PRELIMINARY NOISE IMPACT STUDY

"HUMBER STATION DISTRIBUTION CENTRE"
12519-12712 HUMBER STATION ROAD
PART OF LOTS 3 AND 4 CONCESSION 5, ALBION
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

Prepared for:

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Our File No: 24-2036
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1.0 INTRODUCTION

dBA Acoustical Consulting Inc. has been retained to conduct a preliminary noise impact study on behalf of PLD Humber Station Investment LP. for the proposed "Humber Station Distribution Centre" located at 712519-12712 Humber Station Road in Caledon, ON.

The purpose of the preliminary study is to determine, for site plan application, the noise impact from the proposed Humber Station Distribution Centre rooftop HVAC units, onsite truck traffic and coupling and decoupling on neighbouring residential properties, the Ministry of Environment, Conservation & Parks (MECP) D-6 separation requirements between residential and industrial sites, as required by the Town of Caledon and Regional Municipality of Peel.

This study will assume and detail noise impact relative to the site plan and recommend minimum noise control measures necessary (if applicable) to meet MECP Publication NPC-300 entitled "Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the Town of Caledon and Regional Municipality of Peel. See attached Key Plan Figure 1.

2.0 SITE DESCRIPTION

Proposed for this site is Building 1, a large Employment building, totaling 300,846.5 square meters. There are 5 other commercial buildings being considered for this site in the future, however they are not a part of this application.

To the north of the proposed building, approximately 150m, are several large industrial businesses, similar to what is being proposed for Building 1. To the south, approximately 236m are a couple residential homes. There are vacant lands to the east, south and west.

To the south of the proposed Humber Station Distribution Center, approximately 380m is Humber Station Road, and Mayfield Road is over a km to the east.

3.0 REGULATORY CONTEXT

The MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines defines a point of reception/receptor as *"any point on the premises of a person where the sound or vibration originating from other than those premises are received."*

The point of reception may be located on any of the following, or zoned for future use, premises including but not limited to the following: residential homes, retirement homes, etc.

3.1 CLASS 2 NOISE LEVEL CRITERIA

The areas surrounding the proposed Building 1 are indicative of a "Class II Area" as defined in MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines.

The applicable sound limits are the higher of:

- The existing ambient sound level; or
- **The minimum values of Table 1A & and Table 1B**

No restrictions apply to stationary sources if the one-hour equivalent sound exposure (Leq) is lower than the levels in the following Table 1A and Table 1B.

Table 1A
Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA)
Outdoor Points of Reception

Time of Day	Class 1 Area	**Class 2 Area**	Class 3 Area	Class 4 Area
07:00-19:00	50	**50**	45	55
19:00-23:00	50	**45**	40	55

Table 1B
Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA)
Plane of Window of Noise Sensitive Spaces

Time of Day	Class 1 Area	**Class 2 Area**	Class 3 Area	Class 4 Area
07:00-19:00	50	**50**	45	60
19:00-23:00	50	**50**	40	60
23:00-07:00	45	**45**	40	55

3.2 D-6 CLASS II NOISE SEPARATION

D-6 - Class II Industrial Facility
A place of business for medium scale processing and manufacturing with outdoor storage of wastes or materials (i.e. it has an open process) and/or there are periodic outputs of minor annoyance. There are occasional outputs of either point source or fugitive emissions for any of the following: noise, odour, dust and/or vibrations, and low probability of fugitive emissions. Shift operations are permitted and there is a frequent movement of product and/or heavy trucks during daytime hours.

Influence Area Concept (4.1)

Potential influence areas for industrial land uses (4.1.1) The MECP has identified, through case studies and experience, the following potential influence areas (i.e., areas within which adverse effects may be experienced) for industrial land uses.

Class 1 – 70m
Class II – 300m
Class III – 1000m

Industrial categorization criteria *

Category	Outputs	Scale	Process	Operation /Intensity	Possible examples **
Class II	• Noise: Sound occasionally audible off property • Dust and/or Odour: Frequent and occasionally intense • Vibration: Possible groundborne vibration, but cannot be perceived off property	• Outside storage permitted • Medium level of production allowed	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Shift operations permitted • Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours	• Magazine printing • Paint spray booths • Metal command • Electrical production manufacturing • Manufacturing of dairy products • Dry cleaning services • Feed packing plant

In reviewing the D-6 separation guidelines it is confirmed that they apply to Building 1 as the setbacks to the nearest residential properties or noise sensitive areas are less than 300m.

4.0 PRELIMINARY HVAC UNITS

It has yet to be determined, the make, model, location, and number of HVAC units required for Building 1. A revision to the noise study will be required once this information has been established prior to the issuance of a building permit or when required. We do not anticipate the HVAC unit's noise levels to have an acoustical impact on the neighbouring residential properties due to distance separation, building height, acoustical shielding, and other sound mitigation measures.

5.0 PROPOSED INDUSTRIAL BUILDING 1 – TRANSPORT TRUCKS EXAMPLE

The tenant(s) for Building 1 are currently undetermined. For the preliminary noise impact study, we have calculated the stationary noise sources from transport trucks, coupling and decoupling of transport trucks and trailers daytime and nighttime, that may impact the residential properties to the immediate west along Humber Station Road. The number of trucks expected to utilize Building 1 loading bays would be 20 transport trucks per hour in the daytime and 37 transport trucks at nighttime. Transport trucks are required to shut off their engines during unloading or as per truck manufacturers specifications. The noise levels used for the transport truck movement and coupling and decoupling were acquired from the dBA Acoustical library.

