

NATION RISE WIND FARM

Renewable Energy Approval Application - Noise Impact Assessment

Nation Rise Wind Farm Limited Partnership

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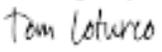
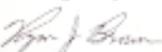
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A	15 March 2017	Original Release for Draft Site Plan	A. Nercessian	A. Danaitis	S. Dokouzian
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E	26 September 2017	MOECC follow-up questions	A. Nercessian	A. Danaitis	S. Dokouzian
F	31 May 2019	Updated Transformer and acoustic barrier	A. Nercessian	G. Constantin	K. Varnik



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List of abbreviations

Abbreviation	Meaning
DNV GL	GL Garrad Hassan Canada, Inc.
IESO	Independent Electricity System Operator
MOECC	Ontario Ministry of the Environment and Climate Change
MECP	Ontario Ministry of the Environment, Conservation, and Parks
MW	Megawatt
NIA	Noise Impact Assessment
<i>O.Reg.</i>	<i>Ontario Regulation</i>
PORs	Points of Reception
VLR	Vacant Lot Receptor
STE	Serrated Trailing Edge

1 INTRODUCTION

GL Garrad Hassan Canada, Inc. (“DNV GL”) was retained by Nation Rise Wind Farm Limited Partnership (the “Proponent” or “Nation Rise”) to prepare a Noise Impact Assessment (NIA) of the Nation Rise Wind Farm (the “Project”) in accordance with the *Ontario Regulation (O. Reg.) 359/09* (Renewable Energy Approvals [REA] under Part V.0.1 of the Ontario Environmental Protection Act [EPA]) [1]. The Proponent was awarded a contract for this Project in March 2016 from the Independent Electricity System Operator (IESO) under the Large Renewable Procurement (LRP), and has received its Renewable Energy Approval (REA) [0871-AV3TFM] from the Ontario Ministry of the Environment, Conservation and Parks (MECP, formerly the Ontario Ministry of the Environment and Climate Change) on 4 May 2018 [2]. This NIA also follows the MECP 2016 Noise Guidelines for Wind Farms (the “Noise Guidelines”), with special consideration to the transition rules for LRP I projects set forth therein [3].

The Project is located in eastern Ontario, within the Township of North Stormont and the United Counties of Stormont, Dundas and Glengarry, Ontario. More specifically, the Project is located in the western portion of North Stormont bounded to the south by the Township of South Stormont and to the west by the boundary of the Township of North Dundas. The north portion of the Project is delimited by the municipality boundaries of Russell and The Nation. Courville Road and MacMillan Road are the east boundaries of the Project.

The final layout for the Project is expected to have a nameplate capacity of approximately 100 megawatts (MW). A total of 33 wind turbine locations are being permitted and the Proponent is currently evaluating different wind turbine technologies for the Project. The technology selected is likely to be a 3.0 to 3.6 MW turbine model and, in accordance with the REA, the Vestas V136-3.45 MW turbine model has been considered, although an acoustically equivalent wind turbine model may be selected.

The objective of this assessment is twofold:

1. Confirm the sound level limit requirements for the Project by providing an assessment of the existing baseline environmental noise conditions in the vicinity of the wind farm; and
2. Predict the noise levels generated by the Project at all Points of Reception (PoRs) and Participants within 1,500 m of the Project turbines and 1,000 m of the Project transformer.

This revision of the report is to update the Project substation, transformer, and sound barrier according to the current substation design drawings and updated sound specifications received from the manufacturer. This revision intends to satisfy the condition in Schedule C of the REA [2].

2 GENERAL DESCRIPTION OF PROJECT SITE

2.1 General characteristics

A map of the Project area is shown in Appendix C. Project components will be installed on privately owned agricultural lots within the area. Energy generated by the Project will be collected via overhead or underground cabling and directed to an on-site substation in the northern section of the Project area.

The Project lies on predominantly flat, open, agricultural lands that include various natural features such as woodlands.

2.2 Land use description

The development pattern is typical of most rural areas in eastern Ontario with dwellings built near the roadways. The Project area is interspersed with residential farm houses and related buildings. There is one solar farm (City Lights Solar farm) within 5 km of the Project area. The zoning map index for the different township are located on the township websites or requested by the Proponent. Each of the zoning map indexes for the Municipality of South Dundas [4], the Municipality of South Stormont [5], the Township of Russell [6] and the Township of North Stormont [7] can be found on the respective municipality websites. Figure 2-1 presents typical views of the land and features of the Project study area. Figure 2-2 presents the annual hub height wind rose of the project, as provided by the Proponent.



Figure 2-1 Sample photo of the Project study area

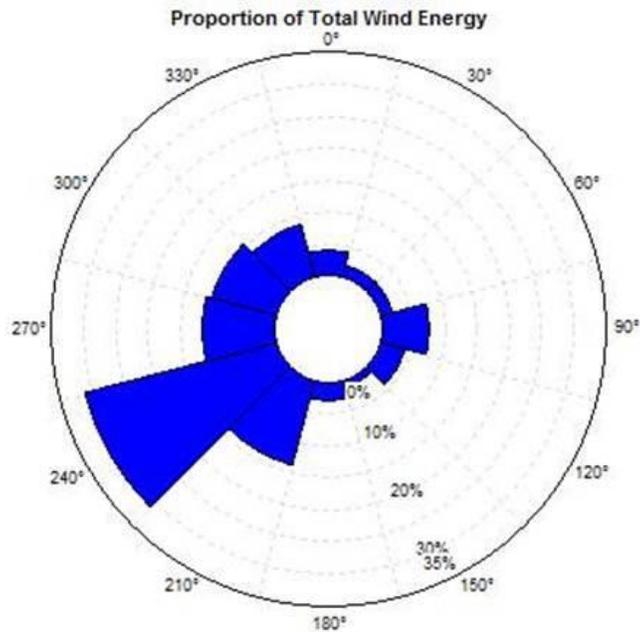


Figure 2-2 Annual Wind Rose

2.3 Points of reception

PoR locations for the Project, also referred to as receptors, were identified by DNV GL using base data from recent aerial photos and field investigations completed in March 2016 to verify locations and building types. The height of each PoR, taken to be 1.5 m, 4.5 m, and 7.5 m for one, two, and three storey houses, respectively, was also noted. All PoRs, as per the definition from the Noise Guidelines, were considered in this NIA. The REA Site Plan Approval and Building Permit Request Form were issued to the Township of South Stormont, Township of South Dundas, Township of Russel, Township of North Stormont, Township of North Dundas and the Municipality of the Nation on 25 January 2017. DNV GL received and reviewed the building permits issued by all these townships and municipalities and located any receptors that could have been missed during the site visit.

The Noise Guidelines generally define a PoR as a house, campground, church, school or other sensitive building that is not located on the same premises as the wind farm, including its turbines and ancillary structures. A PoR can also be located on a vacant lot that has residence as a permitted use. DNV GL has identified Vacant Lot Receptors (VLR) on such lots in a location consistent with the building pattern in the area, as per the *O. Reg. 359/09* and the Noise Guidelines.

A residence or VLR located on the same premises as the wind turbine(s) or other Project infrastructure is not a PoR as defined by the Noise Guidelines, and considered a "Participating Receptor" and thus MECF noise limits do not apply.

The coordinates of all receptors and Participating Receptors are listed in Appendix A and Appendix B, respectively.

3 DESCRIPTION OF POINTS OF RECEPTION

There are 827 receptors located within 1,500 m of a Project wind turbine or 1,000 m of the substation transformer, among which 310 are VLRs. There are 72 Participants within this range, of which 46 are VLRs.

3.1 Receptor classes

The MECP categorizes PoRs into three classes: 1, 2, and 3. Class 1 refers to an acoustic environment typical of a major population centre where the background noise is dominated by the urban hum. These areas are highly urbanized and have moderate to high noise levels throughout the day and night. Class 2 areas have an acoustic environment characterized by low ambient sound levels between 19:00 and 07:00, whereby the evening and nighttime levels are defined by natural sounds, infrequent human activity and no clearly audible sounds from stationary sources (e.g., industrial and commercial facilities). Class 3 areas are typical of rural and/or small communities (i.e., with populations of less than 1000) and an acoustic environment that is dominated by natural sounds with little or no road traffic.

Within the study area the main sources of ambient sound that currently exist include:

- Vehicular traffic on the local concession and side roads, some of which are gravel roads;
- Occasional sounds due to logging and aggregate extraction activities;
- Occasional sounds due to anthropogenic domestic activities; and
- Natural sounds.

Based on these conditions, **all PoRs identified for the Project are considered as having a Class 3 acoustic environment.**

3.2 Determination of applicable noise limits

As stated in the MECP guidelines [3], the noise limits for a wind farm are set according to the Noise Guidelines in NPC-300 while taking into account the wind-generated background noise.

For a Class 3 area, the sound level limits as defined in the Noise Guidelines are described in the sections below.

3.2.1 Wind turbine installations in Class 3 areas (rural), wind speeds at or below 6 m/s

The lowest sound level limit expressed in terms of L_{eq} is: i) 40 dBA; or ii) the minimum hourly background sound level established in accordance with Publication NPC 300, whichever is higher.

3.2.2 Class 3 areas, wind speeds above 6 m/s

The lowest sound level limit expressed in terms of L_{eq} is: i) the wind-induced background sound level, expressed in terms of ninetieth percentile sound level (L_{A90}) plus 7 dB; or ii) the minimum hourly background sound level established in accordance with Publication NPC 300, whichever is higher.

The applicable noise limits should be those defined by the MECP as summarized below in Table 3-1.

Table 3-1 Summary of noise limits for points of reception (Class 3)

Wind Turbine Noise Criterion [dBA]	Wind Speed at 10 m height [m/s]				
	≤6	7	8	9	≥10
	40	43	45	49	51

4 DESCRIPTION OF SOURCES

4.1 Turbine description

Solely for the purposes of reference, the Vestas V136-3.45 MW STE turbine will be considered in this assessment report. The Vestas V136 turbine is described in Table 4-1.

Table 4-1: Summary of Turbine Technical Specifications

Model	Vestas V136 STE
Design	Steel, tubular; up to 7 sections
Rated Power	3.45 MW
Hub height	132 m
Rotor diameter	136 m
Number of blades	3
Rotational Speed (rpm)	5.6-15.3
Cut-in wind speed	3 m/s
Cut-out wind speed	22.5 m/s
Nominal wind speed	11.5 m/s
Maximum sound power level	105.7 dBA (Mode 0)

The selected turbine model will be a 3-bladed, upwind, horizontal-axis turbine, which may be equipped serrated blade trailing edges.

Coordinates of all turbines are listed in Appendix F.

4.2 Substation

The Project includes one substation located in the northern portion of the Project area. The substation is planned to include one transformer. This report revision includes updates to the transformer and substation design. It is estimated that an area around the substation of up to approximately 8,225 m² will be covered with gravel. This area has been included in the noise modeling used within this NIA. The estimated noise emissions of the Project transformer are described in Section 5.3.

The transformer coordinates are included in Appendix F.

4.3 Adjacent renewable energy projects

DNV GL has identified no operational wind farms and one operational solar farm within 5 km of the Project's receptors. All inverters and transformers from the adjacent City Light solar farm have been considered as noise sources in this report. The project is summarized in Table 4-2.

Table 4-2 City Lights solar project summary

Adjacent project	Owner	Number of inverters	Total Capacity (MW AC)
City Lights Solar [8]	Canadian Solar	12 (1600 kW) ¹	10
		1 (800 kW)	

4.4 Sound barrier

A sound barrier is planned for the Project substation transformer. The type of barrier used in this noise study is one that can be described as of absorptive type with an Absorptive Coefficient of at least 0.8. The acoustic barriers will have a surface density of at least 20 kg/m² and have a closed surface free of gaps and cracks. A four-sided barrier was modeled with heights ranging from 5 m to 6.05 m. The total barrier linear length is approximately 42 m, as illustrated in Figure 4-1. The corner coordinates of the transformer's acoustic barrier are shown in Table 4-3.

Table 4-3 Project substation barrier coordinates

Description	Easting [m]	Northing [m]
Barrier point 1	487202	5005288
Barrier point 2	487198	5005294
Barrier point 3	487210	5005302
Barrier point 4	487215	5005295
Barrier point 5	487205	5005288

¹ Note that there are 12 solar arrays with two 800 kW inverters and one array with a single 800 kW inverter.



Figure 4-1 Project acoustic barrier and gravel area dimensions

5 NOISE EMISSION RATINGS

5.1 Project turbines

Broadband sound power levels and octave band sound power levels were provided by Vestas [9] and are shown in Appendix E, along with a letter guaranteeing the sound power levels and tonality. Values are presented per IEC 61400-11 Ed. 3 [10]. Vestas has provided octave band sound power levels corresponding to hub height wind speeds of up to 20 m/s. The summary of the IEC test report for the V136 3.45 MW STE mode 0 turbine is also shown in Appendix E.

DNV GL has determined that the octave band sound power levels corresponding to a hub height wind speed of 20 m/s produce the predictable worst-case noise impact as defined in the Noise Guidelines [3]. In addition, the maximum sound power level of 105.5 dBA has been scaled to match the maximum measured sound power level (105.7 dBA) according to the IEC test results of the turbine presented in Appendix E.

Additionally, in accordance with the MECP Technical Guide to Renewable Energy Approvals [11] and consultation with the MECP, octave band sound power levels of the V136 turbine have been increased at certain frequencies, to account for operational flexibility such as potential changes in the turbine model prior to construction of the facility. This concept is called acoustical equivalence. This increase effectively raises the modelled broadband sound power level of the Vestas V136 STE Mode 0 from 105.7 dBA to 105.8 dBA. The adjusted predictable worst-case octave band sound power levels of the V136 turbine are summarized in Table 5-1.

Table 5-1 Effective Modelled Wind Turbine Acoustic Emissions at the Wind turbine Hub Height

Make and Model:	Vestas V136 3.45 MW STE mode 0																													
Electrical Rating:	3450 kW																													
Hub Height (m):	132																													
Octave Band Sound Power Level (dB)																														
Manufacturer's Emission Levels at bin centre wind speeds at hub height																														
Wind Speeds at hub height (m/s)	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	(A) Manufacturer's Worst Case Spectrum (dB)	(B) Positive Overall Adjustment* (dB)	(A+B) Maximum Sound Power Level (dB)		
Frequency (Hz)																														
31.5	115.0	116.1	117.2	117.3	117.3	117.5	117.6	117.7	117.8	117.9	117.9	117.9	118.0	118.0	118.1	118.1	118.1	118.1	118.1	118.1	118.1	118.2	118.2	118.2	118.2	118.2	118.2	118.2	0	118.2
63	112.9	113.7	114.3	114.4	114.4	114.4	114.4	114.5	114.6	114.6	114.5	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.7	114.7	114.7	114.7	114.7	114.7	114.7	0	114.7
125	108.1	108.9	109.6	109.7	109.7	109.7	109.8	109.8	109.9	109.9	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	0.1	110.2
250	104.3	105.2	106.1	106.2	106.2	106.4	106.5	106.7	106.8	106.8	106.8	106.9	106.9	107.0	107.0	107.0	107.0	107.0	107.1	107.1	107.2	107.2	107.2	107.2	107.2	107.2	107.2	107.2	0	107.2
500	100.0	101.1	102.3	102.4	102.4	102.3	102.3	102.3	102.2	102.2	102.2	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.0	102.0	102.0	102.0	102.0	102.0	102.0	0	102.0
1,000	98.1	99.1	100.0	100.1	100.1	100.1	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	99.8
2,000	95.8	96.9	97.9	98.0	98.0	98.0	98.0	97.9	97.9	97.9	97.8	97.8	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	0	97.7
4,000	88.2	89.3	90.3	90.4	90.5	90.6	90.6	90.7	90.7	90.7	90.7	90.7	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	2.1	92.9
8,000	71.1	72.0	72.8	72.9	73.0	73.3	73.7	73.9	74.1	74.3	74.4	74.6	74.7	74.8	74.8	74.8	74.9	75.0	75.1	75.2	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	7.9	83.2
Overall A-weighted (dBA)	103.6	104.6	105.6	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7	N/A	105.8

*In accordance to the Transition Rules for LRP 1 projects in the Noise Guidelines, no overall uncertainty was added to the turbine sound power levels. Instead, the Proponent has chosen to include upward adjustments at certain octave bands to consider an acoustically equivalent turbine.

The Maximum Sound Power Level in Table 5-1 has been used to calculate the sound pressure levels at all receptors in this report.

5.2 Adjacent solar farm

Noise emissions from one adjacent solar farm have been considered in this analysis as follows.

5.2.1 City Lights Solar Farm

The City Lights Solar Farm, operated by Canadian Solar, is a solar farm located west of the Project. It consists of 7 solar panel arrays, each with one or two 800 kW inverters and corresponding inverter transformers, for a total capacity of 10 MW AC. It also includes a 10 MVA step up transformer and a line reactor. Three of the inverter clusters are equipped with acoustical louvers to mitigate noise impact.

Broadband and octave band sound power levels of every noise source were obtained from the City Lights Noise Study Report [8] and are summarized in Table 5-2 .

The locations of every noise source are included in Appendix F.

Table 5-2 City Lights Solar Farm sound power level summary

Source Type	Octave Band Sound Power Levels (dB)									Broadband dBA
	31.5	63	125	250	500	1000	2000	4000	8000	
Substation Transformer	88.6	94.6	96.6	91.6	91.6	85.6	80.6	75.6	68.6	92.0
Line Reactor	76.1	74.7	71.3	67.4	64.6	62.7	53.9	41.6	33.4	66.8
1.6 MVA inverter transformer	104.7	97.5	89.4	76.9	71.5	62.3	56.1	51.3	46.4	77.3
0.8 MVA inverter transformer	105.6	98.4	90.3	77.8	72.4	63.2	57.0	52.2	47.3	78.2
Inverter (800 kW)	96.2	89.1	86.7	88.2	88.3	82.7	86.4	95.0	84.4	97.3

Note that two identical 800 kW inverters are used for 1.6 MW solar arrays.

The acoustical louver's transmission loss is shown in Table 5-3.

Table 5-3 Acoustical Louver Transmission Loss

Frequency (Hz)	125	250	500	1000	2000	4000
Transmission Loss (dB)	4	4	6	10	17	12

5.3 Project substation transformer

The noise contribution of the Project substation has been considered in this analysis. Noise emission from the Project substation mainly originates from one transformer, which will be surrounded by an acoustic barrier as shown in section 4.4. The transformer rating is estimated to be 115 MVA-230 kV. The choice of transformer has been updated and sourced in accordance with permitted specifications.

The updated broadband sound power level of the Project transformer has been calculated to be 101.7 dBA, based on an assumed maximum audible noise level of 74 dBA, according to manufacturer specifications. This also includes a 5 dBA tonal penalty, as prescribed in Publication NPC-104.

The sound level of the transformer to be provided to the Project was measured by the manufacturer (GE Prolec) on May 17 2019 according to standard IEEE C57.12.90 [12]. In the sound level measurement summary report provided the measurement surface was calculated to be 187.8 m². This calculation is based on a polygon perimeter of 36.2 m that includes a 2 m offset from all fan-cooled surfaces, as well as the top area of the measurement surface. The report summary is included in Appendix G. A sample technical drawing of the transformer is also included in Appendix G.

The substation coordinates are included in Appendix F.

The transformer's broadband sound power level L_W has been estimated as a function of its sound pressure level and measurement surface area using the following equation, as defined by IEEE C57.12.90.

$$L_W = L_P + 10 * \log S$$

A broadband sound power level of 101.7 dBA was used for the transformer for all noise modeling¹. The calculation of the broadband level is summarized in Table 5-4.

Table 5-4 Project transformer sound power level calculation summary

Transformer Power Rating [MVA]	115
Transformer Voltage Rating [kV]	230
Sound Pressure Level L_P [dBA]	74
Sound measurement area S (m ²)	187.8
Sound Power Level [dBA] (without penalty)	96.7
Sound Power Level L_W [dBA] (with penalty)	101.7

Table 5-5 provides the octave band sound power levels of the Project substation transformer using a typical octave band sound distribution for a large transformer [12], [13].

Table 5-6 details the octave band calculation. The transformer has been conservatively modeled as a point source at a height of 4.2 m, in accordance with the height noted in the manufacturer's measurement report.

¹ The measured reported PWL (without penalty) was 92 dB(A) in ONAF2 due to the measured L_P (69 dBA) being 5 dB lower than the "guaranteed" design target L_P (74 dBA). DNV GL has conservatively used 74 dBA in this calculation.

Table 5-5 Nation Rise Wind Farm substation transformer sound power level

	Octave band sound power level*									
Frequency (Hz)	31.5	63	125	250	500	1000	2000	4000	8000	Broadband (dBA)
PWL (dBA)	58.9	78.1	90.2	92.7	98.1	95.3	91.5	86.3	77.2	101.7
PWL (dB)	98.3	104.3	106.3	101.3	101.3	95.3	90.3	85.3	78.3	

* Includes 5 dB penalty to account for tonality

Table 5-6 Project transformer octave band calculation details

31.5	63	125	250	500	1000	2000	4000	8000	Frequency [Hz]
-1	5	7	2	2	-4	-9	-14	-21	Typical Outdoor Transformer Octave band relative distribution [dB Lin]
-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1	dB Lin to dBA Conversion Scale
-40.4	-21.2	-9.1	-6.6	-1.2	-4.0	-7.8	-13.0	-22.1	Typical Outdoor Transformer Octave band relative distribution [dBA]
58.9	78.1	90.2	92.7	98.1	95.3	91.5	86.3	77.2	Scaled to 101.7 dBA Transformer
98.3	104.3	106.3	101.3	101.3	95.3	90.3	85.3	78.3	Spectrum in Linear dB

6 NOISE IMPACT ASSESSMENT

The sound pressure levels at each PoR, Participant, and VLR for the aggregate of all wind turbines and substation associated with the Project were calculated based on the ISO 9613-2 method.

The International Standards Organization (ISO) 9613 standard [14], [15] provides a prediction of the equivalent continuous A-weighted sound pressure level at a distance from one or more point sources under meteorological conditions favorable to propagation from sources of sound emission. These conditions are for downwind propagation or, equivalently, propagation under a well-developed moderate ground-based temperature inversion, commonly occurring at night.

The method consists of octave-band algorithms (i.e., with nominal mid-band frequencies from 31.5 Hz to 8 kHz) for calculating the attenuation of the emitted sound. The algorithm takes into account the following physical effects:

- Geometrical divergence – attenuation due to spherical spreading from the sound source;
- Atmospheric absorption – attenuation due to absorption by the atmosphere; and
- Ground effect – attenuation due to the acoustical properties of the ground.

ISO-9613-2 parameters were set as follows:

- Ambient air temperature: 10°C;
- Ambient barometric pressure: 101.32 kPa;
- Humidity: 70%;
- Global ground factor: 0.7;
- Substation gravel area ground factor: 0;
- Waterbody or watercourse ground factor: 0;
- The effect of topography was considered.

In accordance with the transition rules for LRP1 projects set forth in the Noise Guidelines, DNV GL has applied a global ground factor of 0.7, except for watercourses and the gravel pad around the transformer which has been set to hard ground.

Additional calculations concerning propagation through foliage were not performed in this NIA, implying that the values calculated for sound attenuation are likely to be conservative in areas where there is foliage present in the line of sight between any turbine and a PoR. The estimated accuracy of the ISO 9613 method, as stated in ISO 9613-2, is ± 3 dB.

The wind turbine and transformer noise emission ratings used for each octave band were those specified in Section 5. The noise impact was calculated for each PoR and Participant located within 1,500 m of one or more turbines or 1,000 m from the substation, and the calculated noise level was then compared with the applicable noise limit for each PoR as stated in Table 3-1.

Noise levels were calculated at 4.5 m above ground level for 2-storey PoR/Participants, 7.5 m above ground level for 3-storey PoR/Participants, and at 1.5 m above ground level at 16 points along a 30-m radius circle for each 1-storey PoR/Participant. For the latter, the highest of these 16 values was chosen and presented in the table of noise levels.

6.1 Evaluation of site topography

Section 7.3.1 of ISO 9613-2 [14] states that when calculating the ground attenuation A_{gr} , the general method of calculation is applicable only to ground which is approximately flat, either horizontally or with a constant slope. DNV GL has reviewed the topography at the Project site to determine if a correction is needed to account for different ground conditions, such as concave terrain.

The Institute of Acoustics (UK) has published a good practice guide (the "Guide") for the assessment of wind turbine noise [15], with Sections 4.3.9 and 4.3.10 of the Guide proposing a 2-step methodology for assessing whether or not a correction to the modelling is needed to account for concave topography. As a first-step, the Guide recommends the use of the criterion shown below to quantitatively evaluate the level of concavity between a turbine and a receptor.

$$h_m \geq 1.5 \cdot \text{Abs}(h_s - h_r)/2$$

In this criterion, h_m is the mean height above ground of the direct line of sight from the receiver to the source, as defined in ISO 9613-2. h_s is the height of the source, and h_r is the height of the receiver.

If the criterion is met, then examination of ground profiles between sources and receivers is necessary, as a second-step, to assist with determining the application of a correction factor. The Guide states that the increase in sound level caused by concave terrain can be explained by the reduced ground effect and the potential for additional reflection paths that may exist, as shown in Figure 6-1, which has been taken directly from the Guide [15].

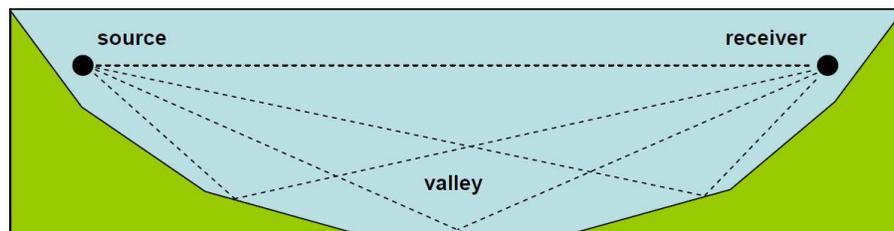


Figure 6-1 Diagram of multiple reflection paths for sound propagation across concave ground

DNV GL has reviewed the topography at the Project site and evaluated the above criterion for each turbine-receptor pair. It was found that for all turbine to receptor paths, h_m is well below the criterion, indicating that concave paths are not present.

