	23	12	152
3:00	0	0	3	15:00	13	17	153
3:15	0	0	3	15:15	31	16	160
3:30	0	2	4	15:30	31	25	168
3:45	0	0	2	15:45	21	26	180
4:00	0	1	3	16:00	26	23	199
4:15	1	3	7	16:15	20	14	186
4:30	0	1	6	16:30	35	29	194
4:45	0	0	6	16:45	32	19	198
5:00	1	0	6	17:00	31	31	211
5:15	0	0	2	17:15	20	16	213
5:30	1	4	6	17:30	28	25	202
5:45	1	5	12	17:45	31	17	199
6:00	1	5	17	18:00	23	30	190
6:15	1	9	27	18:15	17	12	183
6:30	2	6	30	18:30	32	29	191
6:45	5	9	38	18:45	23	20	186
7:00	4	8	44	19:00	36	19	188
7:15	4	20	58	19:15	17	22	198
7:30	5	13	68	19:30	26	18	181
7:45	10	33	97	19:45	16	17	171
8:00	10	27	122	20:00	11	24	151
8:15	12	30	140	20:15	15	10	137
8:30	17	41	180	20:30	22	11	126
8:45	11	36	184	20:45	17	10	120
9:00	14	29	190	21:00	15	9	109
9:15	10	24	182	21:15	10	5	99
9:30	23	24	171	21:30	18	9	93
9:45	19	20	163	21:45	9	14	89
10:00	20	15	155	22:00	12	11	88
10:15	12	15	148	22:15	12	10	95
10:30	14	17	132	22:30	9	6	83
10:45	14	23	130	22:45	7	4	71
11:00	11	24	130	23:00	5	3	56
11:15	14	24	141	23:15	13	5	52
11:30	19	19	148	23:30	8	3	48
11:45	18	27	156	23:45	3	2	42
12:00	17	23	161	0:00	4	3	41

AM Peak: 190

PM Peak: 213

24 HR VOLUME: 2467

Prepared For: City of Hamilton

Prepared By: **PYRAMID Traffic Inc.**

Location: Longwood Rd N, btwn Devon Pl & Dufferin St

Start Date: Thursday Sep 21, 2017

Site ID: 1

Interval: 15 min.

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary	Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
0:15	4	5		12:15	21	21	139
0:30	3	0		12:30	9	10	124
0:45	2	1		12:45	24	22	139
1:00	1	0	16	13:00	11	21	139
1:15	3	0	10	13:15	21	25	143
1:30	6	2	15	13:30	23	14	161
1:45	0	1	13	13:45	19	20	154
2:00	1	2	15	14:00	12	19	153
2:15	1	1	14	14:15	16	28	151
2:30	0	1	7	14:30	20	20	154
2:45	2	4	12	14:45	16	17	148
3:00	0	0	9	15:00	22	13	152
3:15	0	0	7	15:15	23	23	154
3:30	1	2	9	15:30	22	22	158
3:45	0	0	3	15:45	29	22	176
4:00	1	1	5	16:00	31	15	187
4:15	0	0	5	16:15	21	23	185
4:30	0	1	3	16:30	32	16	189
4:45	1	0	4	16:45	26	20	184
5:00	0	0	2	17:00	26	19	183
5:15	0	1	3	17:15	34	21	194
5:30	1	4	7	17:30	31	18	195
5:45	0	4	10	17:45	21	19	189
6:00	2	3	15	18:00	51	25	220
6:15	2	4	20	18:15	34	21	220
6:30	5	6	26	18:30	27	36	234
6:45	4	7	33	18:45	15	28	237
7:00	4	14	46	19:00	21	27	209
7:15	6	13	59	19:15	24	20	198
7:30	10	22	80	19:30	27	23	185
7:45	9	24	102	19:45	18	26	186
8:00	8	25	117	20:00	19	23	180
8:15	9	36	143	20:15	21	11	168
8:30	10	38	159	20:30	20	9	147
8:45	24	20	170	20:45	10	10	123
9:00	37	33	207	21:00	14	11	106
9:15	16	28	206	21:15	13	11	98
9:30	9	24	191	21:30	13	9	91
9:45	11	12	170	21:45	12	12	95
10:00	7	23	130	22:00	10	7	87
10:15	16	12	114	22:15	9	7	79
10:30	16	15	112	22:30	11	4	72
10:45	15	16	120	22:45	8	4	60
11:00	21	17	128	23:00	8	0	51
11:15	14	15	129	23:15	8	1	44
11:30	18	16	132	23:30	5	3	37
11:45	12	19	132	23:45	8	1	34
12:00	17	15	126	0:00	2	7	35

AM Peak: 207

PM Peak: 237

24 HR VOLUME: 2518

2017-09-21 [11:45 PM-12:00 AM]		2	1	1	0	0	0	0	0	0	2	
		23	10	9	2	1	1	0	0	0	23	
Daily Totals:		1247	393	508	92	77	50	14	3	24	1161	
Total Counted:		3576										
Total Classified:		3396	3576	1141	1569	252	209	130	37	9	49	3396
Total Unclassified:		180										
Report Percentages:			33.60%	46.20%	7.42%	6.15%	3.83%	1.09%	0.27%	1.44%		
Peak Time: (AM):		2017-09-21 [08:45 AM-09:00 AM]		Peak Count:		37						
Peak Time: (PM):		2017-09-21 [05:45 PM-06:00 PM]		Peak Count:		51						

Class/Volume Report Graph

HI-Star ID: 6244E
 Street: Longwood Rd N - SB
 State: ON
 City: City of Hamilton
 Area: btwn Devon Pl & Dufferin St

Begin: 2017-09-19 12:00 AM
 Lane: SB
 Oper: MD
 Posted: 50
 AADT Factor: 1

End: 2017-09-22 12:00 AM
 Hours: 72:00
 Period: 15
 Raw Count: 3817
 AADT Count: 1272

NC300 - Metres	0.0 to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.4	12.5 to 15.9	16.0 to 18.4	18.5 to 22.4	22.5 >	Total
2017-09-19 [12:00 AM-12:15 AM]	2	0	2	0	0	0	0	0	2
2017-09-19 [12:15 AM-12:30 AM]	3	0	2	1	0	0	0	0	3
2017-09-19 [12:30 AM-12:45 AM]	1	1	0	0	0	0	0	0	1
2017-09-19 [12:45 AM-01:00 AM]	2	1	1	0	0	0	0	0	2
	8	2	5	1	0	0	0	0	8
2017-09-19 [01:00 AM-01:15 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [01:15 AM-01:30 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [01:30 AM-01:45 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [01:45 AM-02:00 AM]	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
2017-09-19 [02:00 AM-02:15 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [02:15 AM-02:30 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [02:30 AM-02:45 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [02:45 AM-03:00 AM]	1	1	0	0	0	0	0	0	1
	1	1	0	0	0	0	0	0	1
2017-09-19 [03:00 AM-03:15 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [03:15 AM-03:30 AM]	1	0	1	0	0	0	0	0	1
2017-09-19 [03:30 AM-03:45 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [03:45 AM-04:00 AM]	1	0	1	0	0	0	0	0	1
	2	0	2	0	0	0	0	0	2
2017-09-19 [04:00 AM-04:15 AM]	0	0	0	0	0	0	0	0	0
2017-09-19 [04:15 AM-04:30 AM]	2	0	2	0	0	0	0	0	2

2017-09-21 [11:45 PM-12:00 AM]		7	5	1	1	0	0	0	0	0	7	
		12	9	2	1	0	0	0	0	0	12	
Daily Totals:		1271	721	491	16	13	7	2	1	0	1251	
Total Counted:		3817										
Total Classified:		3752	3817	2133	1509	33	38	29	6	4	0	3752
Total Unclassified:		65										
Report Percentages:			56.85%	40.22%	0.88%	1.01%	0.77%	0.16%	0.11%	0.00%		
Peak Time: (AM):		2017-09-19 [08:45 AM-09:00 AM]		Peak Count:		42						
Peak Time: (PM):		2017-09-21 [06:15 PM-06:30 PM]		Peak Count:		36						

Prepared For: City of Hamilton
 Prepared By: **PYRAMID Traffic Inc.**
 Location: Main St W, btwn Dow Ave & Newton Ave
 Start Date: Tuesday May 31, 2022

Site ID: 27865
 Interval: 15 min.

Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary	Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary
0:15	58	38		12:15	411	224	2415
0:30	57	23		12:30	424	201	2446
0:45	41	28		12:45	457	192	2490
1:00	36	23	304	13:00	462	210	2581
1:15	31	20	259	13:15	442	179	2567
1:30	34	21	234	13:30	419	193	2554
1:45	29	20	214	13:45	458	185	2548
2:00	23	13	191	14:00	402	213	2491
2:15	25	8	173	14:15	449	190	2509
2:30	19	9	146	14:30	423	213	2533
2:45	25	13	135	14:45	507	241	2638
3:00	21	10	130	15:00	480	259	2762
3:15	10	6	113	15:15	480	264	2867
3:30	17	10	112	15:30	546	283	3060
3:45	10	12	96	15:45	542	293	3147
4:00	14	7	86	16:00	508	273	3189
4:15	19	11	100	16:15	519	299	3263
4:30	22	12	107	16:30	575	290	3299
4:45	13	14	112	16:45	547	287	3298
5:00	41	23	155	17:00	566	296	3379
5:15	53	21	199	17:15	540	319	3420
5:30	63	23	251	17:30	561	332	3448
5:45	103	37	364	17:45	558	251	3423
6:00	135	56	491	18:00	532	261	3354
6:15	128	56	601	18:15	528	240	3263
6:30	201	76	792	18:30	483	262	3115
6:45	283	120	1055	18:45	482	221	3009
7:00	319	126	1309	19:00	409	206	2831
7:15	353	136	1614	19:15	403	211	2677
7:30	370	177	1884	19:30	386	183	2501
7:45	459	217	2157	19:45	354	198	2350
8:00	539	255	2506	20:00	343	149	2227
8:15	536	200	2753	20:15	289	144	2046
8:30	528	250	2984	20:30	354	144	1975
8:45	519	215	3042	20:45	302	160	1885
9:00	513	196	2957	21:00	271	144	1808
9:15	417	178	2816	21:15	304	151	1830
9:30	413	182	2633	21:30	253	147	1732
9:45	432	180	2511	21:45	253	95	1618
10:00	403	198	2403	22:00	246	104	1553
10:15	409	135	2352	22:15	203	99	1400
10:30	394	181	2332	22:30	185	82	1267
10:45	417	155	2292	22:45	169	91	1179
11:00	430	145	2266	23:00	160	74	1063
11:15	443	166	2331	23:15	170	91	1022
11:30	430	164	2350	23:30	116	49	920
11:45	414	191	2383	23:45	95	43	798
12:00	395	186	2389	0:00	87	35	686

AM Peak: 3042

PM Peak: 3448

24 HR VOLUME: 43111

Prepared For: City of Hamilton

Prepared By: **PYRAMID Traffic Inc.**

Location: Main St W, btwn Dow Ave & Newton Ave

Start Date: Wednesday Jun 1, 2022

Site ID: 27865

Interval: 15 min.

Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary	Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary
0:15	75	44		12:15	384	182	2193
0:30	77	39		12:30	422	188	2294
0:45	66	34		12:45	441	177	2370
1:00	37	29	401	13:00	431	183	2408
1:15	34	17	333	13:15	405	201	2448
1:30	30	28	275	13:30	420	178	2436
1:45	32	18	225	13:45	424	181	2423
2:00	21	13	193	14:00	404	218	2431
2:15	28	20	190	14:15	360	170	2355
2:30	20	13	165	14:30	409	202	2368
2:45	22	14	151	14:45	497	253	2513
3:00	16	5	138	15:00	461	230	2582
3:15	11	15	116	15:15	430	264	2746
3:30	15	7	105	15:30	467	235	2837
3:45	14	9	92	15:45	493	269	2849
4:00	13	12	96	16:00	488	242	2888
4:15	15	14	99	16:15	525	285	3004
4:30	15	7	99	16:30	533	305	3140
4:45	21	16	113	16:45	536	300	3214
5:00	34	22	144	17:00	509	280	3273
5:15	56	22	193	17:15	505	279	3247
5:30	63	29	263	17:30	476	272	3157
5:45	86	34	346	17:45	463	243	3027
6:00	118	51	459	18:00	405	216	2859
6:15	130	54	565	18:15	445	199	2719
6:30	202	79	754	18:30	456	221	2648
6:45	271	107	1012	18:45	420	205	2567
7:00	356	95	1294	19:00	397	169	2512
7:15	318	122	1550	19:15	363	176	2407
7:30	323	159	1751	19:30	345	176	2251
7:45	415	196	1984	19:45	330	159	2115
8:00	514	256	2303	20:00	287	130	1966
8:15	567	201	2631	20:15	275	137	1839
8:30	526	236	2911	20:30	263	149	1730
8:45	467	205	2972	20:45	257	150	1648
9:00	482	226	2910	21:00	279	127	1637
9:15	495	180	2817	21:15	304	131	1660
9:30	414	182	2651	21:30	250	101	1599
9:45	413	175	2567	21:45	226	111	1529
10:00	390	165	2414	22:00	238	103	1464
10:15	332	142	2213	22:15	213	93	1335
10:30	340	168	2125	22:30	200	77	1261
10:45	383	194	2114	22:45	158	98	1180
11:00	391	171	2121	23:00	129	72	1040
11:15	395	172	2214	23:15	144	74	952
11:30	340	169	2215	23:30	105	48	828
11:45	361	181	2180	23:45	98	47	717
12:00	389	187	2194	0:00	60	36	612

AM Peak: **2972**

PM Peak: **3273**

24 HR VOLUME: **40339**

Prepared For: City of Hamilton
 Prepared By: **PYRAMID Traffic Inc.**
 Location: Main St W, btwn Dow Ave & Newton Ave
 Start Date: Thursday Jun 2, 2022

Site ID: 27865
 Interval: 15 min.

Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary	Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary
0:15	69	34		12:15	426	206	2400
0:30	56	23		12:30	432	222	2509
0:45	59	30		12:45	452	230	2568
1:00	38	22	331	13:00	461	206	2635
1:15	45	20	293	13:15	417	215	2635
1:30	40	16	270	13:30	418	194	2593
1:45	24	21	226	13:45	451	200	2562
2:00	24	11	201	14:00	429	215	2539
2:15	23	19	178	14:15	403	194	2504
2:30	20	13	155	14:30	431	225	2548
2:45	19	6	135	14:45	486	233	2616
3:00	18	7	125	15:00	483	272	2727
3:15	11	11	105	15:15	472	271	2873
3:30	15	3	90	15:30	537	290	3044
3:45	19	9	93	15:45	538	275	3138
4:00	16	10	94	16:00	538	238	3159
4:15	6	9	87	16:15	533	283	3232
4:30	21	13	103	16:30	512	268	3185
4:45	22	15	112	16:45	526	294	3192
5:00	50	17	153	17:00	492	281	3189
5:15	53	25	216	17:15	472	263	3108
5:30	63	20	265	17:30	513	274	3115
5:45	87	40	355	17:45	494	239	3028
6:00	129	37	454	18:00	458	223	2936
6:15	141	69	586	18:15	492	239	2932
6:30	219	98	820	18:30	492	202	2839
6:45	285	116	1094	18:45	430	185	2721
7:00	345	104	1377	19:00	427	193	2660
7:15	305	136	1608	19:15	412	182	2523
7:30	347	179	1817	19:30	362	188	2379
7:45	439	197	2052	19:45	358	158	2280
8:00	532	218	2353	20:00	351	153	2164
8:15	567	235	2714	20:15	355	164	2089
8:30	539	238	2965	20:30	365	172	2076
8:45	491	217	3037	20:45	293	178	2031
9:00	481	218	2986	21:00	333	153	2013
9:15	423	166	2773	21:15	327	130	1951
9:30	379	188	2563	21:30	306	132	1852
9:45	409	189	2453	21:45	262	114	1757
10:00	432	168	2354	22:00	249	107	1627
10:15	412	182	2359	22:15	200	114	1484
10:30	377	170	2339	22:30	211	93	1350
10:45	383	167	2291	22:45	184	106	1264
11:00	349	160	2200	23:00	158	77	1143
11:15	365	176	2147	23:15	170	83	1082
11:30	362	183	2145	23:30	131	66	975
11:45	404	219	2218	23:45	104	52	841
12:00	417	183	2309	0:00	101	45	752

AM Peak: 3037

PM Peak: 3232

24 HR VOLUME: 42481

Class/Volume Report Graph

HI-Star ID: 62E3F
 Street: Main St W - EB
 State: ON
 City: City of Hamilton
 Area: btwn Dow Ave & Newton Ave

Begin: 2022-05-31 12:00 AM
 Lane: EB
 Oper: MD
 Posted: 50
 AADT Factor: 1

End: 2022-06-03 12:00 AM
 Hours: 72:00
 Period: 15
 Raw Count: 85337
 AADT Count: 28446

NC300 - Metres		0.0 to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.4	12.5 to 15.9	16.0 to 18.4	19.0 to 22.4	22.5 >	Total	
2022-05-31	[12:00 AM-12:15 AM]	58	35	18	1	2	0	0	1	0	57
2022-05-31	[12:15 AM-12:30 AM]	57	31	24	1	0	1	0	0	0	57
2022-05-31	[12:30 AM-12:45 AM]	41	13	23	0	3	2	0	0	0	41
2022-05-31	[12:45 AM-01:00 AM]	36	18	14	1	2	1	0	0	0	36
		192	97	79	3	7	4	0	1	0	191
2022-05-31	[01:00 AM-01:15 AM]	31	16	14	0	0	0	0	0	0	30
2022-05-31	[01:15 AM-01:30 AM]	34	21	10	1	2	0	0	0	0	34
2022-05-31	[01:30 AM-01:45 AM]	29	16	11	0	0	2	0	0	0	29
2022-05-31	[01:45 AM-02:00 AM]	23	7	15	0	0	1	0	0	0	23
		117	60	50	1	2	3	0	0	0	116
2022-05-31	[02:00 AM-02:15 AM]	25	12	12	0	1	0	0	0	0	25
2022-05-31	[02:15 AM-02:30 AM]	19	11	8	0	0	0	0	0	0	19
2022-05-31	[02:30 AM-02:45 AM]	25	14	11	0	0	0	0	0	0	25
2022-05-31	[02:45 AM-03:00 AM]	21	12	8	0	1	0	0	0	0	21
		90	49	39	0	2	0	0	0	0	90
2022-05-31	[03:00 AM-03:15 AM]	10	5	5	0	0	0	0	0	0	10
2022-05-31	[03:15 AM-03:30 AM]	17	12	5	0	0	0	0	0	0	17
2022-05-31	[03:30 AM-03:45 AM]	10	4	4	0	0	0	1	1	0	10
2022-05-31	[03:45 AM-04:00 AM]	14	8	5	0	1	0	0	0	0	14
		51	29	19	0	1	0	1	1	0	51
2022-05-31	[04:00 AM-04:15 AM]	19	6	10	0	2	1	0	0	0	19
2022-05-31	[04:15 AM-04:30 AM]	22	10	11	1	0	0	0	0	0	22

2022-06-02 [11:45 PM-12:00 AM]		101	53	44	0	1	3	0	0	0	101	
		506	278	210	1	8	6	0	3	0	506	
Daily Totals:		28777	15060	12441	210	429	303	121	155	21	28740	
Total Counted:		85337										
Total Classified:		85227	85337	45297	36280	562	1351	876	369	435	57	85227
Total Unclassified:		110										
Report Percentages:			53.15%	42.57%	0.66%	1.59%	1.03%	0.43%	0.51%	0.07%		
Peak Time: (AM):		2022-06-01 [08:00 AM-08:15 AM]	Peak Count:		567							
Peak Time: (PM):		2022-05-31 [04:15 PM-04:30 PM]	Peak Count:		575							

Class/Volume Report Graph

HI-Star ID: 6289A
 Street: Main St W - WB
 State: ON
 City: City of Hamilton
 Area: btwn Dow Ave & Newton Ave

Begin: 2022-05-31 12:00 AM
 Lane: WB
 Oper: MD
 Posted: 50
 AADT Factor: 1

End: 2022-06-03 12:00 AM
 Hours: 72:00
 Period: 15
 Raw Count: 40594
 AADT Count: 13531

NC300 - Metres	0.0 to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.4	12.5 to 15.9	16.0 to 18.4	18.5 to 22.4	22.5 >	Total
2022-05-31 [12:00 AM-12:15 AM]	38	24	14	0	0	0	0	0	38
2022-05-31 [12:15 AM-12:30 AM]	23	13	10	0	0	0	0	0	23
2022-05-31 [12:30 AM-12:45 AM]	28	17	11	0	0	0	0	0	28
2022-05-31 [12:45 AM-01:00 AM]	23	12	10	0	0	1	0	0	23
	112	66	45	0	0	1	0	0	112
2022-05-31 [01:00 AM-01:15 AM]	20	14	6	0	0	0	0	0	20
2022-05-31 [01:15 AM-01:30 AM]	21	13	7	0	1	0	0	0	21
2022-05-31 [01:30 AM-01:45 AM]	20	9	9	0	1	1	0	0	20
2022-05-31 [01:45 AM-02:00 AM]	13	8	5	0	0	0	0	0	13
	74	44	27	0	2	1	0	0	74
2022-05-31 [02:00 AM-02:15 AM]	8	5	3	0	0	0	0	0	8
2022-05-31 [02:15 AM-02:30 AM]	9	8	1	0	0	0	0	0	9
2022-05-31 [02:30 AM-02:45 AM]	13	11	2	0	0	0	0	0	13
2022-05-31 [02:45 AM-03:00 AM]	10	8	2	0	0	0	0	0	10
	40	32	8	0	0	0	0	0	40
2022-05-31 [03:00 AM-03:15 AM]	6	3	3	0	0	0	0	0	6
2022-05-31 [03:15 AM-03:30 AM]	10	4	6	0	0	0	0	0	10
2022-05-31 [03:30 AM-03:45 AM]	12	5	7	0	0	0	0	0	12
2022-05-31 [03:45 AM-04:00 AM]	7	5	2	0	0	0	0	0	7
	35	17	18	0	0	0	0	0	35
2022-05-31 [04:00 AM-04:15 AM]	11	6	3	1	1	0	0	0	11
2022-05-31 [04:15 AM-04:30 AM]	12	7	4	0	1	0	0	0	12

2022-06-02 [11:45 PM-12:00 AM]		45	29	15	0	0	1	0	0	0	45	
		246	164	79	0	1	1	1	0	0	246	
Daily Totals:		13704	8025	5332	64	143	60	35	27	3	13689	
Total Counted:		40594										
Total Classified:		40537	40594	23919	15676	208	379	185	103	59	8	40537
Total Unclassified:		57										
Report Percentages:			59.01%	38.67%	0.51%	0.93%	0.46%	0.25%	0.15%	0.02%		
Peak Time: (AM):		2022-06-01 [07:45 AM-08:00 AM]	Peak Count:		256							
Peak Time: (PM):		2022-05-31 [05:15 PM-05:30 PM]	Peak Count:		332							