The transport daytime noise level limit is 50 dBA and therefore noise mitigation measures are not required to mitigate the transport noise at the nearest residential locations note in Figure 3. Regarding the transport trucks, dBA staff calculated all 20 transport trucks during the daytime and 37 transport trucks during the nighttime utilizing the bays on the south side of Building 1 at the center of Building 1 and extrapolated to the first and second floors of the nearest residential property line 236.1m south.

Calculations of all transport trucks in the south bay locations are considered the worst-case scenario and it is likely that the transport trucks will use the north and south loading bays which will reduce the noise levels calculated further. See Appendix "A" for Sound Propagation Calculation Sheets and Addition of 20 and 37 transport trucks movements as well as coupling and decoupling for daytime and nighttime hours.

The daytime noise level limit is 50 dBA and therefore noise mitigation measures are not required as the results were 39 dBA for movement and 34 dBA for coupling and decoupling. dBA did not include time adjustment for the trucks being turned off during the one-hour period noted above as this will further reduce the noise levels at the closest residential properties.

The nighttime noise level limit is 45 dBA and therefore noise mitigation measures are not required as the results were 44 dBA for movement and 36 dBA for coupling. dBA did not include time adjustment for the trucks being turned off during the one-hour period noted above as this will further reduce the noise levels at the closest residential properties.

6.0 SUMMARY OF RECOMMENDATIONS

- Once the HVAC unit details, sound power levels from the manufacturer(s), model numbers, and locations are confirmed for Building 1, a revision to the noise study will be required.
- Once the tenant(s) of Building 1 have been determined a more detailed updated noise study will be required to address any address stationary noise source(s) that have not been considered in this report.

7.0 CONCLUSIONS

dBA Acoustical Consulting Inc. has provided a preliminary noise impact study on behalf of PLD Humber Station Investment LP. for the proposed "Humber Station Distribution Centre" located at 712519-12712 Humber Station Road in Caledon, ON.

The preliminary study determined, for site plan application, the noise impact from the proposed Humber Station Distribution Centre rooftop HVAC units, onsite truck traffic and coupling and decoupling on neighbouring residential properties, the Ministry of Environment, Conservation & Parks (MECP) D-6 separation requirements between residential and industrial sites, as required by the Town of Caledon and Regional Municipality of Peel.

This study detailed noise impact relative to the site plan and recommended no noise control measures necessary to meet MECP Publication NPC-300 entitled "Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the Town of Caledon and Regional Municipality of Peel.