Considering all receptors, the minimum difference between h_m and the criterion is 8.0 m, which occurs between Turbine 28 with a hub height of 132 m and Receptor R1833, which is a 2 storey dwelling. The distance between this pair is 2.5 km. This is the worst-case profile at the site. The topographic profile between T28 and R1833 is illustrated in Figure 6-3.

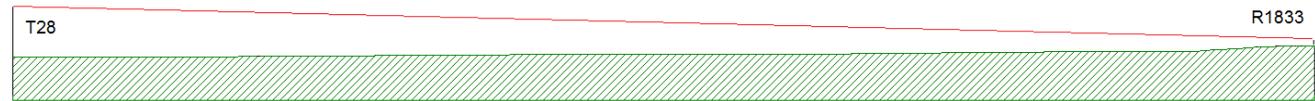


Figure 6-2 Topographic profile between Turbine 28 and Receptor R1833

Even in the worst-case profile shown in Figure 6-2, the terrain is relatively flat with a slight upward slope towards the receptor and exhibits minimal to no concavity. DNV GL does not consider it appropriate to apply any topographical correction at the Project site.

7 NOISE IMPACT ASSESSMENT RESULTS

The noise level at each PoR within 1,500 m of any turbine or 1,000 m of the substation, for wind speeds between 6 m/s and 10 m/s, is tabulated in Table 7-1. For each PoR, the following information is provided:

- The distance to the closest wind turbine or substation;
- For a PoR at 1.5 m above ground level, the sound pressure level presented for wind speeds from 6 m/s to 10 m/s is the maximum noise level on the circumference of a 30-m radius circle centered on the PoR;
- For a PoR at 4.5 m or 7.5 m above ground level, the sound pressure level presented for wind speeds from 6 m/s to 10 m/s is the noise level at the PoR location at its respective height;
- The applicable background sound level; and
- Whether or not the noise levels at the PoR comply with the Noise Guidelines (for continued reference, compliance is confirmed for all PoR).

The closest distance between a wind turbine and a Receptor for the Project is 556 m between Turbine 43 and Receptor 1826.

The closest distance between a wind turbine and a VLR for this project is 569 m between Turbine 46 and VLR 4074.

The highest calculated noise level at a Receptor was found at Receptor 1750, with a noise level of 39.1 dBA.

The highest calculated noise level at a VLR was found at VLR 4284, with a noise level of 39.2 dBA.

Receptor sound levels are listed in Table 7-1.

The results show that the Project complies with the applicable MECP environmental Noise Guidelines at all wind speeds modelled (i.e., 6, 7, 8, 9 and 10 m/s). Noise iso-contour maps illustrating the maximum noise contribution of the Project are shown in Appendix C.

Table 7-1 Noise Impact Assessment summary

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1000	1.5	1408	T46	28.8	28.8	28.8	28.8	28.8	40	43	45	49	51	40	Yes
R1001	4.5	1031	T46	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
R1002	4.5	771	T56	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
R1022	1.5	1098	T46	31.6	31.6	31.6	31.6	31.6	40	43	45	49	51	40	Yes
R1023	1.5	888	T52	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1025	1.5	1447	T52	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1026	4.5	1458	T52	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1027	4.5	1481	T52	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1028	1.5	1385	T46	30.0	30.0	30.0	30.0	30.0	40	43	45	49	51	40	Yes
R1035	4.5	1332	T41	32.3	32.3	32.3	32.3	32.3	40	43	45	49	51	40	Yes
R1040	4.5	1291	T43	29.9	29.9	29.9	29.9	29.9	40	43	45	49	51	40	Yes
R1041	4.5	1314	T43	29.7	29.7	29.7	29.7	29.7	40	43	45	49	51	40	Yes
R1042	1.5	1307	T43	28.0	28.0	28.0	28.0	28.0	40	43	45	49	51	40	Yes
R1043	4.5	1302	T43	29.8	29.8	29.8	29.8	29.8	40	43	45	49	51	40	Yes
R1044	4.5	1403	T43	29.1	29.1	29.1	29.1	29.1	40	43	45	49	51	40	Yes
R1045	1.5	1429	T43	27.1	27.1	27.1	27.1	27.1	40	43	45	49	51	40	Yes
R1051	1.5	794	T38	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
R1052	4.5	801	T38	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1053	1.5	1494	T38	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
R1055	4.5	1492	T38	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1057	4.5	1467	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1059	1.5	1455	T28	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1060	1.5	1472	T28	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1061	4.5	1358	T28	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1062	4.5	1163	T28	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1063	4.5	1090	T28	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
R1064	4.5	1055	T28	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1065	1.5	1184	T29	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
R1066	1.5	1125	T27	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1068	4.5	860	T29	34.2	34.2	34.2	34.2	34.2	40	43	45	49	51	40	Yes
R1072	4.5	784	T9	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1074	1.5	743	T4	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1075	1.5	782	T4	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1078	4.5	1013	T6	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1079	1.5	891	T6	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1081	4.5	671	T6	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1082	1.5	829	T6	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
R1086	4.5	1225	T2	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
R1088	4.5	1442	T5	30.4	30.4	30.4	30.4	30.4	40	43	45	49	51	40	Yes
R1089	1.5	1029	T6	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1090	4.5	1167	T10	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1091	4.5	1272	T11	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
R1103	4.5	819	T58	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1104	4.5	1140	T20	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1105	1.5	1494	T18	30.6	30.6	30.6	30.6	30.6	40	43	45	49	51	40	Yes
R1106	4.5	1026	T9	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1107	1.5	1006	T18	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1108	4.5	1382	T12	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1110	4.5	966	T12	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1111	1.5	870	T12	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1113	4.5	915	T12	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
R1114	1.5	768	T10	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1115	4.5	743	T6	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
R1117	4.5	1030	T11	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1140	1.5	1492	T41	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1141	4.5	1410	T41	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R1146	4.5	1488	T27	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1156	1.5	1468	T27	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R1157	1.5	1383	T27	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
R1163	4.5	908	T28	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
R1164	4.5	850	T28	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1168	4.5	979	T4	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1169	4.5	1490	T5	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
R1173	4.5	1463	T5	30.2	30.2	30.2	30.2	30.2	40	43	45	49	51	40	Yes
R1193	4.5	1259	T1	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1197	1.5	1470	T2	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R1200	4.5	1283	T2	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
R1212	1.5	825	T5	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1213	1.5	959	T5	32.3	32.3	32.3	32.3	32.3	40	43	45	49	51	40	Yes
R1214	1.5	917	T5	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
R1215	1.5	859	T5	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
R1216	1.5	833	T5	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1217	4.5	620	T5	37.8	37.8	37.8	37.8	37.8	40	43	45	49	51	40	Yes
R1218	4.5	790	T5	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1219	1.5	937	T5	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1220	4.5	1034	T4	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1221	1.5	893	T5	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1222	1.5	937	T5	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1223	1.5	995	T5	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1224	4.5	823	T4	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1225	4.5	828	T4	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1226	1.5	869	T4	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1227	1.5	850	T4	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1228	1.5	827	T4	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1229	4.5	816	T4	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1230	4.5	802	T4	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1231	1.5	792	T4	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1232	1.5	687	T4	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1233	7.5	690	T4	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
R1234	4.5	677	T4	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
R1235	1.5	696	T4	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1236	4.5	688	T4	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1237	4.5	686	T4	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
R1238	4.5	868	T4	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
R1239	4.5	787	T4	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes
R1240	1.5	796	T4	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
R1241	4.5	814	T4	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1242	4.5	696	T4	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1243	4.5	714	T4	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
R1244	4.5	748	T4	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1245	1.5	789	T4	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1246	1.5	825	T4	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1247	4.5	973	T4	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1248	4.5	956	T2	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1249	1.5	879	T2	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
R1250	4.5	831	T2	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1251	1.5	707	T2	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1254	1.5	830	T2	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1255	4.5	748	T2	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1256	1.5	773	T2	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
R1257	1.5	925	T2	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1267	4.5	1462	T1	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1268	4.5	1337	T1	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1269	1.5	1310	T1	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1271	7.5	1315	T6	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
R1273	4.5	1054	T6	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
R1274	1.5	1100	T6	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1275	4.5	1137	T6	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1276	4.5	1012	T6	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1277	4.5	1126	T6	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1278	1.5	1046	T6	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
R1279	1.5	1020	T6	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R1280	4.5	1011	T6	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1281	1.5	940	T6	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
R1282	1.5	850	T6	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R1283	4.5	984	T6	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1284	4.5	792	T6	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1285	4.5	722	T6	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1286	4.5	766	T6	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1287	1.5	978	T6	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R1288	4.5	682	T6	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
R1289	4.5	902	T6	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1290	1.5	1067	T6	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1291	4.5	1026	T6	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1292	4.5	689	T6	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
R1293	4.5	934	T4	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1294	1.5	944	T4	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1295	4.5	912	T4	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1296	4.5	931	T4	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1297	1.5	1022	T4	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1298	4.5	1073	T4	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1299	1.5	1113	T4	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1300	4.5	1176	T4	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1301	1.5	747	T4	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1303	1.5	789	T4	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1304	1.5	705	T4	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1305	4.5	735	T4	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1306	4.5	764	T4	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1307	4.5	828	T7	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
R1308	4.5	793	T7	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1309	4.5	776	T7	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1310	4.5	754	T4	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1311	4.5	853	T7	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
R1312	4.5	837	T7	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
R1313	1.5	839	T7	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1314	4.5	654	T7	39.0	39.0	39.0	39.0	39.0	40	43	45	49	51	40	Yes
R1315	4.5	903	T7	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
R1316	4.5	754	T5	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1317	4.5	695	T9	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1318	4.5	747	T9	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1319	1.5	1113	T9	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1320	4.5	1285	T9	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
R1321	1.5	1412	T9	29.2	29.2	29.2	29.2	29.2	40	43	45	49	51	40	Yes
R1322	4.5	1409	T9	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
R1348	1.5	1164	T29	29.5	29.5	29.5	29.5	29.5	40	43	45	49	51	40	Yes
R1349	4.5	1001	T29	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1350	1.5	980	T29	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1351	4.5	910	T29	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R1352	1.5	763	T29	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1353	1.5	692	T29	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1354	4.5	668	T29	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1355	1.5	668	T29	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
R1356	4.5	578	T29	38.2	38.2	38.2	38.2	38.2	40	43	45	49	51	40	Yes
R1357	4.5	642	T29	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1358	4.5	706	T29	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1359	1.5	818	T29	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1360	4.5	1142	T27	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1361	7.5	1065	T27	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1362	4.5	1001	T27	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1363	1.5	836	T27	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R1364	4.5	605	T27	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
R1365	4.5	679	T27	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1367	1.5	634	T27	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1368	1.5	640	T27	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1369	4.5	855	T27	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1370	4.5	876	T27	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1371	4.5	787	T27	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
R1372	1.5	1173	T27	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1373	4.5	1395	T27	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
R1376	1.5	1465	T27	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1378	4.5	1255	T18	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1379	1.5	1301	T18	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1380	1.5	618	Transf	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1381	4.5	789	Transf	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
R1382	1.5	1148	T20	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1383	1.5	1024	T21	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1384	4.5	1232	T29	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1385	1.5	1143	T29	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R1386	1.5	628	T28	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1387	4.5	846	T28	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1388	4.5	884	T27	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1389	1.5	766	T27	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1390	1.5	846	T27	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
R1391	4.5	815	T27	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1392	4.5	1003	T27	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1393	4.5	1098	T27	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1394	4.5	894	T28	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1395	4.5	750	T28	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1396	4.5	571	T28	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
R1397	1.5	807	T28	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
R1398	4.5	1425	T28	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R1399	4.5	1361	T28	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1400	1.5	1476	T28	28.7	28.7	28.7	28.7	28.7	40	43	45	49	51	40	Yes
R1403	1.5	1385	T18	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
R1404	1.5	1446	T18	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1405	1.5	1434	T18	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1406	4.5	788	Transf	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1407	4.5	1000	Transf	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
R1408	4.5	1362	T18	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1409	1.5	989	Transf	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
R1410	1.5	1349	T18	32.3	32.3	32.3	32.3	32.3	40	43	45	49	51	40	Yes
R1411	1.5	1322	T9	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
R1412	4.5	1246	T18	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1413	1.5	1219	T18	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1414	4.5	972	Transf	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1415	4.5	1007	T9	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1416	1.5	1021	T9	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1417	4.5	905	T9	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1418	1.5	863	T9	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1419	4.5	853	T9	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1420	1.5	927	T9	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1421	1.5	1138	T18	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1422	4.5	867	T18	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1423	1.5	949	T18	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1424	4.5	1039	T18	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1425	4.5	905	T18	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1426	4.5	997	T18	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1427	4.5	1423	T20	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
R1428	4.5	1205	T12	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1429	1.5	1141	T12	34.2	34.2	34.2	34.2	34.2	40	43	45	49	51	40	Yes
R1430	4.5	1130	T7	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1431	4.5	1129	T12	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1433	1.5	665	T12	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes
R1434	4.5	763	T12	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
R1435	4.5	981	T9	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1436	1.5	1064	T7	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
R1437	1.5	1013	T7	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1438	1.5	639	T7	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1440	1.5	636	T12	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1441	4.5	698	T12	38.6	38.6	38.6	38.6	38.6	40	43	45	49	51	40	Yes
R1442	1.5	1088	T7	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1443	4.5	866	T12	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
R1444	1.5	917	T10	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1446	4.5	767	T6	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1447	4.5	751	T6	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1448	1.5	743	T6	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
R1449	4.5	772	T6	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
R1450	4.5	843	T6	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1451	4.5	1028	T6	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1452	7.5	1091	T6	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
R1455	1.5	1149	T16	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
R1456	4.5	1216	T16	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1457	4.5	1282	T16	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
R1459	4.5	1172	T12	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1460	4.5	788	T58	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1461	4.5	899	T58	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1462	1.5	1062	T16	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R1463	4.5	736	T16	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
R1464	1.5	864	T16	34.2	34.2	34.2	34.2	34.2	40	43	45	49	51	40	Yes
R1465	1.5	934	T16	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1466	4.5	1003	T16	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1467	4.5	637	T23	38.9	38.9	38.9	38.9	38.9	40	43	45	49	51	40	Yes
R1468	4.5	963	T23	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1469	4.5	1070	T25	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1470	4.5	1196	T25	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1474	4.5	1362	T27	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
R1475	4.5	1267	T38	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
R1476	1.5	1115	T38	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
R1477	4.5	997	T38	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1478	4.5	1073	T38	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1479	1.5	775	T38	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
R1480	7.5	767	T38	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
R1481	1.5	840	T38	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1483	4.5	778	T38	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes
R1485	4.5	883	T38	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
R1486	4.5	913	T38	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
R1487	7.5	832	T38	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1489	7.5	1114	T38	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1490	1.5	1032	T38	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1491	4.5	1128	T35	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1492	1.5	1050	T35	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1493	4.5	1102	T25	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1496	4.5	916	T35	37.8	37.8	37.8	37.8	37.8	40	43	45	49	51	40	Yes
R1497	4.5	687	T25	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
R1498	1.5	769	T25	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1499	1.5	751	T25	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1502	4.5	672	T25	38.9	38.9	38.9	38.9	38.9	40	43	45	49	51	40	Yes
R1503	4.5	735	T32	38.7	38.7	38.7	38.7	38.7	40	43	45	49	51	40	Yes
R1504	4.5	759	T32	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
R1505	7.5	775	T32	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
R1506	7.5	745	T32	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
R1507	4.5	992	T32	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1508	4.5	991	T32	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1509	4.5	955	T32	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1510	4.5	1027	T32	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1511	1.5	1303	T32	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R1512	1.5	1474	T32	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1516	1.5	1163	T58	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1545	4.5	1438	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1546	4.5	1481	T38	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1547	4.5	1460	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1548	4.5	1392	T38	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R1549	4.5	1432	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1550	4.5	1420	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1551	4.5	1401	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1552	4.5	1462	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1553	4.5	1444	T38	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1554	4.5	1339	T38	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1556	4.5	1359	T38	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1557	1.5	1424	T38	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R1560	1.5	1445	T38	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
R1561	4.5	1491	T38	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1680	4.5	1487	T1	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
R1681	1.5	773	T4	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
R1682	1.5	1378	T1	28.7	28.7	28.7	28.7	28.7	40	43	45	49	51	40	Yes
R1706	4.5	1285	T38	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
R1707	1.5	1314	T38	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1708	1.5	1367	T38	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
R1709	1.5	1383	T38	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
R1710	1.5	1106	T58	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
R1711	4.5	905	T58	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1712	1.5	872	T58	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1713	1.5	607	T58	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1714	4.5	595	T58	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
R1715	4.5	788	T58	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1716	4.5	787	T58	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1717	1.5	787	T58	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
R1718	4.5	888	T58	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1719	4.5	900	T58	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1721	4.5	1162	T44	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1722	1.5	971	T44	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
R1723	4.5	1015	T44	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
R1724	1.5	1028	T44	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
R1725	4.5	835	T44	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
R1726	4.5	878	T44	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1727	4.5	833	T44	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
R1728	4.5	762	T44	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1729	4.5	701	T44	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
R1730	4.5	695	T52	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
R1731	7.5	674	T52	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
R1732	4.5	830	T52	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1733	4.5	884	T52	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1734	4.5	919	T52	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1735	1.5	830	T52	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1736	1.5	1113	T52	31.9	31.9	31.9	31.9	31.9	40	43	45	49	51	40	Yes
R1737	4.5	1326	T52	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1738	1.5	1324	T52	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
R1739	4.5	1408	T52	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1740	4.5	1369	T52	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1741	4.5	1430	T52	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1748	4.5	889	T48	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
R1749	1.5	651	T48	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1750	4.5	696	T47	39.1	39.1	39.1	39.1	39.1	40	43	45	49	51	40	Yes
R1753	1.5	879	T48	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1754	1.5	835	T48	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
R1755	4.5	790	T48	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1756	1.5	858	T48	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1757	4.5	952	T48	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1758	1.5	1259	T48	31.6	31.6	31.6	31.6	31.6	40	43	45	49	51	40	Yes
R1759	1.5	1363	T48	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1760	4.5	1318	T48	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R1808	4.5	1344	T41	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
R1809	1.5	1278	T41	30.6	30.6	30.6	30.6	30.6	40	43	45	49	51	40	Yes
R1810	1.5	1454	T41	29.8	29.8	29.8	29.8	29.8	40	43	45	49	51	40	Yes
R1811	1.5	1494	T41	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1814	1.5	1419	T41	30.0	30.0	30.0	30.0	30.0	40	43	45	49	51	40	Yes
R1815	1.5	1406	T41	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
R1816	4.5	1328	T41	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1821	4.5	1321	T43	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
R1822	1.5	1263	T43	30.3	30.3	30.3	30.3	30.3	40	43	45	49	51	40	Yes
R1823	1.5	702	T43	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1824	1.5	638	T43	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1825	4.5	644	T43	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1826	1.5	556	T43	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R1827	1.5	571	T43	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
R1828	4.5	655	T43	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1829	4.5	708	T43	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
R1830	4.5	721	T43	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1831	1.5	946	T43	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1832	1.5	975	T43	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1833	4.5	1165	T43	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1834	1.5	1241	T43	28.9	28.9	28.9	28.9	28.9	40	43	45	49	51	40	Yes
R1835	1.5	1255	T43	28.3	28.3	28.3	28.3	28.3	40	43	45	49	51	40	Yes
R1836	4.5	864	T43	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
R1837	4.5	920	T43	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1838	1.5	559	T43	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
R1839	4.5	686	T43	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1840	4.5	783	T43	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1841	1.5	778	T43	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R1842	4.5	773	T43	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
R1843	4.5	726	T43	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1844	4.5	1465	T43	30.7	30.7	30.7	30.7	30.7	40	43	45	49	51	40	Yes
R1868	4.5	1237	T43	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
R1869	4.5	825	T47	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
R1870	4.5	976	T54	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1871	4.5	848	T54	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
R1872	1.5	579	T54	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
R1873	1.5	1139	T54	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1874	4.5	1148	T47	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
R1875	1.5	816	T47	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R1876	4.5	721	T47	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
R1877	1.5	810	T47	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1878	4.5	1016	T41	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1879	4.5	926	T41	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
R1881	4.5	749	T41	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
R1883	4.5	605	T54	38.6	38.6	38.6	38.6	38.6	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1884	4.5	899	T32	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes
R1887	1.5	876	T38	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1888	4.5	1202	T41	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
R1896	4.5	927	T46	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1897	1.5	818	T46	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1898	4.5	706	T46	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
R1899	1.5	704	T46	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
R1905	1.5	1305	T46	29.2	29.2	29.2	29.2	29.2	40	43	45	49	51	40	Yes
R1906	4.5	1226	T46	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R1907	1.5	1154	T46	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R1908	4.5	1210	T46	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
R1909	1.5	1115	T46	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1910	1.5	1288	T52	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R1911	4.5	1134	T52	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R1912	1.5	947	T52	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
R1913	4.5	818	T52	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
R1914	4.5	629	T52	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
R1915	4.5	764	T52	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1916	4.5	768	T52	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1917	1.5	752	T52	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
R1918	1.5	1456	T56	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R1919	4.5	902	T48	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
R1920	1.5	1028	T48	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1921	1.5	889	T48	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
R1922	4.5	951	T48	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
R1923	4.5	912	T57	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
R1924	1.5	826	T48	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
R1925	4.5	860	T57	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
R1926	4.5	771	T57	36.8	36.8	36.8	36.8	36.8	40	43	45	49	51	40	Yes
R1927	1.5	887	T57	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R1928	4.5	906	T57	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
R1929	4.5	950	T57	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1930	1.5	1058	T57	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1931	4.5	1258	T57	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1932	4.5	1288	T57	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R1960	1.5	1484	T46	26.4	26.4	26.4	26.4	26.4	40	43	45	49	51	40	Yes
R1961	4.5	1448	T46	28.6	28.6	28.6	28.6	28.6	40	43	45	49	51	40	Yes
R1962	1.5	1416	T46	27.0	27.0	27.0	27.0	27.0	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R1963	1.5	1112	T46	29.6	29.6	29.6	29.6	29.6	40	43	45	49	51	40	Yes
R1964	1.5	1071	T46	30.0	30.0	30.0	30.0	30.0	40	43	45	49	51	40	Yes
R1965	4.5	700	T46	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
R1966	1.5	1017	T46	30.6	30.6	30.6	30.6	30.6	40	43	45	49	51	40	Yes
R1967	1.5	998	T46	30.8	30.8	30.8	30.8	30.8	40	43	45	49	51	40	Yes
R1968	4.5	847	T46	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
R1969	1.5	924	T46	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
R1970	4.5	832	T46	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
R1971	4.5	1094	T46	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1972	4.5	1491	T46	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
R1973	1.5	1492	T52	29.3	29.3	29.3	29.3	29.3	40	43	45	49	51	40	Yes
R1977	1.5	1143	T56	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R1978	4.5	1103	T56	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
R1979	4.5	899	T56	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
R1986	1.5	1377	T56	28.4	28.4	28.4	28.4	28.4	40	43	45	49	51	40	Yes
R1987	4.5	1113	T56	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R1988	4.5	1015	T56	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R1989	1.5	992	T56	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R1990	1.5	979	T56	31.6	31.6	31.6	31.6	31.6	40	43	45	49	51	40	Yes
R1991	4.5	775	T56	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
R1992	4.5	730	T56	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
R1993	1.5	885	T56	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
R1995	4.5	1370	T56	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
R2001	4.5	1095	T56	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R2002	1.5	1311	T57	30.3	30.3	30.3	30.3	30.3	40	43	45	49	51	40	Yes
R2004	1.5	1239	T57	30.0	30.0	30.0	30.0	30.0	40	43	45	49	51	40	Yes
R2018	1.5	724	T57	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R2020	1.5	1182	T10	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
R2021	1.5	1146	T10	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
R2022	1.5	1252	T11	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
R2024	1.5	1195	T10	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
R2069	1.5	1469	T11	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R2070	1.5	1361	T11	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R2071	4.5	1319	T10	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R2079	1.5	1104	T58	30.2	30.2	30.2	30.2	30.2	40	43	45	49	51	40	Yes
R2080	4.5	1243	T58	30.7	30.7	30.7	30.7	30.7	40	43	45	49	51	40	Yes
R2081	1.5	1159	T58	29.7	29.7	29.7	29.7	29.7	40	43	45	49	51	40	Yes
R2082	4.5	583	T58	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R2083	1.5	862	T58	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
R2084	1.5	913	T58	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
R2085	1.5	884	T58	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R2089	1.5	1253	T38	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
R2092	4.5	588	T28	38.8	38.8	38.8	38.8	38.8	40	43	45	49	51	40	Yes
R2093	4.5	613	T27	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
R2094	4.5	1263	T27	32.3	32.3	32.3	32.3	32.3	40	43	45	49	51	40	Yes
R2095	4.5	1194	T29	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R2099	4.5	917	T54	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
R2100	4.5	1222	T58	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
R2125	1.5	1493	T18	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
R3005	4.5	833	T44	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
V3006	4.5	905	T46	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
R3012	1.5	1238	T43	30.4	30.4	30.4	30.4	30.4	40	43	45	49	51	40	Yes
R3015	4.5	1172	T16	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R3019	4.5	733	T28	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4006	4.5	1375	T46	29.4	29.4	29.4	29.4	29.4	40	43	45	49	51	40	Yes
V4007	4.5	1483	T44	30.0	30.0	30.0	30.0	30.0	40	43	45	49	51	40	Yes
V4010	4.5	979	T46	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
V4022	4.5	1295	T10	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
V4026	4.5	990	T29	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4027	4.5	1068	T27	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
V4030	4.5	762	T29	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
V4035	4.5	1216	T29	30.8	30.8	30.8	30.8	30.8	40	43	45	49	51	40	Yes
V4038	4.5	917	T29	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
V4043	4.5	1127	T29	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
V4049	4.5	1477	T43	29.0	29.0	29.0	29.0	29.0	40	43	45	49	51	40	Yes
V4050	4.5	1400	T43	29.2	29.2	29.2	29.2	29.2	40	43	45	49	51	40	Yes
V4070	4.5	1351	T57	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
V4072	4.5	1208	T46	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4074	4.5	569	T46	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4075	4.5	1375	T56	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
V4076	4.5	985	T46	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
V4077	4.5	1207	T46	31.6	31.6	31.6	31.6	31.6	40	43	45	49	51	40	Yes
V4078	4.5	1218	T56	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
V4079	4.5	1230	T56	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
V4080	4.5	1464	T56	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
V4082	4.5	778	T52	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4083	4.5	1018	T56	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4084	4.5	1385	T56	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
V4085	4.5	1230	T48	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4087	4.5	1073	T48	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
V4088	4.5	788	T57	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
V4089	4.5	842	T57	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
V4090	4.5	1132	T57	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
V4091	4.5	994	T57	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
V4092	4.5	1246	T57	31.6	31.6	31.6	31.6	31.6	40	43	45	49	51	40	Yes
V4095	4.5	863	T52	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
V4096	4.5	1128	T52	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4097	4.5	1222	T44	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
V4098	4.5	1246	T46	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
V4099	4.5	1333	T44	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
V4101	4.5	717	T44	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
V4102	4.5	1093	T44	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
V4103	4.5	745	T52	38.2	38.2	38.2	38.2	38.2	40	43	45	49	51	40	Yes
V4104	4.5	733	T44	37.8	37.8	37.8	37.8	37.8	40	43	45	49	51	40	Yes
V4106	4.5	959	T52	34.2	34.2	34.2	34.2	34.2	40	43	45	49	51	40	Yes
V4107	4.5	955	T52	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
V4109	4.5	804	T48	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4110	4.5	732	T48	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
V4111	4.5	660	T48	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
V4112	4.5	763	T48	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
V4113	4.5	919	T48	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
V4115	4.5	1047	T57	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
V4116	4.5	1309	T44	30.4	30.4	30.4	30.4	30.4	40	43	45	49	51	40	Yes
V4117	4.5	932	T54	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
V4118	4.5	1322	T44	30.4	30.4	30.4	30.4	30.4	40	43	45	49	51	40	Yes
V4119	4.5	598	T44	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
V4120	4.5	644	T44	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
V4121	4.5	695	T44	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
V4122	4.5	1092	T44	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
V4123	4.5	1314	T44	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
V4125	4.5	701	T44	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
V4126	4.5	622	T44	38.7	38.7	38.7	38.7	38.7	40	43	45	49	51	40	Yes
V4128	4.5	653	T44	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
V4129	4.5	768	T44	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4131	4.5	924	T44	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4132	4.5	1058	T44	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
V4133	4.5	797	T54	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4134	4.5	694	T54	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
V4135	4.5	764	T44	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4138	4.5	741	T44	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
V4141	4.5	1013	T44	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
V4142	4.5	830	T44	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
V4143	4.5	628	T54	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
V4144	4.5	614	T54	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4146	4.5	878	T58	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
V4147	4.5	670	T58	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
V4148	4.5	653	T58	37.1	37.1	37.1	37.1	37.1	40	43	45	49	51	40	Yes
V4149	4.5	957	T58	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
V4150	4.5	768	T54	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
V4154	4.5	1199	T58	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
V4160	4.5	1339	T58	31.1	31.1	31.1	31.1	31.1	40	43	45	49	51	40	Yes
V4161	4.5	979	T58	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4165	4.5	771	T21	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
V4166	4.5	1239	T16	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4167	4.5	674	T12	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
V4168	4.5	1136	T12	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4169	4.5	1087	T12	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4172	4.5	1114	T6	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
V4173	4.5	1332	T10	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
V4174	4.5	1301	T6	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
V4181	4.5	731	T2	37.8	37.8	37.8	37.8	37.8	40	43	45	49	51	40	Yes
V4182	4.5	964	T1	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
V4183	4.5	1081	T2	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4184	4.5	896	T2	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4185	4.5	852	T4	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4186	4.5	1115	T2	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
V4187	4.5	790	T4	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4188	4.5	1355	T2	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
V4189	4.5	1004	T5	33.6	33.6	33.6	33.6	33.6	40	43	45	49	51	40	Yes
V4191	4.5	805	T5	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4193	4.5	871	T5	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4194	4.5	643	T5	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4195	4.5	684	T9	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4202	4.5	1191	T9	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
V4204	4.5	883	T9	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
V4207	4.5	907	T9	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
V4224	4.5	975	T27	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
V4227	4.5	835	T27	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
V4228	4.5	770	T27	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4229	4.5	839	T27	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
V4230	4.5	884	T29	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
V4232	4.5	1047	T29	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
V4233	4.5	1205	T28	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
V4236	4.5	1255	T28	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4237	4.5	1421	T27	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
V4240	4.5	1021	T43	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
V4241	4.5	1447	T43	28.5	28.5	28.5	28.5	28.5	40	43	45	49	51	40	Yes
V4242	4.5	1067	T43	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
V4243	4.5	919	T43	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4245	4.5	1490	T43	28.2	28.2	28.2	28.2	28.2	40	43	45	49	51	40	Yes
V4248	4.5	1051	T41	34.1	34.1	34.1	34.1	34.1	40	43	45	49	51	40	Yes
V4252	4.5	802	T43	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
V4253	4.5	1032	T43	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
V4256	4.5	1215	T43	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
V4268	4.5	1098	T47	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
V4271	4.5	810	T47	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
V4273	4.5	795	T48	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
V4275	4.5	984	T41	34.6	34.6	34.6	34.6	34.6	40	43	45	49	51	40	Yes
V4278	4.5	1270	T48	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4280	4.5	1031	T41	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4283	4.5	1061	T54	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
V4284	4.5	691	T41	39.2	39.2	39.2	39.2	39.2	40	43	45	49	51	40	Yes
V4289	4.5	885	T41	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
V4290	4.5	698	T38	39.0	39.0	39.0	39.0	39.0	40	43	45	49	51	40	Yes
V4292	4.5	894	T32	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
V4293	4.5	779	T25	38.6	38.6	38.6	38.6	38.6	40	43	45	49	51	40	Yes
V4294	4.5	767	T25	38.5	38.5	38.5	38.5	38.5	40	43	45	49	51	40	Yes
V4297	4.5	858	T32	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
V4299	4.5	823	T25	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
V4303	4.5	861	T16	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4304	4.5	1317	T25	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
V4307	4.5	764	T58	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
V4308	4.5	1266	T58	31.4	31.4	31.4	31.4	31.4	40	43	45	49	51	40	Yes
V4309	4.5	806	T58	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
V4311	4.5	868	T16	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
V4312	4.5	901	T16	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4313	4.5	647	T16	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4315	4.5	828	T21	39.0	39.0	39.0	39.0	39.0	40	43	45	49	51	40	Yes
V4316	4.5	1266	T27	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4317	4.5	1441	T27	31.8	31.8	31.8	31.8	31.8	40	43	45	49	51	40	Yes
V4318	4.5	1391	T18	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4319	4.5	838	T21	38.2	38.2	38.2	38.2	38.2	40	43	45	49	51	40	Yes
V4322	4.5	1266	T25	33.9	33.9	33.9	33.9	33.9	40	43	45	49	51	40	Yes
V4324	4.5	1125	T21	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
V4325	4.5	817	Transf	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4329	4.5	745	T21	38.9	38.9	38.9	38.9	38.9	40	43	45	49	51	40	Yes
V4330	4.5	1115	T21	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4331	4.5	681	Transf	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
V4333	4.5	1417	T18	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4335	4.5	1141	T18	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4336	4.5	587	Transf	36.7	36.7	36.7	36.7	36.7	40	43	45	49	51	40	Yes
V4337	4.5	1011	T9	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4338	4.5	810	T18	37.9	37.9	37.9	37.9	37.9	40	43	45	49	51	40	Yes
V4339	4.5	1430	T7	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4340	4.5	1149	T18	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4341	4.5	1086	T18	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4342	4.5	791	T7	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
V4344	4.5	953	T12	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
V4346	4.5	973	T10	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
V4347	4.5	803	T6	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
V4348	4.5	768	T6	38.6	38.6	38.6	38.6	38.6	40	43	45	49	51	40	Yes
V4349	4.5	879	T7	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4351	4.5	734	T4	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
V4352	4.5	1009	T6	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
V4354	4.5	995	Transf	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4356	4.5	649	Transf	35.0	35.0	35.0	35.0	35.0	40	43	45	49	51	40	Yes
V4359	4.5	683	Transf	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
V4362	4.5	965	Transf	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4364	4.5	1168	T27	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
V4365	4.5	943	T27	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4369	4.5	928	T32	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
V4371	4.5	1116	T25	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
V4372	4.5	853	T23	37.0	37.0	37.0	37.0	37.0	40	43	45	49	51	40	Yes
V4373	4.5	746	T23	38.3	38.3	38.3	38.3	38.3	40	43	45	49	51	40	Yes
V4374	4.5	865	T38	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4375	4.5	918	T38	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
V4376	4.5	1263	T38	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4377	4.5	1414	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4378	4.5	1171	T38	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4379	4.5	1069	T38	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4380	4.5	1228	T38	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4381	4.5	1233	T28	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4383	4.5	1366	T28	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
V4386	4.5	1250	T28	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
V4389	4.5	853	T43	34.3	34.3	34.3	34.3	34.3	40	43	45	49	51	40	Yes
V4390	4.5	812	T43	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
V4393	4.5	1069	T38	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4394	4.5	869	T41	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
V4395	4.5	959	T41	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
V4398	4.5	1245	T46	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
V4407	4.5	840	T28	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
V4409	4.5	1048	T43	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
V4419	4.5	1200	T29	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
V4422	4.5	1435	T46	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
V4423	4.5	1367	T46	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
V4424	4.5	770	T52	35.9	35.9	35.9	35.9	35.9	40	43	45	49	51	40	Yes
V4425	4.5	881	T48	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4426	4.5	1300	T46	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
V4427	4.5	639	T52	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
V4429	4.5	1289	T52	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
V4430	4.5	948	T58	34.7	34.7	34.7	34.7	34.7	40	43	45	49	51	40	Yes
V4431	4.5	889	T58	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
V4432	4.5	1151	T58	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
V4433	4.5	759	T12	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
V4434	4.5	796	T10	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
V4435	4.5	1162	T7	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4437	4.5	861	T4	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4438	4.5	722	T2	37.5	37.5	37.5	37.5	37.5	40	43	45	49	51	40	Yes
V4464	4.5	642	T27	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
V4465	4.5	1463	T27	31.5	31.5	31.5	31.5	31.5	40	43	45	49	51	40	Yes
V4466	4.5	1018	T27	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4467	4.5	718	T27	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
V4472	4.5	938	T27	34.9	34.9	34.9	34.9	34.9	40	43	45	49	51	40	Yes
V4487	4.5	955	T41	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4488	4.5	793	T25	38.1	38.1	38.1	38.1	38.1	40	43	45	49	51	40	Yes
V4489	4.5	924	T58	35.2	35.2	35.2	35.2	35.2	40	43	45	49	51	40	Yes
V4490	4.5	1070	T58	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
V4491	4.5	661	T23	39.1	39.1	39.1	39.1	39.1	40	43	45	49	51	40	Yes
V4492	4.5	1291	T21	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4493	4.5	1249	T18	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
V4494	4.5	801	T7	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
V4495	4.5	1112	T4	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4496	4.5	1062	T4	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes
V4497	4.5	1011	T4	36.0	36.0	36.0	36.0	36.0	40	43	45	49	51	40	Yes
V4498	4.5	677	T4	37.7	37.7	37.7	37.7	37.7	40	43	45	49	51	40	Yes
V4499	4.5	1106	T4	35.6	35.6	35.6	35.6	35.6	40	43	45	49	51	40	Yes
V4507	4.5	866	T25	37.6	37.6	37.6	37.6	37.6	40	43	45	49	51	40	Yes
V4508	4.5	907	T32	37.4	37.4	37.4	37.4	37.4	40	43	45	49	51	40	Yes
V4509	4.5	1142	T38	36.5	36.5	36.5	36.5	36.5	40	43	45	49	51	40	Yes
V4511	4.5	1429	T27	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
V4512	4.5	1493	T38	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
V4513	4.5	1435	T38	33.0	33.0	33.0	33.0	33.0	40	43	45	49	51	40	Yes
V4514	4.5	1199	T38	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4515	4.5	1495	T28	30.6	30.6	30.6	30.6	30.6	40	43	45	49	51	40	Yes
V4516	4.5	1427	T41	32.0	32.0	32.0	32.0	32.0	40	43	45	49	51	40	Yes
V4517	4.5	1199	T43	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
V4518	4.5	1157	T43	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
V4519	4.5	1430	T41	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
V4524	4.5	1161	T41	33.5	33.5	33.5	33.5	33.5	40	43	45	49	51	40	Yes
V4525	4.5	1243	T38	33.4	33.4	33.4	33.4	33.4	40	43	45	49	51	40	Yes
V4526	4.5	1284	T23	35.8	35.8	35.8	35.8	35.8	40	43	45	49	51	40	Yes
V4527	4.5	782	T58	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4528	4.5	735	T58	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4529	4.5	971	T52	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
V4530	4.5	809	T52	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4531	4.5	719	T52	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
V4532	4.5	907	T58	35.1	35.1	35.1	35.1	35.1	40	43	45	49	51	40	Yes
V4533	4.5	803	T58	36.1	36.1	36.1	36.1	36.1	40	43	45	49	51	40	Yes
V4534	4.5	834	T58	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
V4536	4.5	735	T46	35.7	35.7	35.7	35.7	35.7	40	43	45	49	51	40	Yes
V4550	4.5	924	T54	35.4	35.4	35.4	35.4	35.4	40	43	45	49	51	40	Yes
V4564	4.5	1169	T38	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4627	4.5	777	T23	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
V4667	4.5	834	T38	36.2	36.2	36.2	36.2	36.2	40	43	45	49	51	40	Yes
V4668	4.5	815	T38	36.4	36.4	36.4	36.4	36.4	40	43	45	49	51	40	Yes
V4679	4.5	882	T5	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
V4755	4.5	982	T28	33.8	33.8	33.8	33.8	33.8	40	43	45	49	51	40	Yes
V4756	4.5	854	T27	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
V4757	4.5	862	T27	35.3	35.3	35.3	35.3	35.3	40	43	45	49	51	40	Yes
V4769	4.5	1411	T38	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
V4770	4.5	1384	T38	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
V4772	4.5	983	T6	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
V4773	4.5	766	T47	37.3	37.3	37.3	37.3	37.3	40	43	45	49	51	40	Yes
V4774	4.5	685	T48	38.7	38.7	38.7	38.7	38.7	40	43	45	49	51	40	Yes
V4777	4.5	1433	T1	30.5	30.5	30.5	30.5	30.5	40	43	45	49	51	40	Yes
V4778	4.5	1475	T1	29.9	29.9	29.9	29.9	29.9	40	43	45	49	51	40	Yes
V4788	4.5	1430	T1	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
V4789	4.5	1240	T2	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4792	4.5	1423	T2	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
V4801	4.5	993	T46	32.5	32.5	32.5	32.5	32.5	40	43	45	49	51	40	Yes
V4803	4.5	927	T46	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
V4804	4.5	1010	T46	32.3	32.3	32.3	32.3	32.3	40	43	45	49	51	40	Yes
V4805	4.5	1078	T46	31.7	31.7	31.7	31.7	31.7	40	43	45	49	51	40	Yes
V4806	4.5	1460	T46	29.4	29.4	29.4	29.4	29.4	40	43	45	49	51	40	Yes
V4808	4.5	1482	T46	29.9	29.9	29.9	29.9	29.9	40	43	45	49	51	40	Yes
V4812	4.5	845	T56	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
V4813	4.5	1020	T56	32.8	32.8	32.8	32.8	32.8	40	43	45	49	51	40	Yes
V4820	4.5	1260	T57	32.1	32.1	32.1	32.1	32.1	40	43	45	49	51	40	Yes
V4823	4.5	888	T56	34.5	34.5	34.5	34.5	34.5	40	43	45	49	51	40	Yes
V4824	4.5	1244	T56	32.6	32.6	32.6	32.6	32.6	40	43	45	49	51	40	Yes
R4846	1.5	1315	T38	31.2	31.2	31.2	31.2	31.2	40	43	45	49	51	40	Yes
R4847	1.5	1377	T38	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes