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
2013	403			UC	105,500	105,800	106,100	100,100	8,450	89	1.0	11	0.1
2014	403			UC	99,900	100,200	96,100	94,800	8,000	41	0.5	2	0.0
2015	403			UC	109,100	109,500	104,900	103,500	8,200	70	0.8	5	0.1
2016	403			UC	109,400	109,800	105,200	103,800	8,200	70	0.8	10	0.1
2017	403			UC	110,600	109,900	110,900	106,000	8,300	60	0.6	3	0.0
2018	403			UC	111,900	111,000	112,800	107,400	8,400	41	0.4	6	0.1
2019	403			UC	113,100	111,400	113,100	109,000	8,500	51	0.5	6	0.1
2021	403			UC	115,600	115,900	117,400	111,400	9,250	61	0.6	9	0.1
1988	403	MAIN ST IC HAMILTON	1.4	UC	52,300	54,900	59,100	49,200	10,500	28	1.1	4	0.2
1989	403			UC	54,300	57,000	61,400	51,600	10,900	41	1.5	12	0.4
1990	403			UC	56,200	60,100	65,200	53,400	11,200	32	1.1	4	0.1
1991	403			UC	58,000	61,500	66,700	56,300	11,600	48	1.6	12	0.4
1992	403			UC	59,900	63,500	68,900	57,500	12,000	26	0.9	4	0.1
1993	403			UC	61,800	65,100	70,200	57,900	12,400	44	1.4	5	0.2
1994	403			UC	63,300	67,100	72,400	58,900	12,700	38	1.2	9	0.3
1995	403			UC	65,600	69,200	75,000	61,200	13,100	36	1.1	12	0.4
1996	403			UC	67,800	71,800	79,300	64,500	13,600	35	1.0	2	0.1
1997	403			UC	70,000	73,500	81,900	65,800	14,000	40	1.1	4	0.1
1998	403			UC	72,300	76,600	84,600	68,700	14,500	21	0.6	12	0.3
1999	403			UC	74,500	79,000	87,200	70,800	14,900	51	1.4	12	0.3
2000	403			UC	81,000	85,900	95,600	76,100	16,200	39	1.0	6	0.1
2001	403			UC	82,300	88,200	96,800	77,300	16,500	26	0.6	5	0.1
2002	403			UC	85,200	90,800	100,200	79,800	17,000	36	0.8	4	0.1
2003	403			UC	95,100	100,500	111,400	89,800	19,000	43	0.9	7	0.1
2004	403			UC	88,700	95,000	104,300	83,400	17,700	37	0.8	6	0.1
2005	403			UC	93,700	99,100	109,600	87,900	18,700	51	1.1	8	0.2
2006	403			UC	94,100	99,500	110,000	88,600	18,800	36	0.8	7	0.1
2007	403			UC	92,300	97,900	106,800	86,600	18,500	36	0.8	10	0.2
2008	403			UC	99,400	105,000	98,600	93,000	19,900	38	0.8	4	0.1
2009	403			UC	98,500	104,400	115,200	92,600	19,700	35	0.7	2	0.0
2010	403			UC	98,500	104,100	114,600	92,600	19,700	45	0.9	5	0.1
2011	403			UC	98,000	98,300	101,700	93,000	19,600	54	1.1	7	0.1
2012	403			UC	98,600	99,200	105,500	93,700	19,700	57	1.1	7	0.1
2013	403			UC	98,700	99,000	99,200	93,700	19,700	32	0.6	3	0.1
2014	403			UC	99,000	99,300	95,200	93,900	19,800	72	1.4	6	0.1
2015	403			UC	102,800	103,100	98,900	97,600	20,600	59	1.1	5	0.1
2016	403			UC	103,000	103,300	99,100	97,700	20,600	52	1.0	3	0.1
2017	403			UC	109,700	109,000	110,000	105,100	21,900	60	1.1	5	0.1
2018	403			UC	111,500	110,600	112,400	107,000	22,300	38	0.7	2	0.0
2019	403			UC	113,400	111,700	113,400	109,300	22,700	58	1.0	5	0.1
2021	403			UC	117,000	117,300	118,800	112,700	23,400	50	0.8	4	0.1

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
1988	403	ABERDEEN AV UP IC HAMILTON	4.8	UC	41,200	43,300	46,600	38,700	8,250	63	0.9	10	0.1
1989	403			UC	44,100	46,300	49,800	41,900	8,800	79	1.0	11	0.1
1990	403			UC	46,800	50,100	54,300	44,500	9,350	63	0.8	15	0.2
1991	403			UC	48,000	50,900	55,200	46,600	9,600	60	0.7	5	0.1
1992	403			UC	50,000	53,000	57,500	48,000	10,000	50	0.6	7	0.1
1993	403			UC	52,000	54,800	59,100	48,700	10,400	61	0.7	14	0.2
1994	403			C	54,300	59,500	60,500	49,100	10,900	65	0.7	14	0.1
1995	403			C	54,300	59,300	60,800	49,700	10,900	39	0.4	13	0.1
1996	403			C	57,300	64,900	65,200	51,700	11,500	61	0.6	10	0.1
1997	403			UC	60,500	63,500	70,800	56,900	12,100	52	0.5	13	0.1
1998	403			UC	67,200	71,200	78,600	63,800	13,400	70	0.6	24	0.2
1999	403			UC	68,300	72,400	79,900	64,900	13,700	94	0.8	32	0.3
2000	403			SC	71,500	75,800	83,700	62,900	14,300	103	0.8	18	0.1
2001	403			SC	74,700	79,700	87,500	65,800	7,450	114	0.9	22	0.2
2002	403			SC	77,900	82,700	91,200	68,700	7,800	144	1.1	30	0.2
2003	403			SC	81,100	85,600	94,600	71,800	8,100	124	0.9	24	0.2
2004	403			SC	84,300	89,900	98,700	74,300	8,450	122	0.8	26	0.2
2005	403			SC	86,200	91,300	100,700	75,900	8,600	131	0.9	32	0.2
2006	403			SC	90,700	96,000	106,000	80,000	9,050	141	0.9	24	0.2
2007	403			SC	87,300	92,300	100,900	76,800	8,750	149	1.0	35	0.2
2008	403			SC	82,000	86,000	81,100	72,100	8,200	111	0.8	13	0.1
2009	403			SC	92,200	97,700	107,900	81,100	9,200	85	0.5	10	0.1
2010	403			SC	87,700	92,800	102,700	77,300	8,750	96	0.6	15	0.1
2011	403			SC	85,000	108,800	99,300	67,600	8,500	65	0.4	9	0.1
2012	403			UC	92,000	92,600	98,500	87,400	9,200	54	0.3	7	0.0
2013	403			CTR	83,300	101,400	104,700	70,700	8,350	87	0.6	11	0.1
2014	403			CTR	83,400	101,700	102,600	70,900	8,350	111	0.8	28	0.2
2015	403			IR	88,700	105,600	105,800	75,500	8,850	121	0.8	14	0.1
2016	403			IR	83,800	99,800	100,000	71,300	8,400	122	0.8	15	0.1
2017	403			IR	96,300	113,000	113,000	85,900	9,650	157	0.9	18	0.1
2018	403			IR	97,800	114,900	115,000	87,500	9,800	146	0.9	17	0.1
2019	403			IR	99,300	116,500	116,500	89,000	9,950	139	0.8	22	0.1
2021	403			IR	102,400	119,800	120,200	91,400	10,200	155	0.9	21	0.1
1988	403	LINC. AX PKY/ ROUSSEAU ST IC	2.9	UC	30,000	31,500	33,900	28,200	6,000	16	0.5	9	0.3
1989	403			UC	34,500	36,200	39,000	32,800	6,900	20	0.5	1	0.0
1990	403			UC	38,000	40,700	44,100	36,100	7,600	18	0.4	3	0.1
1991	403			UC	35,700	37,800	41,100	34,600	7,150	11	0.3	1	0.0
1992	403			UC	37,500	39,800	43,100	36,000	7,500	17	0.4	4	0.1
1993	403			UC	39,400	41,500	44,800	36,900	7,900	14	0.3	1	0.0
1994	403			UC	36,000	38,200	41,200	33,500	7,200	26	0.7	3	0.1
1995	403			UC	36,000	38,000	41,200	33,600	7,200	16	0.4	4	0.1

Appendix C: Transportation Noise Predictions

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:52:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow1.te Time Period: Day/Night 16/8 hours
Description: POW East of Project (Level 29)

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (day/night)

Angle1 Angle2 : -90.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 134.52 / 134.52 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00

Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (day/night)

Angle1 Angle2 : -90.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 118.52 / 118.52 m
Receiver height : 84.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 3: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: MS-E (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 23.84 / 23.84 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 4: MS-W (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *

Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: MS-W (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 37.52 / 37.52 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 5: LR (day/night)

Car traffic volume : 2435/271 veh/TimePeriod *
Medium truck volume : 412/46 veh/TimePeriod *
Heavy truck volume : 182/20 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
Percentage of Annual Growth : 2.00
Number of Years of Growth : 21.00
Medium Truck % of Total Volume : 13.60
Heavy Truck % of Total Volume : 6.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: LR (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 : 42.33 / 42.33 m
Receiver height : 84.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 6: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 896/159 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
Percentage of Annual Growth : 2.50
Number of Years of Growth : 7.00
Medium Truck % of Total Volume : 100.00
Heavy Truck % of Total Volume : 0.00
Day (16 hrs) % of Total Volume : 84.91

Data for Segment # 6: Main (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 : 30.68 / 30.68 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 7: Spur (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 43/43 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 72
Percentage of Annual Growth : 2.50

Number of Years of Growth : 7.00
 Medium Truck % of Total Volume : 100.00
 Heavy Truck % of Total Volume : 0.00
 Day (16 hrs) % of Total Volume : 50.00

Data for Segment # 7: Spur (day/night)

 Angle1 Angle2 : 0.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 42.33 / 42.33 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Results segment # 1: HW-E (day)

Source height = 1.50 m

ROAD (0.00 + 69.82 + 0.00) = 69.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	81.86	0.00	-9.53	-2.51	0.00	0.00	0.00	69.82

Segment Leq : 69.82 dBA



Results segment # 2: HW-W (day)

Source height = 1.50 m

ROAD (0.00 + 70.37 + 0.00) = 70.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	81.86	0.00	-8.98	-2.51	0.00	0.00	0.00	70.37

Segment Leq : 70.37 dBA



Results segment # 3: MS-E (day)

Source height = 1.19 m

ROAD (0.00 + 62.09 + 0.00) = 62.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.12	0.00	-2.01	-3.01	0.00	0.00	0.00	62.09

Segment Leq : 62.09 dBA



Results segment # 4: MS-W (day)

Source height = 1.19 m

ROAD (0.00 + 60.12 + 0.00) = 60.12 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.12	0.00	-3.98	-3.01	0.00	0.00	0.00	60.12

Segment Leq : 60.12 dBA



Results segment # 5: LR (day)

Source height = 1.57 m

ROAD (0.00 + 56.72 + 0.00) = 56.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	61.22	0.00	-4.51	0.00	0.00	0.00	0.00	56.72

Segment Leq : 56.72 dBA



Results segment # 6: Main (day)

Source height = 0.50 m

ROAD (0.00 + 60.03 + 0.00) = 60.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	63.14	0.00	-3.11	0.00	0.00	0.00	0.00	60.03

Segment Leq : 60.03 dBA



Results segment # 7: Spur (day)

Source height = 0.50 m

ROAD (0.00 + 42.44 + 0.00) = 42.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	49.95	0.00	-4.51	-3.01	0.00	0.00	0.00	42.44

Segment Leq : 42.44 dBA

Total Leq All Segments: 73.91 dBA



Results segment # 1: HW-E (night)

Source height = 1.50 m

ROAD (0.00 + 63.29 + 0.00) = 63.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	75.33	0.00	-9.53	-2.51	0.00	0.00	0.00	63.29

Segment Leq : 63.29 dBA



Results segment # 2: HW-W (night)

Source height = 1.50 m

ROAD (0.00 + 63.84 + 0.00) = 63.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	75.33	0.00	-8.98	-2.51	0.00	0.00	0.00	63.84

Segment Leq : 63.84 dBA



Results segment # 3: MS-E (night)

Source height = 1.19 m

ROAD (0.00 + 55.58 + 0.00) = 55.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.61	0.00	-2.01	-3.01	0.00	0.00	0.00	55.58

Segment Leq : 55.58 dBA



Results segment # 4: MS-W (night)

Source height = 1.19 m

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.61	0.00	-3.98	-3.01	0.00	0.00	0.00	53.61

Segment Leq : 53.61 dBA



Results segment # 5: LR (night)

Source height = 1.56 m

ROAD (0.00 + 50.16 + 0.00) = 50.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.67	0.00	-4.51	0.00	0.00	0.00	0.00	50.16

Segment Leq : 50.16 dBA



Results segment # 6: Main (night)

Source height = 0.50 m

ROAD (0.00 + 55.53 + 0.00) = 55.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	58.64	0.00	-3.11	0.00	0.00	0.00	0.00	55.53

Segment Leq : 55.53 dBA

↑

Results segment # 7: Spur (night)

Source height = 0.50 m

ROAD (0.00 + 45.45 + 0.00) = 45.45 dBA

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

0	90	0.00	52.96	0.00	-4.51	-3.01	0.00	0.00	0.00	45.45
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Segment Leq : 45.45 dBA

Total Leq All Segments: 67.51 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 73.91

(NIGHT): 67.51

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:49:33
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow2.te Time Period: Day/Night 16/8 hours
Description: POW South of Project (Level 29)

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (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 : 117.57 / 117.57 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00

Number of Years of Growth : 17.00
 Medium Truck % of Total Volume : 15.00
 Heavy Truck % of Total Volume : 5.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (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 : 101.89 / 101.89 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 3: LR (day/night)

 Car traffic volume : 2435/271 veh/TimePeriod *
 Medium truck volume : 412/46 veh/TimePeriod *
 Heavy truck volume : 182/20 veh/TimePeriod *
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
 Percentage of Annual Growth : 2.00
 Number of Years of Growth : 21.00
 Medium Truck % of Total Volume : 13.60
 Heavy Truck % of Total Volume : 6.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: LR (day/night)

 Angle1 Angle2 : 0.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 50.04 / 50.04 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 4: Spur (day/night)

 Car traffic volume : 0/0 veh/TimePeriod *

Medium truck volume : 43/43 veh/TimePeriod *
 Heavy truck volume : 0/0 veh/TimePeriod *
 Posted speed limit : 60 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 72
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 7.00
 Medium Truck % of Total Volume : 100.00
 Heavy Truck % of Total Volume : 0.00
 Day (16 hrs) % of Total Volume : 50.00

Data for Segment # 4: Spur (day/night)

 Angle1 Angle2 : 0.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 50.04 / 50.04 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: HW-E (day)

Source height = 1.50 m

ROAD (0.00 + 72.92 + 0.00) = 72.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	81.86	0.00	-8.94	0.00	0.00	0.00	0.00	72.92

Segment Leq : 72.92 dBA

↑

Results segment # 2: HW-W (day)

Source height = 1.50 m

ROAD (0.00 + 73.54 + 0.00) = 73.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	81.86	0.00	-8.32	0.00	0.00	0.00	0.00	73.54

Segment Leq : 73.54 dBA

↑
Results segment # 3: LR (day)

Source height = 1.57 m

ROAD (0.00 + 52.98 + 0.00) = 52.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	61.22	0.00	-5.23	-3.01	0.00	0.00	0.00	52.98

Segment Leq : 52.98 dBA

↑
Results segment # 4: Spur (day)

Source height = 0.50 m

ROAD (0.00 + 41.71 + 0.00) = 41.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	49.95	0.00	-5.23	-3.01	0.00	0.00	0.00	41.71

Segment Leq : 41.71 dBA

Total Leq All Segments: 76.27 dBA

↑
Results segment # 1: HW-E (night)

Source height = 1.50 m

ROAD (0.00 + 66.39 + 0.00) = 66.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	75.33	0.00	-8.94	0.00	0.00	0.00	0.00	66.39

Segment Leq : 66.39 dBA

↑
Results segment # 2: HW-W (night)

Source height = 1.50 m

ROAD (0.00 + 67.01 + 0.00) = 67.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	75.33	0.00	-8.32	0.00	0.00	0.00	0.00	67.01

Segment Leq : 67.01 dBA

↑

Results segment # 3: LR (night)

Source height = 1.56 m

ROAD (0.00 + 46.42 + 0.00) = 46.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	54.67	0.00	-5.23	-3.01	0.00	0.00	0.00	46.42

Segment Leq : 46.42 dBA

↑

Results segment # 4: Spur (night)

Source height = 0.50 m

ROAD (0.00 + 44.72 + 0.00) = 44.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	52.96	0.00	-5.23	-3.01	0.00	0.00	0.00	44.72

Segment Leq : 44.72 dBA

Total Leq All Segments: 69.76 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 76.27
(NIGHT): 69.76

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:49:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow3.te Time Period: Day/Night 16/8 hours
Description: POW West of Project (Level 26)

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (day/night)

Angle1 Angle2 : 18.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 157.72 / 157.72 m
Receiver height : 84.83 / 84.83 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00

Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (day/night)

Angle1 Angle2 : 18.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 138.06 / 138.06 m
Receiver height : 84.83 / 84.83 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 3: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: MS-E (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 29.56 / 29.56 m
Receiver height : 84.83 / 84.83 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 4: MS-W (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *

Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: MS-W (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 41.01 / 41.01 m
Receiver height : 84.83 / 84.83 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 5: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 896/159 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
Percentage of Annual Growth : 2.50
Number of Years of Growth : 7.00
Medium Truck % of Total Volume : 100.00
Heavy Truck % of Total Volume : 0.00
Day (16 hrs) % of Total Volume : 84.91

Data for Segment # 5: Main (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)
 Receiver source distance : 35.29 / 35.29 m
 Receiver height : 84.83 / 84.83 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: HW-E (day)

Source height = 1.50 m

ROAD (0.00 + 67.66 + 0.00) = 67.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
18	90	0.00	81.86	0.00	-10.22	-3.98	0.00	0.00	0.00	67.66

Segment Leq : 67.66 dBA

↑

Results segment # 2: HW-W (day)

Source height = 1.50 m

ROAD (0.00 + 68.24 + 0.00) = 68.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
18	90	0.00	81.86	0.00	-9.64	-3.98	0.00	0.00	0.00	68.24

Segment Leq : 68.24 dBA

↑

Results segment # 3: MS-E (day)

Source height = 1.19 m

ROAD (0.00 + 61.16 + 0.00) = 61.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	67.12	0.00	-2.95	-3.01	0.00	0.00	0.00	61.16

Segment Leq : 61.16 dBA

↑

Results segment # 4: MS-W (day)

Source height = 1.19 m

ROAD (0.00 + 59.74 + 0.00) = 59.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	67.12	0.00	-4.37	-3.01	0.00	0.00	0.00	59.74

Segment Leq : 59.74 dBA

↑

Results segment # 5: Main (day)

Source height = 0.50 m

ROAD (0.00 + 56.41 + 0.00) = 56.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	63.14	0.00	-3.72	-3.01	0.00	0.00	0.00	56.41

Segment Leq : 56.41 dBA

Total Leq All Segments: 71.82 dBA

↑

Results segment # 1: HW-E (night)

Source height = 1.50 m

ROAD (0.00 + 61.13 + 0.00) = 61.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
18	90	0.00	75.33	0.00	-10.22	-3.98	0.00	0.00	0.00	61.13

Segment Leq : 61.13 dBA

↑

Results segment # 2: HW-W (night)

Source height = 1.50 m

ROAD (0.00 + 61.71 + 0.00) = 61.71 dBA

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

18	90	0.00	75.33	0.00	-9.64	-3.98	0.00	0.00	0.00	61.71
----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 61.71 dBA

↑
Results segment # 3: MS-E (night)

Source height = 1.19 m

ROAD (0.00 + 54.65 + 0.00) = 54.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	60.61	0.00	-2.95	-3.01	0.00	0.00	0.00	54.65

Segment Leq : 54.65 dBA

↑
Results segment # 4: MS-W (night)

Source height = 1.19 m

ROAD (0.00 + 53.23 + 0.00) = 53.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	60.61	0.00	-4.37	-3.01	0.00	0.00	0.00	53.23

Segment Leq : 53.23 dBA

↑
Results segment # 5: Main (night)

Source height = 0.50 m

ROAD (0.00 + 51.92 + 0.00) = 51.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	58.64	0.00	-3.72	-3.01	0.00	0.00	0.00	51.92

Segment Leq : 51.92 dBA

Total Leq All Segments: 65.36 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 71.82
(NIGHT): 65.36



STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:50:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow4.te Time Period: Day/Night 16/8 hours
Description: POW North of Project (Level 29)

Road data, segment # 1: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: MS-E (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 : 17.41 / 17.41 m
Receiver height : 94.25 / 94.25 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: MS-W (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00

Number of Years of Growth : 16.00
 Medium Truck % of Total Volume : 2.20
 Heavy Truck % of Total Volume : 2.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MS-W (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 : 30.40 / 30.40 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 3: LR (day/night)

 Car traffic volume : 2435/271 veh/TimePeriod *
 Medium truck volume : 412/46 veh/TimePeriod *
 Heavy truck volume : 182/20 veh/TimePeriod *
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
 Percentage of Annual Growth : 2.00
 Number of Years of Growth : 21.00
 Medium Truck % of Total Volume : 13.60
 Heavy Truck % of Total Volume : 6.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: LR (day/night)

 Angle1 Angle2 : -90.00 deg 0.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 53.86 / 53.86 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 4: Main (day/night)

 Car traffic volume : 0/0 veh/TimePeriod *

Medium truck volume : 896/159 veh/TimePeriod *
 Heavy truck volume : 0/0 veh/TimePeriod *
 Posted speed limit : 60 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 7.00
 Medium Truck % of Total Volume : 100.00
 Heavy Truck % of Total Volume : 0.00
 Day (16 hrs) % of Total Volume : 84.91

Data for Segment # 4: Main (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 : 23.91 / 23.91 m
 Receiver height : 94.25 / 94.25 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: MS-E (day)

Source height = 1.19 m

ROAD (0.00 + 66.47 + 0.00) = 66.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.12	0.00	-0.65	0.00	0.00	0.00	0.00	66.47

Segment Leq : 66.47 dBA

↑

Results segment # 2: MS-W (day)

Source height = 1.19 m

ROAD (0.00 + 64.05 + 0.00) = 64.05 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.12	0.00	-3.07	0.00	0.00	0.00	0.00	64.05

Segment Leq : 64.05 dBA

↑
Results segment # 3: LR (day)

Source height = 1.57 m

ROAD (0.00 + 52.66 + 0.00) = 52.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	61.22	0.00	-5.55	-3.01	0.00	0.00	0.00	52.66

Segment Leq : 52.66 dBA

↑
Results segment # 4: Main (day)

Source height = 0.50 m

ROAD (0.00 + 61.12 + 0.00) = 61.12 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	63.14	0.00	-2.02	0.00	0.00	0.00	0.00	61.12

Segment Leq : 61.12 dBA

Total Leq All Segments: 69.27 dBA

↑
Results segment # 1: MS-E (night)

Source height = 1.19 m

ROAD (0.00 + 59.96 + 0.00) = 59.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.61	0.00	-0.65	0.00	0.00	0.00	0.00	59.96

Segment Leq : 59.96 dBA

↑
Results segment # 2: MS-W (night)

Source height = 1.19 m

ROAD (0.00 + 57.54 + 0.00) = 57.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.61	0.00	-3.07	0.00	0.00	0.00	0.00	57.54

Segment Leq : 57.54 dBA

↑

Results segment # 3: LR (night)

Source height = 1.56 m

ROAD (0.00 + 46.11 + 0.00) = 46.11 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	54.67	0.00	-5.55	-3.01	0.00	0.00	0.00	46.11

Segment Leq : 46.11 dBA

↑

Results segment # 4: Main (night)

Source height = 0.50 m

ROAD (0.00 + 56.62 + 0.00) = 56.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	58.64	0.00	-2.02	0.00	0.00	0.00	0.00	56.62

Segment Leq : 56.62 dBA

Total Leq All Segments: 63.14 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 69.27
(NIGHT): 63.14

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:50:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow5.te Time Period: Day/Night 16/8 hours
Description: POW North of Project (Level 6)

Road data, segment # 1: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: MS-E (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 : 15.48 / 15.48 m
Receiver height : 23.55 / 23.55 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: MS-W (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00

Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MS-W (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 : 26.91 / 26.91 m
Receiver height : 23.55 / 23.55 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 3: LR (day/night)

Car traffic volume : 2435/271 veh/TimePeriod *
Medium truck volume : 412/46 veh/TimePeriod *
Heavy truck volume : 182/20 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
Percentage of Annual Growth : 2.00
Number of Years of Growth : 21.00
Medium Truck % of Total Volume : 13.60
Heavy Truck % of Total Volume : 6.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: LR (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 88.79 / 88.79 m
Receiver height : 23.55 / 23.55 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 4: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *

Medium truck volume : 896/159 veh/TimePeriod *
 Heavy truck volume : 0/0 veh/TimePeriod *
 Posted speed limit : 60 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 7.00
 Medium Truck % of Total Volume : 100.00
 Heavy Truck % of Total Volume : 0.00
 Day (16 hrs) % of Total Volume : 84.91

Data for Segment # 4: Main (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 : 21.20 / 21.20 m
 Receiver height : 23.55 / 23.55 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: MS-E (day)

Source height = 1.19 m

ROAD (0.00 + 66.98 + 0.00) = 66.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.12	0.00	-0.14	0.00	0.00	0.00	0.00	66.98