FIGURE 1
SITE KEY PLAN

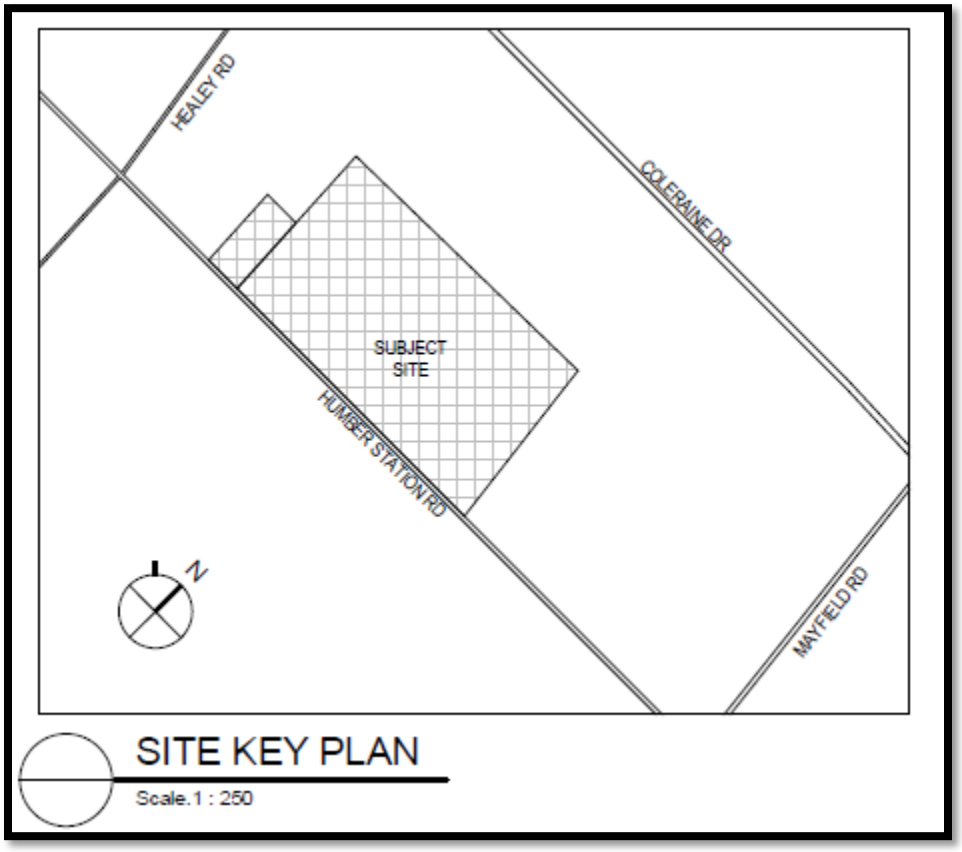


FIGURE 2
SITE PLAN

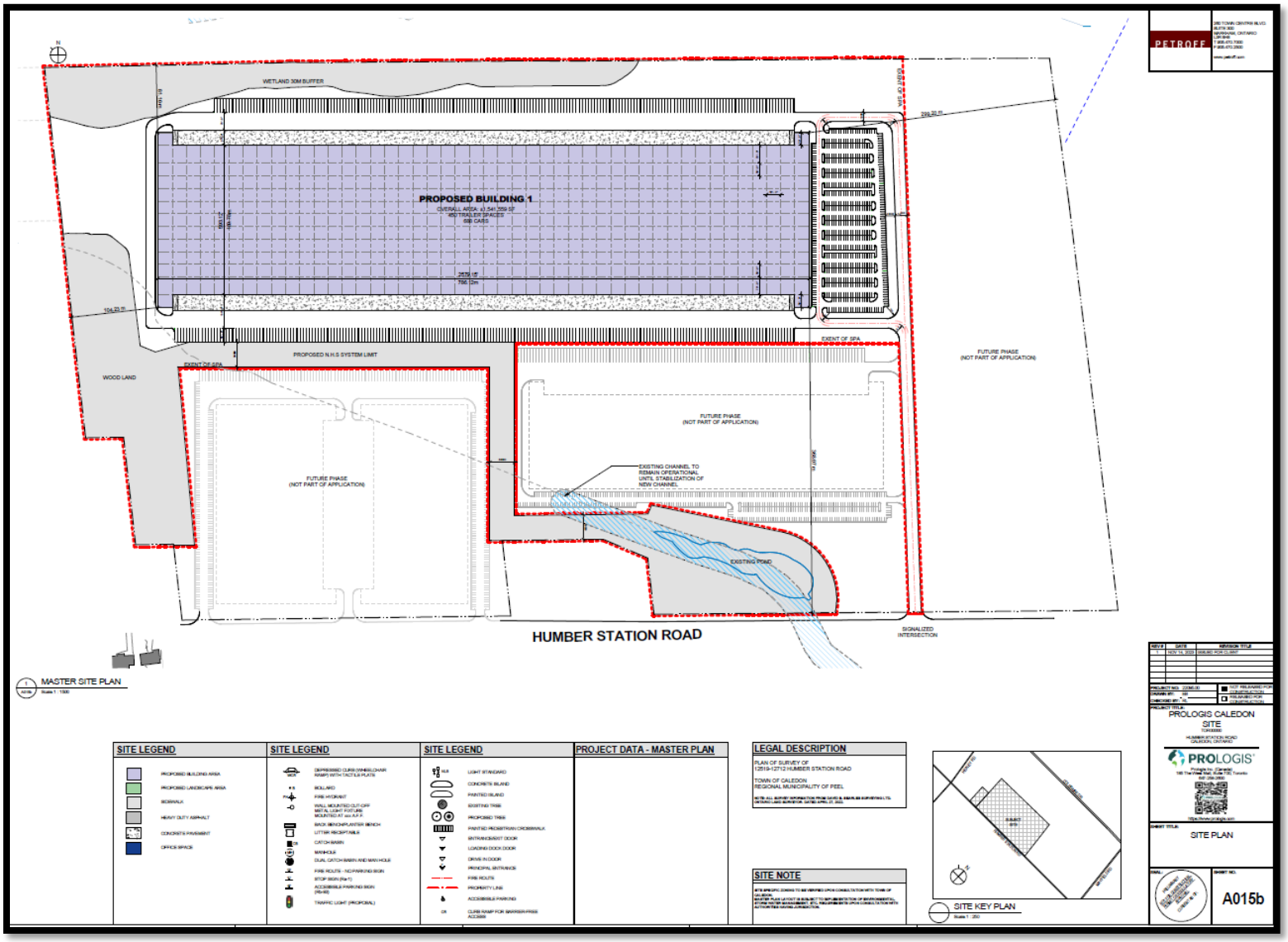