Point of Reception ID	Receptor height [m]	Distance to nearest source [m]	Nearest source [ID]	Calculated sound pressure level at receptor [dB(A)] at selected wind speed in m/s					Sound level limit [dB(A)] at selected wind speed in m/s					Applicable background sound level	Compliant (Yes/No)
				≤6	7	8	9	10	≤6	7	8	9	10	NPC 300	
R4848	1.5	1364	T38	31.0	31.0	31.0	31.0	31.0	40	43	45	49	51	40	Yes
R4857	4.5	1359	T38	33.1	33.1	33.1	33.1	33.1	40	43	45	49	51	40	Yes
R4858	4.5	670	T48	39.1	39.1	39.1	39.1	39.1	40	43	45	49	51	40	Yes
V4923	4.5	1162	T52	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4924	4.5	1116	T54	34.8	34.8	34.8	34.8	34.8	40	43	45	49	51	40	Yes
R4925	4.5	1486	T18	32.4	32.4	32.4	32.4	32.4	40	43	45	49	51	40	Yes
V4944	4.5	1332	T1	31.3	31.3	31.3	31.3	31.3	40	43	45	49	51	40	Yes
V4946	4.5	1017	T1	34.0	34.0	34.0	34.0	34.0	40	43	45	49	51	40	Yes
V4947	4.5	1377	T57	29.8	29.8	29.8	29.8	29.8	40	43	45	49	51	40	Yes
V4953	4.5	1413	T56	30.1	30.1	30.1	30.1	30.1	40	43	45	49	51	40	Yes
V4957	4.5	1438	T28	32.7	32.7	32.7	32.7	32.7	40	43	45	49	51	40	Yes
V4958	4.5	1170	T57	32.2	32.2	32.2	32.2	32.2	40	43	45	49	51	40	Yes
V4959	4.5	807	T48	36.9	36.9	36.9	36.9	36.9	40	43	45	49	51	40	Yes
V4960	4.5	1304	T48	33.2	33.2	33.2	33.2	33.2	40	43	45	49	51	40	Yes
V4963	4.5	1438	T38	32.9	32.9	32.9	32.9	32.9	40	43	45	49	51	40	Yes
V4964	4.5	915	T44	34.4	34.4	34.4	34.4	34.4	40	43	45	49	51	40	Yes
V4965	4.5	862	T29	34.2	34.2	34.2	34.2	34.2	40	43	45	49	51	40	Yes
V4967	4.5	1443	T9	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
V4988	4.5	934	T6	36.6	36.6	36.6	36.6	36.6	40	43	45	49	51	40	Yes
V4989	4.5	812	T10	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
V4990	4.5	839	T6	35.5	35.5	35.5	35.5	35.5	40	43	45	49	51	40	Yes
V4993	4.5	1407	T41	31.9	31.9	31.9	31.9	31.9	40	43	45	49	51	40	Yes
V4994	4.5	1202	T38	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
V4995	4.5	765	T52	38.0	38.0	38.0	38.0	38.0	40	43	45	49	51	40	Yes
V4996	4.5	1277	T56	30.9	30.9	30.9	30.9	30.9	40	43	45	49	51	40	Yes
V4997	4.5	643	T32	38.4	38.4	38.4	38.4	38.4	40	43	45	49	51	40	Yes
V4998	4.5	920	T46	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R5000	4.5	978	T58	33.7	33.7	33.7	33.7	33.7	40	43	45	49	51	40	Yes
R5001	4.5	654	T27	37.2	37.2	37.2	37.2	37.2	40	43	45	49	51	40	Yes
R5003	4.5	919	T46	33.3	33.3	33.3	33.3	33.3	40	43	45	49	51	40	Yes
R5007	4.5	698	T58	36.3	36.3	36.3	36.3	36.3	40	43	45	49	51	40	Yes

- For single storey receptors, the sound levels were considered at 1.5 m above grade and 30 m horizontally from the dwelling, in 16 evenly spaced directions. In this way, a circle of 16 dummy receptors was created around each single storey receptor. The reported sound level at each receptor is then taken to be the maximum sound level from the circle of dummy receptors. The coordinates of the circle point with the maximum sound level for each of the 211 one-storey dwellings (excluding one cemetery) are shown in a table in Appendix A (UTM18-NAD83 projection).
- There are a total of 15 receptors that are <1,500 m from a turbine and > 1,000, from a transformer, with the transformer being the closest noise source. For these receptors, the distance to the nearest turbine is shown in this table. These receptors are: R1105, R1378, R1379, R1403, R1404, R1405, R1408, R1410, R1411, R1412, R1413, R2125, V4318, V4333, and V4925.

Table 7-2 Noise impact assessment summary – participants

Participant ID	Height [m]	Distance to nearest source [m]	Nearest source ID	Max Calculated sound pressure level [dBA]
R1080	4.5	605	T6	38.2
R1252	4.5	635	T2	38.6
R1253	4.5	661	T2	38.2
R1302	4.5	551	T4	39.7
R1366	4.5	513	T27	39.3
R1432	4.5	751	T12	37.8
R1439	1.5	834	T12	36.3
R1445	4.5	671	T10	39.3
R1453	4.5	759	T21	38.5
R1454	4.5	706	T21	38.8
R1458	4.5	1135	T16	35.7
R1482	4.5	736	T38	37.2
R1484	4.5	670	T38	38.2
R1488	4.5	925	T38	37.1
R1494	7.5	977	T35	37.7
R1495	4.5	893	T35	37.7
R1500	4.5	660	T25	38.9
R1501	1.5	692	T25	37.1
R1751	4.5	564	T48	40.0
R1880	1.5	776	T41	35.3
R1882	4.5	728	T54	37.5
R1885	4.5	886	T32	36.3
R1886	4.5	670	T32	38.4
R2017	1.5	685	T57	35.3
R2025	1.5	1186	T10	32.7
V4073	4.5	1116	T46	32.7
V4086	4.5	1137	T48	34.8
V4108	4.5	598	T52	38.9
V4124	4.5	598	T44	38.0
V4127	4.5	608	T44	37.8
V4130	4.5	587	T44	38.8
V4137	4.5	653	T54	37.8
V4163	4.5	1264	T20	36.4
V4164	4.5	1253	T12	35.8
V4196	4.5	597	T5	38.3
V4200	4.5	838	T9	36.8
V4225	4.5	671	T29	37.1
V4226	4.5	700	T29	37.9
V4231	4.5	754	T28	36.0
V4234	4.5	813	T29	37.2
V4235	4.5	547	T28	39.4
V4269	4.5	700	T47	37.5
V4270	4.5	647	T47	39.6
V4274	4.5	616	T47	38.5
V4276	4.5	658	T47	39.7
V4282	4.5	691	T35	38.8
V4285	4.5	754	T47	37.1
V4286	4.5	823	T47	37.0
V4287	4.5	946	T47	36.6
V4288	4.5	404	T41	42.4
V4291	4.5	797	T35	38.6
V4295	4.5	753	T32	37.0
V4296	4.5	695	T32	38.5

Participant ID	Height [m]	Distance to nearest source [m]	Nearest source ID	Max Calculated sound pressure level [dBA]
V4300	4.5	719	T58	36.0
V4302	4.5	935	T16	35.5
V4306	4.5	1338	T58	32.8
V4314	4.5	510	T16	40.1
V4326	4.5	627	T23	39.0
V4328	4.5	424	T21	42.7
V4332	4.5	1094 ¹	T9	35.9
V4334	4.5	977	Transf	35.1
V4343	4.5	726	T7	38.6
V4345	4.5	892	T6	34.8
V4350	4.5	808	T6	35.9
V4353	4.5	819	T2	36.6
V4367	4.5	1001	T25	35.2
V4368	4.5	816	T25	37.6
V4384	4.5	852	T28	35.1
V4391	4.5	604	T43	37.5
V4506	4.5	746	T23	38.7
V4999	4.5	764	T57	36.0
R5002	4.5	712	T38	37.7

1. V4332 is located 1094 m from T9 and 1078 m from the transformer.
2. Participants as per the Project Location, as shown in Appendix A of the Nation Rise Wind Farm Design and Operation Report, #10021027-CAMO-R-03-C.



8 CONCLUSION

Based on the approach presented in this NIA, the Project is compliant with the MECP noise limits at all PoRs within 1,500 m of the Project's turbines and 1,000 m of the Project's transformer, for wind speeds of 6, 7, 8, 9, and 10 m/s.

9 REFERENCES

- [1] Ontario Regulation 359/09 (Renewable Energy Approvals (REA))
- [2] Ontario Ministry of the Environment and Climate Change, Renewable Energy Approval (0871-AV3TFM) – Nation Rise Wind Farm, 4 May 2018.
- [3] MOECC Noise Guidelines for Wind Farms, May 2016.
- [4] Municipality of South Dundas. Schedule 2 – Williamsburg. <http://southdundas.com/6-municipality/planning-a-building/326-zoning-by-law-2010-48.html>
- [5] Municipality of South Stormont. Zoning maps. <http://www.southstormont.ca/english/municipal-services/planning-development/zoning-by-law.html>
- [6] Township of Russell. Zoning maps. http://www.russell.ca/businesses/services_for_business/zoning
- [7] Township of North Stormont Zoning maps. <https://northstormont.ca/find-out-more-about/hot-topics/forms/>
- [8] Dillon Consulting. Revised Noise Study Report, City Lights Solar. July 2014
- [9] DMS 0069-3308_V03, "V136-3.45 MW (CAN) Octave band noise emission" received from the Proponent to DNV GL, 26 Sep 2017.
- [10] International Electrotechnical Commission (IEC), 2012. IEC 61400 – 11 Ed. 3.0 Wind turbines– Part 11: Acoustic noise measurement techniques. 58 p.
- [11] Technical Guide to Renewable Energy Approvals, Ontario Ministry of the Environment, March 2017
- [12] IEEE C57.12.90 – Distribution, Power, and Regulating Transformers. 2010
- [13] Handbook of Acoustics – Malcolm J. Crocker, 1998.
- [14] International Organization for Standardization (ISO), 1993. Acoustics - Attenuation of Sound During Propagation Outdoors - Calculation of the Absorption of Sound by the Atmosphere. ISO 9613-1. 33 p.
- [15] International Organization for Standardization (ISO), 1996. Acoustics - Attenuation of Sound During Propagation Outdoors - General Method of Calculation. ISO 9613-2. 25 p.
- [16] Institute of Acoustics. A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise. May 2013.