Segment Leq : 66.98 dBA

↑

Results segment # 2: MS-W (day)

Source height = 1.19 m

ROAD (0.00 + 64.58 + 0.00) = 64.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.12	0.00	-2.54	0.00	0.00	0.00	0.00	64.58

Segment Leq : 64.58 dBA

↑
Results segment # 3: LR (day)

Source height = 1.57 m

ROAD (0.00 + 50.49 + 0.00) = 50.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	61.22	0.00	-7.72	-3.01	0.00	0.00	0.00	50.49

Segment Leq : 50.49 dBA

↑
Results segment # 4: Main (day)

Source height = 0.50 m

ROAD (0.00 + 61.64 + 0.00) = 61.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	63.14	0.00	-1.50	0.00	0.00	0.00	0.00	61.64

Segment Leq : 61.64 dBA

Total Leq All Segments: 69.75 dBA

↑
Results segment # 1: MS-E (night)

Source height = 1.19 m

ROAD (0.00 + 60.47 + 0.00) = 60.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.61	0.00	-0.14	0.00	0.00	0.00	0.00	60.47

Segment Leq : 60.47 dBA

↑
Results segment # 2: MS-W (night)

Source height = 1.19 m

ROAD (0.00 + 58.07 + 0.00) = 58.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.61	0.00	-2.54	0.00	0.00	0.00	0.00	58.07

Segment Leq : 58.07 dBA

↑

Results segment # 3: LR (night)

Source height = 1.56 m

ROAD (0.00 + 43.93 + 0.00) = 43.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	54.67	0.00	-7.72	-3.01	0.00	0.00	0.00	43.93

Segment Leq : 43.93 dBA

↑

Results segment # 4: Main (night)

Source height = 0.50 m

ROAD (0.00 + 57.14 + 0.00) = 57.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	58.64	0.00	-1.50	0.00	0.00	0.00	0.00	57.14

Segment Leq : 57.14 dBA

Total Leq All Segments: 63.61 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 69.75
(NIGHT): 63.61

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:51:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow6.te Time Period: Day/Night 16/8 hours
Description: POW East of Project (Level 5)

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (day/night)

Angle1 Angle2 : -90.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 125.72 / 125.72 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00

Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (day/night)

Angle1 Angle2 : -90.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 109.55 / 109.55 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 3: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: MS-E (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 30.42 / 30.42 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 4: MS-W (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *

Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: MS-W (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 43.91 / 43.91 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 5: LR (day/night)

Car traffic volume : 2435/271 veh/TimePeriod *
Medium truck volume : 412/46 veh/TimePeriod *
Heavy truck volume : 182/20 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
Percentage of Annual Growth : 2.00
Number of Years of Growth : 21.00
Medium Truck % of Total Volume : 13.60
Heavy Truck % of Total Volume : 6.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: LR (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 : 29.65 / 29.65 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 6: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 896/159 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
Percentage of Annual Growth : 2.50
Number of Years of Growth : 7.00
Medium Truck % of Total Volume : 100.00
Heavy Truck % of Total Volume : 0.00
Day (16 hrs) % of Total Volume : 84.91

Data for Segment # 6: Main (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 37.17 / 37.17 m
Receiver height : 19.95 / 19.95 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 7: Spur (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 43/43 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 72
Percentage of Annual Growth : 2.50

Number of Years of Growth : 7.00
 Medium Truck % of Total Volume : 100.00
 Heavy Truck % of Total Volume : 0.00
 Day (16 hrs) % of Total Volume : 50.00

Data for Segment # 7: Spur (day/night)

 Angle1 Angle2 : 0.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 29.65 / 29.65 m
 Receiver height : 19.95 / 19.95 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Results segment # 1: HW-E (day)

Source height = 1.50 m

ROAD (0.00 + 70.12 + 0.00) = 70.12 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	81.86	0.00	-9.23	-2.51	0.00	0.00	0.00	70.12

Segment Leq : 70.12 dBA



Results segment # 2: HW-W (day)

Source height = 1.50 m

ROAD (0.00 + 70.71 + 0.00) = 70.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	81.86	0.00	-8.64	-2.51	0.00	0.00	0.00	70.71

Segment Leq : 70.71 dBA



Results segment # 3: MS-E (day)

Source height = 1.19 m

ROAD (0.00 + 61.04 + 0.00) = 61.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.12	0.00	-3.07	-3.01	0.00	0.00	0.00	61.04

Segment Leq : 61.04 dBA



Results segment # 4: MS-W (day)

Source height = 1.19 m

ROAD (0.00 + 59.44 + 0.00) = 59.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.12	0.00	-4.66	-3.01	0.00	0.00	0.00	59.44

Segment Leq : 59.44 dBA



Results segment # 5: LR (day)

Source height = 1.57 m

ROAD (0.00 + 58.26 + 0.00) = 58.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	61.22	0.00	-2.96	0.00	0.00	0.00	0.00	58.26

Segment Leq : 58.26 dBA



Results segment # 6: Main (day)

Source height = 0.50 m

ROAD (0.00 + 56.19 + 0.00) = 56.19 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	63.14	0.00	-3.94	-3.01	0.00	0.00	0.00	56.19

Segment Leq : 56.19 dBA



Results segment # 7: Spur (day)

Source height = 0.50 m

ROAD (0.00 + 43.98 + 0.00) = 43.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	49.95	0.00	-2.96	-3.01	0.00	0.00	0.00	43.98

Segment Leq : 43.98 dBA

Total Leq All Segments: 74.03 dBA



Results segment # 1: HW-E (night)

Source height = 1.50 m

ROAD (0.00 + 63.59 + 0.00) = 63.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	75.33	0.00	-9.23	-2.51	0.00	0.00	0.00	63.59

Segment Leq : 63.59 dBA



Results segment # 2: HW-W (night)

Source height = 1.50 m

ROAD (0.00 + 64.18 + 0.00) = 64.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	11	0.00	75.33	0.00	-8.64	-2.51	0.00	0.00	0.00	64.18

Segment Leq : 64.18 dBA



Results segment # 3: MS-E (night)

Source height = 1.19 m

ROAD (0.00 + 54.52 + 0.00) = 54.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.61	0.00	-3.07	-3.01	0.00	0.00	0.00	54.52

Segment Leq : 54.52 dBA



Results segment # 4: MS-W (night)

Source height = 1.19 m

ROAD (0.00 + 52.93 + 0.00) = 52.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.61	0.00	-4.66	-3.01	0.00	0.00	0.00	52.93

Segment Leq : 52.93 dBA



Results segment # 5: LR (night)

Source height = 1.56 m

ROAD (0.00 + 51.71 + 0.00) = 51.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.67	0.00	-2.96	0.00	0.00	0.00	0.00	51.71

Segment Leq : 51.71 dBA



Results segment # 6: Main (night)

Source height = 0.50 m

ROAD (0.00 + 51.69 + 0.00) = 51.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	58.64	0.00	-3.94	-3.01	0.00	0.00	0.00	51.69

Segment Leq : 51.69 dBA



Results segment # 7: Spur (night)

Source height = 0.50 m

ROAD (0.00 + 46.99 + 0.00) = 46.99 dBA

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

0	90	0.00	52.96	0.00	-2.96	-3.01	0.00	0.00	0.00	46.99
---	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 46.99 dBA

Total Leq All Segments: 67.58 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 74.03
(NIGHT): 67.58



STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:52:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te Time Period: Day/Night 16/8 hours
Description: OLA at Level 7 Amenity

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (day/night)

Angle1 Angle2 : -24.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 145.22 / 145.22 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -24.00 deg Angle2 : 59.00 deg
Barrier height : 26.85 m
Barrier receiver distance : 8.31 / 8.31 m
Source elevation : -13.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (day/night)

Angle1 Angle2 : -24.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 128.14 / 128.14 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -24.00 deg Angle2 : 59.00 deg
Barrier height : 26.85 m
Barrier receiver distance : 8.31 / 8.31 m
Source elevation : -13.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑

Road data, segment # 3: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: MS-E (day/night)

Angle1 Angle2 : -62.00 deg 62.00 deg

Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 25.63 / 25.63 m
 Receiver height : 26.85 / 26.85 m
 Topography : 2 (Flat/gentle slope; with barrier)
 Barrier angle1 : -62.00 deg Angle2 : 62.00 deg
 Barrier height : 26.85 m
 Barrier receiver distance : 8.18 / 8.18 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Road data, segment # 4: MS-W (day/night)

 Car traffic volume : 19204/2134 veh/TimePeriod *
 Medium truck volume : 441/49 veh/TimePeriod *
 Heavy truck volume : 401/45 veh/TimePeriod *
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
 Percentage of Annual Growth : 2.00
 Number of Years of Growth : 16.00
 Medium Truck % of Total Volume : 2.20
 Heavy Truck % of Total Volume : 2.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: MS-W (day/night)

 Angle1 Angle2 : -62.00 deg 62.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 37.22 / 37.22 m
 Receiver height : 26.85 / 26.85 m
 Topography : 2 (Flat/gentle slope; with barrier)
 Barrier angle1 : -62.00 deg Angle2 : 62.00 deg
 Barrier height : 26.85 m
 Barrier receiver distance : 8.18 / 8.18 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00



Road data, segment # 5: LR (day/night)

Car traffic volume : 2435/271 veh/TimePeriod *
Medium truck volume : 412/46 veh/TimePeriod *
Heavy truck volume : 182/20 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
Percentage of Annual Growth : 2.00
Number of Years of Growth : 21.00
Medium Truck % of Total Volume : 13.60
Heavy Truck % of Total Volume : 6.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: LR (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 : 86.59 / 86.59 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg
Barrier height : 26.85 m
Barrier receiver distance : 15.20 / 15.20 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00



Road data, segment # 6: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 896/159 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
Percentage of Annual Growth : 2.50

Number of Years of Growth	:	7.00
Medium Truck % of Total Volume	:	100.00
Heavy Truck % of Total Volume	:	0.00
Day (16 hrs) % of Total Volume	:	84.91

Data for Segment # 6: Main (day/night)

```

-----
Angle1   Angle2       : -62.00 deg   62.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      2      (Reflective ground surface)
Receiver source distance : 31.43 / 31.43 m
Receiver height  : 26.85 / 26.85 m
Topography      :      2      (Flat/gentle slope; with barrier)
Barrier angle1   : -62.00 deg   Angle2 : 62.00 deg
Barrier height   : 26.85 m
Barrier receiver distance : 8.18 / 8.18 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle  : 0.00

```



Road data, segment # 7: Spur (day/night)

```

-----
Car traffic volume : 0/0      veh/TimePeriod *
Medium truck volume : 43/43    veh/TimePeriod *
Heavy truck volume  : 0/0      veh/TimePeriod *
Posted speed limit  : 60 km/h
Road gradient       : 0 %
Road pavement       : 1 (Typical asphalt or concrete)

```

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

24 hr Traffic Volume (AADT or SADT):	72
Percentage of Annual Growth	: 2.50
Number of Years of Growth	: 7.00
Medium Truck % of Total Volume	: 100.00
Heavy Truck % of Total Volume	: 0.00
Day (16 hrs) % of Total Volume	: 50.00

Data for Segment # 7: Spur (day/night)

```

-----
Angle1   Angle2       : 0.00 deg   90.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      2      (Reflective ground surface)
Receiver source distance : 86.59 / 86.59 m
Receiver height  : 26.85 / 26.85 m
Topography      :      2      (Flat/gentle slope; with barrier)

```


Barrier angle1 : 0.00 deg Angle2 : 50.00 deg
 Barrier height : 26.85 m
 Barrier receiver distance : 15.20 / 15.20 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Results segment # 1: HW-E (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.66 !	24.66

ROAD (0.00 + 56.82 + 0.00) = 56.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	81.86	0.00	-9.86	-3.36	0.00	0.00	-11.82	56.82

Segment Leq : 56.82 dBA

↑

Results segment # 2: HW-W (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.36 !	24.36

ROAD (0.00 + 56.42 + 0.00) = 56.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	81.86	0.00	-9.32	-3.36	0.00	0.00	-12.76	56.42

Segment Leq : 56.42 dBA



Results segment # 3: MS-E (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	18.66	!	18.66

ROAD (0.00 + 43.23 + 0.00) = 43.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	67.12	0.00	-2.33	-1.62	0.00	0.00	-19.94	43.23
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 43.23 dBA



Results segment # 4: MS-W (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	21.21	!	21.21

ROAD (0.00 + 42.64 + 0.00) = 42.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	67.12	0.00	-3.95	-1.62	0.00	0.00	-18.91	42.64
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 42.64 dBA



Results segment # 5: LR (day)

Source height = 1.57 m

Barrier height for grazing incidence

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

0	50	0.00	49.95	0.00	-7.61	-5.56	0.00	0.00	-15.97	20.81
50	90	0.00	49.95	0.00	-7.61	-6.53	0.00	0.00	0.00	35.81

Segment Leq : 35.94 dBA

Total Leq All Segments: 59.92 dBA

↑

Results segment # 1: HW-E (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.66 !	24.66

ROAD (0.00 + 50.29 + 0.00) = 50.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	75.33	0.00	-9.86	-3.36	0.00	0.00	-11.82	50.29

Segment Leq : 50.29 dBA

↑

Results segment # 2: HW-W (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.36 !	24.36

ROAD (0.00 + 49.89 + 0.00) = 49.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	75.33	0.00	-9.32	-3.36	0.00	0.00	-12.76	49.89

Segment Leq : 49.89 dBA



Results segment # 3: MS-E (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	18.66	!	18.66

ROAD (0.00 + 36.72 + 0.00) = 36.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	60.61	0.00	-2.33	-1.62	0.00	0.00	-19.94	36.72
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 36.72 dBA



Results segment # 4: MS-W (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	21.21	!	21.21

ROAD (0.00 + 36.13 + 0.00) = 36.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	60.61	0.00	-3.95	-1.62	0.00	0.00	-18.91	36.13
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 36.13 dBA



Results segment # 5: LR (night)

Source height = 1.56 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.56 !          26.85 !          22.41 !          22.41

ROAD (0.00 + 34.50 + 0.00) = 34.50 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
    -90     90   0.00  54.67   0.00  -7.61   0.00   0.00   0.00 -12.56  34.50
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----

```

Segment Leq : 34.50 dBA

↑
Results segment # 6: Main (night)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !          26.85 !          19.99 !          19.99

ROAD (0.00 + 34.14 + 0.00) = 34.14 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
    -62     62   0.00  58.64   0.00  -3.21  -1.62   0.00   0.00 -19.67  34.14
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----

```

Segment Leq : 34.14 dBA

↑
Results segment # 7: Spur (night)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !          26.85 !          22.22 !          22.22

ROAD (0.00 + 23.82 + 38.82) = 38.95 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----

```

0	50	0.00	52.96	0.00	-7.61	-5.56	0.00	0.00	-15.97	23.82
50	90	0.00	52.96	0.00	-7.61	-6.53	0.00	0.00	0.00	38.82

Segment Leq : 38.95 dBA

Total Leq All Segments: 53.55 dBA

⬆

TOTAL Leq FROM ALL SOURCES (DAY): 59.92
(NIGHT): 53.55

⬆

⬆

STAMSON 5.0 NORMAL REPORT Date: 27-01-2026 16:53:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1bar1.te Time Period: Day/Night 16/8 hours
Description: OLA at Level 7 Amenity (3.5m barrier)

Road data, segment # 1: HW-E (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HW-E (day/night)

Angle1 Angle2 : -24.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 145.22 / 145.22 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -24.00 deg Angle2 : 59.00 deg
Barrier height : 28.85 m
Barrier receiver distance : 8.31 / 8.31 m
Source elevation : -13.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑

Road data, segment # 2: HW-W (day/night)

Car traffic volume : 58978/6553 veh/TimePeriod *
Medium truck volume : 11058/1229 veh/TimePeriod *
Heavy truck volume : 3686/410 veh/TimePeriod *
Posted speed limit : 90 km/h
Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 58500
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 15.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: HW-W (day/night)

Angle1 Angle2 : -24.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 128.14 / 128.14 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -24.00 deg Angle2 : 59.00 deg
Barrier height : 28.85 m
Barrier receiver distance : 8.31 / 8.31 m
Source elevation : -13.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑

Road data, segment # 3: MS-E (day/night)

Car traffic volume : 19204/2134 veh/TimePeriod *
Medium truck volume : 441/49 veh/TimePeriod *
Heavy truck volume : 401/45 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
Percentage of Annual Growth : 2.00
Number of Years of Growth : 16.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: MS-E (day/night)

Angle1 Angle2 : -62.00 deg 62.00 deg

Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 25.63 / 25.63 m
 Receiver height : 26.85 / 26.85 m
 Topography : 2 (Flat/gentle slope; with barrier)
 Barrier angle1 : -62.00 deg Angle2 : 62.00 deg
 Barrier height : 28.85 m
 Barrier receiver distance : 8.18 / 8.18 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Road data, segment # 4: MS-W (day/night)

 Car traffic volume : 19204/2134 veh/TimePeriod *
 Medium truck volume : 441/49 veh/TimePeriod *
 Heavy truck volume : 401/45 veh/TimePeriod *
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 16225
 Percentage of Annual Growth : 2.00
 Number of Years of Growth : 16.00
 Medium Truck % of Total Volume : 2.20
 Heavy Truck % of Total Volume : 2.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: MS-W (day/night)

 Angle1 Angle2 : -62.00 deg 62.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 37.22 / 37.22 m
 Receiver height : 26.85 / 26.85 m
 Topography : 2 (Flat/gentle slope; with barrier)
 Barrier angle1 : -62.00 deg Angle2 : 62.00 deg
 Barrier height : 28.85 m
 Barrier receiver distance : 8.18 / 8.18 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00



Road data, segment # 5: LR (day/night)

Car traffic volume : 2435/271 veh/TimePeriod *
Medium truck volume : 412/46 veh/TimePeriod *
Heavy truck volume : 182/20 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2220
Percentage of Annual Growth : 2.00
Number of Years of Growth : 21.00
Medium Truck % of Total Volume : 13.60
Heavy Truck % of Total Volume : 6.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: LR (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 : 86.59 / 86.59 m
Receiver height : 26.85 / 26.85 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg
Barrier height : 28.85 m
Barrier receiver distance : 15.20 / 15.20 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00



Road data, segment # 6: Main (day/night)

Car traffic volume : 0/0 veh/TimePeriod *
Medium truck volume : 896/159 veh/TimePeriod *
Heavy truck volume : 0/0 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 888
Percentage of Annual Growth : 2.50

Number of Years of Growth	:	7.00
Medium Truck % of Total Volume	:	100.00
Heavy Truck % of Total Volume	:	0.00
Day (16 hrs) % of Total Volume	:	84.91

Data for Segment # 6: Main (day/night)

```

-----
Angle1   Angle2       : -62.00 deg   62.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      2      (Reflective ground surface)
Receiver source distance : 31.43 / 31.43 m
Receiver height  : 26.85 / 26.85 m
Topography      :      2      (Flat/gentle slope; with barrier)
Barrier angle1   : -62.00 deg   Angle2 : 62.00 deg
Barrier height   : 28.85 m
Barrier receiver distance : 8.18 / 8.18 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle  : 0.00

```



Road data, segment # 7: Spur (day/night)

```

-----
Car traffic volume : 0/0      veh/TimePeriod *
Medium truck volume : 43/43    veh/TimePeriod *
Heavy truck volume  : 0/0      veh/TimePeriod *
Posted speed limit  : 60 km/h
Road gradient       : 0 %
Road pavement       : 1 (Typical asphalt or concrete)

```

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

24 hr Traffic Volume (AADT or SADT):	72
Percentage of Annual Growth	: 2.50
Number of Years of Growth	: 7.00
Medium Truck % of Total Volume	: 100.00
Heavy Truck % of Total Volume	: 0.00
Day (16 hrs) % of Total Volume	: 50.00

Data for Segment # 7: Spur (day/night)

```

-----
Angle1   Angle2       : 0.00 deg   90.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      2      (Reflective ground surface)
Receiver source distance : 86.59 / 86.59 m
Receiver height  : 26.85 / 26.85 m
Topography      :      2      (Flat/gentle slope; with barrier)

```

Barrier angle1 : 0.00 deg Angle2 : 50.00 deg
 Barrier height : 28.85 m
 Barrier receiver distance : 15.20 / 15.20 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Results segment # 1: HW-E (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.66 !	24.66

ROAD (0.00 + 51.39 + 0.00) = 51.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	81.86	0.00	-9.86	-3.36	0.00	0.00	-17.24	51.39

Segment Leq : 51.39 dBA

↑

Results segment # 2: HW-W (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.36 !	24.36

ROAD (0.00 + 51.37 + 0.00) = 51.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	81.86	0.00	-9.32	-3.36	0.00	0.00	-17.81	51.37

Segment Leq : 51.37 dBA



Results segment # 3: MS-E (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	18.66	!	18.66

ROAD (0.00 + 43.17 + 0.00) = 43.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	67.12	0.00	-2.33	-1.62	0.00	0.00	-20.00	43.17
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 43.17 dBA



Results segment # 4: MS-W (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	21.21	!	21.21

ROAD (0.00 + 41.56 + 0.00) = 41.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	67.12	0.00	-3.95	-1.62	0.00	0.00	-19.99	41.56
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 41.56 dBA



Results segment # 5: LR (day)

Source height = 1.57 m

Barrier height for grazing incidence

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

0	50	0.00	49.95	0.00	-7.61	-5.56	0.00	0.00	-19.12	17.65
50	90	0.00	49.95	0.00	-7.61	-6.53	0.00	0.00	0.00	35.81

Segment Leq : 35.87 dBA

Total Leq All Segments: 55.15 dBA

↑

Results segment # 1: HW-E (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.66 !	24.66

ROAD (0.00 + 44.86 + 0.00) = 44.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	75.33	0.00	-9.86	-3.36	0.00	0.00	-17.24	44.86

Segment Leq : 44.86 dBA

↑

Results segment # 2: HW-W (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.50 !	26.85 !	24.36 !	24.36

ROAD (0.00 + 44.84 + 0.00) = 44.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	59	0.00	75.33	0.00	-9.32	-3.36	0.00	0.00	-17.81	44.84

Segment Leq : 44.84 dBA



Results segment # 3: MS-E (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	18.66	!	18.66

ROAD (0.00 + 36.66 + 0.00) = 36.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	60.61	0.00	-2.33	-1.62	0.00	0.00	-20.00	36.66
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 36.66 dBA



Results segment # 4: MS-W (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----	+	-----	+	-----	+	-----
1.19	!	26.85	!	21.21	!	21.21

ROAD (0.00 + 35.05 + 0.00) = 35.05 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-62	62	0.00	60.61	0.00	-3.95	-1.62	0.00	0.00	-19.99	35.05
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Segment Leq : 35.05 dBA



Results segment # 5: LR (night)

Source height = 1.56 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.56 !          26.85 !          22.41 !          22.41

```

ROAD (0.00 + 31.94 + 0.00) = 31.94 dBA

```

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
   -90    90   0.00  54.67   0.00  -7.61   0.00   0.00   0.00 -15.11  31.94
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----

```

Segment Leq : 31.94 dBA

↑

Results segment # 6: Main (night)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !          26.85 !          19.99 !          19.99

```

ROAD (0.00 + 33.81 + 0.00) = 33.81 dBA

```

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
   -62    62   0.00  58.64   0.00  -3.21  -1.62   0.00   0.00 -20.00  33.81
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----

```

Segment Leq : 33.81 dBA

↑

Results segment # 7: Spur (night)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !          26.85 !          22.22 !          22.22

```

ROAD (0.00 + 20.66 + 38.82) = 38.88 dBA

```

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

```

0	50	0.00	52.96	0.00	-7.61	-5.56	0.00	0.00	-19.12	20.66
50	90	0.00	52.96	0.00	-7.61	-6.53	0.00	0.00	0.00	38.82