FIGURE 3
RECEPTOR LOCATION

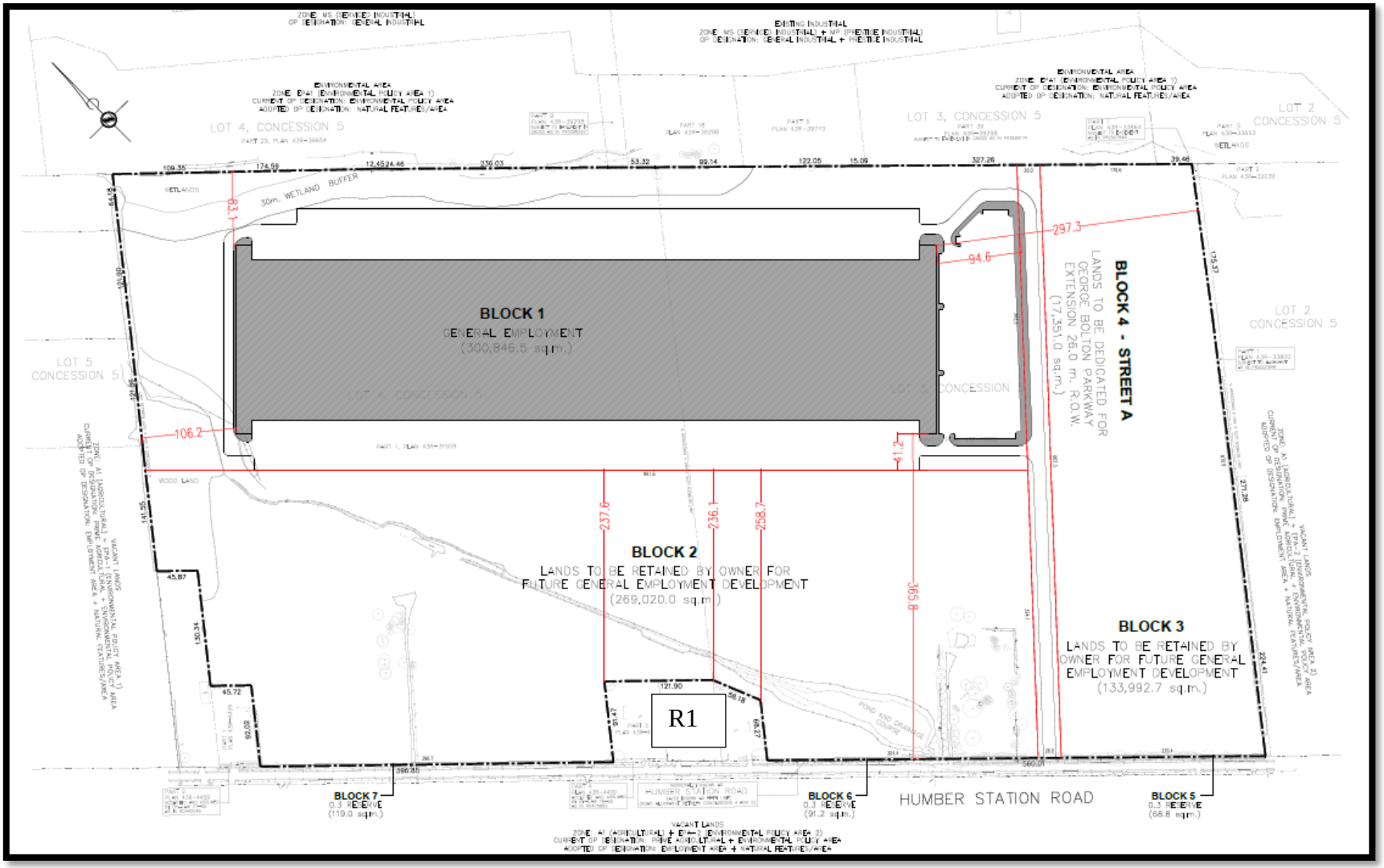
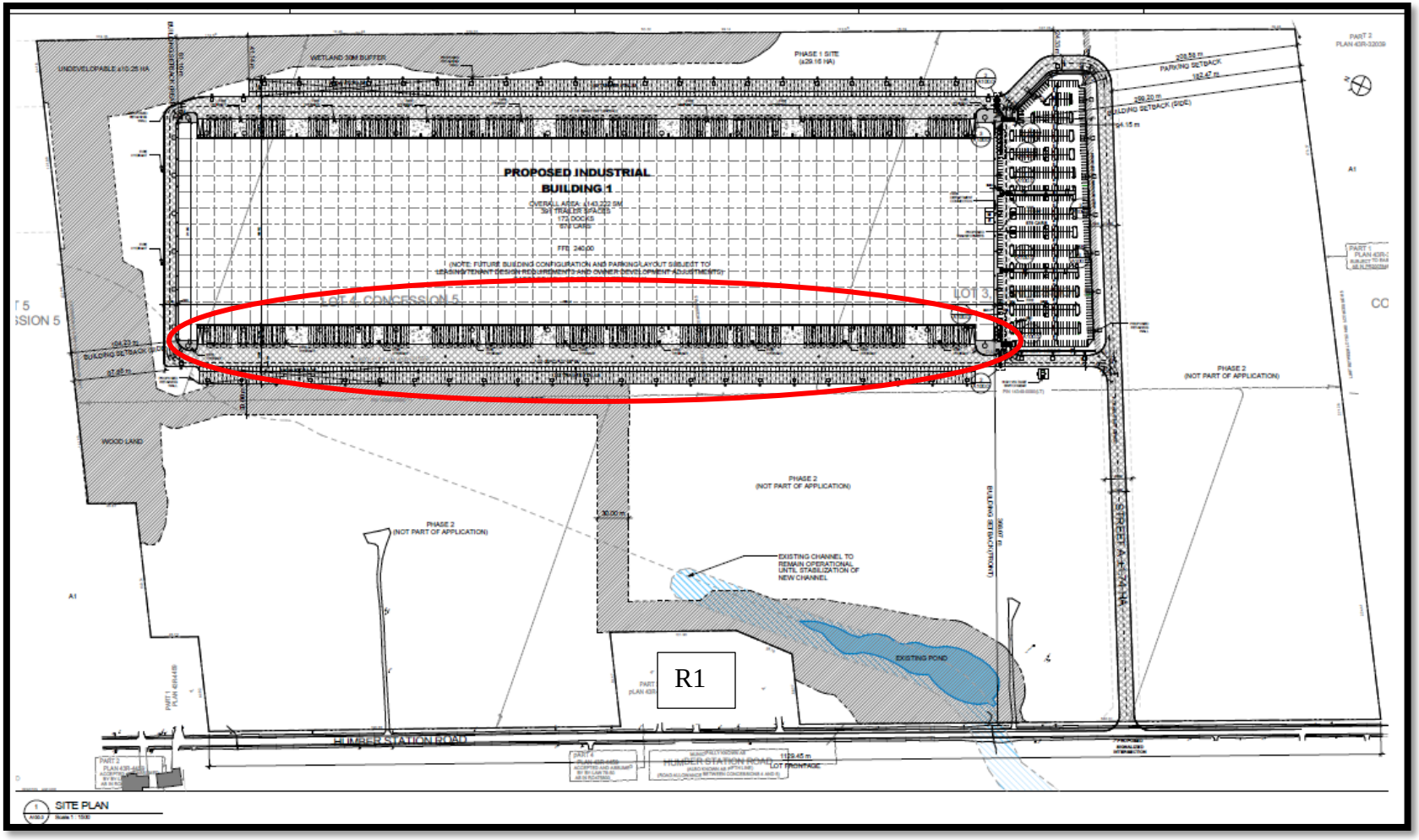