APPENDIX A – COORDINATES OF POINTS OF RECEPTION

Coordinates of all modeled Points of Reception and Vacant Lot Receptors for the Project(UTM18-NAD83 projection) are given in the table below:

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1000	601030054	486975	4994137	80
R1001	602440173	489024	4993206	90
R1002	602440170	491816	4994161	90
R1022	601030133	487740	4994234	83
R1023	601030120	488369	4994637	83
R1025	601030115	489228	4994306	80
R1026	601030116	489177	4994262	81
R1027	601030117	489149	4994219	82
R1028	601030113	489021	4994095	84
R1035	601050118	492510	5000100	81
R1040	601090203	495510	5002226	93
R1041	601090195	495503	5002314	92
R1042	601090194	495483	5002345	91
R1043	601090193	495460	5002385	90
R1044	601120094	495508	5002514	92
R1045	601120095	495452	5002654	91
R1051	601060275	490372	5001942	75
R1052	601050081	490799	5002044	75
R1053	601060326	491223	5002661	75
R1055	601060325	491284	5002637	75
R1057	601060324	491249	5002623	75
R1059	601090094	491713	5002674	75
R1060	601090121	491779	5002618	75
R1061	601090123	491878	5002697	75
R1062	601090126	492103	5002819	75
R1063	601090130	492212	5002865	76
R1064	601090131	492248	5002893	76
R1065	601130117	493599	5005335	78
R1066	601060281	490508	5003439	78
R1068	601130115	492934	5006164	75
R1072	601070120	485594	5007335	71
R1074	601000185	483194	5006099	80
R1075	601000184	483148	5006037	79
R1078	601000166	482267	5005605	88
R1079	601000113	481959	5005534	84
R1081	601000156	481473	5005115	77
R1082	601000154	481233	5005060	76
R1086	690140106	481603	5008375	70
R1088	601070102	484228	5009007	72
R1089	601010144	481644	5003661	80
R1090	601010054	482213	5002706	79
R1091	601010154	482517	5002204	80
R1103	601010152	484594	4999093	74
R1104	601060384	487925	5004239	70
R1105	601060082	487250	5006435	68

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1106	601070146	486347	5006075	75
R1107	601060070	486196	5005549	75
R1108	601060054	485336	5004942	74
R1110	601010074	485085	5004577	75
R1111	601010081	484881	5004685	75
R1113	601010065	483433	5004466	75
R1114	601010061	482928	5004217	75
R1115	601000162	482344	5004013	76
R1117	601010169	483535	5002148	79
R1140	601090170	492674	5000186	80
R1141	601090167	492591	5000249	80
R1146	601060300	491038	5003090	76
R1156	601060301	491014	5003106	76
R1157	601060303	490968	5003183	77
R1163	601080188	491876	5004634	71
R1164	601080184	491696	5004324	73
R1168	601000174	482854	5005789	79
R1169	690160063	484792	5008916	70
R1173	690160062	484717	5008920	70
R1193	690140105	481504	5008509	70
R1197	601000072	481979	5008403	71
R1200	690140107	481655	5008412	70
R1212	601070104	484259	5008386	73
R1213	601070115	484588	5008425	70
R1214	601070116	484614	5008364	70
R1215	601070118	484648	5008274	70
R1216	601070119	484669	5008226	70
R1217	601070112	484063	5008179	75
R1218	601000146	483408	5007810	85
R1219	601000097	483275	5007874	85
R1220	601000092	483114	5007773	84
R1221	601000142	483294	5007785	85
R1222	601000141	483242	5007753	85
R1223	601000140	483177	5007722	85
R1224	601000138	483159	5007539	83
R1225	601000139	482954	5007592	83
R1226	601000085	482853	5007637	84
R1227	601000084	482818	5007616	85
R1228	601000083	482784	5007591	85
R1229	601000082	482756	5007576	85
R1230	601000081	482720	5007556	85
R1231	601000080	482686	5007538	85
R1232	601000132	482703	5007434	83
R1233	601000130	482618	5007410	83
R1234	601000129	482582	5007381	83

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1235	601000128	482537	5007379	83
R1236	601000127	482493	5007344	83
R1237	601000126	482462	5007319	83
R1238	601000087	482366	5007475	81
R1239	601000079	482354	5007362	82
R1240	601000070	482306	5007330	82
R1241	601000069	482266	5007313	82
R1242	601000118	482375	5007257	82
R1243	601000117	482334	5007239	82
R1244	601000124	482269	5007214	82
R1245	601000121	482194	5007174	81
R1246	601000122	482145	5007161	80
R1247	601000067	482087	5007345	80
R1248	601000064	481930	5007126	80
R1249	601000065	481837	5007071	78
R1250	601000062	481771	5007024	75
R1251	601000061	481578	5006917	74
R1254	601000111	481296	5006541	75
R1255	601000057	481021	5006566	71
R1256	601000056	480977	5006540	70
R1257	601000054	480732	5006425	70
R1267	690140167	479161	5007535	68
R1268	690140110	479304	5007383	68
R1269	690140110	479343	5007321	68
R1271	661540148	480733	5005142	75
R1273	601000104	480949	5004972	79
R1274	601000105	480914	5005012	78
R1275	601000106	480893	5005062	77
R1276	601000151	480978	5004923	79
R1277	661540149	480873	5004970	78
R1278	601000103	480970	5005009	78
R1279	601000102	481006	5005029	77
R1280	601000101	481027	5005056	76
R1281	601000100	481118	5005081	75
R1282	601000153	481198	5005039	76
R1283	601000204	481168	5005241	76
R1284	601000099	481413	5005225	77
R1285	601000157	481464	5005177	78
R1286	601000108	481573	5005310	80
R1287	601000110	481578	5005548	81
R1288	601000200	481845	5005317	80
R1289	601000112	481871	5005542	84
R1290	601000167	482320	5005644	88
R1291	601000168	482457	5005535	84
R1292	601000202	482024	5005328	82
R1293	601000114	481938	5006711	80
R1294	601000181	482700	5005839	80
R1295	601000172	482771	5005861	80
R1296	601000173	482848	5005837	79
R1297	601000175	482887	5005746	79
R1298	601000176	482918	5005696	79

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1299	601000177	482936	5005657	79
R1300	601000178	482964	5005596	79
R1301	601000119	482887	5006021	79
R1303	601000186	483412	5006194	78
R1304	601000134	483388	5006290	77
R1305	601000135	483449	5006315	77
R1306	601000136	483507	5006346	76
R1307	601000188	483541	5006278	76
R1308	601000190	483612	5006306	76
R1309	601000193	483658	5006328	76
R1310	601000137	483542	5006425	75
R1311	601000143	483651	5006423	75
R1312	601000144	483706	5006445	75
R1313	601000145	483734	5006466	74
R1314	601000192	483775	5006268	76
R1315	601000148	483825	5006587	72
R1316	601070113	484913	5007524	70
R1317	601070121	485599	5007243	70
R1318	601070122	485667	5007279	71
R1319	601070149	486158	5007421	74
R1320	601070226	486243	5007573	75
R1321	601070274	486353	5007647	75
R1322	601070150	486429	5007575	75
R1348	601130135	492894	5006536	75
R1349	601130112	492828	5006387	75
R1350	601130094	492720	5006406	75
R1351	601080297	492624	5006360	75
R1352	601080191	492618	5006210	75
R1353	601080136	492311	5006155	72
R1354	601080138	492233	5006112	72
R1355	601080139	492185	5006096	72
R1356	601080253	492048	5005912	71
R1357	601080144	491981	5005938	70
R1358	601080146	491845	5005878	70
R1359	601080145	491659	5005763	72
R1360	601080160	491257	5005552	75
R1361	601080288	491269	5005457	75
R1362	601080185	491181	5005433	75
R1363	601080240	490721	5005380	77
R1364	601080180	490684	5005148	78
R1365	601080166	490547	5005200	77
R1367	601080168	490462	5005123	78
R1368	601080169	490343	5005060	78
R1369	601080171	490031	5005049	76
R1370	601080172	489888	5004814	75
R1371	601060367	489942	5004653	76
R1372	601060399	489554	5004662	73
R1373	601080175	489371	5004897	71
R1376	601060396	489298	5004893	71
R1378	601060393	488238	5004696	65
R1379	601060387	488264	5004610	65

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1380	601060091	487750	5005593	65
R1381	601060383	487913	5004942	70
R1382	601060384	487931	5004199	70
R1383	601060495	487711	5003679	67
R1384	601130116	493653	5005549	80
R1385	601130116	493555	5005311	77
R1386	601090106	492404	5004555	73
R1387	601080188	491904	5004576	74
R1388	601090097	491397	5003975	76
R1389	601080181	491290	5004031	77
R1390	601090096	491311	5003937	77
R1391	601060371	490698	5003729	80
R1392	601090053	490826	5003547	80
R1393	601060304	490827	5003451	80
R1394	601090136	492529	5003039	77
R1395	601090099	492587	5003192	76
R1396	601090100	492723	5003428	77
R1397	601090103	493135	5003504	78
R1398	601090145	493869	5003806	82
R1399	601090114	493809	5003971	81
R1400	601090146	493922	5003831	82
R1403	601060080	487123	5006341	70
R1404	601070154	487040	5006406	71
R1405	601070155	487006	5006394	71
R1406	601060079	487083	5006073	70
R1407	601060078	486920	5006253	74
R1408	601070153	486842	5006312	75
R1409	601060075	486798	5006196	75
R1410	601070152	486779	5006289	75
R1411	601070151	486733	5006263	75
R1412	601060077	486698	5006166	75
R1413	601060074	486572	5006097	75
R1414	601060072	486468	5005926	74
R1415	601070144	486322	5006069	75
R1416	601060071	486239	5005922	75
R1417	601070145	486113	5005953	74
R1418	601070142	485964	5005875	72
R1419	601070141	485855	5005817	72
R1420	601060061	485875	5005743	73
R1421	601060063	486079	5005613	74
R1422	601060069	486268	5005407	74
R1423	601060065	486180	5005418	75
R1424	601060064	486121	5005495	75
R1425	601060426	486191	5005343	75
R1426	601060060	486068	5005284	75
R1427	601060056	485576	5005005	75
R1428	601060053	485178	5004855	74
R1429	601010080	485075	5004874	74
R1430	601010077	485014	5004990	73
R1431	601010079	485114	5004813	74
R1433	601010070	484901	5003899	72

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1434	601010072	484965	5003784	72
R1435	601070272	485435	5005584	70
R1436	601070139	485213	5005480	70
R1437	601070138	485153	5005456	70
R1438	601070273	484808	5005608	70
R1440	601010068	484029	5004668	75
R1441	601010066	483817	5004614	75
R1442	601000182	483380	5005030	76
R1443	601010064	483499	5004489	75
R1444	601010067	483295	5004363	75
R1446	601000165	482445	5004057	75
R1447	601000163	482383	5004030	76
R1448	601000159	482161	5003931	78
R1449	601000158	482107	5003887	79
R1450	601010163	482206	5003840	79
R1451	601010060	481733	5003638	80
R1452	661540166	480874	5004462	80
R1455	601010109	484557	5001928	75
R1456	601010091	484544	5002290	75
R1457	601010089	484741	5002776	75
R1459	601010087	484966	5003140	74
R1460	601010132	484944	5000556	72
R1461	601010162	484982	5000672	71
R1462	601010131	485505	5000890	70
R1463	601010118	485915	5001227	68
R1464	601010125	485920	5001095	67
R1465	601010121	486460	5001381	67
R1466	601010120	486641	5001571	67
R1467	601060339	486880	5001925	67
R1468	601060348	487891	5003040	65
R1469	601060342	488781	5002677	70
R1470	601060272	488995	5002720	71
R1474	601060360	490047	5003361	77
R1475	601060283	491261	5002403	75
R1476	601060497	491065	5002314	75
R1477	601050083	491024	5002203	75
R1478	601060416	490949	5002298	75
R1479	601050080	490676	5002015	75
R1480	601050079	490625	5002001	75
R1481	601060446	490519	5002052	75
R1483	601060276	490451	5001962	75
R1485	601050075	489964	5001646	75
R1486	601060270	489966	5001711	75
R1487	601050076	490050	5001694	75
R1489	601060269	489695	5001601	75
R1490	601050073	489756	5001523	75
R1491	601060267	489584	5001521	75
R1492	601050071	489652	5001467	75
R1493	601060266	489520	5001538	74
R1496	601050070	489340	5001035	75
R1497	601060264	489001	5001292	76

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1498	601050066	488929	5001086	77
R1499	601050067	488870	5001062	80
R1502	601060262	488498	5001000	81
R1503	601050063	488554	5000820	81
R1504	601050061	488433	5000806	81
R1505	601050060	488305	5000757	79
R1506	601050054	488202	5000637	75
R1507	601060257	487949	5000725	72
R1508	601060254	487880	5000625	71
R1509	601050053	487878	5000547	71
R1510	601020054	487701	5000196	70
R1511	601020055	487438	5000317	67
R1512	601010123	487266	5000322	66
R1516	601010130	486210	4999783	66
R1545	601060323	491267	5002586	75
R1546	601060322	491316	5002613	75
R1547	601060320	491329	5002584	75
R1548	601060318	491303	5002521	75
R1549	601060317	491349	5002545	75
R1550	601060316	491358	5002527	75
R1551	601060314	491376	5002497	75
R1552	601090082	491383	5002562	75
R1553	601090083	491407	5002530	75
R1554	601060313	491342	5002445	75
R1556	601060443	491281	5002495	75
R1557	601060289	491197	5002596	75
R1560	601090084	491453	5002506	75
R1561	601090086	491485	5002541	75
R1680	690140102	481484	5008822	70
R1681	601000123	482223	5007191	81
R1682	690140113	479394	5008238	70
R1706	601060284	491284	5002413	75
R1707	601060285	491311	5002432	75
R1708	601060442	491248	5002517	75
R1709	601060288	491226	5002543	75
R1710	601020060	486140	4999605	65
R1711	601020062	485852	4999361	65
R1712	601020063	485796	4999328	65
R1713	601010135	485529	4999406	66
R1714	601010134	485466	4999353	66
R1715	601020070	485599	4999213	65
R1716	601020069	485555	4999174	65
R1717	601020071	485515	4999142	65
R1718	601020072	485378	4998951	65
R1719	601020073	485180	4998885	65
R1721	601030063	486695	4995222	73
R1722	601020129	486741	4995409	73
R1723	601020130	486722	4995370	73
R1724	601030064	486795	4995328	73
R1725	601020144	486778	4995542	72
R1726	601030065	486961	4995440	73

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1727	601020123	486940	4995490	72
R1728	601020122	487003	4995550	72
R1729	601020116	487693	4995898	71
R1730	601020148	488049	4996094	72
R1731	601030079	488394	4996194	75
R1732	601020112	488312	4996341	74
R1733	601020110	488408	4996405	74
R1734	601020107	488553	4996435	75
R1735	601030080	488670	4996321	75
R1736	601030082	488981	4996497	75
R1737	601020099	489032	4996710	76
R1738	601020102	489100	4996672	76
R1739	601020101	489178	4996723	77
R1740	601030085	489228	4996644	76
R1741	601030084	489284	4996679	76
R1748	601040055	490510	4997317	81
R1749	601040058	490829	4997489	85
R1750	601050136	490779	4997558	85
R1753	601050144	491614	4997993	81
R1754	601050143	491516	4997969	80
R1755	601040065	491608	4997902	81
R1756	601040066	491681	4997949	80
R1757	601050149	491685	4998047	80
R1758	601040069	492109	4998173	80
R1759	601050148	492140	4998278	81
R1760	601040073	492250	4998137	81
R1808	601050249	492510	4999999	82
R1809	601050206	492435	4999954	82
R1810	601090169	492635	5000153	80
R1811	601090171	492675	5000256	80
R1814	601090168	492601	5000204	80
R1815	601090166	492585	5000300	80
R1816	601050125	492502	5000352	80
R1821	601090132	492958	5001831	80
R1822	601090133	493016	5001859	80
R1823	601090138	493745	5002293	80
R1824	601090141	494007	5002414	85
R1825	601090140	494054	5002440	85
R1826	601090181	494062	5002349	85
R1827	601090180	494089	5002375	85
R1828	601090142	494105	5002468	85
R1829	601090139	494163	5002535	85
R1830	601090183	494581	5002492	84
R1831	601090189	494676	5002696	89
R1832	601090151	494598	5002758	88
R1833	601090154	494750	5002902	96
R1834	601090155	494899	5002912	93
R1835	601100274	495517	5001629	95
R1836	601090186	495091	5001541	87
R1837	601100161	495055	5001342	87
R1838	601090184	494657	5001425	90

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1839	601090179	494511	5001191	91
R1840	601100168	494645	5001145	91
R1841	601100169	494609	5001133	91
R1842	601100170	494453	5001084	91
R1843	601090177	494206	5001115	87
R1844	601090174	493483	5000607	85
R1868	601090129	493239	5002507	80
R1869	601050133	489918	4997792	78
R1870	601020138	487426	4997638	70
R1871	601020086	487873	4997516	70
R1872	601020084	488693	4998288	73
R1873	601050099	489253	4998288	74
R1874	601050256	489480	4998411	75
R1875	601050101	489908	4998642	75
R1876	601050105	490432	4998932	80
R1877	601050145	490764	4999030	75
R1878	601050108	490930	4999224	75
R1879	601050109	491066	4999289	75
R1881	601050114	491600	4999587	77
R1883	601020082	488286	4998909	70
R1884	601050057	488312	4999306	71
R1887	601050093	491612	5001089	75
R1888	601050121	491989	5001099	76
R1896	661470113	487095	4992940	82
R1897	661470178	487217	4993422	80
R1898	601030128	487331	4993408	80
R1899	601030128	487320	4993369	81
R1905	601030056	486994	4994004	80
R1906	601030059	487258	4994147	82
R1907	601030123	487300	4994088	82
R1908	601030060	487447	4994245	83
R1909	601030133	487654	4994228	83
R1910	601030132	487740	4994443	83
R1911	601030068	487798	4994590	83
R1912	601030072	488178	4994613	85
R1913	601030071	488122	4994770	86
R1914	601030074	488276	4994916	84
R1915	601030106	488633	4994782	79
R1916	601030108	488666	4994787	79
R1917	601030109	488720	4994822	78
R1918	601040149	490315	4995670	85
R1919	601040056	490900	4996382	85
R1920	601040144	491219	4996130	85
R1921	601040141	491470	4996260	85
R1922	601040143	491472	4996198	85
R1923	601040140	491891	4996221	85
R1924	601040139	491918	4996517	85
R1925	601040138	492010	4996553	85
R1926	601040071	492506	4996931	85
R1927	601040074	492919	4997099	85
R1928	601040134	493059	4997089	85

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R1929	601040131	493111	4997119	85
R1930	601040129	493237	4997185	85
R1931	601040075	493359	4997349	85
R1932	601040075	493414	4997354	86
R1960	661470163	488076	4991684	90
R1961	661470162	488063	4991720	90
R1962	661470161	488046	4991751	90
R1963	661470160	487898	4992058	89
R1964	602440138	488084	4992099	91
R1965	601030125	487625	4993761	80
R1966	602440137	488193	4992169	91
R1967	602440136	488404	4992256	90
R1968	602440184	488445	4992449	90
R1969	602440161	488493	4992388	90
R1970	602440158	488739	4992795	88
R1971	601030118	488933	4993727	86
R1972	601030114	489090	4994177	83
R1973	601030104	489456	4994426	83
R1977	601030094	490415	4995095	86
R1978	601040150	490480	4995191	86
R1979	601040148	490800	4995394	86
R1986	602440181	490853	4993686	90
R1987	602440146	491113	4993851	90
R1988	602440116	491326	4993887	90
R1989	602440116	491342	4993908	90
R1990	602440149	490958	4994091	89
R1991	602440113	491725	4994128	90
R1992	602440144	492086	4994398	90
R1993	602430063	492111	4994206	91
R1995	602430065	492478	4993884	92
R2001	602430175	492618	4994700	91
R2002	602430055	492958	4994918	91
R2004	602430058	493223	4995054	95
R2018	601040136	493151	4995585	90
R2020	601010055	482233	5002662	79
R2021	601010053	482046	5003011	81
R2022	601010057	482355	5002407	80
R2024	601010056	482252	5002623	79
R2069	601010094	482674	5001860	81
R2070	601010155	482627	5002011	81
R2071	661530115	482221	5002482	80
R2079	601010143	484482	4998827	71
R2080	661480076	484284	4998794	72
R2081	661480077	484164	4999024	74
R2082	601010137	484484	4999925	77
R2083	601010139	484228	5000045	78
R2084	601010138	484226	5000174	78
R2085	601010166	484442	5000419	75
R2089	601050238	491476	5002265	75
R2092	601090098	491872	5004044	75
R2093	601060369	490556	5003954	80

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
R2094	601080164	490905	5005794	75
R2095	601080147	491283	5005828	75
R2099	601020057	487789	4999186	70
R2100	601020078	484731	4998595	70
R2125	601060087	487409	5006399	66
R3005	601030066	487055	4995473	73
V3006	661470177	487108	4993352	80
R3012	601090134	493042	5001874	80
R3015	601010091	484570	5002221	76
R3019	601090104	493170	5003795	79
V4006	661470111	486621	4993084	80
V4007	661470084	486308	4995063	73
V4010	661470112	487022	4993286	80
V4022	661530116	481837	5003167	83
V4026	601080143	491456	5005686	73
V4027	601080161	491152	5005521	75
V4030	601080135	492395	5006233	73
V4035	601130113	493081	5006495	75
V4038	601130114	492874	5006270	75
V4043	601120101	493509	5005169	76
V4049	601120097	495215	5002980	93
V4050	601120096	495378	5002705	90
V4070	601040123	493577	4997327	86
V4072	601030134	487911	4994371	84
V4074	601030126	487430	4993241	81
V4075	601030100	490163	4994851	87
V4076	601030119	488960	4993359	89
V4077	601030129	487065	4993937	80
V4078	601030097	490349	4995145	85
V4079	601030095	490311	4994971	86
V4080	601030098	490075	4994925	87
V4082	601030105	488906	4994896	78
V4083	601040153	490552	4995133	86
V4084	601040152	490419	4995696	84
V4085	601040146	490974	4995985	85
V4087	601040145	491175	4996092	85
V4088	601040137	492097	4996571	85
V4089	601040133	493007	4997037	85
V4090	601040130	493350	4997211	85
V4091	601040132	493197	4997133	85
V4092	601040127	493471	4997272	85
V4095	601030073	488245	4994682	85
V4096	601030067	487931	4994517	84
V4097	601030058	486588	4995203	72
V4098	601030061	487611	4994352	83
V4099	601030051	486469	4995140	72
V4101	601030069	487461	4995672	71
V4102	601030062	486734	4995281	73
V4103	601030075	487769	4995837	70
V4104	601030070	487593	4995742	71
V4106	601030083	489394	4995393	79

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4107	601030081	488822	4996399	75
V4109	601040061	491396	4996341	85
V4110	601040060	491591	4996443	84
V4111	601040062	491468	4997799	80
V4112	601040063	491939	4996624	85
V4113	601040070	491788	4997969	80
V4115	601040076	493108	4997222	85
V4116	661480342	485910	4995805	69
V4117	601020109	487901	4997422	70
V4118	601020133	485800	4996257	70
V4119	601020120	487296	4995731	70
V4120	601020125	487165	4995661	71
V4121	601020126	487072	4995610	71
V4122	601020131	486587	4995351	71
V4123	601020134	486359	4995232	72
V4125	601020136	487736	4995967	70
V4126	601020137	487580	4995883	70
V4128	601020124	486602	4996699	70
V4129	601020121	486410	4996593	70
V4131	601020127	486215	4996485	70
V4132	601020132	486068	4996405	70
V4133	601020105	488096	4997532	70
V4134	601020098	488355	4997678	70
V4135	601020114	487251	4997056	69
V4138	601020090	486611	4996841	69
V4141	601020088	487401	4997277	69
V4142	601020089	487141	4997133	68
V4143	601020083	488725	4998179	72
V4144	601020085	488183	4997719	70
V4146	601020068	485709	4999199	65
V4147	601020074	485214	4999126	67
V4148	601020076	485493	4999298	65
V4149	601020066	485808	4999194	65
V4150	601020058	487751	4999005	70
V4154	661480075	483882	4999493	74
V4160	601010103	483730	5000014	75
V4161	601010105	484208	5000279	77
V4165	601010085	486042	5003060	70
V4166	601010088	484926	5002895	75
V4167	601010071	484876	5003802	72
V4168	601010082	485030	5004910	74
V4169	601010076	485136	5004718	75
V4172	661530053	480910	5004243	80
V4173	661530054	481779	5003272	81
V4174	661540167	480674	5004388	79
V4181	601000060	481634	5006964	73
V4182	601000052	479748	5007202	69
V4183	601000053	480570	5006318	70
V4184	601000063	481438	5008090	70
V4185	601000068	482197	5007291	81
V4186	601000066	481659	5008207	70