Segment Leq : 38.88 dBA

Total Leq All Segments: 49.06 dBA

⬆

TOTAL Leq FROM ALL SOURCES (DAY): 55.15
(NIGHT): 49.06

⬆

⬆

Appendix D: Assumed Sound Levels

Reading ID	Start Time	Description	Octave Band (Hz)	Radiated Sound Power /Pressure Level (dB)
N/A	N/A	Small HVAC Unit (Carrier 48HCD07)	31.5	-
			63	91
			125	84
			250	80
			500	79
			1000	77
			2000	72
			4000	67
			8000	64
			Total (L _{eq} , dBA)	82
N/A	N/A	Large HVAC Unit (Carrier 48HCD07 + 3dB)	31.5	-
			63	94
			125	87
			250	83
			500	82
			1000	80
			2000	75
			4000	70
			8000	68
			Total (L _{eq} , dBA)	85
N/A	N/A	Chiller (McQuay AWS 190CDS)	31.5	-
			63	110
			125	102
			250	98
			500	91
			1000	84
			2000	78
			4000	69
			8000	62
			Total (L _{eq} , dBA)	94
N/A	N/A	Emergency Generator	31.5	104
			63	109
			125	105
			250	112
			500	108
			1000	98
			2000	95
			4000	89
			8000	84
			Total (L _{eq} , dBA)	108
N/A	N/A	Truck Idling	31.5	94
			63	101
			125	92
			250	88

			500	96
			1000	95
			2000	81
			4000	88
			8000	82
			Total (L_{eq} , dBA)	99
N/A	N/A	Truck Driving	31.5	94
			63	98
			125	102
			250	96
			500	91
			1000	97
			2000	96
			4000	92
			8000	90
			Total (L_{eq} , dBA)	101
N/A	N/A	Train Idling	31.5	117
			63	113
			125	109
			250	97
			500	104
			1000	102
			2000	99
			4000	92
			8000	89
			Total (L_{eq} , dBA)	106
N/A	N/A	Railyard Activities	31.5	112
			63	113
			125	108
			250	106
			500	99
			1000	98
			2000	101
			4000	95
			8000	79
			Total (L_{eq} , dBA)	106

Appendix E: CadnaA Calculation Output



Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrie
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.20
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Result Table

Receiver		Land Use	Limiting Value	rel. Axis		Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exceeding		passive NC	
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
POPOR1	101	POPOR1	0	0	16	0.22	26.45	45.5	45.5	45.5	45.5	43.6	43.6	43.6	43.6
POPOR2	101	POPOR2	0	0	49	30.36	103.55	19.2	19.2	19.2	19.2	53.2	53.2	53.2	53.2
POPOR3	101	POPOR3	0	0	19	20.38	89.91	30.6	30.6	30.6	30.6	64.8	64.8	64.8	64.8
SPOR1	103	SPOR1	0	0	29	84.78	5.00	42.1	42.1	42.1	42.1	39.9	39.9	39.9	39.9
SPOR2	103	SPOR2	0	0	29	248.47	1.50	18.7	18.7	18.7	18.7	42.3	42.3	42.3	42.3
SPOR3	103	SPOR3	0	0	87	148.74	1.50	25.6	25.6	25.6	25.6	41.2	41.2	41.2	41.2
SPOR4	103	SPOR4	0	0	86	40.37	4.50	36.0	36.0	36.0	36.0	44.4	44.4	44.4	44.4
SPOR5	103	SPOR5	0	0	9	165.42	4.50	23.7	23.7	23.7	23.7	43.8	43.8	43.8	43.8
SPOR6	103	SPOR6	0	0	9	225.98	4.50	20.0	20.0	20.0	20.0	44.3	44.3	44.3	44.3
SOPOR1	103	SOPOR1	0	0	29	215.88	1.50	34.9	34.9	34.9	34.9	41.8	41.8	41.8	41.8
SOPOR2	103	SOPOR2	0	0	84	38.52	1.50	36.5	36.5	36.5	36.5	45.2	45.2	45.2	45.2
SOPOR3	103	SOPOR3	0	0	9	164.32	1.50	24.8	24.8	24.8	24.8	43.3	43.3	43.3	43.3
test	test		0	0	29	21.62	1.50	54.1	54.1	54.1	54.1	37.5	37.5	37.5	37.5
test	test		0	0	46	3.74	55.00	51.8	51.8	51.8	51.8	46.9	46.9	46.9	46.9
test	test		0	0	49	49.44	55.00	22.3	22.3	22.3	22.3	35.2	35.2	35.2	35.2

Group Day and Night

Name	Expression	Partial Sum Level																																												
		POPOR1			POPOR2			POPOR3			SPOR1			SPOR2			SPOR3			SPOR4			SPOR5			SPOR6			SOPOR1			SOPOR2			SOPOR3			test			test			test		
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Root	1*	45.5	45.5	45.5	19.2	19.2	19.2	30.6	30.6	30.6	42.1	42.1	42.1	18.7	18.7	18.7	25.6	25.6	25.6	36.0	36.0	36.0	23.7	23.7	23.7	20.0	20.0	20.0	34.9	34.9	34.9	36.5	36.5	36.5	24.8	24.8	24.8	54.1	54.1	54.1	51.8	51.8	51.8	22.3	22.3	22.3
Project Sources	100*	45.5	45.5	45.5	19.2	19.2	19.2	30.6	30.6	30.6	42.1	42.1	42.1	18.7	18.7	18.7	25.6	25.6	25.6	36.0	36.0	36.0	23.7	23.7	23.7	20.0	20.0	20.0	34.9	34.9	34.9	36.5	36.5	36.5	24.8	24.8	24.8	54.1	54.1	54.1	51.8	51.8	51.8	22.3	22.3	22.3
Steady	10000*	45.5	45.5	45.5	19.2	19.2	19.2	30.6	30.6	30.6	42.1	42.1	42.1	18.7	18.7	18.7	25.6	25.6	25.6	36.0	36.0	36.0	23.7	23.7	23.7	20.0	20.0	20.0	34.9	34.9	34.9	36.5	36.5	36.5	24.8	24.8	24.8	54.1	54.1	54.1	51.8	51.8	51.8	22.3	22.3	22.3
Emergency1	10001*																																													
Emergency2	10002*																																													
Project Receivers	101*																																													
Surrounding Sources	102*																																													
Steady	10200*																																													
Surrounding Receivers	103*																																													
Building Base	104*																																													

Partial Day/Night

Source			Partial Level																																												
Name	M.	ID	POPOR1			POPOR2			POPOR3			SPOR1			SPOR2			SPOR3			SPOR4			SPOR5			SPOR6			SOPOR1			SOPOR2			SOPOR3			test			test			test		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
CH01	~	102001CH01																																													
CH02	~	102001CH02																																													
HVAC01	~	102001HVAC01																																													
HVAC02	~	102001HVAC02																																													
HVAC03	~	102001HVAC03																																													
HVAC04	~	102001HVAC04																																													
HVAC05	~	102001HVAC05																																													
HVAC06	~	102001HVAC06																																													
HVAC07	~	102001HVAC07																																													
HVAC08	~	102001HVAC08																																													
INS01	~	102001INS01																																													
INS02	~	102001INS02																																													
INS03	~	102001INS03																																													
GEN01	~	100011GEN01																																													
GEN02	~	100021GEN02																																													
PTRID01	100001PTRID01		31.2	31.2	31.2	15.6	15.6	15.6	27.1	27.1	27.1	40.9	40.9	40.9	17.8	17.8	17.8	11.6	11.6	11.6	18.0	18.0	18.0	11.0	11.0	11.0	9.0	9.0	9.0	34.2	34.2	34.2	18.2	18.2	18.2	11.3	11.3	11.3	50.1	50.1	50.1	48.4	48.4	48.4	19.3	19.3	19.3

Source			Partial Level																																												
Name	M.	ID	POPOR1			POPOR2			POPOR3			SPOR1			SPOR2			SPOR3			SPOR4			SPOR5			SPOR6			SOPOR1			SOPOR2			SOPOR3			test			test			test		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night			
PTRID02	-	100001PTRID02	31.2	31.2	31.2	15.6	15.6	15.6	27.1	27.1	27.1	35.2	35.2	35.2	10.3	10.3	10.3	10.2	10.2	10.2	15.9	15.9	15.9	12.0	12.0	12.0	10.2	10.2	10.2	24.4	24.4	24.4	18.2	18.2	18.2	12.4	12.4	12.4	51.5	51.5	51.5	48.1	48.1	48.1	17.9	17.9	17.9
GEN01_rel	-	100011GEN01_rel																																													
GEN02_rel	-	100011GEN02_rel																																													
HVAC09	-	102001HVAC09																																													
HVAC10	-	102001HVAC10																																													
HVAC11	-	102001HVAC11																																													
HVAC12	-	102001HVAC12																																													
HVAC13	-	102001HVAC13																																													
HVAC14	-	102001HVAC14																																													
AHU01	-	102001AHU01																																													
AHU02	-	102001AHU02																																													
AHU03	-	102001AHU03																																													
AHU04	-	102001AHU04																																													
AHU05	-	102001AHU05																																													
AHU06	-	102001AHU06																																													
CT01	-	102001CT01																																													
MUA01	-	102001MUA01																																													
MUA02	-	102001MUA02																																													
PBF01	-	102001PBF01																																													
EF01	-	102001EF01																																													
EF02	-	102001EF02																																													
EF03	-	102001EF03																																													
EF04	-	102001EF04																																													
EF05	-	102001EF05																																													
EF06	-	102001EF06																																													
EF07	-	102001EF07																																													
EF08	-	102001EF08																																													
EF09	-	102001EF09																																													
EF10	-	102001EF10																																													
DC01	-	102001DC01																																													
CU01	-	102001CU01																																													
CU02	-	102001CU02																																													
PTRDR01_OLD	-	100001PTRDR01_OLD																																													
PTRDR01	-	100001PTRDR01	45.2	45.2	45.2	10.2	10.2	10.2	20.6	20.6	20.6	27.5	27.5	27.5	5.5	5.5	5.5	25.3	25.3	25.3	35.9	35.9	35.9	23.2	23.2	23.2	19.1	19.1	19.1	21.5	21.5	21.5	36.4	36.4	36.4	24.4	24.4	24.4	40.4	40.4	40.4	41.9	41.9	41.9	13.7	13.7	13.7
SNS01	-	102001SNS01																																													

Sound Sources

Point Sources

Name	Sel.	M.	ID	Result_PWL			Lw / Li	Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height	Coordinates		
				Day	Evening	Night		Type	Value	norm.	Day	Evening		Night	R	Area					Day	Special	Night
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)		(m²)	(min)	(min)	(min)	(dB)	(Hz)		(m)	(m)	(m)	
CH01	-		102001CH01	93.9	93.9	93.9	Lw	Chiller2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589210.03	4789927.92	22.50	
CH02	-		102001CH02	93.9	93.9	93.9	Lw	Chiller2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589213.88	4789926.89	22.50	
HVAC01	-		102001HVAC01	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589010.19	4790186.95	8.50	
HVAC02	-		102001HVAC02	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589021.07	4790184.24	8.50	
HVAC03	-		102001HVAC03	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589143.96	4790144.81	10.50	
HVAC04	-		102001HVAC04	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589159.18	4790151.06	10.50	
HVAC05	-		102001HVAC05	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589183.87	4790159.30	10.50	
HVAC06	-		102001HVAC06	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589185.70	4790152.66	10.50	
HVAC07	-		102001HVAC07	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589219.79	4790163.97	10.50	
HVAC08	-		102001HVAC08	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589225.06	4790164.81	10.50	
INS01	-		102001INS01	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00	
INS02	-		102001INS02	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00	
INS03	-		102001INS03	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00	
GEN01	-		100011GEN01	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0							0.0	(none)	1.50	g17589689.38	4790121.30	89.91
GEN02	-		100022GEN02	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0							0.0	(none)	1.50	g17589049.72	4790139.12	97.95
PTRID01	-		100001PTRID01	98.9	98.9	98.9	Lw	Truck Idle	0.0	0.0	0.0			5.00	5.00	5.00	0.0	(none)	1.50	g17589026.51	4790114.39	1.50	
PTRID02	-		100001PTRID02	98.9	98.9	98.9	Lw	Truck Idle	0.0	0.0	0.0			5.00	5.00	5.00	0.0	(none)	1.50	g17589049.72	4790108.21	1.50	
GEN01_rel	-		100011GEN01_rel	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0							0.0	(none)	1.50	g17589689.74	4790121.77	58.40
GEN02_rel	-		100011GEN02_rel	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0							0.0	(none)	1.50	g17589050.06	4790137.31	58.40
HVAC09	-		102001HVAC09	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589183.98	4790245.21	15.50	
HVAC10	-		102001HVAC10	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589247.18	4790261.92	15.50	
HVAC11	-		102001HVAC11	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589231.31	4790231.66	15.50	
HVAC12	-		102001HVAC12	84.7	84.7	84.7	Lw	Large_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589238.77	4790285.47	15.50	
HVAC13	-		102001HVAC13	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589205.68	4790306.98	15.50	
HVAC14	-		102001HVAC14	81.7	81.7	81.7	Lw	Small_HVAC2	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589237.32	4790309.77	15.50	
AHU01	-		102001AHU01	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589475.31	4789748.00	8.50	
AHU02	-		102001AHU02	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589479.01	4789749.85	8.50	
AHU03	-		102001AHU03	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589482.39	4789751.84	8.50	
AHU04	-		102001AHU04	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589486.16	4789753.38	8.50	
AHU05	-		102001AHU05	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589489.47	4789755.38	8.50	
AHU06	-		102001AHU06	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589492.44	4789757.02	8.50	
CT01	-		102001CT01	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589470.79	4789751.18	8.50	
MUA01	-		102001MUA01	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589506.16	4789764.31	8.50	
MUA02	-		102001MUA02	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589509.57	4789766.23	8.50	
PBF01	-		102001PBF01	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589473.19	4789762.42	8.50	
EF01	-		102001EF01	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589529.45	4789779.26	8.50	
EF02	-		102001EF02	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589525.51	4789780.96	8.50	
EF03	-		102001EF03	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589535.35	4789782.66	8.50	
EF04	-		102001EF04	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589538.63	4789784.36	8.50	
EF05	-		102001EF05	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589541.68	4789786.06	8.50	
EF06	-		102001EF06	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589530.18	4789777.95	8.50	
EF07	-		102001EF07	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589536.33	4789779.65	8.50	
EF08	-		102001EF08	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589538.63	4789783.95	8.50	
EF09	-		102001EF09	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589539.35	4789783.95	8.50	
EF10	-		102001EF10	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589542.41	4789784.75	8.50	
DCU01	-		102001DCU01	110.0	110.0	110.0	Lw	110	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589486.50	4789726.87	11.50	
CUJ01	-		102001CUJ01	75.0	75.0	75.0	Lw	75	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589496.82	4789759.92	8.50	
CUJ02	-		102001CUJ02	75.0	75.0	75.0	Lw	75	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500 (none)	1.50	g17589499.10	4789761.18	8.50	

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
				17588998.35	4790108.58	1.50	0.00
				17589026.36	4790114.01	1.50	0.00
				17589016.73	4790117.05	1.50	0.00
				17589011.36	4790122.44	1.50	0.00
				17589009.90	4790128.55	1.50	0.00
				17589008.03	4790136.42	1.50	0.00
				17589008.03	4790141.85	1.50	0.00
				17589012.36	4790149.35	1.50	0.00
PTRDR01	100001PTRDR01	0.00	a	17589008.03	4790141.85	0.00	0.00
				17589007.23	4790133.28	0.00	0.00
				17589007.98	4790130.59	0.00	0.00
				17589009.16	4790127.34	0.00	0.00
				17589011.65	4790117.71	0.00	0.00
				17589012.85	4790113.49	0.00	0.00
				17589017.64	4790111.49	0.00	0.00
				17589023.74	4790114.50	0.00	0.00
				17589019.79	4790131.12	0.00	0.00
				17589015.24	4790131.61	0.00	0.00
				17589009.90	4790132.46	0.00	0.00
				17589008.03	4790136.42	0.00	0.00
				17589008.03	4790141.85	0.00	0.00
				17589012.36	4790149.35	0.00	0.00

Area Sources

Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Type	Lw / Li		Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
				Day	Evening	Night	Day	Evening	Night		Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Day	Evening	Night
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	(m²)		(min)	(min)	(min)				(dB)	(Hz)	(none)
SNS01	~		102001SNS01	105.7	105.7	105.7	56.6	56.6	56.6	Lw	Measured Steady Noise		0.0	0.0	0.0							0.0		(none)			

Geometry Area Sources

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
SNS01	102001SNS01	2.00	a	17588306.27	4789491.02	2.00	0.00
				17588276.83	4789463.44	2.00	0.00
				17588255.22	4789417.47	2.00	0.00
				17588328.45	4789392.51	2.00	0.00
				17588429.21	4789363.67	2.00	0.00
				17588532.15	4789341.47	2.00	0.00
				17588630.31	4789339.45	2.00	0.00
				17588748.52	4789348.09	2.00	0.00
				17588750.53	4789338.31	2.00	0.00
				17588823.36	4789344.64	2.00	0.00
				17588913.01	4789356.16	2.00	0.00
				17589103.66	4789398.08	2.00	0.00
				17589195.87	4789418.36	2.00	0.00
				17589233.89	4789432.26	2.00	0.00
				17589224.16	4789458.87	2.00	0.00
				17589203.96	4789456.08	2.00	0.00
				17589151.15	4789458.96	2.00	0.00
				17589072.71	4789471.52	2.00	0.00
				17589037.62	4789473.80	2.00	0.00
				17588976.65	4789469.22	2.00	0.00
				17588901.87	4789463.64	2.00	0.00
				17588811.02	4789456.99	2.00	0.00
				17588812.77	4789433.02	2.00	0.00
				17588619.32	4789418.42	2.00	0.00
				17588619.27	4789421.82	2.00	0.00
				17588563.49	4789422.35	2.00	0.00
				17588544.05	4789432.76	2.00	0.00
				17588525.86	4789433.24	2.00	0.00
				17588485.85	4789439.11	2.00	0.00
				17588436.71	4789451.00	2.00	0.00
				17588406.41	4789456.54	2.00	0.00

Vertical Area Sources

Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Lw / Li		Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				dB(A)	dB(A)	dB(A)	dB(A)	(m²)		(min)	(min)	(min)	(dB)	(Hz)

Geometry Vertical Area Sources

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)

Road

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit	SCS	Surface	Gradient	Mult.	Reflection		
				Day	Evening	Night	DTV	Str.class.	M						Auto	Truck	Dist.	Dstro	Type	Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(%)	(dB)	(m)	(m)	

Geometry Road

Name	Sel.	M.	ID	Height		Coordinates				Dist	LSlope
				Begin	End	x	y	z	Ground		
				(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)

Receptors

Name	Sel.	M.	ID	Level Lr			Limit: Value			Land Use	Height	Coordinates			
				Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)			Type	Auto	Noise Type	X
POPOR1			1011POPOR1	45.5	45.5	45.5	0.0	0.0	0.0	x	Total	1.50	17589009.72	4790126.05	26.45
POPOR2			1011POPOR2	19.2	19.2	19.2	0.0	0.0	0.0	x	Total	1.50	17589051.38	4790129.54	103.55
POPOR3			1011POPOR3	30.6	30.6	30.6	0.0	0.0	0.0	x	Total	1.50	17588990.41	4790118.45	89.91
SPOR1			1031SPOR1	42.1	42.1	42.1	0.0	0.0	0.0	x	Total	5.00	17588933.27	4790084.27	5.00
SPOR2			1031SPOR2	18.7	18.7	18.7	0.0	0.0	0.0	x	Total	1.50	17588827.70	4789947.79	1.50
SPOR3			1031SPOR3	25.6	25.6	25.6	0.0	0.0	0.0	x	Total	1.50	17589142.31	4790221.73	1.50
SPOR4			1031SPOR4	36.0	36.0	36.0	0.0	0.0	0.0	x	Total	4.50	17588977.22	4790169.23	4.50
SPOR5			1031SPOR5	23.7	23.7	23.7	0.0	0.0	0.0	x	Total	4.50	17588842.20	4790144.65	4.50
SPOR6			1031SPOR6	20.0	20.0	20.0	0.0	0.0	0.0	x	Total	4.50	17588761.25	4790134.06	4.50
SOPOR1			1031SOPOR1	34.9	34.9	34.9	0.0	0.0	0.0	x	Total	1.50	17588863.88	4789957.25	1.50
SOPOR2			1031SOPOR2	36.5	36.5	36.5	0.0	0.0	0.0	x	Total	1.50	17588977.57	4790166.14	1.50
SOPOR3			1031SOPOR3	24.8	24.8	24.8	0.0	0.0	0.0	x	Total	1.50	17588843.01	4790139.14	1.50
test	+	test		54.1	54.1	54.1	0.0	0.0	0.0	x	Total	1.50	17588993.57	4790103.72	1.50
test	+	test		51.8	51.8	51.8	0.0	0.0	0.0	x	Total	55.00	17589026.29	4790119.98	55.00
test	+	test		22.3	22.3	22.3	0.0	0.0	0.0	x	Total	55.00	17589070.03	4790133.55	55.00

Obstacles

Barriers		ID	Absorption		Z-Ext.		Cantilever		Height	
			left	right	horz.	vert.	horz.	vert.	Begin	End
			(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a
	~	10001Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a
	~	10001Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a
	~	10002Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a

Geometry Barriers		ID	Absorption		Z-Ext.		Cantilever		Height		Coordinates			
			left	right	horz.	vert.	horz.	vert.	Begin	End	x	y	z	Ground
			(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a	17588965.33	4790124.34	58.00	0.00
											17588961.54	4790123.51	58.00	0.00
											17588964.30	4790110.91	58.00	0.00
											17588965.08	4790111.08	58.00	0.00
											17588965.72	4790108.15	58.00	0.00
											17588964.94	4790107.98	58.00	0.00
											17588967.12	4790098.01	58.00	0.00
											17588976.89	4790100.15	58.00	0.00
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a	17588965.33	4790124.34	58.00	0.00
											17588965.50	4790123.56	58.00	0.00
											17588968.43	4790124.20	58.00	0.00
											17588968.26	4790124.98	58.00	0.00
											17588971.31	4790125.65	58.00	0.00
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a	17588983.04	4790128.21	58.00	0.00
											17588986.10	4790128.88	58.00	0.00
											17588986.27	4790128.10	58.00	0.00
											17588989.20	4790128.74	58.00	0.00
											17588989.03	4790129.52	58.00	0.00
											17588993.20	4790130.43	58.00	0.00
											17588995.96	4790117.83	58.00	0.00
											17588994.78	4790117.57	58.00	0.00
											17588997.60	4790104.67	58.00	0.00
											17588988.61	4790102.71	58.00	0.00
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a	17589032.58	4790139.04	58.00	0.00
											17589029.53	4790138.37	58.00	0.00
											17589029.70	4790137.59	58.00	0.00
											17589026.77	4790136.95	58.00	0.00
											17589026.59	4790137.73	58.00	0.00
											17589022.81	4790136.90	58.00	0.00
											17589025.56	4790124.30	58.00	0.00
											17589026.35	4790124.47	58.00	0.00
											17589026.99	4790121.53	58.00	0.00
											17589026.20	4790121.36	58.00	0.00
											17589028.38	4790111.40	58.00	0.00
	-	10001Notes_Project_Barrier	0.2	0.2					58.00	a	17589038.16	4790113.53	58.00	0.00
											17589044.31	4790141.60	58.00	0.00
											17589047.36	4790142.27	58.00	0.00
											17589047.53	4790141.49	58.00	0.00
											17589050.46	4790142.13	58.00	0.00
											17589050.29	4790142.91	58.00	0.00
											17589054.47	4790143.82	58.00	0.00
											17589057.22	4790131.21	58.00	0.00
											17589056.05	4790130.96	58.00	0.00
											17589058.87	4790118.06	58.00	0.00
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a	17589049.88	4790116.10	58.00	0.00
											17588965.33	4790124.34	58.00	0.00
											17588961.54	4790123.51	58.00	0.00
											17588964.30	4790110.91	58.00	0.00
											17588965.08	4790111.08	58.00	0.00
											17588965.72	4790108.15	58.00	0.00
											17588964.94	4790107.98	58.00	0.00
											17588967.12	4790098.01	58.00	0.00
	~	10002Notes_Project_Barrier	0.2	0.2					58.00	a	17588976.89	4790100.15	58.00	0.00
											17588965.33	4790124.34	58.00	0.00
											17588965.50	4790123.56	58.00	0.00
											17588968.43	4790124.20	58.00	0.00
											17588968.26	4790124.98	58.00	0.00
											17588971.31	4790125.65	58.00	0.00
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a	17588983.04	4790128.21	58.00	0.00
											17588986.10	4790128.88	58.00	0.00
											17588986.27	4790128.10	58.00	0.00
											17588989.20	4790128.74	58.00	0.00
											17588989.03	4790129.52	58.00	0.00
											17588993.20	4790130.43	58.00	0.00
											17588995.96	4790117.83	58.00	0.00
											17588994.78	4790117.57	58.00	0.00
											17588997.60	4790104.67	58.00	0.00
											17588988.61	4790102.71	58.00	0.00
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a	17589032.58	4790139.04	58.00	0.00
											17589029.53	4790138.37	58.00	0.00
											17589029.70	4790137.59	58.00	0.00
											17589026.77	4790136.95	58.00	0.00
											17589026.59	4790137.73	58.00	0.00
											17589022.81	4790136.90	58.00	0.00
											17589025.56	4790124.30	58.00	0.00
											17589026.35	4790124.47	58.00	0.00
											17589026.99	4790121.53	58.00	0.00
											17589026.20	4790121.36	58.00	0.00
											17589028.38	4790111.40	58.00	0.00
	-	10002Notes_Project_Barrier	0.2	0.2					58.00	a	17589038.16	4790113.53	58.00	0.00
											17589044.31	4790141.60	58.00	0.00
											17589047.36	4790142.27	58.00	0.00
											17589047.53	4790141.49	58.00	0.00
											17589050.46	4790142.13	58.00	0.00
											17589050.29	4790142.91	58.00	0.00
											17589054.47	4790143.82	58.00	0.00
											17589057.22	4790131.21	58.00	0.00
											17589056.05	4790130.96	58.00	0.00
											17589058.87	4790118.06	58.00	0.00
											17589049.88	4790116.10	58.00	0.00