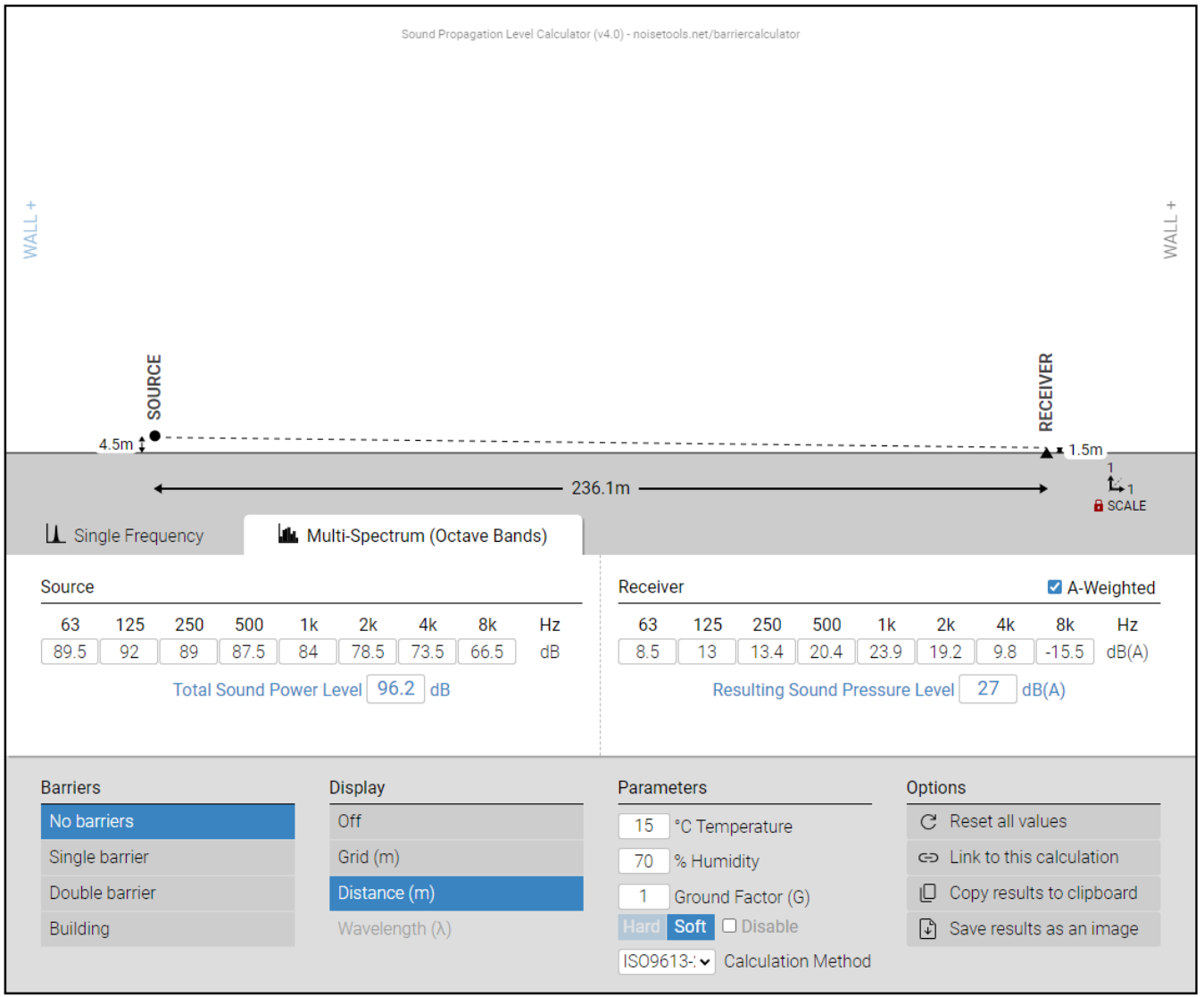
FIGURE 4
TRANSPORT TRUCK DOCKS



Red circle indicates the loading docks and trailer storage area (where coupling and decoupling occurs), which were used for the Propagation calculation listed below.