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4187	601000078	482557	5007493	84
V4188	601000071	481889	5008328	70
V4189	601070224	484534	5008499	70
V4191	601070100	483487	5008008	85
V4193	601070111	484168	5006696	70
V4194	601070109	483657	5007967	82
V4195	601070114	485158	5007185	70
V4202	601070148	486237	5007455	75
V4204	601070147	485933	5007301	73
V4207	601070140	485510	5005660	70
V4224	601080163	491047	5005463	76
V4227	601080182	491450	5004137	76
V4228	601080178	490783	5003776	80
V4229	601080183	491037	5005321	75
V4230	601080295	491548	5005599	73
V4232	601090113	493405	5005108	75
V4233	601090112	493647	5003801	80
V4236	601090095	491894	5002803	75
V4237	601090055	491090	5003172	76
V4240	601090192	495279	5001631	88
V4241	601090202	495726	5001875	95
V4242	601090191	494822	5002756	92
V4243	601090190	494712	5002648	88
V4245	601100275	495767	5001760	96
V4248	601050205	492134	4999763	79
V4252	601100301	494825	5001249	90
V4253	601100160	495246	5001477	87
V4256	601100172	493834	5000706	82
V4268	601050134	490141	4997243	76
V4271	601050135	490494	4997433	81
V4273	601050142	491439	4997938	79
V4275	601050152	492028	4999705	78
V4278	601050150	492016	4998245	80
V4280	601050147	491071	4999183	75
V4283	601050098	489175	4998277	74
V4284	601050115	491414	5000859	75
V4289	601050113	491974	4999813	77
V4290	601050082	491400	5000989	75
V4292	601050254	487955	5000561	72
V4293	601050064	488660	5000925	81
V4294	601050065	488788	5000992	80
V4297	601050254	487866	5000103	71
V4299	601050068	489043	5001124	75
V4303	601010124	486203	5001230	67
V4304	601010122	487199	5001190	65
V4307	601010140	484289	4999870	76
V4308	601010141	483788	4999909	75
V4309	601010153	484753	4999024	71
V4311	601010113	484847	5002056	72
V4312	601010116	485588	5001039	69
V4313	601010114	485116	5002198	71

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4315	601010119	486223	5002768	70
V4316	601060361	490132	5003423	77
V4317	601060397	489307	5004822	72
V4318	601060388	488361	5004622	66
V4319	601060349	487554	5003478	67
V4322	601060353	488973	5002810	71
V4324	601060350	487826	5003623	66
V4325	601060382	487964	5004985	70
V4329	601060378	487451	5003559	67
V4330	601060494	487789	5003739	67
V4331	601060381	487859	5005096	69
V4333	601060081	487188	5006366	69
V4335	601060058	485885	5005141	74
V4336	601060088	487795	5005284	67
V4337	601060068	486079	5005777	74
V4338	601060425	486230	5005172	75
V4339	601060055	485404	5005009	74
V4340	601060057	485911	5005292	75
V4341	601060062	486085	5005527	75
V4342	601000194	484150	5006550	71
V4344	601000170	483476	5004617	75
V4346	601000195	483121	5004441	75
V4347	601000199	482001	5003842	80
V4348	601000201	482506	5004113	75
V4349	601000147	484034	5006626	70
V4351	601000133	482819	5007500	83
V4352	601000115	482112	5005639	89
V4354	601060089	487380	5006275	66
V4356	601060090	487685	5005736	65
V4359	601060092	487887	5005367	66
V4362	601060094	488156	5005477	65
V4364	601060372	490238	5003480	78
V4365	601060368	489881	5004115	75
V4369	601060256	488075	5000768	73
V4371	601060273	488942	5002658	70
V4372	601060255	487072	5001679	65
V4373	601060258	487421	5001872	66
V4374	601060278	490322	5001996	75
V4375	601060428	490733	5002162	75
V4376	601060306	491212	5002420	75
V4377	601050096	492154	5001408	77
V4378	601050094	491921	5001278	75
V4379	601050084	491142	5002239	75
V4380	601050085	491310	5002337	75
V4381	601090125	492068	5002756	75
V4383	601090118	491916	5002671	75
V4386	601090144	493672	5003673	80
V4389	601090182	494597	5002629	85
V4390	601090185	495011	5001486	87
V4393	601050122	491806	5001077	75
V4394	601050116	491612	5000963	75

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4395	601050117	492080	4999871	78
V4398	661470154	487128	4992271	84
V4407	601090135	492795	5003164	78
V4409	601090206	493232	5001870	80
V4419	601130118	493617	5005349	79
V4422	601030111	489036	4994152	83
V4423	601030107	488984	4994109	84
V4424	601030110	488780	4994829	78
V4425	601040142	491533	4996277	85
V4426	601030057	487058	4994068	81
V4427	601030078	488331	4996151	74
V4429	601020103	489065	4996651	75
V4430	601020064	485905	4999373	65
V4431	601020067	485775	4999264	65
V4432	601010102	483955	5000139	76
V4433	601010073	484973	5003814	72
V4434	601010063	483059	5004263	75
V4435	601010078	485031	5004961	73
V4437	601000086	482327	5007436	81
V4438	601000058	481068	5006595	72
V4464	601080167	490494	5005144	78
V4465	601080173	489339	5005024	71
V4466	601080239	489726	5004761	75
V4467	601080179	490941	5003861	80
V4472	601090053	490841	5003614	80
V4487	601050109	491006	4999269	75
V4488	601050235	488959	5001081	76
V4489	601010136	485960	4999632	65
V4490	601010142	484498	4998857	71
V4491	601060341	487547	5002072	65
V4492	601060354	487979	5003704	65
V4493	601060059	485768	5005078	75
V4494	601000189	483579	5006282	76
V4495	601000180	483019	5005666	78
V4496	601000179	482997	5005714	78
V4497	601000171	482612	5005790	81
V4498	601000131	482657	5007411	83
V4499	601000116	482374	5005779	88
V4507	601060260	488200	5000832	75
V4508	601060259	488148	5000805	74
V4509	601060268	489663	5001594	75
V4511	601060302	490965	5003136	77
V4512	601060291	491111	5002693	75
V4513	601060290	491152	5002622	75
V4514	601050091	491280	5002320	75
V4515	601090147	493941	5003840	82
V4516	601090164	492601	5000357	80
V4517	601090176	493081	5001786	80
V4518	601090205	493127	5001725	81
V4519	601050124	492483	5000801	80
V4524	601050119	492310	5000483	78

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4525	601050095	491729	5002010	75
V4526	601060347	488123	5003271	65
V4527	601020135	485755	4999443	65
V4528	601020077	485681	4999404	65
V4529	601020106	488722	4996452	75
V4530	601020111	488494	4996329	75
V4531	601020113	488279	4996222	74
V4532	601020141	485898	4999461	65
V4533	601020140	485690	4999294	65
V4534	601020139	485362	4999003	65
V4536	601030127	487297	4993399	81
V4550	601050126	489006	4998085	74
V4564	601050086	491210	5002319	75
V4627	601060346	487778	5002858	65
V4667	601060429	490609	5002066	75
V4668	601060446	490550	5002034	75
V4679	601070117	484627	5008315	70
V4755	601090143	493353	5003545	79
V4756	601090054	490816	5003695	80
V4757	601060370	490659	5003684	80
V4769	601060319	491298	5002544	75
V4770	601060315	491384	5002474	75
V4772	601000152	481012	5004937	79
V4773	601050241	490454	4998983	80
V4774	601040057	490754	4997418	85
V4777	690140170	479215	5007334	68
V4778	690140111	479159	5007804	69
V4788	690140104	481569	5008681	70
V4789	690140108	481679	5008345	70
V4792	690150056	481748	5008519	70
V4801	602440164	488016	4992173	90
V4803	602440160	488561	4992432	90
V4804	602440135	488331	4992214	90
V4805	602440130	488770	4992418	89
V4806	602440128	489402	4992780	90
V4808	602440174	489468	4993324	90
V4812	602440115	491635	4994041	90
V4813	602440145	491181	4993924	90
V4820	602430165	493052	4994985	94
V4823	602430053	492382	4994603	90
V4824	602430176	492781	4994835	92
R4846	601050238	491407	5002383	75
R4847	601050238	491470	5002418	75
R4848	601050238	491583	5002324	75
R4857	601050237	491408	5002433	75
R4858	601050141	491250	4997802	81
V4923	601020104	488937	4996574	75
V4924	601050127	489219	4998164	75
R4925	601060084	487320	5006414	67
V4944	690140177	479363	5007174	68
V4946	690140109	479668	5007256	69

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4947	602430096	493985	4995514	91
V4953	602440151	490797	4993677	90
V4957	601090122	491822	5002635	75
V4958	601040128	493354	4997252	85
V4959	601040064	491661	4997902	81
V4960	601040072	492179	4998177	80
V4963	601090116	491499	5002472	75
V4964	601020143	486779	4995454	73
V4965	601080296	492549	5006325	74
V4967	601070275	486370	5007674	75
V4988	601010165	482046	5003714	80
V4989	601010164	482423	5003921	76
V4990	601000205	481349	5005228	77

ID	Parcel Ident. Number	Easting [m]	Northing [m]	Base Elevation [m]
V4993	601050250	492575	5000008	82
V4994	601060496	491132	5002384	75
V4995	601020147	487879	4996038	71
V4996	602440183	490933	4993755	90
V4997	601050255	488939	4999499	71
V4998	602440187	488191	4992267	91
R5000	601020073	485009	4998798	65
R5001	601080170	490284	5005030	78
R5003	602440186	488431	4992358	90
R5007	601010152	484698	4999171	74

For single storey receptors, the sound levels were considered at 1.5 m above grade and 30 m horizontally from the dwelling, in 16 evenly spaced directions. In this way, a circle of 16 dummy receptors was created around each single storey dwelling. The reported sound level at each receptor is then taken to be the maximum sound level from the circle of dummy receptors. The table below shows the coordinates of the circle point with the maximum sound level for each of the 211 one-storey dwellings (excluding one cemetery).

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R1000	486975	4994137	R1000.03	486996	4994158	28.8
R1022	487740	4994234	R1022.07	487761	4994212	31.6
R1023	488369	4994637	R1023.01	488369	4994667	33.3
R1025	489228	4994306	R1025.01	489228	4994336	29.6
R1028	489021	4994095	R1028.11	489000	4994073	30.0
R1042	495483	5002345	R1042.11	495461	5002324	28.0
R1045	495452	5002654	R1045.10	495440	5002626	27.1
R1051	490372	5001942	R1051.07	490393	5001921	35.1
R1053	491223	5002661	R1053.10	491211	5002634	30.9
R1059	491713	5002674	R1059.11	491692	5002653	31.2
R1060	491779	5002618	R1060.09	491779	5002588	31.2
R1065	493599	5005335	R1065.11	493578	5005314	30.1
R1066	490508	5003439	R1066.01	490508	5003469	31.7
R1074	483194	5006099	R1074.01	483194	5006129	36.3
R1075	483148	5006037	R1075.01	483148	5006067	36.0
R1079	481959	5005534	R1079.07	481980	5005512	34.0
R1082	481233	5005060	R1082.05	481263	5005060	33.8
R1089	481644	5003661	R1089.01	481644	5003691	32.8
R1105	487250	5006435	R1105.09	487250	5006405	30.6
R1107	486196	5005549	R1107.05	486226	5005548	34.7
R1111	484881	5004685	R1111.10	484870	5004658	35.2
R1114	482928	5004217	R1114.08	482940	5004190	36.9
R1140	492674	5000186	R1140.12	492646	5000174	29.6
R1156	491014	5003106	R1156.01	491014	5003136	31.0
R1157	490968	5003183	R1157.15	490947	5003204	31.1
R1197	481979	5008403	R1197.08	481990	5008375	30.5
R1212	484259	5008386	R1212.08	484270	5008359	33.7
R1213	484588	5008425	R1213.10	484576	5008397	32.3
R1214	484614	5008364	R1214.09	484614	5008334	32.7
R1215	484648	5008274	R1215.10	484637	5008247	33.4
R1216	484669	5008226	R1216.10	484658	5008198	33.7
R1219	483275	5007874	R1219.06	483303	5007862	34.0

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R1221	483294	5007785	R1221.06	483322	5007773	34.5
R1222	483242	5007753	R1222.07	483263	5007732	34.4
R1223	483177	5007722	R1223.07	483198	5007701	34.4
R1226	482853	5007637	R1226.08	482864	5007610	34.4
R1227	482818	5007616	R1227.07	482839	5007595	34.5
R1228	482784	5007591	R1228.08	482796	5007564	34.7
R1231	482686	5007538	R1231.07	482707	5007517	34.9
R1232	482703	5007434	R1232.07	482724	5007413	36.1
R1235	482537	5007379	R1235.07	482558	5007358	36.0
R1240	482306	5007330	R1240.06	482334	5007318	35.1
R1245	482194	5007174	R1245.05	482224	5007174	35.3
R1246	482145	5007161	R1246.06	482172	5007150	35.2
R1249	481837	5007071	R1249.12	481810	5007060	35.1
R1251	481578	5006917	R1251.13	481548	5006918	36.3
R1254	481296	5006541	R1254.01	481296	5006571	34.9
R1256	480977	5006540	R1256.01	480977	5006570	35.4
R1257	480732	5006425	R1257.01	480732	5006455	33.9
R1269	479343	5007321	R1269.05	479373	5007321	29.6
R1274	480914	5005012	R1274.04	480941	5005024	31.3
R1278	480970	5005009	R1278.06	480998	5004997	31.8
R1279	481006	5005029	R1279.05	481036	5005029	32.0
R1281	481118	5005081	R1281.05	481148	5005081	32.7
R1282	481198	5005039	R1282.05	481228	5005039	33.6
R1287	481578	5005548	R1287.07	481599	5005527	33.1
R1290	482320	5005644	R1290.07	482341	5005622	33.7
R1294	482700	5005839	R1294.01	482700	5005869	34.4
R1297	482887	5005746	R1297.01	482887	5005776	34.3
R1299	482936	5005657	R1299.01	482936	5005687	34.1
R1301	482887	5006021	R1301.01	482887	5006051	35.9
R1303	483412	5006194	R1303.01	483412	5006224	36.4
R1304	483388	5006290	R1304.16	483377	5006317	36.9
R1313	483734	5006466	R1313.06	483762	5006455	36.4
R1319	486158	5007421	R1319.10	486146	5007393	31.3
R1321	486353	5007647	R1321.11	486332	5007626	29.2
R1348	492894	5006536	R1348.09	492894	5006506	29.5
R1350	492720	5006406	R1350.09	492720	5006376	31.3
R1352	492618	5006210	R1352.09	492618	5006180	34.0
R1353	492311	5006155	R1353.08	492323	5006128	35.0
R1355	492185	5006096	R1355.07	492206	5006075	35.4
R1359	491659	5005763	R1359.05	491689	5005763	33.9

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R1363	490721	5005380	R1363.08	490732	5005352	33.6
R1367	490462	5005123	R1367.08	490473	5005096	36.1
R1368	490343	5005060	R1368.07	490364	5005039	36.0
R1372	489554	5004662	R1372.04	489581	5004674	30.9
R1376	489298	5004893	R1376.05	489328	5004893	29.6
R1379	488264	5004610	R1379.13	488234	5004610	34.5
R1380	487750	5005593	R1380.10	487739	5005566	33.9
R1382	487931	5004199	R1382.12	487904	5004187	34.0
R1383	487711	5003679	R1383.12	487683	5003667	35.3
R1385	493555	5005311	R1385.12	493527	5005299	30.5
R1386	492404	5004555	R1386.09	492404	5004525	37.3
R1389	491290	5004031	R1389.15	491269	5004052	35.3
R1390	491311	5003937	R1390.01	491311	5003967	34.6
R1397	493135	5003504	R1397.13	493106	5003504	33.8
R1400	493922	5003831	R1400.10	493910	5003803	28.7
R1403	487123	5006341	R1403.10	487111	5006314	31.5
R1404	487040	5006406	R1404.09	487040	5006376	31.3
R1405	487006	5006394	R1405.09	487006	5006364	31.4
R1409	486798	5006196	R1409.07	486819	5006175	32.6
R1410	486779	5006289	R1410.09	486779	5006259	32.3
R1411	486733	5006263	R1411.07	486754	5006242	32.4
R1413	486572	5006097	R1413.07	486594	5006076	33.3
R1416	486239	5005922	R1416.10	486228	5005895	34.1
R1418	485964	5005875	R1418.01	485964	5005905	34.8
R1420	485875	5005743	R1420.01	485875	5005773	34.5
R1421	486079	5005613	R1421.05	486109	5005613	34.3
R1423	486180	5005418	R1423.06	486208	5005406	35.0
R1429	485075	5004874	R1429.14	485047	5004885	34.2
R1433	484901	5003899	R1433.13	484872	5003899	36.8
R1436	485213	5005480	R1436.01	485213	5005510	34.6
R1437	485153	5005456	R1437.13	485123	5005457	34.7
R1438	484808	5005608	R1438.13	484778	5005608	37.3
R1440	484029	5004668	R1440.08	484041	5004640	37.6
R1442	483380	5005030	R1442.03	483402	5005052	34.5
R1444	483295	5004363	R1444.08	483306	5004335	36.3
R1448	482161	5003931	R1448.01	482161	5003961	36.2
R1455	484557	5001928	R1455.04	484585	5001939	32.4
R1462	485505	5000890	R1462.01	485505	5000920	33.1
R1464	485920	5001095	R1464.01	485920	5001125	34.2
R1465	486460	5001381	R1465.16	486449	5001408	34.3

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R1476	491065	5002314	R1476.09	491065	5002284	32.2
R1479	490676	5002015	R1479.08	490688	5001988	35.1
R1481	490519	5002052	R1481.08	490530	5002024	34.5
R1490	489756	5001523	R1490.05	489786	5001523	35.0
R1492	489652	5001467	R1492.06	489679	5001456	35.0
R1498	488929	5001086	R1498.14	488901	5001098	36.5
R1499	488870	5001062	R1499.01	488870	5001092	36.6
R1511	487438	5000317	R1511.04	487466	5000328	32.0
R1512	487266	5000322	R1512.03	487287	5000343	31.4
R1516	486210	4999783	R1516.11	486188	4999762	31.3
R1557	491197	5002596	R1557.08	491208	5002568	31.0
R1560	491453	5002506	R1560.10	491442	5002479	30.9
R1681	482223	5007191	R1681.05	482253	5007191	35.4
R1682	479394	5008238	R1682.05	479424	5008238	28.7
R1707	491311	5002432	R1707.10	491299	5002405	31.3
R1708	491248	5002517	R1708.09	491248	5002487	31.1
R1709	491226	5002543	R1709.08	491237	5002516	31.1
R1710	486140	4999605	R1710.12	486112	4999593	31.5
R1712	485796	4999328	R1712.15	485775	4999350	36.0
R1713	485529	4999406	R1713.14	485501	4999417	36.5
R1717	485515	4999142	R1717.15	485494	4999163	36.4
R1722	486741	4995409	R1722.02	486753	4995437	32.2
R1724	486795	4995328	R1724.02	486806	4995355	31.8
R1735	488670	4996321	R1735.09	488670	4996291	34.1
R1736	488981	4996497	R1736.09	488981	4996467	31.9
R1738	489100	4996672	R1738.09	489100	4996643	31.1
R1749	490829	4997489	R1749.03	490850	4997510	37.6
R1753	491614	4997993	R1753.10	491603	4997965	34.9
R1754	491516	4997969	R1754.10	491504	4997941	35.5
R1756	491681	4997949	R1756.10	491670	4997921	34.8
R1758	492109	4998173	R1758.10	492097	4998146	31.6
R1759	492140	4998278	R1759.11	492118	4998257	31.2
R1809	492435	4999954	R1809.11	492414	4999933	30.6
R1810	492635	5000153	R1810.13	492605	5000153	29.8
R1811	492675	5000256	R1811.11	492654	5000235	29.6
R1814	492601	5000204	R1814.13	492571	5000205	30.0
R1815	492585	5000300	R1815.12	492557	5000289	30.1
R1822	493016	5001859	R1822.04	493044	5001870	30.3
R1823	493745	5002293	R1823.06	493772	5002281	34.9
R1824	494007	5002414	R1824.08	494019	5002387	35.9

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R1826	494062	5002349	R1826.07	494083	5002328	37.2
R1827	494089	5002375	R1827.08	494101	5002347	37.0
R1831	494676	5002696	R1831.10	494664	5002669	31.7
R1832	494598	5002758	R1832.09	494598	5002728	31.4
R1834	494899	5002912	R1834.09	494899	5002882	28.9
R1835	495517	5001629	R1835.12	495490	5001617	28.3
R1838	494657	5001425	R1838.14	494630	5001437	37.1
R1841	494609	5001133	R1841.01	494609	5001163	33.6
R1872	488693	4998288	R1872.13	488663	4998288	37.4
R1873	489253	4998288	R1873.13	489223	4998288	32.9
R1875	489908	4998642	R1875.05	489938	4998641	34.8
R1877	490764	4999030	R1877.09	490764	4999000	35.3
R1887	491612	5001089	R1887.11	491591	5001068	35.3
R1897	487217	4993422	R1897.06	487244	4993410	33.2
R1899	487320	4993369	R1899.05	487350	4993369	34.7
R1905	486994	4994004	R1905.05	487024	4994004	29.2
R1907	487300	4994088	R1907.06	487328	4994077	30.5
R1909	487654	4994228	R1909.06	487682	4994216	31.4
R1910	487740	4994443	R1910.01	487740	4994473	31.2
R1912	488178	4994613	R1912.01	488178	4994643	32.9
R1917	488720	4994822	R1917.16	488709	4994849	34.6
R1918	490315	4995670	R1918.03	490336	4995691	30.5
R1920	491219	4996130	R1920.01	491219	4996160	33.3
R1921	491470	4996260	R1921.01	491470	4996290	34.3
R1924	491918	4996517	R1924.01	491918	4996547	35.5
R1927	492919	4997099	R1927.09	492919	4997069	33.3
R1930	493237	4997185	R1930.09	493237	4997155	31.3
R1960	488076	4991684	R1960.01	488076	4991714	26.4
R1962	488046	4991751	R1962.01	488046	4991781	27.0
R1963	487898	4992058	R1963.01	487898	4992088	29.6
R1964	488084	4992099	R1964.01	488084	4992129	30.0
R1966	488193	4992169	R1966.01	488193	4992199	30.6
R1967	488404	4992256	R1967.01	488404	4992286	30.8
R1969	488493	4992388	R1969.15	488472	4992409	31.7
R1973	489456	4994426	R1973.01	489456	4994456	29.3
R1977	490415	4995095	R1977.03	490436	4995117	31.0
R1986	490853	4993686	R1986.01	490853	4993716	28.4
R1989	491342	4993908	R1989.01	491342	4993938	31.3
R1990	490958	4994091	R1990.02	490970	4994118	31.6
R1993	492111	4994206	R1993.01	492111	4994236	32.5

Receptor ID	Centre of Building Receptor Location		Maximum Sound Level of Model Location			
	Easting [m]	Northing [m]	Model Receptor ID	Easting [m]	Northing [m]	Sound Level [dBA]
R2002	492958	4994918	R2002.14	492931	4994930	30.3
R2004	493223	4995054	R2004.15	493202	4995076	30.0
R2018	493151	4995585	R2018.15	493130	4995606	34.8
R2020	482233	5002662	R2020.02	482244	5002690	32.6
R2021	482046	5003011	R2021.03	482067	5003032	32.8
R2022	482355	5002407	R2022.02	482367	5002434	32.0
R2024	482252	5002623	R2024.01	482252	5002653	32.5
R2069	482674	5001860	R2069.01	482674	5001890	30.5
R2070	482627	5002011	R2070.01	482627	5002041	31.0
R2079	484482	4998827	R2079.02	484494	4998855	30.2
R2081	484164	4999024	R2081.02	484175	4999052	29.7
R2083	484228	5000045	R2083.05	484258	5000045	33.0
R2084	484226	5000174	R2084.05	484256	5000174	32.5
R2085	484442	5000419	R2085.07	484463	5000397	33.1
R2089	491476	5002265	R2089.09	491476	5002235	31.4
R3012	493042	5001874	R3012.04	493070	5001885	30.4
R4846	491407	5002383	R4846.09	491407	5002353	31.2
R4847	491470	5002418	R4847.09	491470	5002388	31.0
R4848	491583	5002324	R4848.09	491583	5002294	31.0

APPENDIX B – COORDINATES OF PARTICIPANTS

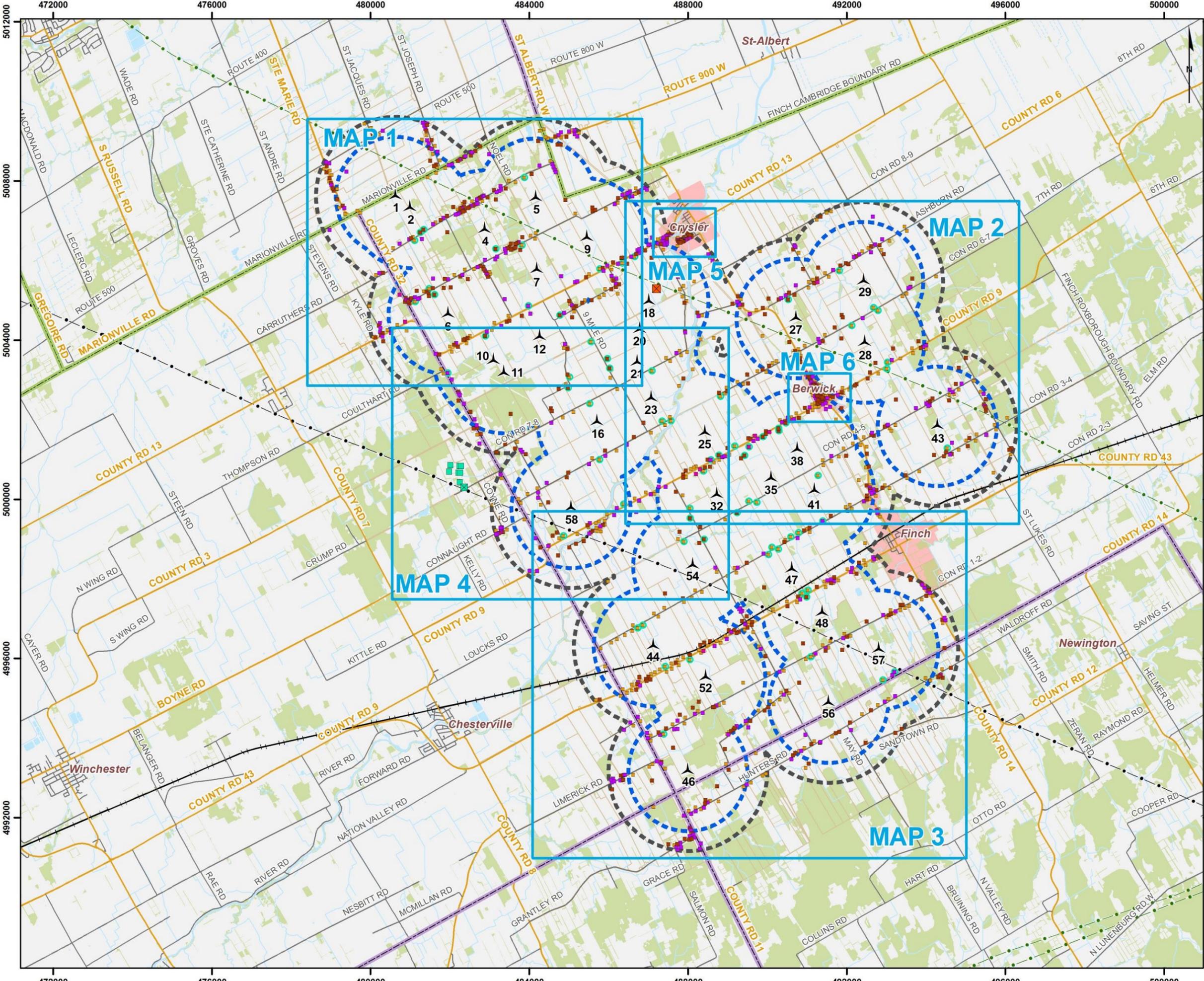
Coordinates of all modeled participants for the Project (UTM17-NAD83 projection) are given in the table below