Name	Sel	M	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin (m)	x (m)	y (m)	z (m)	Ground (m)
			- Notes_Project_Buildings_NEW	x	0	0.2	89.35	a17589031.76	4790139.86	89.35	0.00
								17589037.60	4790113.11	89.35	0.00
								17589038.20	4790113.24	89.35	0.00
								17589037.97	4790114.31	89.35	0.00
								17589043.41	4790115.50	89.35	0.00
								17589043.64	4790114.43	89.35	0.00
								17589047.28	4790115.22	89.35	0.00
								17589047.04	4790116.30	89.35	0.00
								17589049.47	4790116.83	89.35	0.00
								17589049.70	4790115.75	89.35	0.00
								17589050.13	4790115.84	89.35	0.00
								17589044.49	4790141.84	89.35	0.00
								17589044.07	4790141.55	89.35	0.00
								17589044.24	4790140.76	89.35	0.00
								17589041.81	4790140.23	89.35	0.00
								17589041.64	4790141.02	89.35	0.00
								17589038.01	4790140.22	89.35	0.00
								17589038.18	4790139.44	89.35	0.00
								17589032.74	4790138.25	89.35	0.00
								17589032.36	4790139.99	89.35	0.00
			- Notes_Project_Buildings_NEW	x	0	0.2	21.80	a17589072.74	4790121.09	21.80	0.00
								17589069.08	4790137.86	21.80	0.00
								17589068.10	4790137.65	21.80	0.00
								17589066.19	4790146.38	21.80	0.00
								17589059.16	4790144.84	21.80	0.00
								17589058.73	4790146.79	21.80	0.00
								17589050.78	4790145.06	21.80	0.00
								17589056.78	4790117.80	21.80	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589552.43	4789795.75	7.00	0.00
								17589565.19	4789772.80	7.00	0.00
								17589477.92	4789724.27	7.00	0.00
								17589465.16	4789747.21	7.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	10.00	a17589518.29	4789664.96	10.00	0.00
								17589483.56	4789727.40	10.00	0.00
								17589565.19	4789772.80	10.00	0.00
								17589599.92	4789710.36	10.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589565.52	4789795.62	7.00	0.00
								17589555.58	4789790.09	7.00	0.00
								17589597.98	4789713.85	7.00	0.00
								17589607.93	4789719.38	7.00	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.96	a17588962.04	4790126.81	21.96	0.00
								17588968.11	4790099.05	21.96	0.00
								17588996.33	4790105.22	21.96	0.00
								17588991.06	4790129.35	21.96	0.00
								17588987.12	4790128.49	21.96	0.00
								17588986.95	4790129.25	21.96	0.00
								17588966.11	4790124.70	21.96	0.00
								17588965.48	4790127.56	21.96	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.75	a17589065.56	4790146.43	21.75	0.00
								17589056.31	4790144.40	21.75	0.00
								17589056.48	4790143.64	21.75	0.00
								17589054.15	4790143.13	21.75	0.00
								17589053.36	4790146.76	21.75	0.00
								17589049.92	4790146.01	21.75	0.00
								17589050.54	4790143.15	21.75	0.00
								17589029.99	4790138.65	21.75	0.00
								17589030.15	4790137.89	21.75	0.00
								17589025.79	4790136.94	21.75	0.00
								17589031.07	4790112.80	21.75	0.00
								17589059.43	4790119.00	21.75	0.00
								17589059.05	4790120.72	21.75	0.00
								17589061.29	4790121.21	21.75	0.00
								17589061.46	4790120.44	21.75	0.00
								17589070.66	4790122.45	21.75	0.00
								17589070.27	4790124.22	21.75	0.00
								17589070.40	4790124.25	21.75	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2		17589053.99	4790143.90	24.95	9.00
								17589020.32	4790136.54	24.95	9.00
								17589020.12	4790137.50	24.95	9.00
								17588996.12	4790132.25	24.95	9.00
								17588996.33	4790131.30	24.95	9.00
								17588962.67	4790123.95	24.95	9.00
								17588968.11	4790099.05	24.95	9.00
								17588996.47	4790105.25	24.95	9.00
								17588994.49	4790114.33	24.95	9.00
								17589029.08	4790121.89	24.95	9.00
								17589031.07	4790112.80	24.95	9.00
								17589059.43	4790119.00	24.95	9.00
								17589053.99	4790143.90	24.95	9.00
			Notes_Project_Buildings_NEW2	x	0	0.2	92.90	a17588985.26	4790120.83	92.90	0.00
								17588966.67	4790116.76	92.90	0.00
								17588969.89	4790102.02	92.90	0.00
								17588988.49	4790106.08	92.90	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	96.45	a17589053.99	4790143.90	96.45	0.00
								17589025.62	4790137.70	96.45	0.00
								17589031.07	4790112.81	96.45	0.00
								17589059.42	4790119.00	96.45	0.00
								17589053.99	4790143.90	96.45	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	102.05	a17589053.33	4790135.75	102.05	0.00
								17589034.50	4790131.64	102.05	0.00
								17589037.71	4790116.90	102.05	0.00
								17589056.55	4790121.01	102.05	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	88.41	a17588991.04	4790130.09	88.41	0.00
								17588962.68	4790123.90	88.41	0.00
								17588968.11	4790099.05	88.41	0.00
								17588996.47	4790105.25	88.41	0.00
								17588991.05	4790130.09	88.41	0.00

3D Reflector						
Name	Sel	M	ID	Type	Attenuation	Height
					dB/100m	% 1/m (m)

Geometry Absorption							Coordinates			
Name	Sel	M	ID	Type	Attenuation	B	m	Height		
					dB/100m	%	1/m	(m)	x (m)	y (m)
									z (m)	Ground (m)

Ground Absorption

Name	Set	M	ID	G
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Geometry Absorption

Name	Set	M	ID	G	Coordinates	
					x	y
					(m)	(m)

Contour Lines

Geometry Contour Line

Name	Set	M	ID	Only	Pts	Height		Coordinates		
						Begin	End	x	y	z
						(m)	(m)	(m)	(m)	(m)



Report (20260126 CadnaA_Model.cna)

Calculation Configuration

Parameter	Configuration	Value
General		
Max. Error (dB)		0.00
Max. Search Radius (#Unit,LEN)		2000.00
Min. Dist Src to Rcvr		0.00
Partition		
Raster Factor		0.50
Max. Length of Section (#Unit,LEN)		1000.00
Min. Length of Section (#Unit,LEN)		1.00
Min. Length of Section (%)		0.00
Proj. Line Sources		On
Proj. Area Sources		On
Ref. Time		
Reference Time Day (min)		960.00
Reference Time Night (min)		480.00
Day Line Penalty (dB)		0.00
Recr. Time Penalty (dB)		0.00
Night-time Penalty (dB)		0.00
DTM		
Standard Height (m)		0.00
Model of Terrain		Triangulation
Reflection		
max. Order of Reflection		2
Search Radius Src		100.00
Search Radius Rcvr		100.00
Max. Distance Source - Rcvr		1000.00 1000.00
Min. Distance Rcvr - Reflector		1.00 1.00
Min. Distance Source - Reflector		0.10
Industrial (ISO 9613)		
Lateral Diffraction		some Obj
Obst. within Area Src do not shield		On
Screening		Excl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3		3.0 2.0 0.0 0
Temperature (Unit,TEMP)		10
rel. Humidity (%)		70
Ground Absorption G		0.20
Wind Speed for Dir. (#Unit,SPEED)		3.0
Roads (RLS-90)		
Strictly acc. to RLS-90		
Railways (Schall 03 (1990))		
Strictly acc. to Schall 03 / Schall-Transport		
Aircraft (???)		
Strictly acc. to AzB		

Result Table

Receiver		Land Use	Limiting Value		rel. Axis		L/rw Noise Contour		dL req.		L/r Noise Contour		Exceeding		passive NC	
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night	
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
POP0R1	101 POP0R1	0	0	0				35.3	35.3	35.3	35.3	43.6	43.6	43.6	43.6	
POP0R2	101 POP0R2	0	0	0				22.2	22.2	53.2	53.2	53.2	53.2	53.2	53.2	
POP0R3	101 POP0R3	0	0	0				32.9	32.9	32.9	32.9	64.8	64.8	64.8	64.8	
SP0R1	103 SP0R1	0	0	0				42.1	42.1	42.1	42.1	39.9	39.9	39.9	39.9	
SP0R2	103 SP0R2	0	0	0				18.7	18.7	18.7	18.7	42.3	42.3	42.3	42.3	
SP0R3	103 SP0R3	0	0	0				25.6	25.6	25.6	25.6	41.2	41.2	41.2	41.2	
SP0R4	103 SP0R4	0	0	0				36.0	36.0	36.0	36.0	44.4	44.4	44.4	44.4	
SP0R5	103 SP0R5	0	0	0				23.7	23.7	23.7	23.7	43.8	43.8	43.8	43.8	
SP0R6	103 SP0R6	0	0	0				20.0	20.0	20.0	20.0	44.3	44.3	44.3	44.3	
SP0R1	103 SP0R1	0	0	0				34.9	34.9	34.9	34.9	41.8	41.8	41.8	41.8	
SP0R2	103 SP0R2	0	0	0				38.5	38.5	38.5	38.5	45.2	45.2	45.2	45.2	
SP0R3	103 SP0R3	0	0	0				24.8	24.8	24.8	24.8	43.3	43.3	43.3	43.3	
test	test	0	0	0				54.1	54.1	54.1	54.1	37.5	37.5	37.5	37.5	
test	test	0	0	0				51.5	51.5	51.5	51.5	46.9	46.9	46.9	46.9	
test	test	0	0	0				26.6	26.6	26.6	26.6	35.2	35.2	35.2	35.2	

Group Day and Night

Name	Expression	Partial Sum Level																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			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56												POPOR757												POPOR758												POPOR759												POPOR760												POPOR761												POPOR762												POPOR763												POPOR764												POPOR765												POPOR766												POPOR767												POPOR768												POPOR769												POPOR770												POPOR771												POPOR772												POPOR773												POPOR774												POPOR775												POPOR776												POPOR777												POPOR778												POPOR779												POPOR780												POPOR781												POPOR782												POPOR783												POPOR784												POPOR785												POPOR786												POPOR787												POPOR788												POPOR789												POPOR790												POPOR791												POPOR792												POPOR793												POPOR794												POPOR795												POPOR796												POPOR797												POPOR798												POPOR799												POPOR800												POPOR801												POPOR802												POPOR803												POPOR804												POPOR805												POPOR806												POPOR807												POPOR808												POPOR809												POPOR810												POPOR811												POPOR812												POPOR813												POPOR814												POPOR815												POPOR816												POPOR817												POPOR818												POPOR819												POPOR820												POPOR821												POPOR822												POPOR823												POPOR824												POPOR825												POPOR826												POPOR827												POPOR828												POPOR829												POPOR830												POPOR831												POPOR832												POPOR833												POPOR834												POPOR835												POPOR836												POPOR837												POPOR838												POPOR839												POPOR840												POPOR841												POPOR842												POPOR843												POPOR844												POPOR845												POPOR846												POPOR847												POPOR848												POPOR849												POPOR850												POPOR851												POPOR852												POPOR853												POPOR854												POPOR855												POPOR856												POPOR857												POPOR858												POPOR859												POPOR860												POPOR861												POPOR862												POPOR863												POPOR864												POPOR865												POPOR866												POPOR867												POPOR868												POPOR869												POPOR870												POPOR871												POPOR872												POPOR873												POPOR874												POPOR875												POPOR876												POPOR877												POPOR878												POPOR879												POPOR880												POPOR881												POPOR882												POPOR883												POPOR884												POPOR885												POPOR886												POPOR887												POPOR888												POPOR889												POPOR											

Partial Day/Night

[illegible]

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
				17588998.35	4790108.58	1.50	0.00
				17589026.36	4790114.01	1.50	0.00
				17589016.73	4790117.05	1.50	0.00
				17589011.36	4790122.44	1.50	0.00
				17589009.90	4790128.55	1.50	0.00
				17589008.03	4790136.42	1.50	0.00
				17589008.03	4790141.85	1.50	0.00
				17589012.36	4790149.35	1.50	0.00
PTRDR01	100001PTRDR01	0.00	a	17589008.03	4790141.85	0.00	0.00
				17589007.23	4790133.28	0.00	0.00
				17589007.98	4790130.59	0.00	0.00
				17589009.16	4790127.34	0.00	0.00
				17589011.65	4790117.71	0.00	0.00
				17589012.85	4790113.49	0.00	0.00
				17589017.64	4790111.49	0.00	0.00
				17589023.74	4790114.50	0.00	0.00
				17589019.79	4790131.12	0.00	0.00
				17589015.24	4790131.61	0.00	0.00
				17589009.90	4790132.46	0.00	0.00
				17589008.03	4790136.42	0.00	0.00
				17589008.03	4790141.85	0.00	0.00
				17589012.36	4790149.35	0.00	0.00

Area Sources																													
Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Lw / Li		Correction			Sound Reduction/Attenuation			Operating Time			K0	Freq.	Direct.	Moving Pt. Src					
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night	(dB)	(Hz)		Day	Evening	Night		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	Lw			dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)								
SNS01	~		102001	SNS01	105.7	105.7	105.7	56.6	56.6	56.6	Lw	Measured_ Steady Noise		0.0	0.0	0.0						0.0		(none)					

Geometry Area Sources							
Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
SNS01	102001SNS01	2.00	a	17588306.27	4789491.02	2.00	0.00
				17588276.83	4789463.44	2.00	0.00
				17588255.22	4789417.47	2.00	0.00
				17588328.45	4789392.51	2.00	0.00
				17588429.21	4789363.67	2.00	0.00
				17588532.15	4789341.47	2.00	0.00
				17588630.31	4789339.45	2.00	0.00
				17588748.52	4789348.09	2.00	0.00
				17588750.53	4789338.31	2.00	0.00
				17588823.36	4789344.64	2.00	0.00
				17588913.01	4789356.16	2.00	0.00
				17589103.66	4789398.08	2.00	0.00
				17589195.87	4789418.36	2.00	0.00
				17589233.89	4789432.26	2.00	0.00
				17589224.16	4789458.87	2.00	0.00
				17589203.96	4789456.08	2.00	0.00
				17589151.15	4789458.96	2.00	0.00
				17589072.71	4789471.52	2.00	0.00
				17589037.62	4789473.80	2.00	0.00
				17588976.65	4789469.22	2.00	0.00
				17588901.87	4789463.64	2.00	0.00
				17588811.02	4789456.99	2.00	0.00
				17588812.77	4789433.02	2.00	0.00
				17588619.32	4789418.42	2.00	0.00
				17588619.27	4789421.82	2.00	0.00
				17588563.49	4789422.35	2.00	0.00
				17588544.05	4789432.76	2.00	0.00
				17588525.86	4789433.24	2.00	0.00
				17588485.85	4789439.11	2.00	0.00
				17588436.71	4789451.00	2.00	0.00
				17588406.41	4789456.54	2.00	0.00

Vertical Area Sources																										
Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.		
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area			Day	Special	Night				
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)			(min)	(min)	(min)	(dB)	(Hz)		

Geometry Vertical Area Sources							
Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)

Road																							
Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface	Gradient	Mult. Reflection			
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type	Dreff	Hbuild	Dist.	
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)

Geometry Road												Dist	
Name		Height		Coordinates								LS	Slope
		Begin	End	x	y	z	Ground					(m)	(%)
		(m)	(m)	(m)	(m)	(m)	(m)						

Receptors																
Name	Sel.	M.	ID	Level Lr			Limit: Value			Land Use		Height	Coordinates			
				Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Auto	Noise Type	(m)	X	Y	Z
													(m)	(m)	(m)	(m)
POPOR1			1011POPOR1	43.6	43.6	43.6	0.0	0.0	0.0	x	Total	1.50	17589009.72	4790126.05	26.45	
POPOR2			1011POPOR2	53.2	53.2	53.2	0.0	0.0	0.0	x	Total	1.50	17589051.38	4790129.54	103.55	
POPOR3			1011POPOR3	64.8	64.8	64.8	0.0	0.0	0.0	x	Total	1.50	17588990.41	4790118.45	89.91	
SPOR1			1031SPOR1	39.9	39.9	39.9	0.0	0.0	0.0	x	Total	5.00	17588933.27	4790084.27	5.00	
SPOR2			1031SPOR2	42.3	42.3	42.3	0.0	0.0	0.0	x	Total	1.50	17588827.70	4789947.79	1.50	
SPOR3			1031SPOR3	41.2	41.2	41.2	0.0	0.0	0.0	x	Total	1.50	17589142.31	4790221.73	1.50	
SPOR4			1031SPOR4	44.4	44.4	44.4	0.0	0.0	0.0	x	Total	4.50	17588977.22	4790169.23	4.50	
SPOR5			1031SPOR5	43.8	43.8	43.8	0.0	0.0	0.0	x	Total	4.50	17588842.20	4790144.65	4.50	
SPOR6			1031SPOR6	44.3	44.3	44.3	0.0	0.0	0.0	x	Total	4.50	17588761.25	4790134.06	4.50	
SOPOR1			1031SOPOR1	41.8	41.8	41.8	0.0	0.0	0.0	x	Total	1.50	17588863.88	4789957.25	1.50	
SOPOR2			1031SOPOR2	45.2	45.2	45.2	0.0	0.0	0.0	x	Total	1.50	17588977.57	4790166.14	1.50	
SOPOR3			1031SOPOR3	43.3	43.3	43.3	0.0	0.0	0.0	x	Total	1.50	17588843.01	4790139.14	1.50	
test	+	test		37.5	37.5	37.5	0.0	0.0	0.0	x	Total	1.50	17588993.57	4790103.72	1.50	
test	+	test		46.9	46.9	46.9	0.0	0.0	0.0	x	Total	55.00	17589026.29	4790119.98	55.00	
test	+	test		35.2	35.2	35.2	0.0	0.0	0.0	x	Total	55.00	17589070.03	4790133.55	55.00	

Obstacles

Barriers		ID	Absorption		Z-Ext.		Cantilever			Height	
			left	right	(m)	(m)	horz.	vert.	(m)	Begin	End
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a
		10001	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a
		~ 10002	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a

Geometry Barriers		ID	Absorption		Z-Ext.		Cantilever			Height		Coordinates			
			left	right	(m)	(m)	horz.	vert.	(m)	Begin	End	x	y	z	Ground
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
												17588961.54	4790123.51	58.00	0.00
												17588964.30	4790110.91	58.00	0.00
												17588965.08	4790111.08	58.00	0.00
												17588965.72	4790108.15	58.00	0.00
												17588964.94	4790107.98	58.00	0.00
												17588967.12	4790098.01	58.00	0.00
												17588976.89	4790100.15	58.00	0.00
		10001	Notes	Project	Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
												17588965.50	4790123.56	58.00	0.00
												17588968.43	4790124.20	58.00	0.00
												17588968.26	4790124.98	58.00	0.00
												17588971.31	4790125.65	58.00	0.00
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a	17588963.04	4790128.21	58.00	0.00
												17588986.10	4790128.88	58.00	0.00
												17588986.27	4790128.10	58.00	0.00
												17588989.20	4790128.74	58.00	0.00
												17588989.03	4790129.52	58.00	0.00
												17588993.20	4790130.43	58.00	0.00
												17588995.96	4790117.83	58.00	0.00
												17588994.78	4790117.57	58.00	0.00
												17588997.60	4790104.67	58.00	0.00
												17588988.61	4790102.71	58.00	0.00
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a	17589032.58	4790139.04	58.00	0.00
												17589029.53	4790138.37	58.00	0.00
												17589029.70	4790137.59	58.00	0.00
												17589026.77	4790136.95	58.00	0.00
												17589026.59	4790137.73	58.00	0.00
												17589022.81	4790136.90	58.00	0.00
												17589025.56	4790124.30	58.00	0.00
												17589026.35	4790124.47	58.00	0.00
												17589026.99	4790121.53	58.00	0.00
												17589026.20	4790121.36	58.00	0.00
												17589028.38	4790111.40	58.00	0.00
		- 10001	Notes	Project	Barrier	0.2	0.2			58.00	a	17589038.16	4790113.53	58.00	0.00
												17589044.31	4790141.60	58.00	0.00
												17589047.36	4790142.27	58.00	0.00
												17589047.53	4790141.49	58.00	0.00
												17589050.46	4790142.13	58.00	0.00
												17589050.29	4790142.91	58.00	0.00
												17589054.47	4790143.82	58.00	0.00
												17589057.22	4790131.21	58.00	0.00
												17589056.05	4790130.96	58.00	0.00
												17589058.87	4790118.06	58.00	0.00
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a	17589049.88	4790116.10	58.00	0.00
												17588965.33	4790124.34	58.00	0.00
												17588961.54	4790123.51	58.00	0.00
												17588964.30	4790110.91	58.00	0.00
												17588965.08	4790111.08	58.00	0.00
												17588965.72	4790108.15	58.00	0.00
												17588964.94	4790107.98	58.00	0.00
												17588967.12	4790098.01	58.00	0.00
		~ 10002	Notes	Project	Barrier	0.2	0.2			58.00	a	17588976.89	4790100.15	58.00	0.00
												17588965.33	4790124.34	58.00	0.00
												17588965.50	4790123.56	58.00	0.00
												17588968.43	4790124.20	58.00	0.00
												17588968.26	4790124.98	58.00	0.00
												17588971.31	4790125.65	58.00	0.00
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a	17588963.04	4790128.21	58.00	0.00
												17588986.10	4790128.88	58.00	0.00
												17588986.27	4790128.10	58.00	0.00
												17588989.20	4790128.74	58.00	0.00
												17588989.03	4790129.52	58.00	0.00
												17588993.20	4790130.43	58.00	0.00
												17588995.96	4790117.83	58.00	0.00
												17588994.78	4790117.57	58.00	0.00
												17588997.60	4790104.67	58.00	0.00
												17588988.61	4790102.71	58.00	0.00
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a	17589032.58	4790139.04	58.00	0.00
												17589029.53	4790138.37	58.00	0.00
												17589029.70	4790137.59	58.00	0.00
												17589026.77	4790136.95	58.00	0.00
												17589026.59	4790137.73	58.00	0.00
												17589022.81	4790136.90	58.00	0.00
												17589025.56	4790124.30	58.00	0.00
												17589026.35	4790124.47	58.00	0.00
												17589026.99	4790121.53	58.00	0.00
												17589026.20	4790121.36	58.00	0.00
												17589028.38	4790111.40	58.00	0.00
		- 10002	Notes	Project	Barrier	0.2	0.2			58.00	a	17589038.16	4790113.53	58.00	0.00
												17589044.31	4790141.60	58.00	0.00
												17589047.36	4790142.27	58.00	0.00
												17589047.53	4790141.49	58.00	0.00
												17589050.46	4790142.13	58.00	0.00
												17589050.29	4790142.91	58.00	0.00
												17589054.47	4790143.82	58.00	0.00
												17589057.22	4790131.21	58.00	0.00
												17589056.05	4790130.96	58.00	0.00
												17589058.87	4790118.06	58.00	0.00
												17589049.88	4790116.10	58.00	0.00