APPENDIX “A”

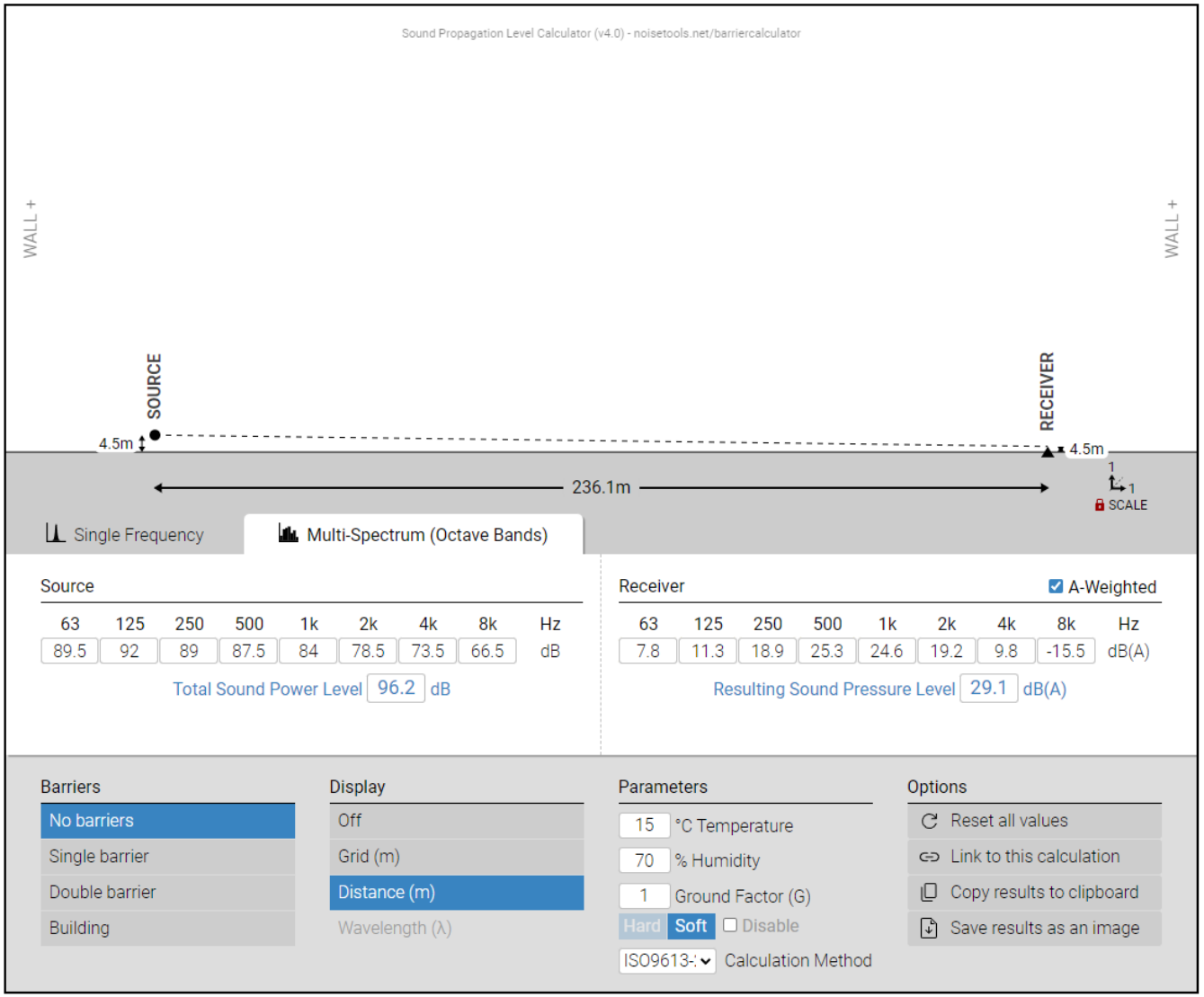
SOUND PROPAGATION LEVEL CALCULATOR
ONE TRANSPORT TRUCK WITH MOVEMENT (R1) DAYTIME



DAYTIME ONE HOUR NOISE LEVELS (R1)

Transport Trucks at Dock	Sound Pressure Level (dBA)		
1	27	*501.1872*	
2	27	*501.1872*	
3	27	*501.1872*	
4	27	*501.1872*	
5	27	*501.1872*	
6	27	*501.1872*	
7	27	*501.1872*	
8	27	*501.1872*	
9	27	*501.1872*	
10	27	*501.1872*	
11	27	*501.1872*	
12	27	*501.1872*	
13	27	*501.1872*	
14	27	*501.1872*	
15	27	*501.1872*	
16	27	*501.1872*	
17	27	*501.1872*	
18	27	*501.1872*	
19	27	*501.1872*	
20	27	*501.1872*	**L_{PR}= 39.3 dBA**