Participant ID	Parcel Identification Number	Easting [m]	Northing [m]	Base Elevation [m]
R1080	601000161	481613	5005145	79
R1252	601000059	481335	5006779	75
R1253	601000055	481253	5006706	75
R1302	601000125	483157	5006298	79
R1366	601080177	490524	5005018	79
R1432	601010069	484770	5004626	75
R1439	601000187	483980	5004861	75
R1445	601010062	482895	5004108	75
R1453	601060376	485965	5003538	70
R1454	601060492	486025	5003292	71
R1458	601010086	484977	5002803	75
R1482	601050078	490465	5001923	75
R1484	601050077	490287	5001728	75
R1488	601050074	489886	5001575	75
R1494	601050072	489538	5001318	75
R1495	601050072	489425	5001106	75
R1500	601060263	488780	5001111	81
R1501	601060261	488576	5000992	81
R1751	601040059	490985	4997546	85
R1880	601050111	491389	4999460	76
R1882	601050097	488401	4998999	70
R1885	601020053	488053	4999526	71
R1886	601050102	489233	4999669	73
R2017	601040158	493201	4995663	91
R2025	601010059	481947	5003179	82
R5002	601050077	490282	5001781	75
V4073	601030124	487383	4994100	82
V4086	601040147	491089	4996046	85
V4108	601030077	488047	4995969	71
V4124	601020145	486860	4996841	69
V4127	601020119	486731	4996770	70
V4130	601020146	487426	4995801	70
V4137	601020081	487891	4998942	70
V4163	601010084	485555	5003963	70
V4164	601010115	485009	5003071	74
V4196	601070110	483873	5008090	79
V4200	601070143	485773	5005793	72
V4225	601080254	491811	5005748	70
V4226	601080190	492672	5004818	72
V4231	601090102	493025	5003442	77
V4234	601090105	492785	5004744	74
V4235	601090101	492121	5004367	75
V4269	601050137	490026	4998613	75

Participant ID	Parcel Identification Number	Easting [m]	Northing [m]	Base Elevation [m]
V4270	601050139	490871	4997640	85
V4274	601050138	490277	4998750	78
V4276	601050140	491019	4997715	84
V4282	601050104	489729	4999928	73
V4285	601050102	490112	4998796	76
V4286	601050242	490590	4999057	78
V4287	601050107	490786	4999164	75
V4288	601050112	491275	5000601	75
V4291	601050069	489528	4999954	74
V4295	601050056	488047	4999775	71
V4296	601050062	488387	5000713	80
V4300	601010133	484859	4999081	70
V4302	601010129	485769	5001000	68
V4306	601010128	486380	4999885	67
V4314	601010117	485520	5002407	70
V4326	601060340	487344	5001967	65
V4328	601060345	487089	5003230	70
V4332	601060073	486343	5005938	75
V4334	601060076	486652	5006099	75
V4343	601000191	483816	5006384	74
V4345	601000150	481120	5004969	77
V4350	601000107	481472	5005295	79
V4353	601000109	481105	5006502	72
V4367	601060271	488813	5002591	70
V4368	601060265	489173	5001339	73
V4384	601090208	493005	5003284	76
V4391	601090204	494529	5001287	91
V4506	601060343	487568	5001974	65
V4999	601040157	492908	4995463	88
R5002	601050077	490282	5001781	75



APPENDIX C – NOISE ISO-CONTOUR MAPS



Legend

Project Components

- Wind Turbine (33)
- Transformer
- Investigation Area (1.5 km Buffer)
- Investigation Area (2 km Buffer)

Other Components

- Railroad
- Local Road
- Secondary Road
- Primary Road
- 115 kV Transmission Line
- 230 kV Transmission Line
- Watercourse
- Built Up Area
- Wooded Area
- Waterbody
- Property Boundary

Existing Solar Farm

- City Lights Inverter
- City Lights Transformer

Point of Reception (POR)

- POR (1-Storey)
- POR (2-Storey)
- POR (3-Storey)
- Vacant Lot Receptor
- POR (Participant)



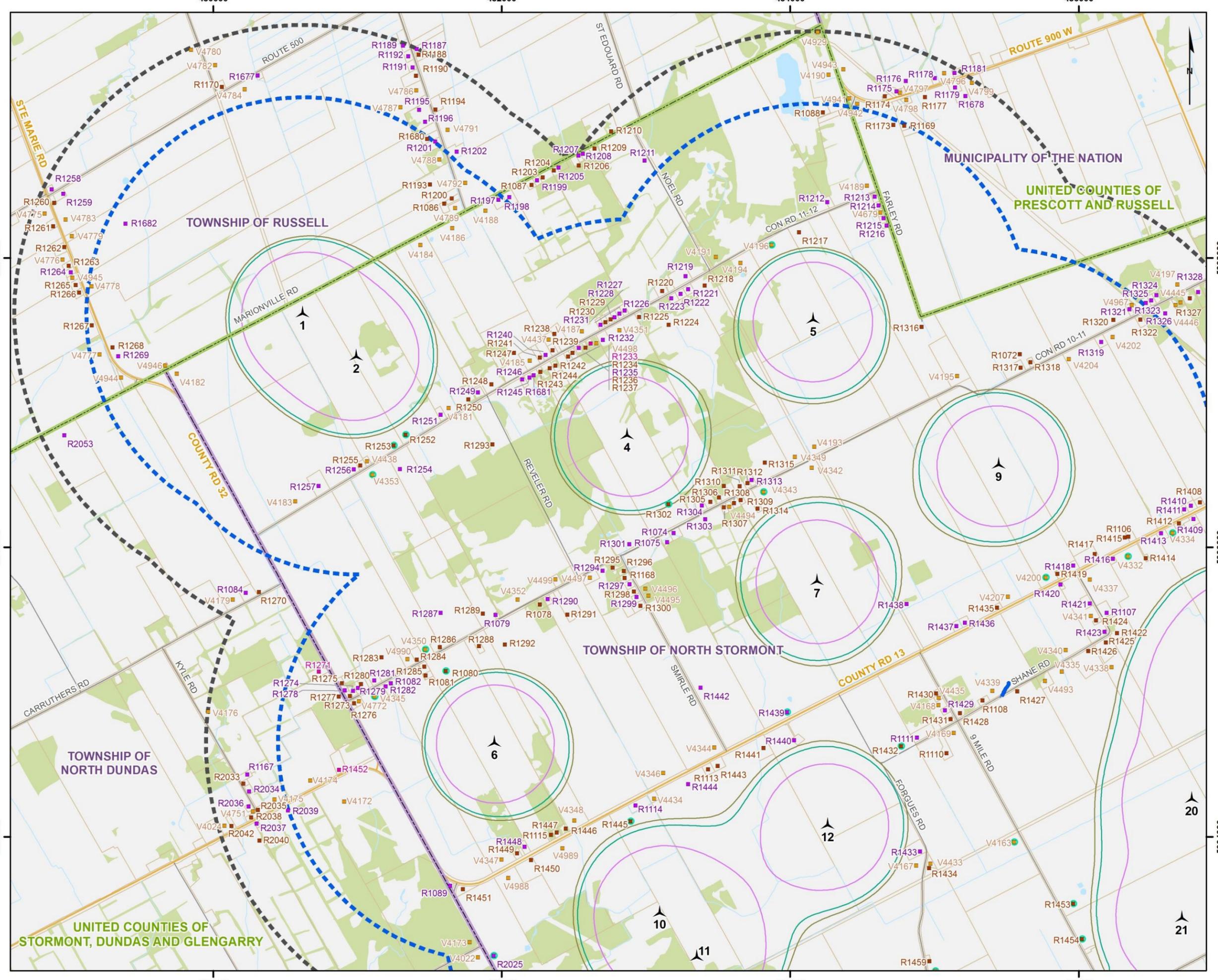
Nation Rise Wind Farm

NOISE MAP EXTENTS

001-10021027-170026-AD
21 August 2017

DNV·GL

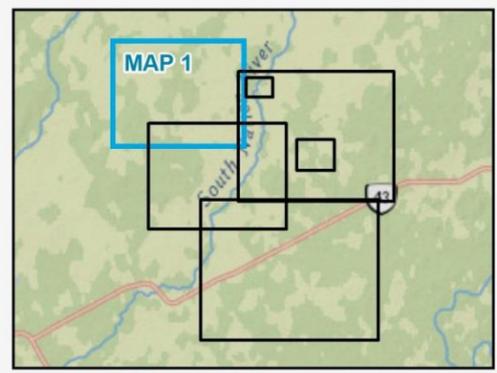
Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario, United Counties of Stormont, Dundas and Glengarry, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights	Railroad
Inverter	Local Road
City Lights Transformer	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 6 m/s	Built Up Area
40 dB(A) at 1.5 m agl*	Wooded Area
40 dB(A) at 4.5 m agl*	Waterbody
40 dB(A) at 7.5 m agl*	Property Boundary

* agl: above ground level



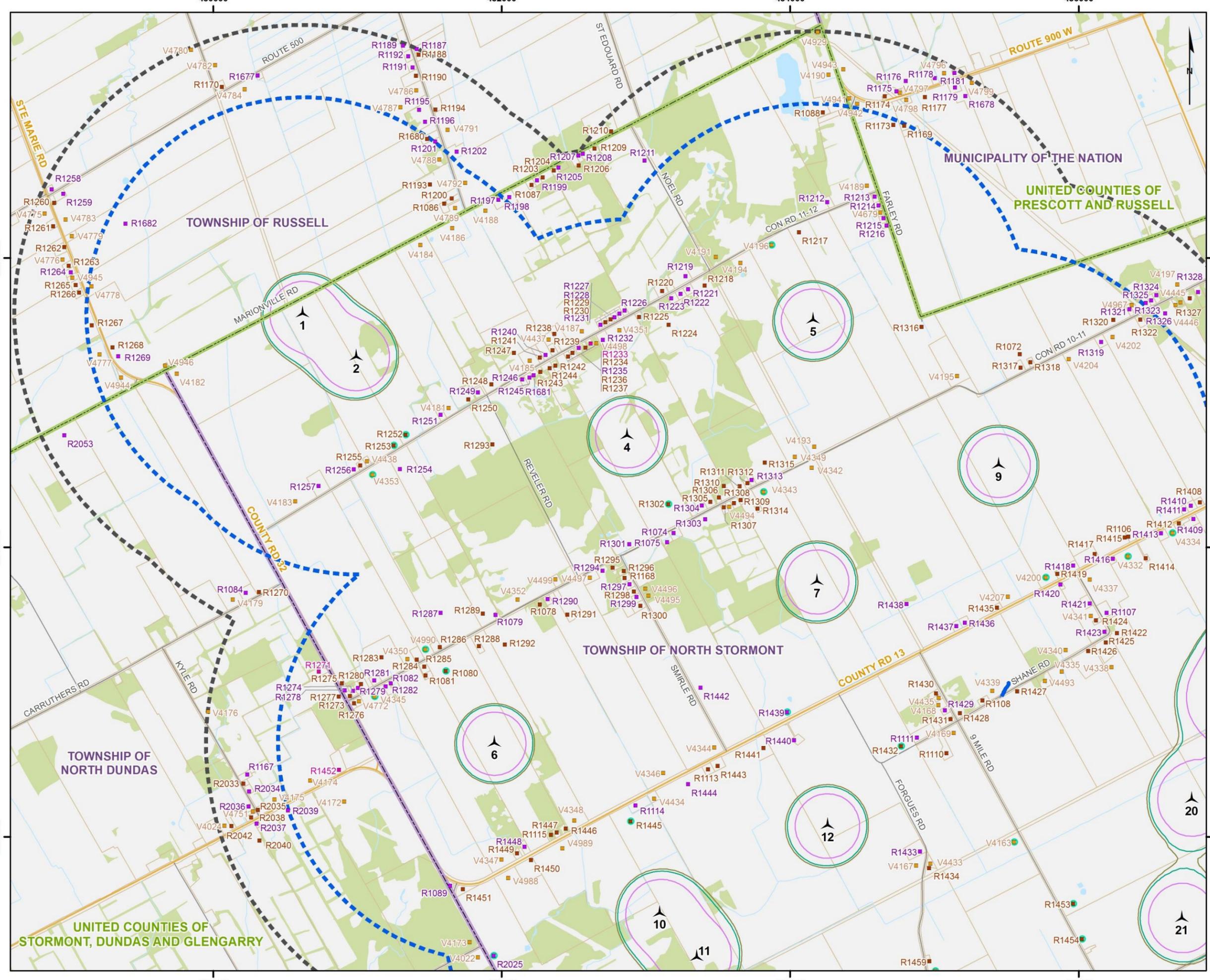
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 6 m/s]
MAP 1A OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



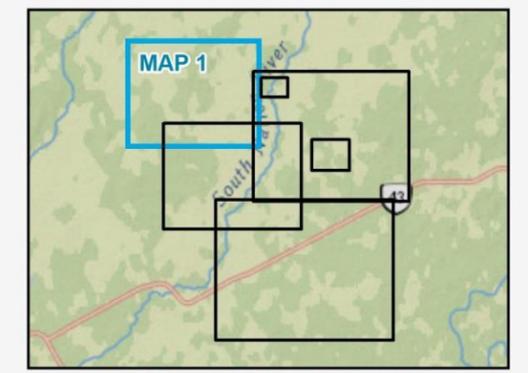
Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
	Built Up Area
	Wooded Area
	Waterbody
	Property Boundary

Predicted Sound Level at Wind Speed of 8 m/s

- 45 dB(A) at 1.5 m agl*
- 45 dB(A) at 4.5 m agl*
- 45 dB(A) at 7.5 m agl*

* agl: above ground level



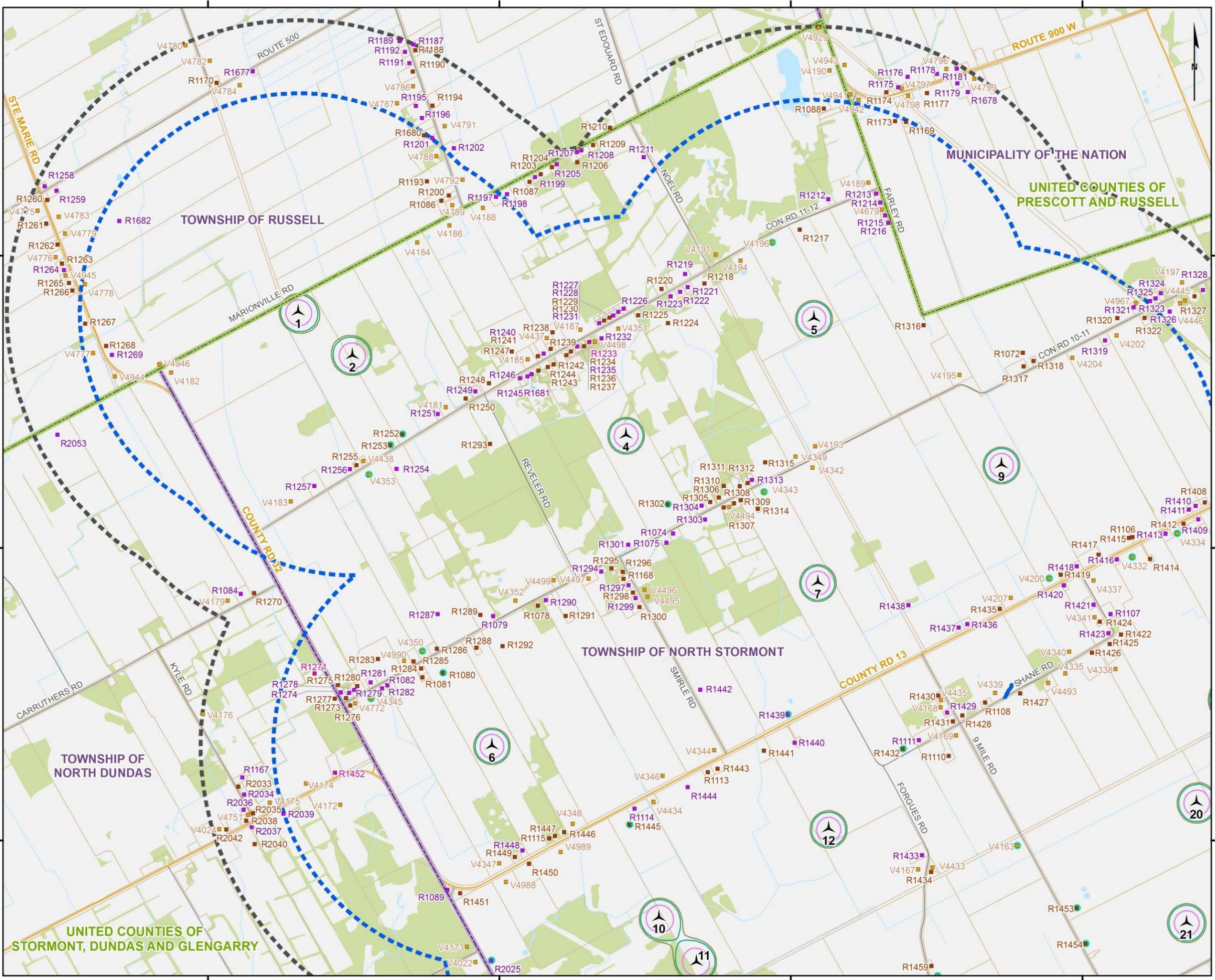
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 8 m/s]
MAP 1B OF 6

001-10021027-170202-AD
Layout: L21
21 August 2017

DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario, United Counties of Stormont, Dundas and Glengarry, First Base Solutions, Teranet (April 2016).



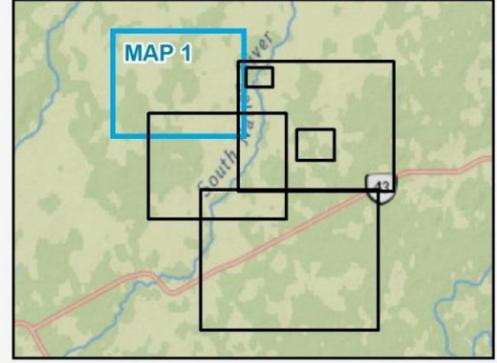
Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
	Built Up Area
	Wooded Area
	Waterbody
	Property Boundary

Predicted Sound Level at Wind Speed of 10 m/s

- 50 dB(A) at 1.5 m agl*
- 50 dB(A) at 4.5 m agl*
- 50 dB(A) at 7.5 m agl*

* agl: above ground level



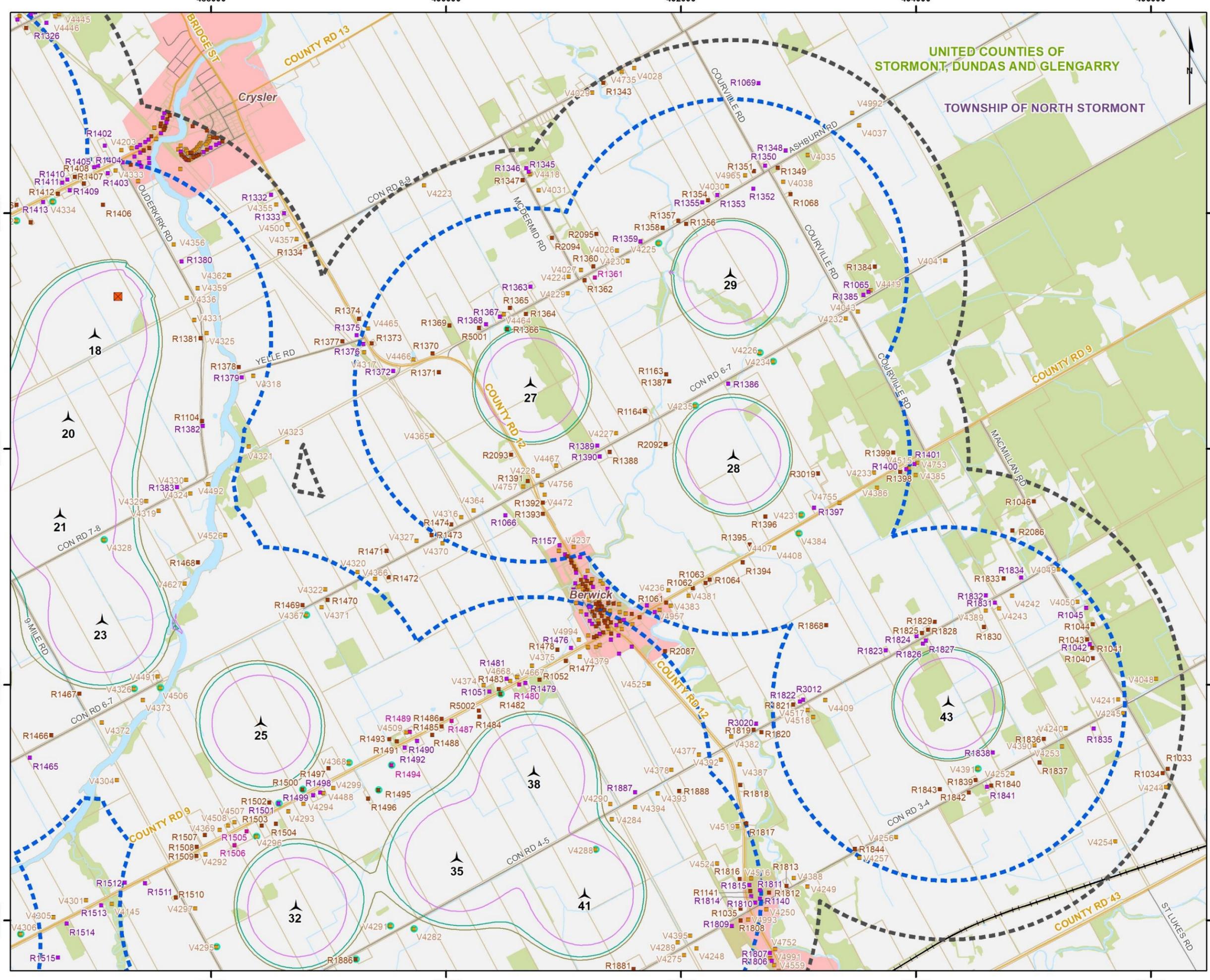
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 10 m/s]
MAP 1C OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



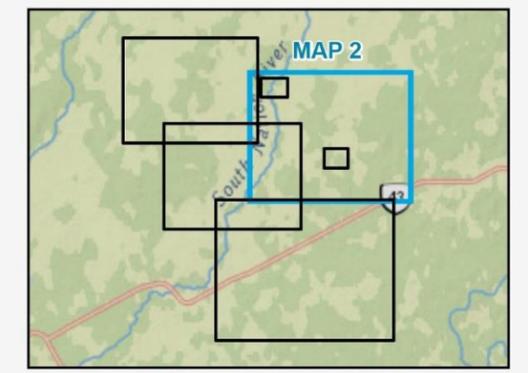
Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
	Built Up Area
	Wooded Area
	Waterbody
	Property Boundary