Name	Sel	M	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin (m)	x (m)	y (m)	z (m)	Ground (m)
			- Notes_Project_Buildings_NEW	x	0	0.2	89.35	a17589031.76	4790139.86	89.35	0.00
								17589037.60	4790113.11	89.35	0.00
								17589038.20	4790113.24	89.35	0.00
								17589037.97	4790114.31	89.35	0.00
								17589043.41	4790115.50	89.35	0.00
								17589043.64	4790114.43	89.35	0.00
								17589047.28	4790115.22	89.35	0.00
								17589047.04	4790116.30	89.35	0.00
								17589049.47	4790116.83	89.35	0.00
								17589049.70	4790115.75	89.35	0.00
								17589050.13	4790115.84	89.35	0.00
								17589044.49	4790141.84	89.35	0.00
								17589044.07	4790141.55	89.35	0.00
								17589044.24	4790140.76	89.35	0.00
								17589041.81	4790140.23	89.35	0.00
								17589041.64	4790141.02	89.35	0.00
								17589038.01	4790140.22	89.35	0.00
								17589038.18	4790139.44	89.35	0.00
								17589032.74	4790138.25	89.35	0.00
								17589032.36	4790139.99	89.35	0.00
			- Notes_Project_Buildings_NEW	x	0	0.2	21.80	a17589072.74	4790121.09	21.80	0.00
								17589069.08	4790137.86	21.80	0.00
								17589068.10	4790137.65	21.80	0.00
								17589066.19	4790146.38	21.80	0.00
								17589059.16	4790144.84	21.80	0.00
								17589058.73	4790146.79	21.80	0.00
								17589050.78	4790145.06	21.80	0.00
								17589056.78	4790117.80	21.80	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589552.43	4789795.75	7.00	0.00
								17589565.19	4789772.80	7.00	0.00
								17589477.92	4789724.27	7.00	0.00
								17589465.16	4789747.21	7.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	10.00	a17589518.29	4789664.96	10.00	0.00
								17589483.56	4789727.40	10.00	0.00
								17589565.19	4789772.80	10.00	0.00
								17589599.92	4789710.36	10.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589565.52	4789795.62	7.00	0.00
								17589555.58	4789790.09	7.00	0.00
								17589597.98	4789713.85	7.00	0.00
								17589607.93	4789719.38	7.00	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.96	a17588962.04	4790126.81	21.96	0.00
								17588968.11	4790099.05	21.96	0.00
								17588996.33	4790105.22	21.96	0.00
								17588991.06	4790129.35	21.96	0.00
								17588987.12	4790128.49	21.96	0.00
								17588986.95	4790129.25	21.96	0.00
								17588966.11	4790124.70	21.96	0.00
								17588965.48	4790127.56	21.96	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.75	a17589065.56	4790146.43	21.75	0.00
								17589056.31	4790144.40	21.75	0.00
								17589056.48	4790143.64	21.75	0.00
								17589054.15	4790143.13	21.75	0.00
								17589053.36	4790146.76	21.75	0.00
								17589049.92	4790146.01	21.75	0.00
								17589050.54	4790143.15	21.75	0.00
								17589029.99	4790138.65	21.75	0.00
								17589030.15	4790137.89	21.75	0.00
								17589025.79	4790136.94	21.75	0.00
								17589031.07	4790112.80	21.75	0.00
								17589059.43	4790119.00	21.75	0.00
								17589059.05	4790120.72	21.75	0.00
								17589061.29	4790121.21	21.75	0.00
								17589061.46	4790120.44	21.75	0.00
								17589070.66	4790122.45	21.75	0.00
								17589070.27	4790124.22	21.75	0.00
								17589070.40	4790124.25	21.75	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2		17589053.99	4790143.90	24.95	9.00
								17589020.32	4790136.54	24.95	9.00
								17589020.12	4790137.50	24.95	9.00
								17588996.12	4790132.25	24.95	9.00
								17588996.33	4790131.30	24.95	9.00
								17588962.67	4790123.95	24.95	9.00
								17588968.11	4790099.05	24.95	9.00
								17588996.47	4790105.25	24.95	9.00
								17588994.49	4790114.33	24.95	9.00
								17589029.08	4790121.89	24.95	9.00
								17589031.07	4790112.80	24.95	9.00
								17589059.43	4790119.00	24.95	9.00
								17589053.99	4790143.90	24.95	9.00
			Notes_Project_Buildings_NEW2	x	0	0.2	92.90	a17588985.26	4790120.83	92.90	0.00
								17588966.67	4790116.76	92.90	0.00
								17588969.89	4790102.02	92.90	0.00
								17588988.49	4790106.08	92.90	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	96.45	a17589053.99	4790143.90	96.45	0.00
								17589025.62	4790137.70	96.45	0.00
								17589031.07	4790112.81	96.45	0.00
								17589059.42	4790119.00	96.45	0.00
								17589053.99	4790143.90	96.45	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	102.05	a17589053.33	4790135.75	102.05	0.00
								17589034.50	4790131.64	102.05	0.00
								17589037.71	4790116.90	102.05	0.00
								17589056.55	4790121.01	102.05	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	88.41	a17588991.04	4790130.09	88.41	0.00
								17588962.68	4790123.90	88.41	0.00
								17588968.11	4790099.05	88.41	0.00
								17588996.47	4790105.25	88.41	0.00
								17588991.05	4790130.09	88.41	0.00

3D Reflector						
Name	Sel	M	ID	Type	Attenuation	Height
					dB/100m	% 1/m (m)

Geometry Absorption												
Name	Sel.	M.	ID	Type	Attenuation	B	m	Height	Coordinates			
					dB/100m	%	1/m	(m)	x	y	z	Ground
									(m)	(m)	(m)	(m)

Ground Absorption

Name	Set	M	ID	G
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Geometry Absorption

Name	Set	M	ID	G	Coordinates	
					x	y
					(m)	(m)

Contour Lines

Geometry Contour Line

Name	Set	M	ID	Only	Pts	Height		Coordinates		
						Begin	End	x	y	z
						(m)	(m)	(m)	(m)	(m)



Report (20260126 CadnaA_Model.cna)

Calculation Configuration

Parameter	Configuration	Value
General		
Max. Error (dB)		0.00
Max. Search Radius (#Unit,LEN)		2000.00
Min. Dist Src to Rcvr		0.00
Partition		
Raster Factor		0.50
Max. Length of Section (#Unit,LEN)		1000.00
Min. Length of Section (#Unit,LEN)		1.00
Min. Length of Section (%)		0.00
Proj. Line Sources		On
Proj. Area Sources		On
Ref. Time		
Reference Time Day (min)		960.00
Reference Time Night (min)		480.00
Day Line Penalty (dB)		0.00
Recr. Time Penalty (dB)		0.00
Night-time Penalty (dB)		0.00
DTM		
Standard Height (m)		0.00
Model of Terrain		Triangulation
Reflection		
max. Order of Reflection		2
Search Radius Src		100.00
Search Radius Rcvr		100.00
Max. Distance Source - Rcvr		1000.00 1000.00
Min. Distance Rcvr - Reflector		1.00 1.00
Min. Distance Source - Reflector		0.10
Industrial (ISO 9613)		
Lateral Diffraction		some Obj
Obst. within Area Src do not shield		On
Screening		Excl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3		3.0 2.0 0.0 0
Temperature (Unit,TEMP)		10
rel. Humidity (%)		70
Ground Absorption G		0.20
Wind Speed for Dir. (#Unit,SPEED)		3.0
Roads (RLS-90)		
Strictly acc. to RLS-90		
Railways (Schall 03 (1990))		
Strictly acc. to Schall 03 / Schall-Transport		
Aircraft (???)		
Strictly acc. to AzB		

Result Table

Receiver		Land Use	Limiting Value		rel. Axis		L/rw Noise Contour		dL req.		L/r Noise Contour		Exceeding		passive NC	
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night	
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
POP0R1	101 POP0R1	0	0	0				35.3	35.3	35.3	35.3	43.6	43.6	43.6	43.6	
POP0R2	101 POP0R2	0	0	0				22.2	22.2	53.2	53.2	53.2	53.2	53.2	53.2	
POP0R3	101 POP0R3	0	0	0				32.9	32.9	32.9	32.9	64.8	64.8	64.8	64.8	
SP0R1	103 SP0R1	0	0	0				42.1	42.1	42.1	42.1	39.9	39.9	39.9	39.9	
SP0R2	103 SP0R2	0	0	0				18.7	18.7	18.7	18.7	42.3	42.3	42.3	42.3	
SP0R3	103 SP0R3	0	0	0				25.6	25.6	25.6	25.6	41.2	41.2	41.2	41.2	
SP0R4	103 SP0R4	0	0	0				36.0	36.0	36.0	36.0	44.4	44.4	44.4	44.4	
SP0R5	103 SP0R5	0	0	0				23.7	23.7	23.7	23.7	43.8	43.8	43.8	43.8	
SP0R6	103 SP0R6	0	0	0				20.0	20.0	20.0	20.0	44.3	44.3	44.3	44.3	
SP0R1	103 SP0R1	0	0	0				34.9	34.9	34.9	34.9	41.8	41.8	41.8	41.8	
SP0R2	103 SP0R2	0	0	0				38.5	38.5	38.5	38.5	45.2	45.2	45.2	45.2	
SP0R3	103 SP0R3	0	0	0				24.8	24.8	24.8	24.8	43.3	43.3	43.3	43.3	
test	test	0	0	0				54.1	54.1	54.1	54.1	37.5	37.5	37.5	37.5	
test	test	0	0	0				51.5	51.5	51.5	51.5	46.9	46.9	46.9	46.9	
test	test	0	0	0				26.6	26.6	26.6	26.6	35.2	35.2	35.2	35.2	

Group Day and Night

Name	Expression	Partial Sum Level																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			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POP0R233												POPOP0R234												POPOP0R235												POPOP0R236												POPOP0R237												POPOP0R238												POPOP0R239												POPOP0R240												POPOP0R241												POPOP0R242												POPOP0R243												POPOP0R244												POPOP0R245												POPOP0R246												POPOP0R247												POPOP0R248												POPOP0R249												POPOP0R250												POPOP0R251												POPOP0R252												POPOP0R253												POPOP0R254												POPOP0R255												POPOP0R256												POPOP0R257												POPOP0R258												POPOP0R259												POPOP0R260												POPOP0R261												POPOP0R262												POPOP0R263												POPOP0R264												POPOP0R265												POPOP0R266												POPOP0R267												POPOP0R268												POPOP0R269												POPOP0R270												POPOP0R271												POPOP0R272												POPOP0R273												POPOP0R274												POPOP0R275												POPOP0R276												POPOP0R277												POPOP0R278												POPOP0R279												POPOP0R280												POPOP0R281												POPOP0R282												POPOP0R283												POPOP0R284												POPOP0R285												POPOP0R286												POPOP0R287												POPOP0R288												POPOP0R289												POPOP0R290												POPOP0R291												POPOP0R292												POPOP0R293												POPOP0R294												POPOP0R295												POPOP0R296												POPOP0R297												POPOP0R298												POPOP0R299												POPOP0R300												POPOP0R301												POPOP0R302												POPOP0R303												POPOP0R304												POPOP0R305												POPOP0R306												POPOP0R307												POPOP0R308												POPOP0R309												POPOP0R310												POPOP0R311												POPOP0R312												POPOP0R313												POPOP0R314												POPOP0R315												POPOP0R316												POPOP0R317												POPOP0R318												POPOP0R319												POPOP0R320												POPOP0R321												POPOP0R322												POPOP0R323												POPOP0R324												POPOP0R325												POPOP0R326												POPOP0R327												POPOP0R328												POPOP0R329												POPOP0R330												POPOP0R331												POPOP0R332												POPOP0R333												POPOP0R334												POPOP0R335												POPOP0R336												POPOP0R337												POPOP0R338												POPOP0R339												POPOP0R340												POPOP0R341												POPOP0R342												POPOP0R343												POPOP0R344												POPOP0R345												POPOP0R346												POPOP0R347												POPOP0R348												POPOP0R349												POPOP0R350												POPOP0R351												POPOP0R352												POPOP0R353												POPOP0R354												POPOP0R355												POPOP0R356												POPOP0R357												POPOP0R358												POPOP0R359												POPOP0R360												POPOP0R361												POPOP0R362												POPOP0R363												POPOP0R364												POPOP0R365												POPOP0R366												POPOP0R367												POPOP0R368												POPOP0R369												POPOP0R370												POPOP0R371												POPOP0R372												POPOP0R373												POPOP0R374												POPOP0R375												POPOP0R376												POPOP0R377												POPOP0R378												POPOP0R379												POPOP0R380												POPOP0R381												POPOP0R382												POPOP0R383												POPOP0R384												POPOP0R385												POPOP0R386												POPOP0R387												POPOP0R388												POPOP0R389												POPOP0R390												POPOP0R391												POPOP0R392												POPOP0R393												POPOP0R394												POPOP0R395												POPOP0R396												POPOP0R397												POPOP0R398												POPOP0R399												POPOP0R400												POPOP0R401												POPOP0R402												POPOP0R403												POPOP0R404												POPOP0R405												POPOP0R406												POPOP0R407												POPOP0R408												POPOP0R409												POPOP0R410												POPOP0R411												POPOP0R412												POPOP0R413												POPOP0R414												POPOP0R415												POPOP0R416												POPOP0R417												POPOP0R418												POPOP0R419												POPOP0R420												POPOP0R421												POPOP0R422												POPOP0R423												POPOP0R424												POPOP0R425												POPOP0R426												POPOP0R427												POPOP0R428												POPOP0R429												POPOP0R430												POPOP0R431												POPOP0R432												POPOP0R433												POPOP0R434												POPOP0R435												POPOP0R436												POPOP0R437												POPOP0R438												POPOP0R439												POPOP0R440												POPOP0R441												POPOP0R442												POPOP0R443												POPOP0R444												POPOP0R445												POPOP0R446												POPOP0R447												POPOP0R448												POPOP0R449												POPOP0R450												POPOP0R451												POPOP0R452												POPOP0R453												POPOP0R454												POPOP0R455												POPOP0R456												POPOP0R457												POPOP0R458												POPOP0R459												POPOP0R460												POPOP0R461												POPOP0R462												POPOP0R463												POPOP0R464												POPOP0R465												POPOP0R466												POPOP0R467												POPOP0R468												POPOP0R469												POPOP0R470												POPOP0R471												POPOP0R472												POPOP0R473												POPOP0R474												POPOP0R475												POPOP0R476												POPOP0R477												POPOP0R478												POPOP0R479												POPOP0R480												POPOP0R481												POPOP0R482												POPOP0R483												POPOP0R484												POPOP0R485												POPOP0R486												POPOP0R487												POPOP0R488												POPOP0R489												POPOP0R490												POPOP0R491												POPOP0R492												POPOP0R493												POPOP0R494												POPOP0R495												POPOP0R496												POPOP0R497												POPOP0R498												POPOP0R499												POPOP0R500												POPOP0R501												POPOP0R502												POPOP0R503												POPOP0R504												POPOP0R505												POPOP0R506												POPOP0R507												POPOP0R508												POPOP0R509												POPOP0R510												POPOP0R511												POPOP0R512												POPOP0R513												POPOP0R514												POPOP0R515												POPOP0R516												POPOP0R517												POPOP0R518												POPOP0R519												POPOP0R520												POPOP0R521												POPOP0R522												POPOP0R523												POPOP0R524												POPOP0R525												POPOP0R526												POPOP0R527												POPOP0R528												POPOP0R529												POPOP0R530												POPOP0R531												POPOP0R532												POPOP0R533												POPOP0R534												POPOP0R535												POPOP0R536												POPOP0R537												POPOP0R538												POPOP0R539												POPOP0R540												POPOP0R541												POPOP0R542												POPOP0R543												POPOP0R544												POPOP0R545												POPOP0R546												POPOP0R547												POPOP0R548												POPOP0R549												POPOP0R550												POPOP0R551												POPOP0R552												POPOP0R553												POPOP0R554												POPOP0R555												POPOP0R556												POPOP0R557												POPOP0R558												POPOP0R559												POPOP0R560												POPOP0R561												POPOP0R562												POPOP0R563												POPOP0R564												POPOP0R565												POPOP0R566												POPOP0R567												POPOP0R568												POPOP0R569												POPOP0R570												POPOP0R571												POPOP0R572												POPOP0R573												POPOP0R574												POPOP0R575												POPOP0R576												POPOP0R577												POPOP0R578												POPOP0R579												POPOP0R580												POPOP0R581												POPOP0R582												POPOP0R583												POPOP0R584												POPOP0R585												POPOP0R586												POPOP0R587												POPOP0R588												POPOP0R589												POPOP0R590												POPOP0R591												POPOP0R592												POPOP0R593												POPOP0R594												POPOP0R595												POPOP0R596												POPOP0R597												POPOP0R598												POPOP0R599												POPOP0R600												POPOP0R601												POPOP0R602												POPOP0R603												POPOP0R604												POPOP0R605												POPOP0R606												POPOP0R607												POPOP0R608												POPOP0R609												POPOP0R610												POPOP0R611												POPOP0R612												POPOP0R613												POPOP0R614												POPOP0R615												POPOP0R616												POPOP0R617												POPOP0R618												POPOP0R619												POPOP0R620												POPOP0R621												POPOP0R622												POPOP0R623												POPOP0R624												POPOP0R625												POPOP0R626												POPOP0R627												POPOP0R628												POPOP0R629												POPOP0R630												POPOP0R631												POPOP0R632												POPOP0R633												POPOP0R634												POPOP0R635												POPOP0R636												POPOP0R637												POPOP0R638												POPOP0R639												POPOP0R640												POPOP0R641												POPOP0R642												POPOP0R643												POPOP0R644												POPOP0R645												POPOP0R646												POPOP0R647												POPOP0R648												POPOP0R649												POPOP0R650												POPOP0R651												POPOP0R652												POPOP0R653												POPOP0R654												POPOP0R655												POPOP0R656												POPOP0R657												POPOP0R658												POPOP0R659												POPOP0R660												POPOP0R661												POPOP0R662												POPOP0R663												POPOP0R664												POPOP0R665												POPOP0R666												POPOP0R667												POPOP0R668												POPOP0R669												POPOP0R670												POPOP0R671												POPOP0R672												POPOP0R673												POPOP0R674												POPOP0R675												POPOP0R676												POPOP0R677												POPOP0R678												POPOP0R679												POPOP0R680												POPOP0R681												POPOP0R682												POPOP0R683												POPOP0R684												POPOP0R685												POPOP0R686												POPOP0R687				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Partial Day/Night

[illegible]

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
				17588998.35	4790108.58	1.50	0.00
				17589026.36	4790114.01	1.50	0.00
				17589016.73	4790117.05	1.50	0.00
				17589011.36	4790122.44	1.50	0.00
				17589009.90	4790128.55	1.50	0.00
				17589008.03	4790136.42	1.50	0.00
				17589008.03	4790141.85	1.50	0.00
				17589012.36	4790149.35	1.50	0.00
PTRDR01	100001PTRDR01	0.00	a	17589008.03	4790141.85	0.00	0.00
				17589007.23	4790133.28	0.00	0.00
				17589007.98	4790130.59	0.00	0.00
				17589009.16	4790127.34	0.00	0.00
				17589011.65	4790117.71	0.00	0.00
				17589012.85	4790113.49	0.00	0.00
				17589017.64	4790111.49	0.00	0.00
				17589023.74	4790114.50	0.00	0.00
				17589019.79	4790131.12	0.00	0.00
				17589015.24	4790131.61	0.00	0.00
				17589009.90	4790132.46	0.00	0.00
				17589008.03	4790136.42	0.00	0.00
				17589008.03	4790141.85	0.00	0.00
				17589012.36	4790149.35	0.00	0.00

Area Sources

Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Type	Lw / Li		Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
				Day	Evening	Night	Day	Evening	Night		Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Day	Evening	Night
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)		(dB)	(Hz)			
SNS01	~		102001SNS01	105.7	105.7	105.7	56.6	56.6	56.6	Lw	Measured_Steady_Noise		0.0	0.0	0.0							0.0		(none)			

Geometry Area Sources

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
SNS01	102001SNS01	2.00	a	17588306.27	4789491.02	2.00	0.00
				17588276.83	4789463.44	2.00	0.00
				17588255.22	4789417.47	2.00	0.00
				17588328.45	4789392.51	2.00	0.00
				17588429.21	4789363.67	2.00	0.00
				17588532.15	4789341.47	2.00	0.00
				17588630.31	4789339.45	2.00	0.00
				17588748.52	4789348.09	2.00	0.00
				17588750.53	4789338.31	2.00	0.00
				17588823.36	4789344.64	2.00	0.00
				17588913.01	4789356.16	2.00	0.00
				17589103.66	4789398.08	2.00	0.00
				17589195.87	4789418.36	2.00	0.00
				17589233.89	4789432.26	2.00	0.00
				17589224.16	4789458.87	2.00	0.00
				17589203.96	4789456.08	2.00	0.00
				17589151.15	4789458.96	2.00	0.00
				17589072.71	4789471.52	2.00	0.00
				17589037.62	4789473.80	2.00	0.00
				17588976.65	4789469.22	2.00	0.00
				17588901.87	4789463.64	2.00	0.00
				17588811.02	4789456.99	2.00	0.00
				17588812.77	4789433.02	2.00	0.00
				17588619.32	4789418.42	2.00	0.00
				17588619.27	4789421.82	2.00	0.00
				17588563.49	4789422.35	2.00	0.00
				17588544.05	4789432.76	2.00	0.00
				17588525.86	4789433.24	2.00	0.00
				17588485.85	4789439.11	2.00	0.00
				17588436.71	4789451.00	2.00	0.00
				17588406.41	4789456.54	2.00	0.00

Vertical Area Sources

Name	Sel.	M.	ID	Result: PWL			Result: PWL"			Lw / Li		Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R		Area		Day	Special	Night		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)

Geometry Vertical Area Sources

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)

Road

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit	SCS	Surface	Gradient	Mult.	Reflection		
				Day	Evening	Night	DTV	Str.class.	M						Auto	Truck	Dist.	Dstro	Type	Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(%)	(dB)	(m)	(m)	

Geometry Road

Name	Sel.	M.	ID	Height		Coordinates				Dist	LSlope
				Begin	End	x	y	z	Ground		
				(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)

Receptors

Name	Sel.	M.	ID	Level Lr			Limit: Value			Land Use	Height	Coordinates			
				Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)			Type	Auto	Noise Type	X
POPOR1			1011POPOR1	42.8	42.8	42.8	0.0	0.0	0.0	x	Total	1.50	17589009.72	4790126.05	26.45
POPOR2			1011POPOR2	65.9	65.9	65.9	0.0	0.0	0.0	x	Total	1.50	17589051.38	4790129.54	103.55
POPOR3			1011POPOR3	56.7	56.7	56.7	0.0	0.0	0.0	x	Total	1.50	17588990.41	4790118.45	89.91
SPOR1			1031SPOR1	30.1	30.1	30.1	0.0	0.0	0.0	x	Total	5.00	17588933.27	4790084.27	5.00
SPOR2			1031SPOR2	25.0	25.0	25.0	0.0	0.0	0.0	x	Total	1.50	17588827.70	4789947.79	1.50
SPOR3			1031SPOR3	43.3	43.3	43.3	0.0	0.0	0.0	x	Total	1.50	17589142.31	4790221.73	1.50
SPOR4			1031SPOR4	43.3	43.3	43.3	0.0	0.0	0.0	x	Total	4.50	17588977.22	4790169.23	4.50
SPOR5			1031SPOR5	40.2	40.2	40.2	0.0	0.0	0.0	x	Total	4.50	17588842.20	4790144.65	4.50
SPOR6			1031SPOR6	39.0	39.0	39.0	0.0	0.0	0.0	x	Total	4.50	17588761.25	4790134.06	4.50
SOPOR1			1031SOPOR1	28.0	28.0	28.0	0.0	0.0	0.0	x	Total	1.50	17588863.88	4789957.25	1.50
SOPOR2			1031SOPOR2	42.6	42.6	42.6	0.0	0.0	0.0	x	Total	1.50	17588977.57	4790166.14	1.50
SOPOR3			1031SOPOR3	39.1	39.1	39.1	0.0	0.0	0.0	x	Total	1.50	17588843.01	4790139.14	1.50
test	+	test		35.0	35.0	35.0	0.0	0.0	0.0	x	Total	1.50	17588993.57	4790103.72	1.50
test	+	test		44.4	44.4	44.4	0.0	0.0	0.0	x	Total	55.00	17589026.29	4790119.98	55.00
test	+	test		48.3	48.3	48.3	0.0	0.0	0.0	x	Total	55.00	17589070.03	4790133.55	55.00