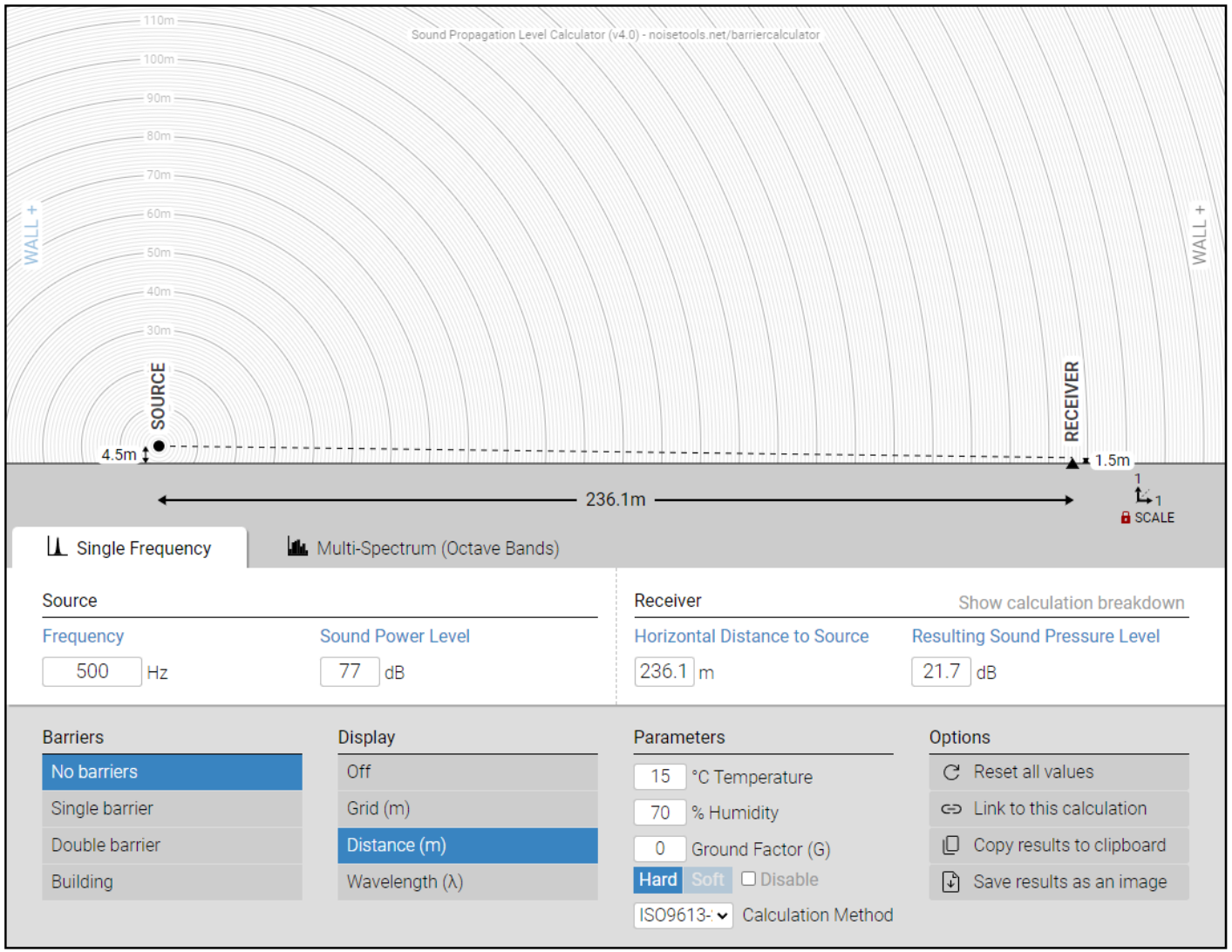
SOUND PROPAGATION LEVEL CALCULATOR
ONE TRANSPORT TRUCK WITH MOVEMENT (R1) NIGHTTIME



NIGHTTIME ONE HOUR NOISE LEVELS (R1)

Transport Trucks	Sound Pressure Level (dBA)		
1	29.1	*812.8305*	
2	29.1	*812.8305*	
3	29.1	*812.8305*	
4	29.1	*812.8305*	
5	29.1	*812.8305*	
6	29.1	*812.8305*	
7	29.1	*812.8305*	
8	29.1	*812.8305*	
9	29.1	*812.8305*	
10	29.1	*812.8305*	
11	29.1	*812.8305*	
12	29.1	*812.8305*	
13	29.1	*812.8305*	
14	29.1	*812.8305*	
15	29.1	*812.8305*	
16	29.1	*812.8305*	
17	29.1	*812.8305*	
18	29.1	*812.8305*	
19	29.1	*812.8305*	
20	29.1	*812.8305*	
21	29.1	*812.8305*	
22	29.1	*812.8305*	
23	29.1	*812.8305*	
24	29.1	*812.8305*	
25	29.1	*812.8305*	
26	29.1	*812.8305*	
27	29.1	*812.8305*	
28	29.1	*812.8305*	
29	29.1	*812.8305*	
30	29.1	*812.8305*	
31	29.1	*812.8305*	
32	29.1	*812.8305*	
33	29.1	*812.8305*	
34	29.1	*812.8305*	
35	29.1	*812.8305*	
36	29.1	*812.8305*	
37	29.1	*812.8305*	**L_{PR}= 44.4 dBA**