Predicted Sound Level at Wind Speed of 6 m/s

- 40 dB(A) at 1.5 m agl*
- 40 dB(A) at 4.5 m agl*
- 40 dB(A) at 7.5 m agl*

* agl: above ground level



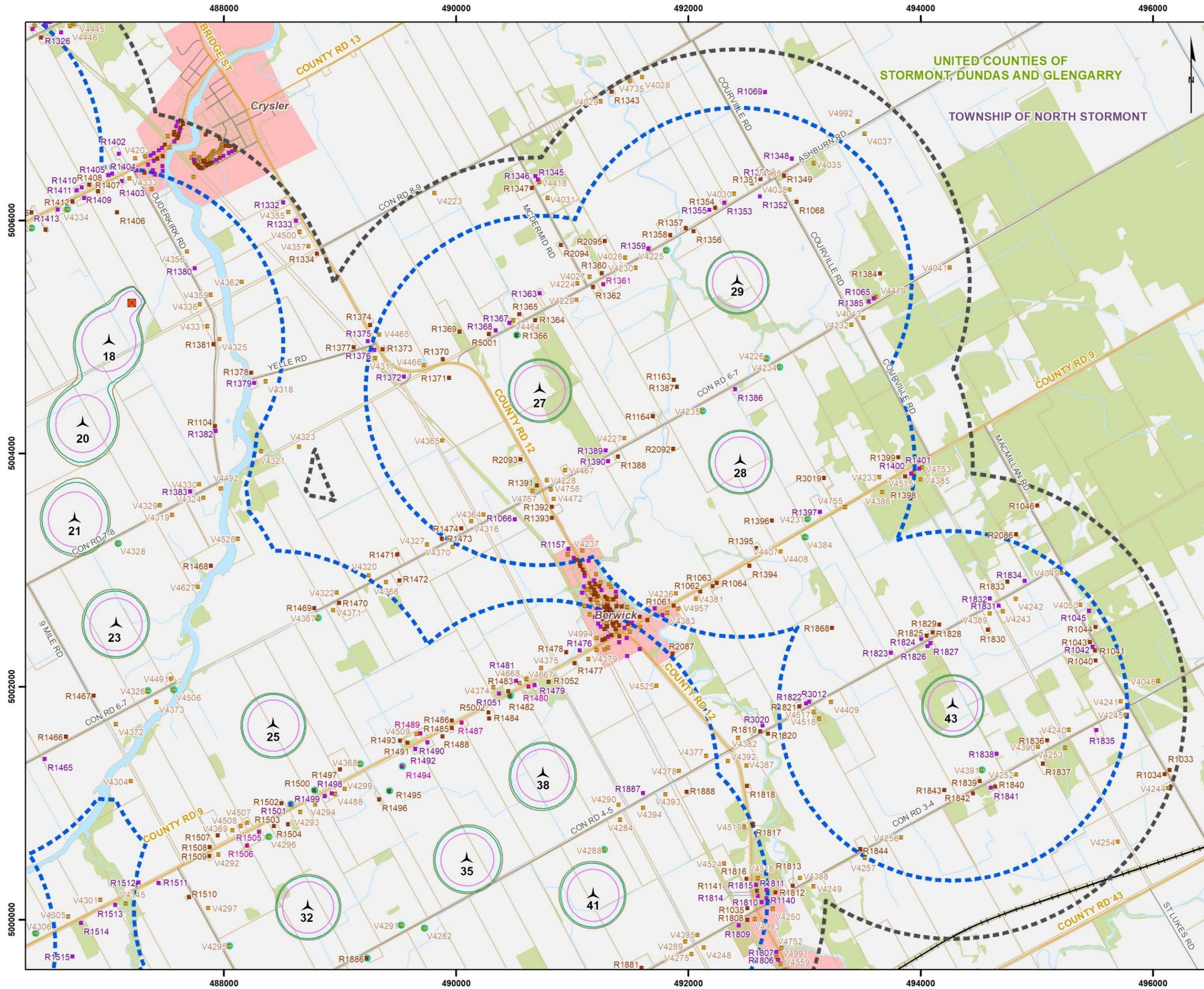
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 6 m/s]
MAP 2A OF 6

001-10021027-100527-AB
Layout: L21
27 May 2019

DNV·GL

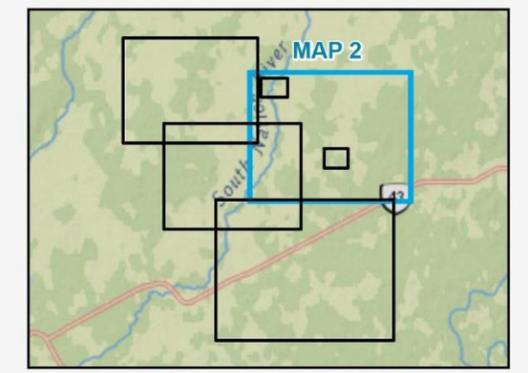
Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 8 m/s	Built Up Area
45 dB(A) at 1.5 m agl*	Wooded Area
45 dB(A) at 4.5 m agl*	Waterbody
45 dB(A) at 7.5 m agl*	Property Boundary

* agl: above ground level



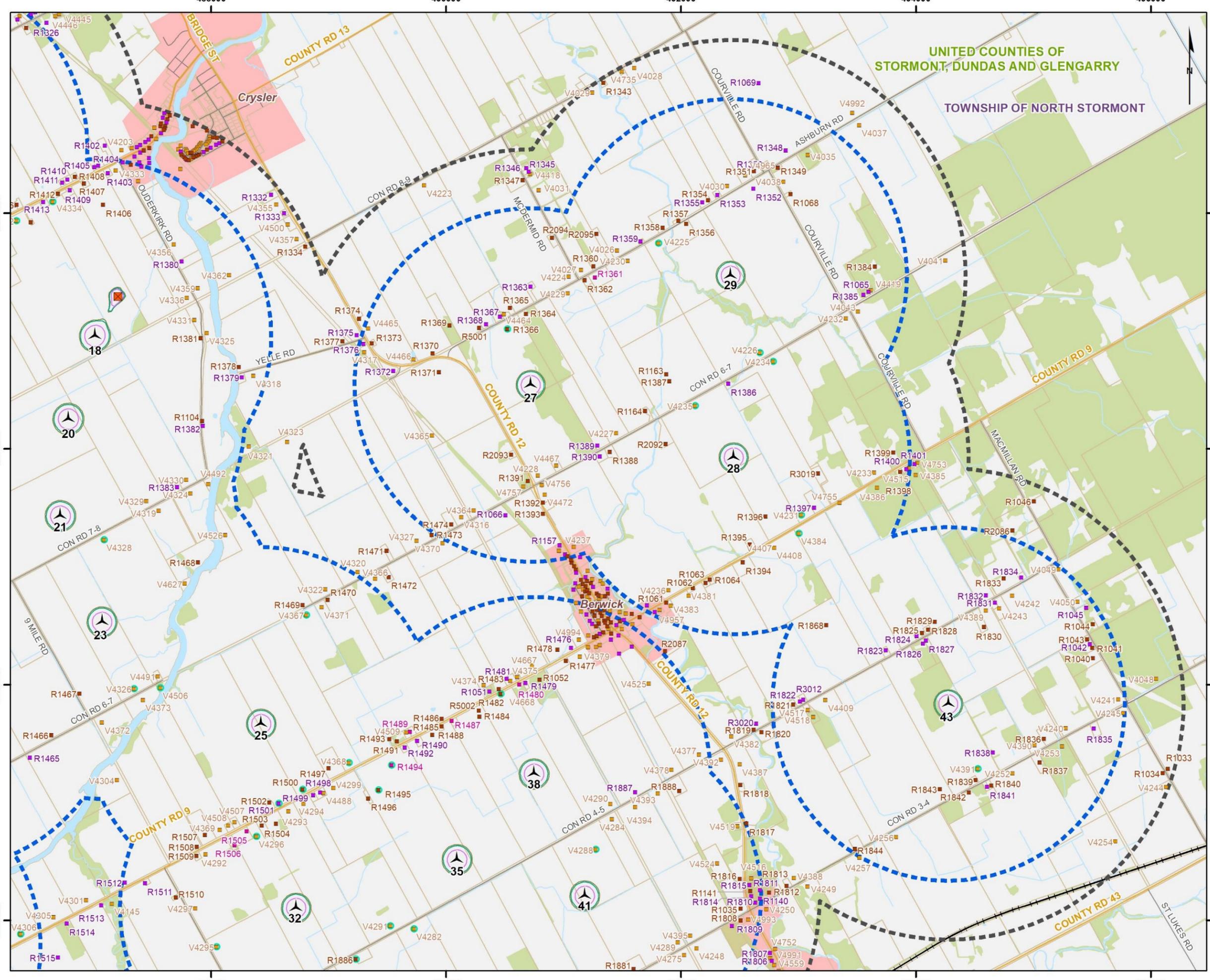
Nation Rise Wind Farm

**SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 8 m/s]
MAP 2B OF 6**

001-10021027-100527-AB
Layout: L21
27 May 2019

DNV·GL

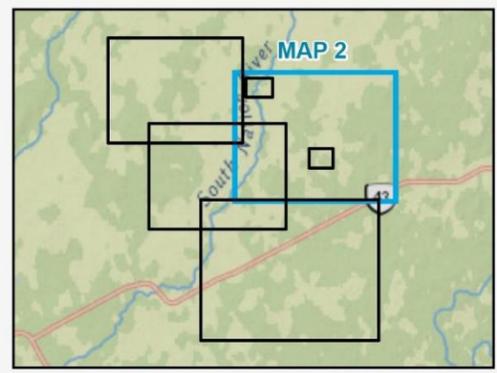
Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 10 m/s	Built Up Area
50 dB(A) at 1.5 m agl*	Wooded Area
50 dB(A) at 4.5 m agl*	Waterbody
50 dB(A) at 7.5 m agl*	Property Boundary

* agl: above ground level



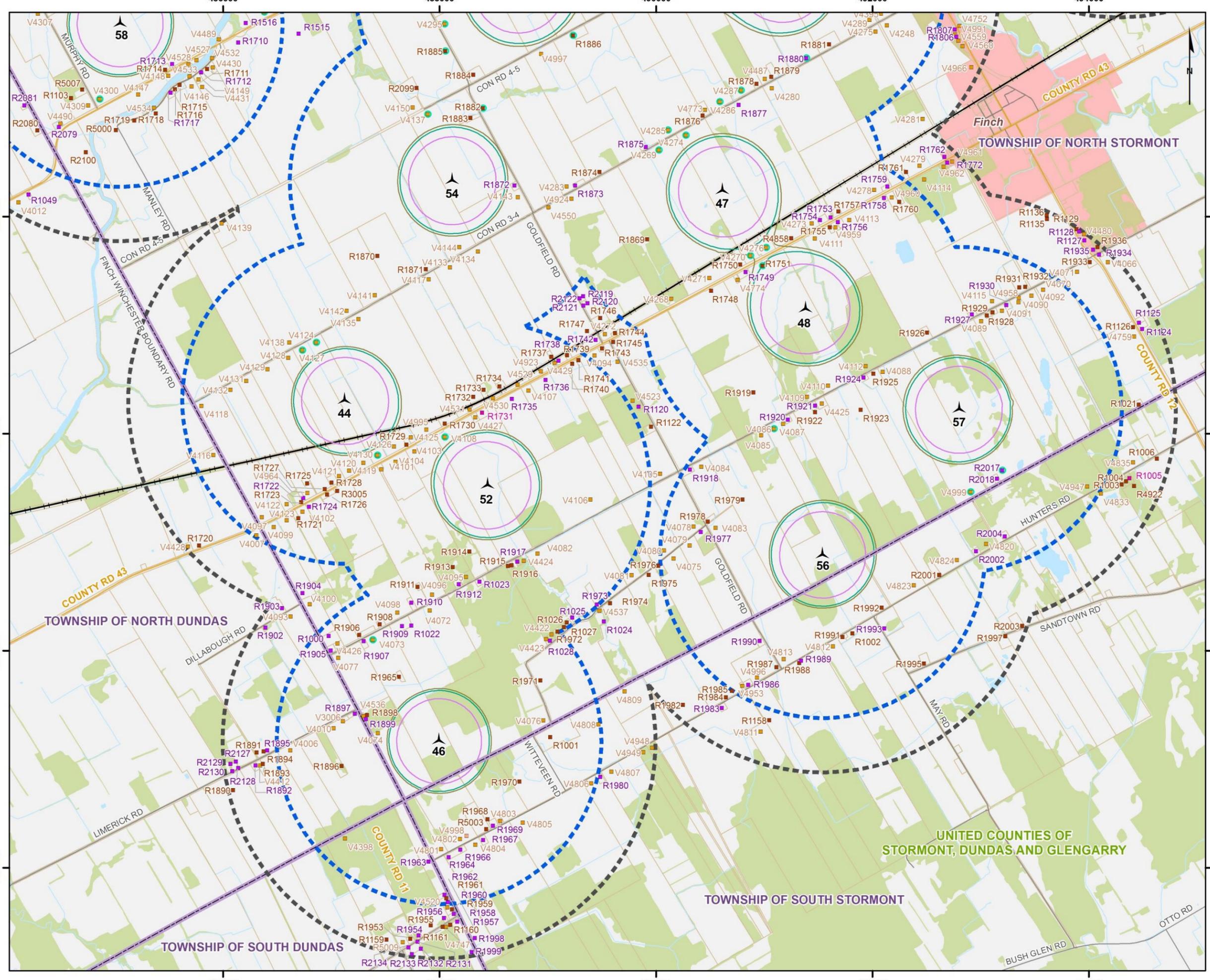
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 10 m/s]
MAP 2C OF 6

001-10021027-100527-AB
Layout: L21
27 May 2019

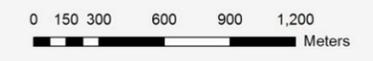
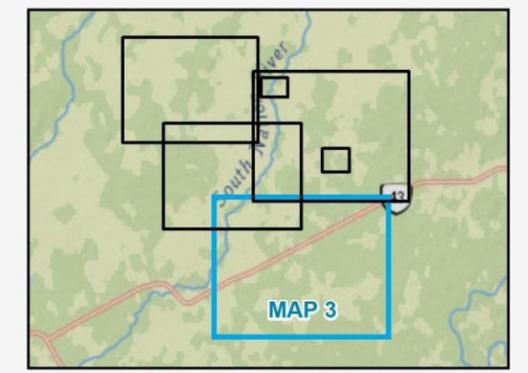
DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 6 m/s	Built Up Area
40 dB(A) at 1.5 m agl*	Wooded Area
40 dB(A) at 4.5 m agl*	Waterbody
40 dB(A) at 7.5 m agl*	Property Boundary
	* agl: above ground level



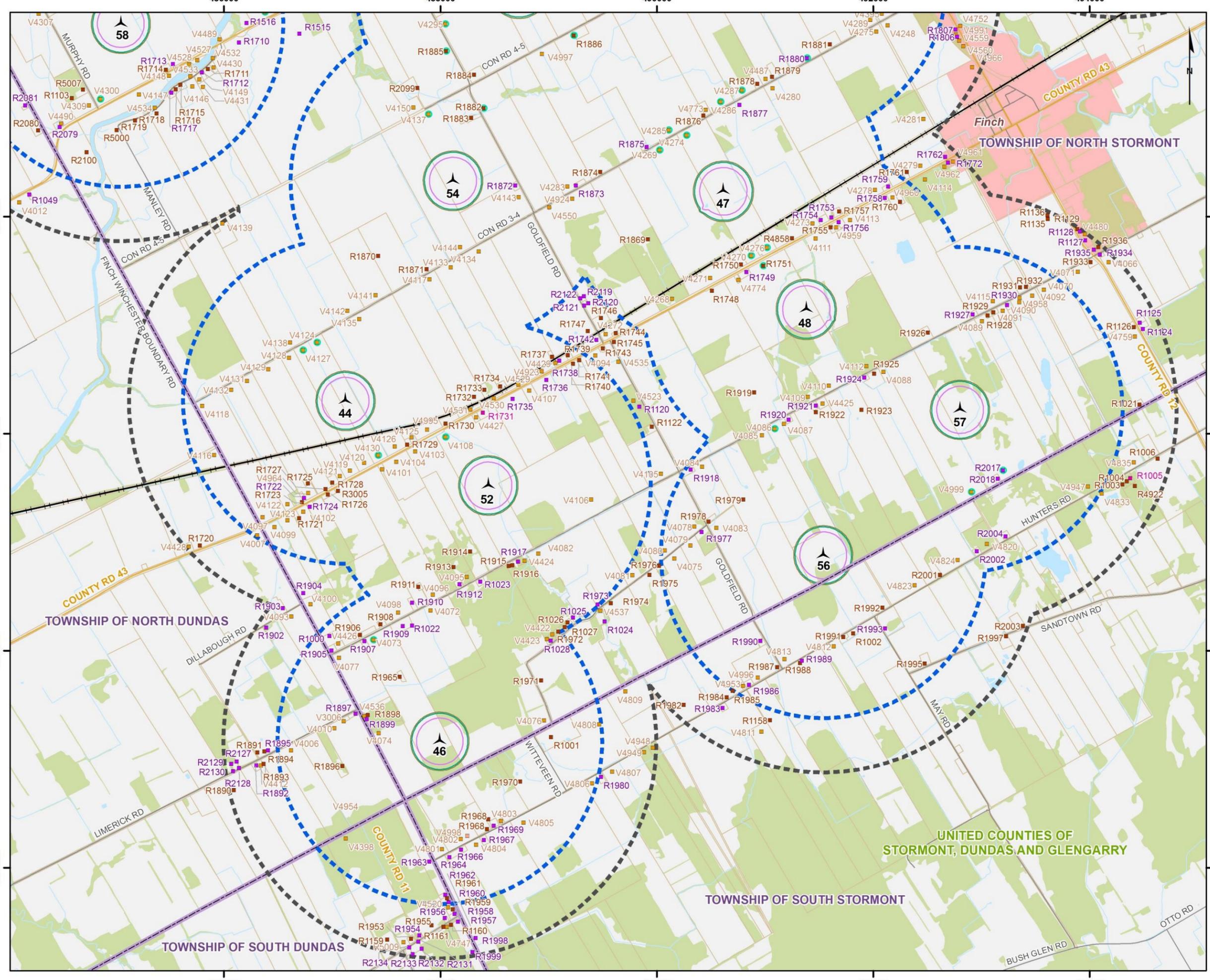
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 6 m/s]
MAP 3A OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

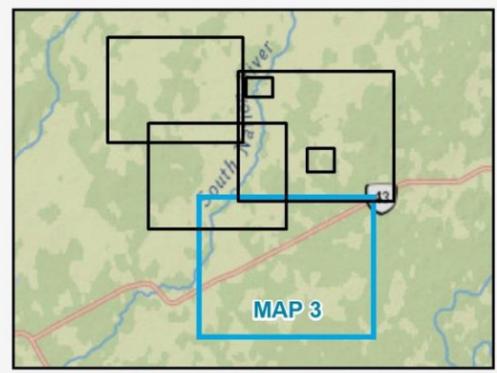
DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 8 m/s	Built Up Area
45 dB(A) at 1.5 m agl*	Wooded Area
45 dB(A) at 4.5 m agl*	Waterbody
45 dB(A) at 7.5 m agl*	Property Boundary
	* agl: above ground level



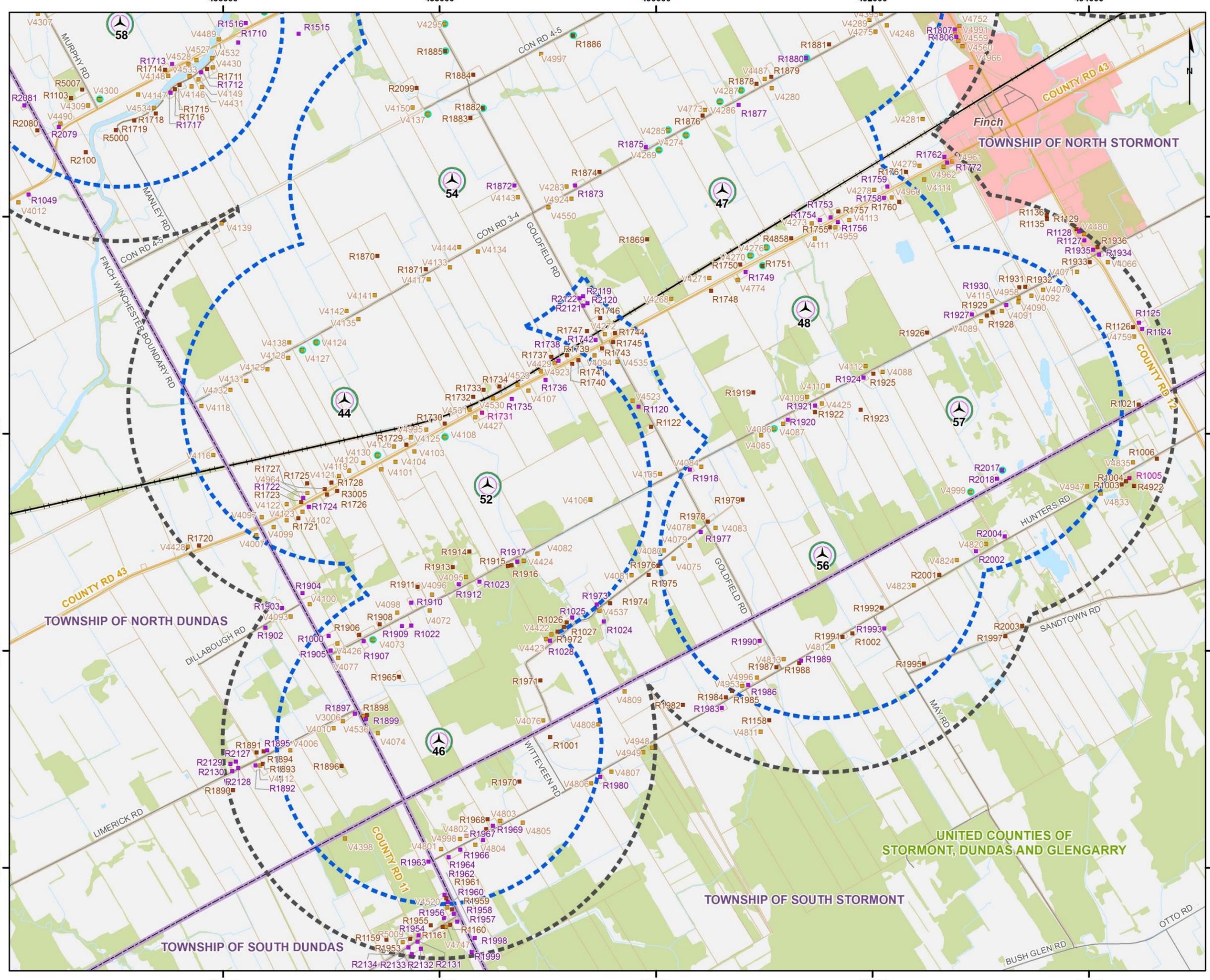
Nation Rise Wind Farm

**SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 8 m/s]
MAP 3B OF 6**

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



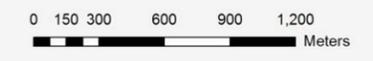
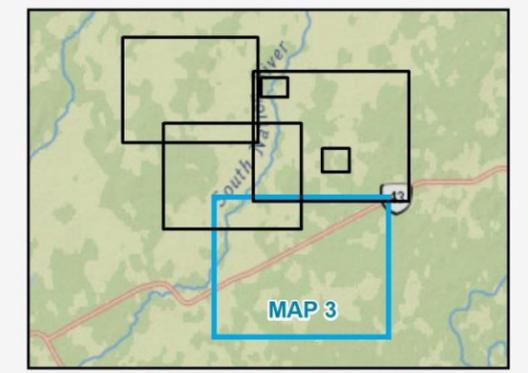
Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights	Railroad
City Lights Inverter	Local Road
City Lights Transformer	Secondary Road
	Primary Road
	Watercourse
	Built Up Area
	Wooded Area
	Waterbody
	Property Boundary

Predicted Sound Level at Wind Speed of 8 m/s

- 50 dB(A) at 1.5 m agl*
- 50 dB(A) at 4.5 m agl*
- 50 dB(A) at 7.5 m agl*

* agl: above ground level



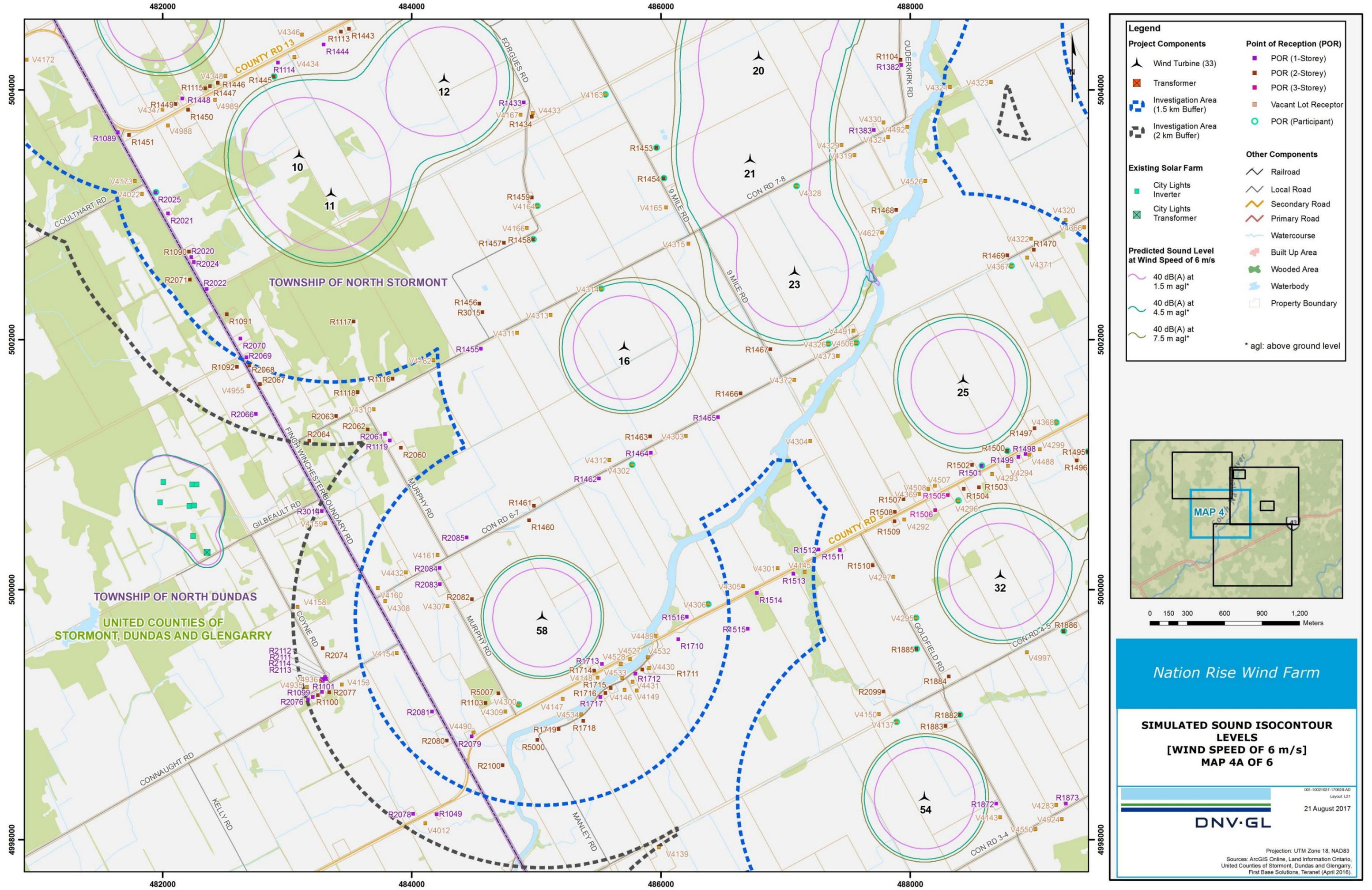
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 10 m/s]
MAP 3C OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