Obstacles

Barriers

[illegible]

Geometry Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever	Height	Coordinates				
				left	right				x	y	z	Ground	
				(m)	(m)	(m)		Begin	End	(m)	(m)	(m)	(m)
-	10001	Notes	Project_Barrier	0.2	0.2			58.00	a	1758893.39	4790124.34	58.00	0.00
										1758896.154	4790123.51	58.00	0.00
										1758896.30	4790110.91	58.00	0.00
										17588965.08	4790111.08	58.00	0.00
										17588965.72	4790108.15	58.00	0.00
										17588964.94	4790107.98	58.00	0.00
										17588967.12	4790098.01	58.00	0.00
										17588976.88	4790100.15	58.00	0.00
										17588965.38	4790124.34	58.00	0.00
										17588965.50	4790123.56	58.00	0.00
~	10001	Notes	Project_Barrier	0.2	0.2			58.00	a	17588968.43	4790124.20	58.00	0.00
										17588968.26	4790124.98	58.00	0.00
										17588971.31	4790125.65	58.00	0.00
										17588983.04	4790128.21	58.00	0.00
										17588986.10	4790128.88	58.00	0.00
										17588986.27	4790128.10	58.00	0.00
										17588989.20	4790128.74	58.00	0.00
										17588989.03	4790129.52	58.00	0.00
										17588993.20	4790130.43	58.00	0.00
										17588995.96	4790117.83	58.00	0.00
-	10001	Notes	Project_Barrier	0.2	0.2			58.00	a	17588994.78	4790117.57	58.00	0.00
										17588997.60	4790104.67	58.00	0.00
										17588986.61	4790102.71	58.00	0.00
										17589032.58	4790139.04	58.00	0.00
										17589029.70	4790137.59	58.00	0.00
										17589026.77	4790136.95	58.00	0.00
										17589026.58	4790137.73	58.00	0.00
										17589026.81	4790136.99	58.00	0.00
										17589025.58	4790124.30	58.00	0.00
										17589026.35	4790124.47	58.00	0.00
-	10001	Notes	Project_Barrier	0.2	0.2			58.00	a	17589026.99	4790121.53	58.00	0.00
										17589026.20	4790121.36	58.00	0.00
										17589028.38	4790111.40	58.00	0.00
										17589038.16	4790113.53	58.00	0.00
										17589044.31	4790141.60	58.00	0.00
										17589047.36	4790142.27	58.00	0.00
										17589047.53	4790141.49	58.00	0.00
										17589050.46	4790142.13	58.00	0.00
										17589050.29	4790142.91	58.00	0.00
										17589054.47	4790143.82	58.00	0.00
-	10002	Notes	Project_Barrier	0.2	0.2			58.00	a	17589057.22	4790131.21	58.00	0.00
										17589056.05	4790130.96	58.00	0.00
										17589058.87	4790118.06	58.00	0.00
										17589049.88	4790116.10	58.00	0.00
										17588965.33	4790124.34	58.00	0.00
										17588961.54	4790123.51	58.00	0.00
										17588964.30	4790110.91	58.00	0.00
										17588965.08	4790111.08	58.00	0.00
										17588965.72	4790108.15	58.00	0.00
										17588964.94	4790107.98	58.00	0.00
-	10002	Notes	Project_Barrier	0.2	0.2			58.00	a	17588967.12	4790098.01	58.00	0.00
										17588976.89	4790100.15	58.00	0.00
										17588965.33	4790124.34	58.00	0.00
										17588965.50	4790123.56	58.00	0.00
										17588968.43	4790124.20	58.00	0.00
										17588968.26	4790124.98	58.00	0.00
										17588971.31	4790125.65	58.00	0.00
										17588983.04	4790128.21	58.00	0.00
										17588986.10	4790128.88	58.00	0.00
										17588986.27	4790128.10	58.00	0.00
-	10002	Notes	Project_Barrier	0.2	0.2			58.00	a	17588989.20	4790128.74	58.00	0.00
										17588989.03	4790129.52	58.00	0.00
										17588993.20	4790130.43	58.00	0.00
										17588995.96	4790117.83	58.00	0.00
										17588986.61	4790102.71	58.00	0.00
										17589032.58	4790139.04	58.00	0.00
										17589029.70	4790137.59	58.00	0.00
										17589026.77	4790136.95	58.00	0.00
										17589026.58	4790137.73	58.00	0.00
										17589026.81	4790136.99	58.00	0.00
-	10002	Notes	Project_Barrier	0.2	0.2			58.00	a	17589025.58	4790124.30	58.00	0.00
										17589026.35	4790124.47	58.00	0.00
										17589026.99	4790121.53	58.00	0.00
										17589026.20	4790121.36	58.00	0.00
										17589028.38	4790111.40	58.00	0.00
										17589038.16	4790113.53	58.00	0.00
										17589044.31	4790141.60	58.00	0.00
										17589047.36	4790142.27	58.00	0.00
										17589047.53	4790141.49	58.00	0.00
										17589050.46	4790142.13	58.00	0.00
-	10002	Notes	Project_Barrier	0.2	0.2			58.00	a	17589050.29	4790142.91	58.00	0.00
										17589054.47	4790143.82	58.00	0.00
										17589057.22	4790131.21	58.00	0.00
										17589056.05	4790130.96	58.00	0.00
										17589058.87	4790118.06	58.00	0.00
										17589049.88	4790116.10	58.00	0.00

Name	Sel	M	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin (m)	x (m)	y (m)	z (m)	Ground (m)
			- Notes_Project_Buildings_NEW	x	0	0.2	89.35	a17589031.76	4790139.86	89.35	0.00
								17589037.60	4790113.11	89.35	0.00
								17589038.20	4790113.24	89.35	0.00
								17589037.97	4790114.31	89.35	0.00
								17589043.41	4790115.50	89.35	0.00
								17589043.64	4790114.43	89.35	0.00
								17589047.28	4790115.22	89.35	0.00
								17589047.04	4790116.30	89.35	0.00
								17589049.47	4790116.83	89.35	0.00
								17589049.70	4790115.75	89.35	0.00
								17589050.13	4790115.84	89.35	0.00
								17589044.49	4790141.84	89.35	0.00
								17589044.07	4790141.55	89.35	0.00
								17589044.24	4790140.76	89.35	0.00
								17589041.81	4790140.23	89.35	0.00
								17589041.64	4790141.02	89.35	0.00
								17589038.01	4790140.22	89.35	0.00
								17589038.18	4790139.44	89.35	0.00
								17589032.74	4790138.25	89.35	0.00
								17589032.36	4790139.99	89.35	0.00
			- Notes_Project_Buildings_NEW	x	0	0.2	21.80	a17589072.74	4790121.09	21.80	0.00
								17589069.08	4790137.86	21.80	0.00
								17589068.10	4790137.65	21.80	0.00
								17589066.19	4790146.38	21.80	0.00
								17589059.16	4790144.84	21.80	0.00
								17589058.73	4790146.79	21.80	0.00
								17589050.78	4790145.06	21.80	0.00
								17589056.78	4790117.80	21.80	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589552.43	4789795.75	7.00	0.00
								17589565.19	4789772.80	7.00	0.00
								17589477.92	4789724.27	7.00	0.00
								17589465.16	4789747.21	7.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	10.00	a17589518.29	4789664.96	10.00	0.00
								17589483.56	4789727.40	10.00	0.00
								17589565.19	4789772.80	10.00	0.00
								17589599.92	4789710.36	10.00	0.00
			Notes_Surrounding_Buildings_OMSF	x	0	0.2	7.00	a17589565.52	4789795.62	7.00	0.00
								17589555.58	4789790.09	7.00	0.00
								17589597.98	4789713.85	7.00	0.00
								17589607.93	4789719.38	7.00	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.96	a17588962.04	4790126.81	21.96	0.00
								17588968.11	4790099.05	21.96	0.00
								17588996.33	4790105.22	21.96	0.00
								17588991.06	4790129.35	21.96	0.00
								17588987.12	4790128.49	21.96	0.00
								17588986.95	4790129.25	21.96	0.00
								17588966.11	4790124.70	21.96	0.00
								17588965.48	4790127.56	21.96	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	21.75	a17589065.56	4790146.43	21.75	0.00
								17589056.31	4790144.40	21.75	0.00
								17589056.48	4790143.64	21.75	0.00
								17589054.15	4790143.13	21.75	0.00
								17589053.36	4790146.76	21.75	0.00
								17589049.92	4790146.01	21.75	0.00
								17589050.54	4790143.15	21.75	0.00
								17589029.99	4790138.65	21.75	0.00
								17589030.15	4790137.89	21.75	0.00
								17589025.79	4790136.94	21.75	0.00
								17589031.07	4790112.80	21.75	0.00
								17589059.43	4790119.00	21.75	0.00
								17589059.05	4790120.72	21.75	0.00
								17589061.29	4790121.21	21.75	0.00
								17589061.46	4790120.44	21.75	0.00
								17589070.66	4790122.45	21.75	0.00
								17589070.27	4790124.22	21.75	0.00
								17589070.40	4790124.25	21.75	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2		17589053.99	4790143.90	24.95	9.00
								17589020.32	4790136.54	24.95	9.00
								17589020.12	4790137.50	24.95	9.00
								17588996.12	4790132.25	24.95	9.00
								17588996.33	4790131.30	24.95	9.00
								17588962.67	4790123.95	24.95	9.00
								17588968.11	4790099.05	24.95	9.00
								17588996.47	4790105.25	24.95	9.00
								17588994.49	4790114.33	24.95	9.00
								17589029.08	4790121.89	24.95	9.00
								17589031.07	4790112.80	24.95	9.00
								17589059.43	4790119.00	24.95	9.00
								17589053.99	4790143.90	24.95	9.00
			Notes_Project_Buildings_NEW2	x	0	0.2	92.90	a17588985.26	4790120.83	92.90	0.00
								17588966.67	4790116.76	92.90	0.00
								17588969.89	4790102.02	92.90	0.00
								17588988.49	4790106.08	92.90	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	96.45	a17589053.99	4790143.90	96.45	0.00
								17589025.62	4790137.70	96.45	0.00
								17589031.07	4790112.81	96.45	0.00
								17589059.42	4790119.00	96.45	0.00
								17589053.99	4790143.90	96.45	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	102.05	a17589053.33	4790135.75	102.05	0.00
								17589034.50	4790131.64	102.05	0.00
								17589037.71	4790116.90	102.05	0.00
								17589056.55	4790121.01	102.05	0.00
			Notes_Project_Buildings_NEW2	x	0	0.2	88.41	a17588991.04	4790130.09	88.41	0.00
								17588962.68	4790123.90	88.41	0.00
								17588968.11	4790099.05	88.41	0.00
								17588996.47	4790105.25	88.41	0.00
								17588991.05	4790130.09	88.41	0.00

3D Reflector						
Name	Sel	M	ID	Type	Attenuation	Height
					dB/100m	% 1/m (m)

Geometry Absorption												
Name	Sel.	M.	ID	Type	Attenuation	B	m	Height	Coordinates			
					dB/100m	%	1/m	(m)	x	y	z	Ground
									(m)	(m)	(m)	(m)

Ground Absorption

Name	Set	M	ID	G
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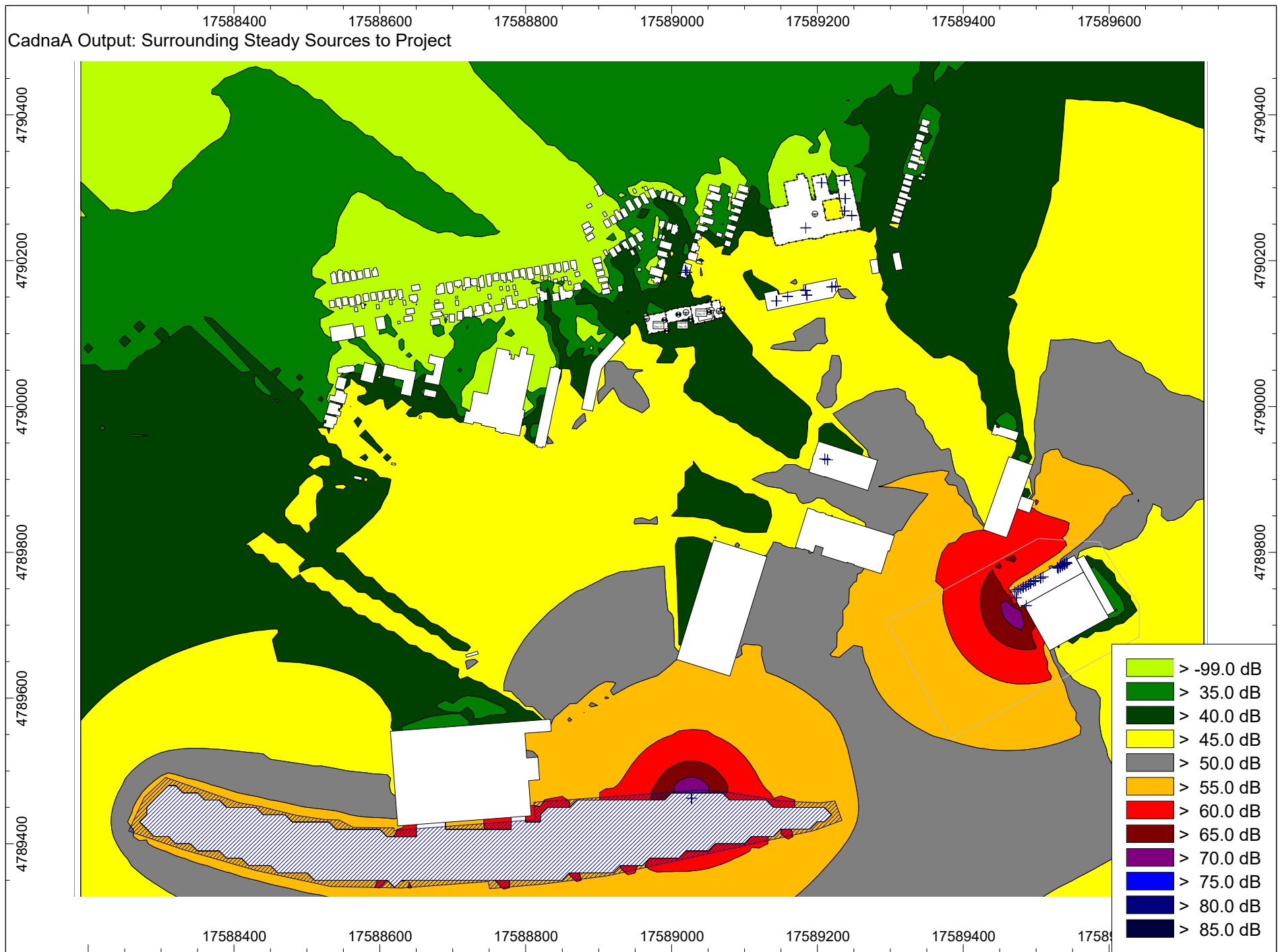
Geometry Absorption

Name	Set	M	ID	G	Coordinates	
					x	y
					(m)	(m)

Contour Lines

Geometry Contour Line

Name	Set	M	ID	Only	Pts	Height		Coordinates		
						Begin	End	x	y	z
						(m)	(m)	(m)	(m)	(m)



Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrie
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.20
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RL S-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Result Table

Receiver		Land Use	Limiting Value	ref. Axis		Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exceeding		passive NC	
Name	ID		Day dB(A)	Night dB(A)	Station Distance m	Height m	Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)	Day dB(A)
POPOR1	101	POPOR1	0	0			35.3	35.3	35.3	35.3	43.6	43.6	43.6	43.6	43.6
POPOR2	101	POPOR2	0	0			22.2	22.2	22.2	22.2	53.2	53.2	53.2	53.2	53.2
POPOR3	101	POPOR3	0	0			32.9	32.9	32.9	32.9	64.8	64.8	64.8	64.8	64.8
test	test		0	0			54.1	54.1	54.1	54.1	37.5	37.5	37.5	37.5	37.5
test	test		0	0			51.5	51.5	51.5	51.5	46.9	46.9	46.9	46.9	46.9
test	test		0	0			26.6	26.6	26.6	26.6	35.2	35.2	35.2	35.2	35.2

Group Day and Night

Name		Expression	Partial Sum Level														
			POPOR1			POPOR2			POPOR3			test			test		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Root	I*		45.3	45.3	43.7	47.2	47.2	45.0	46.7	46.7	43.9	41.2	41.2	39.8	44.0	44.0	42.9
Project Sources	100*																
Steady	10000*																
Emergency1	10001*																
Emergency2	10002*																
Project Receivers	101*																
Surrounding Sources	102*	45.3	45.3	43.7	47.2	47.2	45.0	46.7	46.7	43.9	41.2	41.2	39.8	44.0	44.0	42.9	49.5
Steady	10200*	45.3	45.3	43.7	47.2	47.2	45.0	46.7	46.7	43.9	41.2	41.2	39.8	44.0	44.0	42.9	49.5
Surrounding Receivers	103*																
Building Base	104*																

Partial Day/Night

Source			Partial Level														
Name	M.	ID	POPOR1			POPOR2			POPOR3			test			test		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
CH01		102001CH01	35.9	35.9	32.9	31.8	31.8	28.8	35.8	35.8	32.8	35.2	35.2	32.2	29.3	29.3	26.3
CH02		102001CH02	35.8	35.8	32.8	31.8	31.8	28.8	35.7	35.7	32.7	28.6	28.6	25.6	29.0	29.0	26.0
HVAC01		102001HVAC01	26.3	26.3	23.3	11.4	11.4	8.4	18.2	18.2	15.2	9.3	9.3	6.3	34.4	34.4	31.4
HVAC02		102001HVAC02	26.3	26.3	23.3	11.4	11.4	8.4	18.3	18.3	15.3	9.6	9.6	6.6	34.6	34.6	31.6
HVAC03		102001HVAC03	24.6	24.6	21.6	21.6	21.6	18.6	9.5	9.5	6.5	22.9	22.9	19.9	12.1	12.1	9.1
HVAC04		102001HVAC04	22.6	22.6	19.5	21.9	21.9	18.9	11.5	11.5	8.5	12.3	12.3	9.3	11.1	11.1	8.1
HVAC05		102001HVAC05	22.2	22.2	19.2	22.2	22.2	19.2	10.7	10.7	7.7	10.2	10.2	7.2	9.8	9.8	6.8
HVAC06		102001HVAC07	22.2	22.2	19.2	22.2	22.2	19.2	10.6	10.6	7.6	13.4	13.4	10.4	9.8	9.8	6.8
HVAC07		102001HVAC07	18.5	18.5	15.5	19.1	19.1	16.1	6.4	6.4	3.4	10.6	10.6	7.6	5.2	5.2	2.2
HVAC08		102001HVAC08	15.8	15.8	12.8	18.9	18.9	15.9	6.3	6.3	3.3	10.5	10.5	7.5	5.0	5.0	2.0
INS01		102001INS01	35.2	35.2	35.2	35.0	35.0	35.0	28.3	28.3	28.3	30.2	30.2	30.2	35.3	35.3	35.1
INS02		102001INS02	35.2	35.2	35.2	35.0	35.0	35.0	28.3	28.3	28.3	30.2	30.2	30.2	35.3	35.3	35.1
INS03		102001INS03	35.2	35.2	35.2	35.0	35.0	35.0	28.3	28.3	28.3	30.2	30.2	30.2	35.3	35.3	35.1
GEN01	~	10001GEN01															
GEN02	~	10002GEN02															
PTRID01	~	100001PTRID01															
PTRID02	~	100001PTRID02															
GEN01 rel	-	10001GEN01 rel															
GEN02 rel	-	10001GEN02 rel															
HVAC09	-	102001HVAC09	25.0	25.0	22.0	20.7	20.7	17.7	24.6	24.6	21.5	1.2	1.2	-1.8	25.1	25.1	22.0
HVAC10	-	102001HVAC10	21.9	21.9	18.9	24.0	24.0	20.9	22.6	22.6	19.6	0.7	0.7	-2.4	23.0	23.0	20.0
HVAC11	-	102001HVAC11	25.5	25.5	22.5	27.1	27.1	24.1	25.8	25.8	22.7	2.2	2.2	-0.8	26.2	26.2	23.2
HVAC12	-	102001HVAC12	25.7	25.7	22.7	26.7	26.7	23.7	25.5	25.5	22.5	-0.9	-0.9	-3.9	25.9	25.9	22.9
HVAC13	-	102001HVAC13	23.4	23.4	20.4	21.2	21.2	18.2	22.8	22.8	19.8	-4.1	-4.1	-7.1	20.9	20.9	17.8
HVAC14	-	102001HVAC14	24.7	24.7	21.7	23.2	23.2	20.2	22.1	22.1	19.1	-4.9	-4.9	-7.9	22.5	22.5	19.5

Source			Partial Level																								
Name	M.	ID	POPOR1			POPOR2			POPOR3			test			test			test			Day	Evening	Night	Day	Evening	Night	
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night							
AHU01		102001AHU01	18.2	18.2	15.2	25.0	25.0	22.0	25.0	25.0	22.0	12.7	12.7	9.7	13.7	13.7	10.7	25.3	25.3	22.3							
AHU02		102001AHU02	18.3	18.3	15.3	25.0	25.0	22.0	25.0	25.0	22.0	12.8	12.8	9.8	13.5	13.5	10.5	25.3	25.3	22.3							
AHU03		102001AHU03	20.4	20.4	17.4	25.0	25.0	22.0	25.0	25.0	22.0	15.1	15.1	12.1	13.3	13.3	10.3	25.3	25.3	22.3							
AHU04		102001AHU04	20.6	20.6	17.6	25.0	25.0	22.0	24.9	24.9	21.9	15.3	15.3	12.2	13.2	13.2	10.2	25.3	25.3	22.2							
AHU05		102001AHU05	20.8	20.8	17.8	24.9	24.9	21.9	24.9	24.9	21.9	15.5	15.5	12.4	13.0	13.0	10.0	25.2	25.2	22.2							
AHU06		102001AHU06	21.1	21.1	18.1	24.9	24.9	21.9	24.9	24.9	21.9	15.7	15.7	12.6	12.9	12.9	9.9	25.2	25.2	22.2							
CT01		102001CT01	23.1	23.1	20.1	30.1	30.1	27.1	30.1	30.1	27.1	17.6	17.6	14.6	18.9	18.9	15.9	30.4	30.4	27.4							
MUA01		102001MUA01	30.0	30.0	27.0	29.8	29.8	26.8	29.8	29.8	26.8	22.2	22.2	19.1	17.3	17.3	14.3	30.1	30.1	27.1							
MUA02		102001MUA02	30.0	30.0	27.0	29.8	29.8	26.8	29.8	29.8	26.8	22.7	22.7	19.7	17.1	17.1	14.1	30.1	30.1	27.1							
PBF01		102001PBF01	12.8	12.8	9.8	20.0	20.0	16.9	20.0	20.0	16.9	7.6	7.6	4.6	8.9	8.9	5.9	20.2	20.2	17.2							
EF01		102001EF01	23.1	23.1	20.1	19.7	19.7	16.7	19.8	19.8	16.8	13.4	13.4	10.4	6.3	6.3	3.3	20.0	20.0	17.0							
EF02		102001EF02	23.1	23.1	20.1	19.7	19.7	16.6	19.6	19.6	16.6	13.4	13.4	10.4	6.2	6.2	3.2	20.0	20.0	16.9							
EF03		102001EF03	23.2	23.2	20.2	19.6	19.6	16.6	19.6	19.6	16.6	13.4	13.4	10.4	6.1	6.1	3.1	19.9	19.9	16.9							
EF04		102001EF04	23.2	23.2	20.2	19.6	19.6	16.6	19.5	19.5	16.5	13.4	13.4	10.4	5.9	5.9	2.9	19.9	19.9	16.9							
EF05		102001EF05	23.2	23.2	20.2	19.6	19.6	16.6	19.5	19.5	16.5	13.5	13.5	10.5	5.8	5.8	2.8	19.9	19.9	16.9							
EF06		102001EF06	23.1	23.1	20.1	19.7	19.7	16.6	19.6	19.6	16.6	13.4	13.4	10.4	6.3	6.3	3.3	20.0	20.0	16.9							
EF07		102001EF07	23.1	23.1	20.1	19.6	19.6	16.6	19.6	19.6	16.6	13.4	13.4	10.4	6.2	6.2	3.2	19.9	19.9	16.9							
EF08		102001EF08	23.2	23.2	20.2	19.6	19.6	16.6	19.5	19.5	16.5	13.4	13.4	10.4	6.1	6.1	3.1	19.9	19.9	16.9							
EF09		102001EF09	23.2	23.2	20.2	19.6	19.6	16.6	19.5	19.5	16.5	13.4	13.4	10.4	5.9	5.9	2.9	19.9	19.9	16.9							
EF10		102001EF10	23.2	23.2	20.2	19.6	19.6	16.5	19.5	19.5	16.5	13.5	13.5	10.5	5.8	5.8	2.8	19.9	19.9	16.9							
DC01		102001DC01	37.3	37.3	34.6	44.7	44.7	41.7	44.7	44.7	41.7	33.6	33.6	30.6	33.6	33.6	30.6	45.0	45.0	41.9							
CU01		102001CU01	6.8	6.8	3.8	9.9	9.9	6.9	9.9	9.9	6.9	1.0	1.0	-2.0	-2.3	-2.3	-5.3	10.2	10.2	7.2							
CU02		102001CU02	7.2	7.2	4.2	9.9	9.9	6.9	9.9	9.9	6.8	1.3	1.3	-1.7	-2.4	-2.4	-5.4	10.2	10.2	7.2							
PTRDR01_OLD	~	100001PTRDR01_OLD																									
PTRDR01	~	100001PTRDR01																									
SNS01		102001SNS01	33.7	33.7	33.7	32.7	32.7	32.7	25.7	25.7	25.7	34.3	34.3	34.3	35.3	35.3	35.3	32.8	32.8	32.8							