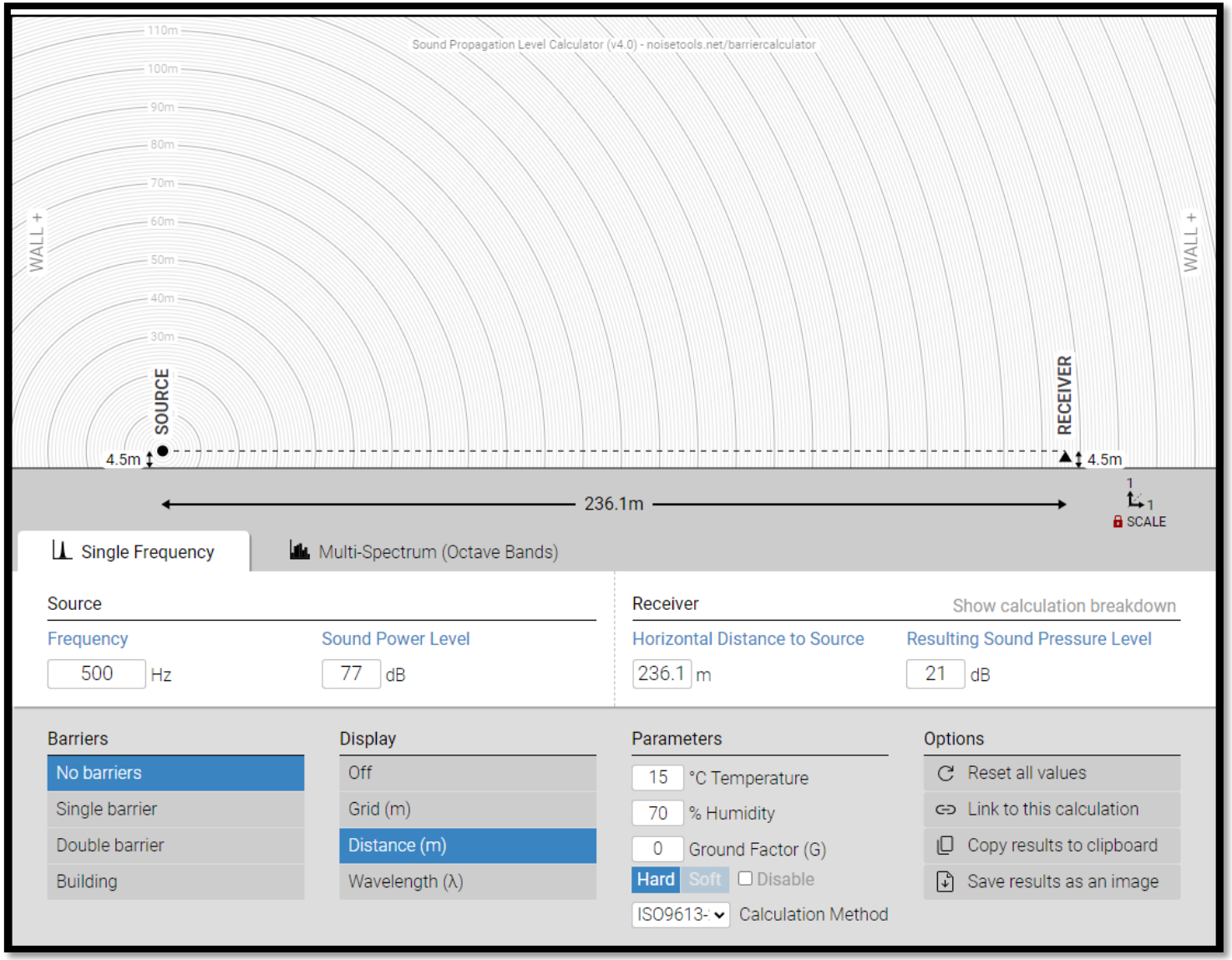
SOUND PROPAGATION LEVEL CALCULATOR
ONE TRANSPORT TRUCK UNCOUPLING (R1) DAYTIME



DAYTIME ONE HOUR NOISE LEVELS (R1)

Transport Trucks	Sound Pressure Level (dBA)		
1	21.7	*147.9108*	
2	21.7	*147.9108*	
3	21.7	*147.9108*	
4	21.7	*147.9108*	
5	21.7	*147.9108*	
6	21.7	*147.9108*	
7	21.7	*147.9108*	
8	21.7	*147.9108*	
9	21.7	*147.9108*	
10	21.7	*147.9108*	
11	21.7	*147.9108*	
12	21.7	*147.9108*	
13	21.7	*147.9108*	
14	21.7	*147.9108*	
15	21.7	*147.9108*	
16	21.7	*147.9108*	
17	21.7	*147.9108*	
18	21.7	*147.9108*	
19	21.7	*147.9108*	
20	21.7	*147.9108*	**L_{PR}= 34.0 dBA**

SOUND PROPAGATION LEVEL CALCULATOR
ONE TRANSPORT TRUCK UNCOUPLING (R1) NIGHTTIME



NIGHTTIME ONE HOUR NOISE LEVELS (R1)

Transport Trucks	Sound Pressure Level (dBA)		
1	21	*125.8925*	
2	21	*125.8925*	
3	21	*125.8925*	
4	21	*125.8925*	
5	21	*125.8925*	
6	21	*125.8925*	
7	21	*125.8925*	
8	21	*125.8925*	
9	21	*125.8925*	
10	21	*125.8925*	
11	21	*125.8925*	
12	21	*125.8925*	
13	21	*125.8925*	
14	21	*125.8925*	
15	21	*125.8925*	
16	21	*125.8925*	
17	21	*125.8925*	
18	21	*125.8925*	
19	21	*125.8925*	
20	21	*125.8925*	
21	21	*125.8925*	
22	21	*125.8925*	
23	21	*125.8925*	
24	21	*125.8925*	
25	21	*125.8925*	
26	21	*125.8925*	
27	21	*125.8925*	
28	21	*125.8925*	
29	21	*125.8925*	
30	21	*125.8925*	
31	21	*125.8925*	
32	21	*125.8925*	
33	21	*125.8925*	
34	21	*125.8925*	
35	21	*125.8925*	
36	21	*125.8925*	
37	21	*125.8925*	**L_{PR}= 36.3 dBA**

ARIAL OVER OF SITE AREA

D-6-3 SEPARATION DISTANCE