Sound Sources

Point Sources																									
Name	Sel. M.	ID	Result_PWL			Type	Lw / Li Value	Correction				Sound Reduction/Attenuation		Operating Time			K0	Freq.	Direct.	Height	Coordinates				
			Day	Evening	Night			norm.	Day	Evening	Night	R	Area (m²)	Day	Special	Night					X	Y	Z		
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)			(min)	(min)	(min)	(dB)	(Hz)		(m)	(m)	(m)	(m)		
CH01		102001CH01	93.9	93.9	93.9	Lw	Chiller2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589210.03	4789927.92	22.50			
CH02		102001CH02	93.9	93.9	93.9	Lw	Chiller2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589213.88	4789926.89	22.50			
HVAC01		102001HVAC01	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589019.15	4790186.95	8.50			
HVAC02		102001HVAC02	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589021.07	4790184.24	8.50			
HVAC03		102001HVAC03	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589143.96	4790144.81	10.50			
HVAC04		102001HVAC04	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589159.18	4790151.06	10.50			
HVAC05		102001HVAC05	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589183.87	4790159.30	10.50			
HVAC06		102001HVAC06	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589185.70	4790152.66	10.50			
HVAC07		102001HVAC07	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589219.79	4790163.97	10.50			
HVAC08		102001HVAC08	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589225.06	4790164.81	10.50			
INS01		102001INS01	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00			
INS02		102001INS02	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00			
INS03		102001INS03	106.3	106.3	106.3	Lw	Idling_Data	0.0	0.0	0.0	0.0			30.00	30.00	30.00	0.0	(none)	2.00	g17589027.36	4789462.69	2.00			
GEN01	~	100011GEN01	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0	0.0						0.0	(none)	1.50	g17588969.38	4790121.30	89.91			
GEN02	~	100021GEN02	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0	0.0						0.0	(none)	1.50	g17589049.72	4790139.12	97.95			
PTRID01	~	100001PTRID01	98.9	98.9	98.9	Lw	Truck_Idle	0.0	0.0	0.0	0.0			5.00	5.00	5.00	0.0	(none)	1.50	g17589026.51	4790114.39	1.50			
PTRID02	~	100001PTRID02	98.9	98.9	98.9	Lw	Truck_Idle	0.0	0.0	0.0	0.0			5.00	5.00	5.00	0.0	(none)	1.50	g17588998.20	4790108.21	1.50			
GEN01_rel	~	100011GEN01_rel	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0	0.0						0.0	(none)	1.50	g17588988.74	4790121.77	58.40			
GEN02_rel	~	100011GEN02_rel	107.9	107.9	107.9	Lw	Gen_Level2_Enclosure	0.0	0.0	0.0	0.0						0.0	(none)	1.50	g17589050.06	4790137.31	58.40			
HVAC09		102001HVAC09	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589183.98	4790245.22	15.50			
HVAC10		102001HVAC10	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589247.18	4790261.91	15.50			
HVAC11		102001HVAC11	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589237.31	4790268.16	15.50			
HVAC12		102001HVAC12	84.7	84.7	84.7	Lw	Large HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589238.17	4790285.47	15.50			
HVAC13		102001HVAC13	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589205.68	4790306.98	15.50			
HVAC14		102001HVAC14	81.7	81.7	81.7	Lw	Small HVAC2	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	(none)	1.50	g17589237.24	4790309.77	15.50			
AHU01		102001AHU01	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589475.91	4789748.00	8.50		
AHU02		102001AHU02	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589479.01	4789748.00	8.50		
AHU03		102001AHU03	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589482.39	4789751.84	8.50		
AHU04		102001AHU04	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589486.16	4789753.38	8.50		
AHU05		102001AHU05	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589489.47	4789755.38	8.50		
AHU06		102001AHU06	90.0	90.0	90.0	Lw	90	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589492.44	4789757.02	8.50		
CT01		102001CT01	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589470.79	4789745.78	8.50		
MUA01		102001MUA01	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589066.16	4789784.31	8.50		
MUA02		102001MUA02	95.0	95.0	95.0	Lw	95	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589659.57	4789786.23	8.50		
PBF01		102001PBF01	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589473.19	4789747.45	8.50		
EF01		102001EF01	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589529.45	4789779.26	8.50		
EF02		102001EF02	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589532.51	4789780.66	8.50		
EF03		102001EF03	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589535.35	4789782.66	8.50		
EF04		102001EF04	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589538.63	4789784.36	8.50		
EF05		102001EF05	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589541.68	4789786.06	8.50		
EF06		102001EF06	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589530.18	4789777.95	8.50		
EF07		102001EF07	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589533.24	4789778.65	8.50		
EF08		102001EF08	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589536.39	4789779.45	8.50		
EF09		102001EF09	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589539.35	4789780.05	8.50		
EF10		102001EF10	85.0	85.0	85.0	Lw	85	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589542.41	4789784.75	8.50		
DCU01		102001DCU01	110.0	110.0	110.0	Lw	110	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589486.50	4789726.87	11.50		
CU01		102001CU01	75.0	75.0	75.0	Lw	75	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589486.82	4789759.92	8.50		
CU02		102001CU02	75.0	75.0	75.0	Lw	75	0.0	0.0	0.0	0.0			60.00	60.00	30.00	0.0	500	(none)	1.50	g17589499.10	4789761.18	8.50		

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(m)	(m)	(m)	(m)	(m)	(m)
				17589007.23	4790133.28	0.00	0.00
				17589007.95	4790130.59	0.00	0.00
				17589009.16	4790127.34	0.00	0.00
				17589011.65	4790117.71	0.00	0.00
				17589012.85	4790113.49	0.00	0.00
				17589017.64	4790111.49	0.00	0.00
				17589023.74	4790114.50	0.00	0.00
				17589019.79	4790131.12	0.00	0.00
				17589015.24	4790131.61	0.00	0.00
				17589009.90	4790132.46	0.00	0.00
				17589008.03	4790136.42	0.00	0.00
				17589008.03	4790141.85	0.00	0.00
				17589012.36	4790149.35	0.00	0.00

Area Sources		ID	Result. PWL			Result. PWL*			Type	Lw / Li		Correction	Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src						
Name	Sel.		M.	Day	Evening	Night	Day	Evening		Night	Value		norm.	Day		Evening	Night	R				Area	Day	Special	Night	Day	Evening	Night
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)		(dBA)			(dBA)	(dBA)		(dBA)	(dBA)	(dBA)					(m²)	(min)	(min)	(min)	(dB)	(Hz)
SNS01			102001	SNS01	105.7	105.7	105.7	56.6	56.6	56.6	Lw	Measured	Steady	Noise	0.0	0.0	0.0											

Name	ID	Sel.	M.	ID	Height		Coordinates			
					Begin	End	x	y	z	Ground
					(m)	(m)	(m)	(m)	(m)	(m)
SNS01	102001			SNS01	2.00	a	17588306.27	4789491.02	2.00	0.00
							17588276.83	4789463.44	2.00	0.00
							17588255.22	4789417.47	2.00	0.00
							17588328.45	4789392.51	2.00	0.00
							17588429.21	4789363.67	2.00	0.00
							17588532.15	4789341.47	2.00	0.00
							17588630.31	4789339.45	2.00	0.00
							17588748.52	4789348.09	2.00	0.00
							17588750.53	4789338.31	2.00	0.00
							17588823.36	4789344.64	2.00	0.00
							17588913.01	4789356.16	2.00	0.00
							17589103.66	4789398.08	2.00	0.00
							17589195.87	4789418.36	2.00	0.00
							17589233.89	4789432.26	2.00	0.00
							17589224.16	4789458.87	2.00	0.00
							17589203.96	4789456.08	2.00	0.00
							17589151.15	4789458.96	2.00	0.00
							17589072.71	4789471.52	2.00	0.00
							17589037.62	4789473.80	2.00	0.00
							17588976.65	4789469.22	2.00	0.00
							17588901.87	4789463.64	2.00	0.00
							17588811.02	4789456.99	2.00	0.00
							17588812.77	4789433.02	2.00	0.00
							17588619.32	4789418.42	2.00	0.00
							17588619.27	4789421.82	2.00	0.00
							17588563.49	4789422.35	2.00	0.00
							17588544.05	4789432.76	2.00	0.00
							17588525.86	4789433.24	2.00	0.00
							17588485.85	4789439.11	2.00	0.00
							17588436.71	4789451.00	2.00	0.00
							17588406.41	4789456.54	2.00	0.00

Vertical Area Sources																								
Name	Sel.	M.	ID	Result. PWL			Result. PWL*			Lw / Li		Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night			
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)

Geometry Vertical Area Sources		Name	ID	Sel.	M.	ID	Height		Coordinates			
							Begin	End	x	y	z	Ground
							(m)	(m)	(m)	(m)	(m)	(m)

Road																							
Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbulid	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)			(dB)	(%)	(dB)	(m)	(m)

Geometry Road		Name	ID	Sel.	M.	ID	Height		Coordinates				Dist	LSlope
							Begin	End	x	y	z	Ground		
							(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)

Receptors																		
Name	Sel.	M.	ID	Level Lr			Limit. Value			Land Use			Height	Coordinates				
				Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Auto	Noise Type		X	Y	Z		
POPOR1	-	011	POPOR1	45.3	45.3	43.7	0.0	0.0	0.0		x	Total	1.50	g17589009.72	4790126.05	26.45		
POPOR1	-	011	POPOR2	47.2	47.2	45.0	0.0	0.0	0.0		x	Total	1.50	g17589051.38	4790129.54	103.55		
POPOR3	-	011	POPOR3	46.7	46.7	43.9	0.0	0.0	0.0		x	Total	1.50	g17588990.41	4790118.45	89.91		
SPOR1	-	031	SPOR1	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	5.00	g17588933.27	4790084.27	5.00		
SPOR2	-	031	SPOR2	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	1.50	g17588827.70	4789947.79	1.50		
SPOR3	-	031	SPOR3	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	1.50	g17589142.31	4790221.73	1.50		
SPOR4	-	031	SPOR4	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	4.50	g17588977.22	4790169.23	4.50		
SPOR5	-	031	SPOR5	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	4.50	g17588942.20	4790144.65	4.50		
SPOR6	-	031	SPOR6	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	4.50	g17588781.25	4790134.06	4.50		
SOPOR1	-	031	SOPOR1	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	1.50	g17588863.88	4789957.25	1.50		
SOPOR2	-	031	SOPOR2	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	1.50	g17588977.57	4790166.14	1.50		
SOPOR3	-	031	SOPOR3	-88.0	-88.0	-88.0	0.0	0.0	0.0		x	Total	1.50	g17588843.01	4790139.14	1.50		
test	+	test		41.2	41.2	39.8	0.0	0.0	0.0		x	Total	1.50	g17588993.57	4790103.72	1.50		
test	+	test		44.0	44.0	42.9	0.0	0.0	0.0		x	Total	55.00	g17589026.29	4790119.98	55.00		
test	+	test		49.5	49.5	47.0	0.0	0.0	0.0		x	Total	55.00	g17589070.03	4790133.55	55.00		

Obstacles

Barriers															
Name	Sel.	M.	ID	Absorption		Z-Ext.		Cantilever			Height				
				left	right			horz.	vert.		Begin		End		
						(m)		(m)	(m)		(m)	(m)			
		-	10001	Notes	Project	Barrier	0.2	0.2			58.00	a			
		~	10001	Notes	Project	Barrier	0.2	0.2			58.00	a			
		~	10001	Notes	Project	Barrier	0.2	0.2			58.00	a			

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever	Height	
				left	right			Begin	End
						horz.	vert.	(m)	(m)
				(m)	(m)	(m)	(m)		
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a

Geometry Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever	Height		Coordinates			
				left	right			Begin	End	x	y	z	Ground
						(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
										17588961.54	4790123.51	58.00	0.00
										17588964.30	4790110.91	58.00	0.00
										17588965.08	4790111.08	58.00	0.00
										17588965.72	4790108.15	58.00	0.00
										17588964.94	4790107.98	58.00	0.00
										17588967.12	4790098.01	58.00	0.00
										17588976.89	4790100.15	58.00	0.00
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
										17588965.50	4790123.56	58.00	0.00
										17588968.43	4790124.20	58.00	0.00
										17588968.26	4790124.98	58.00	0.00
										17588971.31	4790125.65	58.00	0.00
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a	17588983.04	4790128.21	58.00	0.00
										17588986.10	4790128.88	58.00	0.00
										17588986.27	4790128.10	58.00	0.00
										17588989.20	4790128.74	58.00	0.00
										17588989.03	4790129.52	58.00	0.00
										17588993.20	4790130.43	58.00	0.00
										17588995.96	4790117.83	58.00	0.00
										17588994.78	4790117.57	58.00	0.00
										17588997.60	4790104.67	58.00	0.00
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a	17588988.61	4790102.71	58.00	0.00
										17589032.58	4790139.04	58.00	0.00
										17589029.53	4790138.37	58.00	0.00
										17589029.70	4790137.59	58.00	0.00
										17589026.77	4790136.95	58.00	0.00
										17589026.59	4790137.73	58.00	0.00
										17589022.81	4790136.90	58.00	0.00
										17589025.56	4790124.30	58.00	0.00
										17589026.35	4790124.47	58.00	0.00
										17589026.99	4790121.53	58.00	0.00
										17589026.20	4790121.36	58.00	0.00
										17589028.38	4790111.40	58.00	0.00
		-	'0001Notes_Project_Barrier	0.2	0.2			58.00	a	17589038.16	4790113.53	58.00	0.00
										17589044.31	4790141.60	58.00	0.00
										17589047.36	4790142.27	58.00	0.00
										17589047.53	4790141.49	58.00	0.00
										17589050.46	4790142.13	58.00	0.00
										17589050.29	4790142.91	58.00	0.00
										17589054.47	4790143.82	58.00	0.00
										17589057.22	4790131.21	58.00	0.00
										17589056.05	4790130.96	58.00	0.00
										17589058.87	4790118.06	58.00	0.00
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
										17588961.54	4790123.51	58.00	0.00
										17588964.30	4790110.91	58.00	0.00
										17588965.08	4790111.08	58.00	0.00
										17588965.72	4790108.15	58.00	0.00
										17588964.94	4790107.98	58.00	0.00
										17588967.12	4790098.01	58.00	0.00
										17588976.89	4790100.15	58.00	0.00
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a	17588965.33	4790124.34	58.00	0.00
										17588965.50	4790123.56	58.00	0.00
										17588968.43	4790124.20	58.00	0.00
										17588968.26	4790124.98	58.00	0.00
										17588971.31	4790125.65	58.00	0.00
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a	17588983.04	4790128.21	58.00	0.00
										17588986.10	4790128.88	58.00	0.00
										17588986.27	4790128.10	58.00	0.00
										17588989.20	4790128.74	58.00	0.00
										17588989.03	4790129.52	58.00	0.00
										17588993.20	4790130.43	58.00	0.00
										17588995.96	4790117.83	58.00	0.00
										17588994.78	4790117.57	58.00	0.00
										17588997.60	4790104.67	58.00	0.00
										17588988.61	4790102.71	58.00	0.00
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a	17589032.58	4790139.04	58.00	0.00
										17589029.53	4790138.37	58.00	0.00
										17589029.70	4790137.59	58.00	0.00
										17589026.77	4790136.95	58.00	0.00
										17589026.59	4790137.73	58.00	0.00
										17589022.81	4790136.90	58.00	0.00
										17589025.56	4790124.30	58.00	0.00
										17589026.35	4790124.47	58.00	0.00
										17589026.99	4790121.53	58.00	0.00
										17589026.20	4790121.36	58.00	0.00
										17589028.38	4790111.40	58.00	0.00
		-	'0002Notes_Project_Barrier	0.2	0.2			58.00	a	17589038.16	4790113.53	58.00	0.00
										17589044.31	4790141.60	58.00	0.00
										17589047.36	4790142.27	58.00	0.00
										17589047.53	4790141.49	58.00	0.00
										17589050.46	4790142.13	58.00	0.00
										17589050.29	4790142.91	58.00	0.00
										17589054.47	4790143.82	58.00	0.00
										17589057.22	4790131.21	58.00	0.00
										17589056.05	4790130.96	58.00	0.00
										17589058.87	4790118.06	58.00	0.00
										17589049.88	4790116.10	58.00	0.00

Building

Name	Sel.	M.	ID	RB	Residents	Absorption	Height
							Begin
							(m)
			Notes_Surrounding_Buildings	x	0	0.2	4.50
			Notes_Surrounding_Buildings	x	0	0.2	4.50

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z	Ground
							(m)	(m)	(m)	(m)	(m)
								17589037.97	4790114.31	89.35	0.00
								17589043.41	4790115.50	89.35	0.00
								17589043.64	4790114.43	89.35	0.00
								17589047.28	4790115.22	89.35	0.00
								17589047.04	4790116.30	89.35	0.00
								17589049.47	4790116.83	89.35	0.00
								17589049.70	4790115.75	89.35	0.00
								17589050.13	4790115.84	89.35	0.00
								17589044.49	4790141.64	89.35	0.00
								17589044.07	4790141.55	89.35	0.00
								17589044.24	4790140.76	89.35	0.00
								17589041.81	4790140.23	89.35	0.00
								17589041.64	4790141.02	89.35	0.00
								17589038.01	4790140.22	89.35	0.00
								17589038.18	4790139.44	89.35	0.00
								17589032.74	4790138.25	89.35	0.00
								17589032.36	4790139.99	89.35	0.00
-	Notes	Project	Buildings_NEW	x	0	0.2	21.80	17589072.74	4790121.09	21.80	0.00
								17589069.08	4790137.86	21.80	0.00
								17589068.10	4790137.65	21.80	0.00
								17589066.19	4790146.38	21.80	0.00
								17589059.16	4790144.84	21.80	0.00
								17589058.73	4790146.79	21.80	0.00
								17589050.78	4790145.06	21.80	0.00
								17589056.78	4790117.60	21.80	0.00
	Notes	Surrounding	Buildings_OMSF	x	0	0.2	7.00	17589552.43	4789795.75	7.00	0.00
								17589565.19	4789772.80	7.00	0.00
								17589477.92	4789724.27	7.00	0.00
								17589465.16	4789747.21	7.00	0.00
	Notes	Surrounding	Buildings_OMSF	x	0	0.2	10.00	17589518.29	4789664.96	10.00	0.00
								17589483.56	4789727.40	10.00	0.00
								17589565.19	4789772.80	10.00	0.00
								17589599.92	4789710.36	10.00	0.00
	Notes	Surrounding	Buildings_OMSF	x	0	0.2	7.00	17589565.52	4789795.62	7.00	0.00
								17589555.58	4789790.09	7.00	0.00
								17589597.98	4789713.85	7.00	0.00
								17589607.93	4789719.38	7.00	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	21.96	17589962.04	4790126.81	21.96	0.00
								17588968.11	4790099.05	21.96	0.00
								17588996.33	4790105.22	21.96	0.00
								17588991.06	4790129.35	21.96	0.00
								17588987.12	4790128.49	21.96	0.00
								17588986.95	4790129.25	21.96	0.00
								17588986.11	4790124.70	21.96	0.00
								17588965.48	4790127.56	21.96	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	21.75	17589065.56	4790146.43	21.75	0.00
								17589056.31	4790144.40	21.75	0.00
								17589056.48	4790143.64	21.75	0.00
								17589054.15	4790143.13	21.75	0.00
								17589053.36	4790146.76	21.75	0.00
								17589049.92	4790146.01	21.75	0.00
								17589050.54	4790143.15	21.75	0.00
								17589029.99	4790138.65	21.75	0.00
								17589030.15	4790137.89	21.75	0.00
								17589025.79	4790136.94	21.75	0.00
								17589031.07	4790112.80	21.75	0.00
								17589059.43	4790119.00	21.75	0.00
								17589059.05	4790120.72	21.75	0.00
								17589061.29	4790121.21	21.75	0.00
								17589061.46	4790120.44	21.75	0.00
								17589070.66	4790122.45	21.75	0.00
								17589070.27	4790124.22	21.75	0.00
								17589070.40	4790124.25	21.75	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	24.95	17589053.99	4790143.90	24.95	9.00
								17589020.32	4790136.54	24.95	9.00
								17589020.12	4790137.50	24.95	9.00
								17588996.12	4790132.25	24.95	9.00
								17588996.33	4790131.30	24.95	9.00
								17588962.67	4790123.95	24.95	9.00
								17588968.11	4790099.05	24.95	9.00
								17588996.47	4790105.25	24.95	9.00
								17588994.49	4790114.33	24.95	9.00
								17589029.08	4790121.89	24.95	9.00
								17589031.07	4790112.80	24.95	9.00
								17589059.43	4790119.00	24.95	9.00
								17589053.99	4790143.90	24.95	9.00
	Notes	Project	Buildings_NEW2	x	0	0.2	92.90	17588985.26	4790120.83	92.90	0.00
								17588966.67	4790116.76	92.90	0.00
								17588969.89	4790102.02	92.90	0.00
								17588988.49	4790106.08	92.90	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	96.45	17589053.99	4790143.90	96.45	0.00
								17589025.62	4790137.70	96.45	0.00
								17589031.07	4790112.81	96.45	0.00
								17589059.42	4790119.00	96.45	0.00
								17589053.99	4790143.90	96.45	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	102.05	17589053.33	4790135.75	102.05	0.00
								17589034.50	4790131.64	102.05	0.00
								17589037.71	4790116.90	102.05	0.00
								17589056.55	4790121.01	102.05	0.00
	Notes	Project	Buildings_NEW2	x	0	0.2	88.41	17588991.04	4790130.09	88.41	0.00
								17588962.68	4790123.90	88.41	0.00
								17588968.11	4790099.05	88.41	0.00
								17588996.47	4790105.25	88.41	0.00
								17588991.05	4790130.09	88.41	0.00

3D Reflector									
Name	Sel.	M.	ID	Type	Attenuation	B	m	Height	
					dB/100m	%	1/m	(m)	

Geometry Absorption												
Name	Sel.	M.	ID	Type	Attenuation	B	m	Height	Coordinates			
					dB/100m	%	1/m	(m)	x	y	z	Ground
									(m)	(m)	(m)	(m)

Ground Absorption									
Name	Sel.	M.	ID	G					

Geometry Absorption

Name	Set	M	ID	G	Coordinates	
					x	y
					(m)	(m)

Contour Lines

Geometry Contour Line									
Name	Set	M	ID	OnlyPts	Height		Coordinates		
					Begin	End	x	y	z
					(m)	(m)	(m)	(m)	(m)