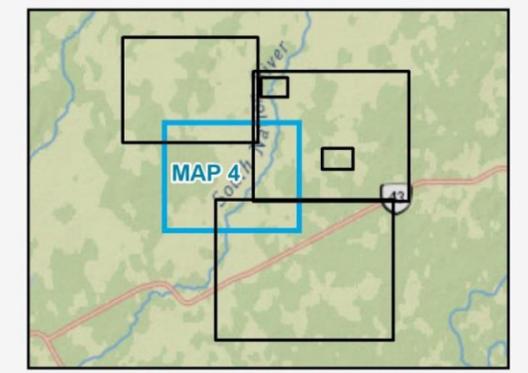
DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario, United Counties of Stormont, Dundas and Glengarry, First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 6 m/s	Built Up Area
40 dB(A) at 1.5 m agl*	Wooded Area
40 dB(A) at 4.5 m agl*	Waterbody
40 dB(A) at 7.5 m agl*	Property Boundary
	* agl: above ground level



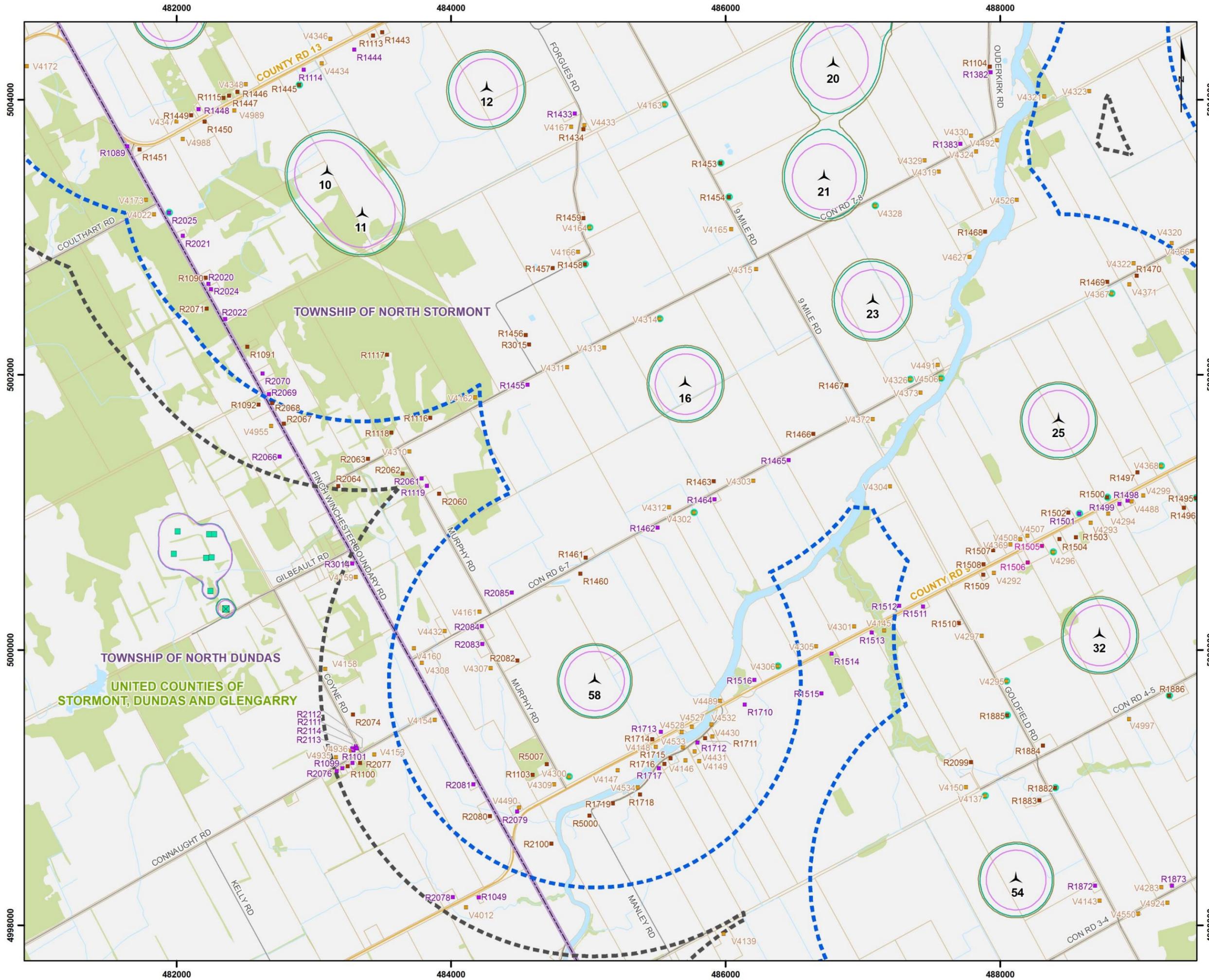
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 6 m/s]
MAP 4A OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

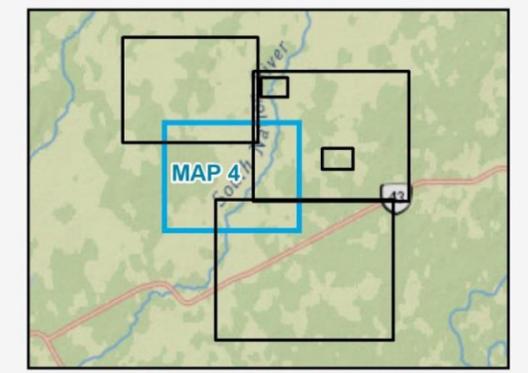
Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area (1.5 km Buffer)	POR (3-Storey)
Investigation Area (2 km Buffer)	Vacant Lot Receptor
	POR (Participant)
Existing Solar Farm	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 8 m/s	Built Up Area
45 dB(A) at 1.5 m agl*	Wooded Area
45 dB(A) at 4.5 m agl*	Waterbody
45 dB(A) at 7.5 m agl*	Property Boundary

* agl: above ground level



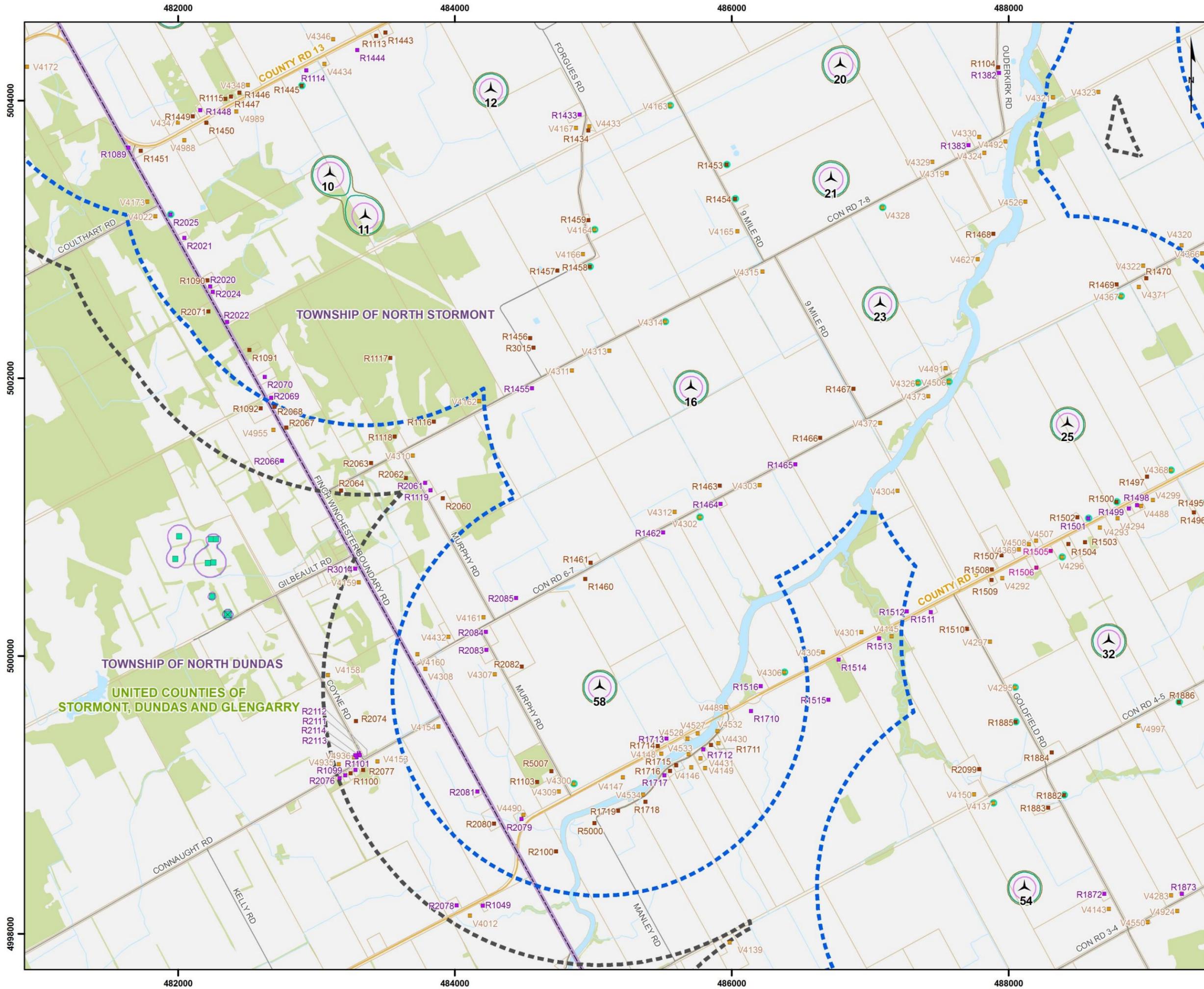
Nation Rise Wind Farm

**SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 8 m/s]
MAP 4B OF 6**

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

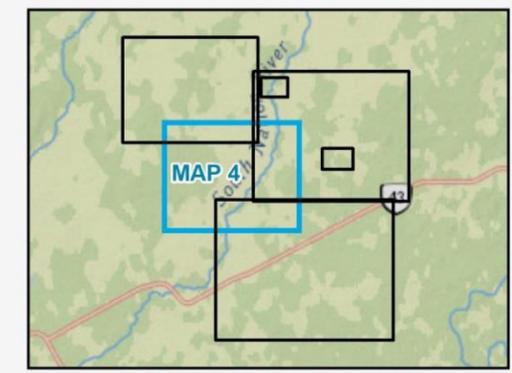
Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Point of Reception (POR)
Wind Turbine (33)	POR (1-Storey)
Transformer	POR (2-Storey)
Investigation Area 1.5 km Buffer	POR (3-Storey)
Investigation Area 2 km Buffer	Vacant Lot Receptor
	POR (Participant)
Existing Solar Project	Other Components
City Lights Inverter	Railroad
City Lights Transformer	Local Road
	Secondary Road
	Primary Road
	Watercourse
Predicted Sound Level at Wind Speed of 10 m/s	Built Up Area
50 dB(A) at 1.5 m agl*	Wooded Area
50 dB(A) at 4.5 m agl*	Waterbody
50 dB(A) at 7.5 m agl*	Property Boundary

* agl: above ground level



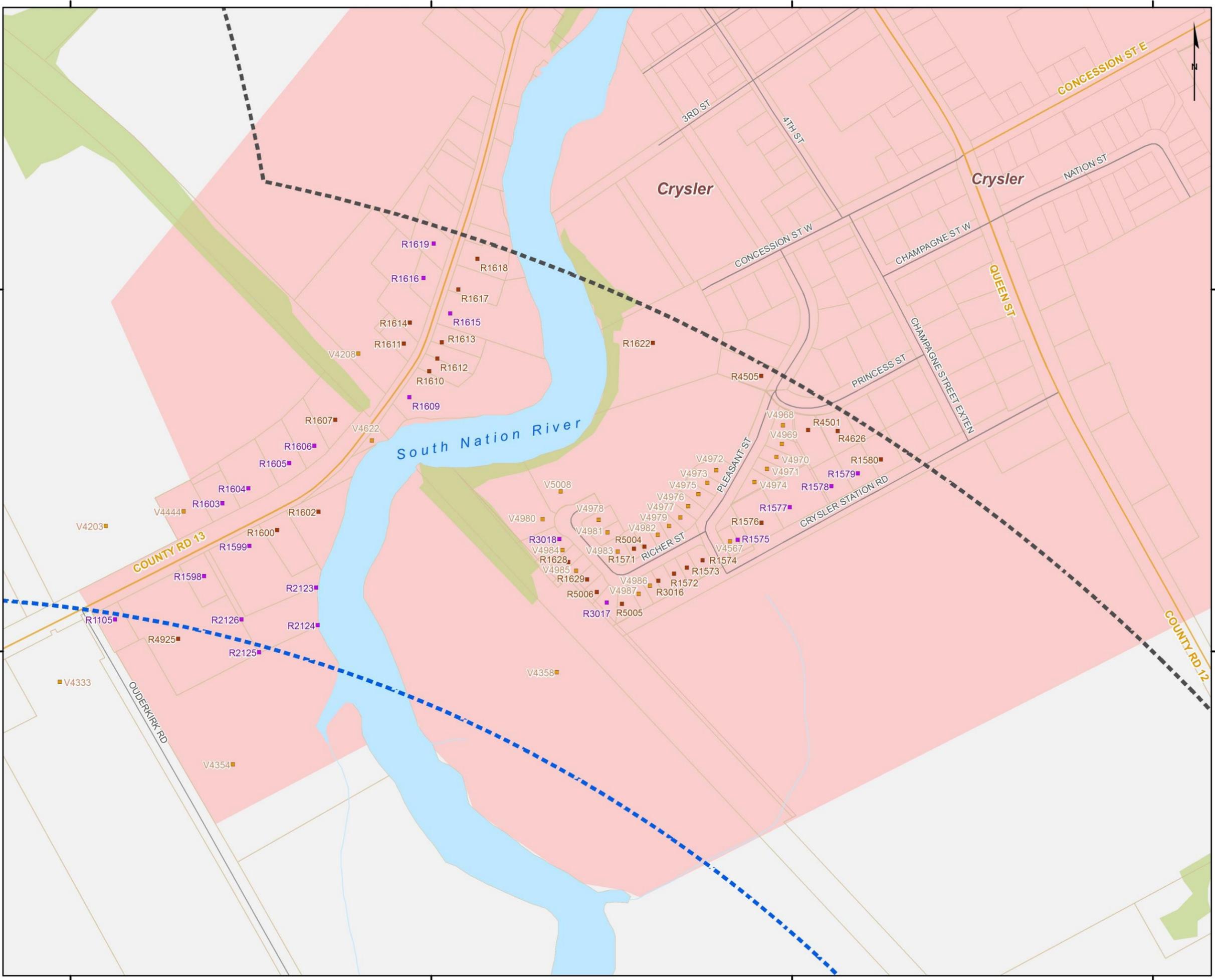
Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
[WIND SPEED OF 10 m/s]
MAP 4C OF 6

001-10021027-170626-AD
Layout: L21
21 August 2017

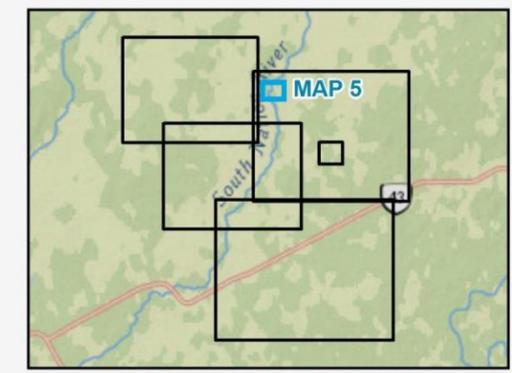
DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario,
United Counties of Stormont, Dundas and Glengarry,
First Base Solutions, Teranet (April 2016).



Legend

Project Components	Other Components
Wind Turbine (33)	Railroad
Transformer	Local Road
Investigation Area (1.5 km Buffer)	Secondary Road
Investigation Area (2 km Buffer)	Primary Road
	Watercourse
	Built Up Area
Existing Solar Farm	Wooded Area
City Lights Inverter	Waterbody
City Lights Transformer	Property Boundary
Point of Reception (POR)	
POR (1-Storey)	
POR (2-Storey)	
POR (3-Storey)	
Vacant Lot Receptor	
POR (Participant)	

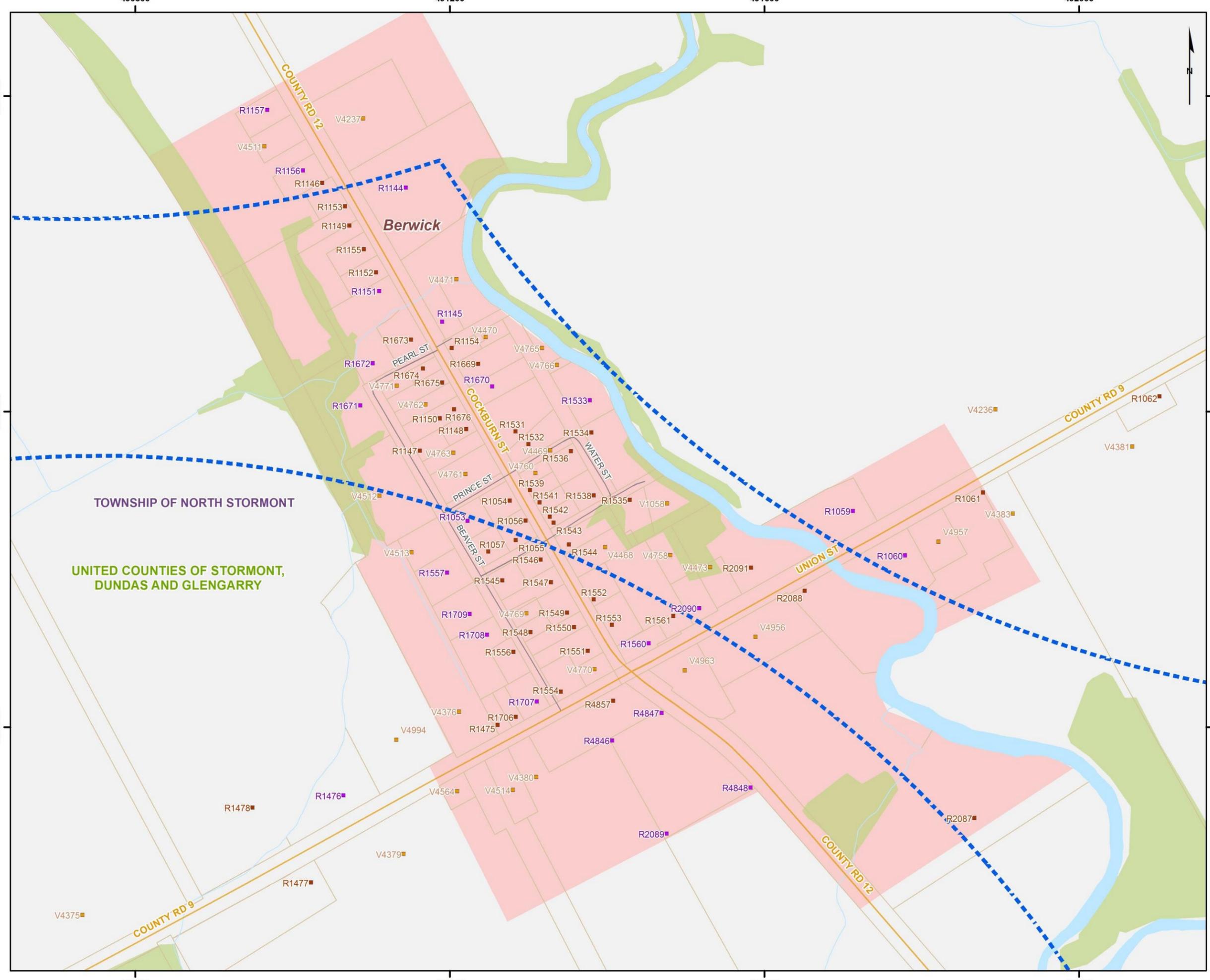


Nation Rise Wind Farm

SIMULATED SOUND ISOCONTOUR LEVELS
- NO ISOCONTOURS OVERLAP
WITH AREA -
MAP 5 OF 6

001-10021027-170626-AD
 Layout: L21
 21 August 2017

Projection: UTM Zone 18, NAD83
 Sources: ArcGIS Online, Land Information Ontario,
 United Counties of Stormont, Dundas and Glengary,
 First Base Solutions, Teranet (April 2016).



Legend

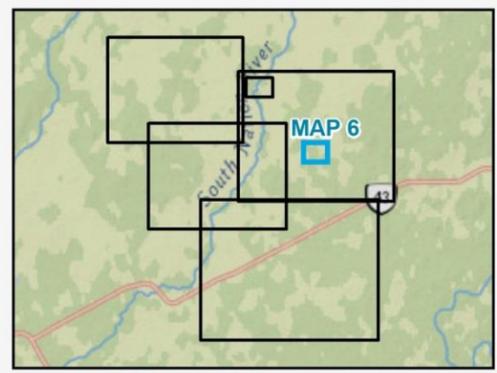
Project Components	Other Components
Wind Turbine (33)	Railroad
Transformer	Local Road
Investigation Area (1.5 km Buffer)	Secondary Road
Investigation Area (2 km Buffer)	Primary Road
	Watercourse
	Built Up Area
	Wooded Area
	Waterbody
	Property Boundary

Existing Solar Farm

- City Lights Inverter
- City Lights Transformer

Point of Reception (POR)

- POR (1-Storey)
- POR (2-Storey)
- POR (3-Storey)
- Vacant Lot Receptor
- POR (Participant)



Nation Rise Wind Farm

**SIMULATED SOUND ISOCONTOUR LEVELS
- NO ISOCONTOURS OVERLAP
WITH AREA -
MAP 6 OF 6**

001-10021027-170626-AD
Layout: L21
21 August 2017

DNV·GL

Projection: UTM Zone 18, NAD83
Sources: ArcGIS Online, Land Information Ontario, United Counties of Stormont, Dundas and Glengarry, First Base Solutions, Teranet (April 2016).

APPENDIX D – SAMPLE CALCULATION FOR NOISE MODELING

Resulting A-weighted sound pressure level at Receptor R1750 and VLR 4336

The calculation of cumulative receptor noise levels from wind turbines uses the methodology of ISO 9613-2, "Acoustics — Attenuation of sound during propagation outdoors: Part 2: General method of calculation". These calculations are conducted with CadnaA (which is an implementation of ISO 9613-1 and ISO 9613-2).

As an example, in this appendix, the results are presented at Receptor R1750 and VLR 4336. The following inputs and conditions were used:

- Turbine locations;
- Receptor locations.

Turbine characteristics and modelling parameters:

- Hub-heights: as noted in Section 4
- Ambient air temperature: 10°C;
- Ambient barometric pressure: 101.32 kPa;
- Relative humidity: 70%;
- Source ground factor: 0.7;
- Middle ground factor: 0.7;
- Substation gravel area ground factor: 0;
- Watercourse or waterbody ground factor: 0;
- Receptor ground factor: 0.7.

See Section 5 for source broadband and octave band sound power levels.

The following tables presents an example result and intermediate values of the calculations as the A-weighted sound pressure levels at two chosen example receptors, due to each turbine or substation and each octave band. The A-weighted sound pressure levels at the example Receptor R1750 and VLR 4336 for all bands and all noise sources within 5000 m are 39.1 and 36.7 dBA respectively.

An additional table containing the detailed attenuations per frequency at VLR 4336 is also included.

Sound pressure levels at VLR 4336

Source ID	Distance* [m]	Octave band sound pressure levels [dBA]									Broadband SPL by source [dBA]
		31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
Transf	587	-6.9	11.8	18.6	20.6	26.6	21.8	13	-7.7	-68.5	29.2
18	858	12.1	21.7	22.4	28.0	28.4	27.9	21.8	-3.0	-86.9	33.8
20	1448	7.5	17.1	17.5	22.8	22.7	21.2	11.6	-26.9	+	28.0
21	2147	4.1	13.6	13.8	18.7	17.9	15.2	1.4	-53.2	+	23.4
9	2679	2.2	11.6	11.7	16.2	15.0	11.3	-5.6	-72.5	+	20.7
23	2848	1.6	11.1	11.1	15.5	14.1	10.2	-7.8	-78.6	+	19.9
27	3021	1.1	10.5	10.5	14.8	13.3	9.1	-10.0	-84.8	+	19.2
7	3642	-0.5	8.8	8.6	12.5	10.5	5.2	-17.6	+	+	16.8
25	3673	-0.6	8.8	8.5	12.4	10.4	5.0	-18.0	+	+	16.7
12	3738	-0.8	8.6	8.3	12.2	10.0	4.6	-18.8	+	+	16.5
16	3952	-1.3	8.1	7.8	11.5	9.1	3.3	-21.3	+	+	15.7
5	4294	-1.9	7.5	6.9	10.4	7.8	1.4	-25.3	+	+	14.7
29	4634	-2.3	7.0	6.2	9.5	6.6	-0.4	-29.2	+	+	13.8
28	4849	-2.6	6.7	5.8	8.9	5.8	-1.6	-31.6	+	+	13.3
11	4924	-2.7	6.6	5.6	8.7	5.5	-2.0	-32.5	+	+	13.1
Total A-Weighted Sound Pressure Level											36.7

* Includes the heights of noise sources and receptors.
 + indicates values below -88.0 dBA

Sound pressure levels at Receptor R1750

Source ID	Distance* [m]	Octave band sound pressure levels [dBA]									Broadband SPL by source [dBA]
		31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
47	706	13.8	23.4	24.2	29.8	30.4	30.1	25.0	3.7	-67.5	35.9
48	742	13.4	23.0	23.8	29.3	29.9	29.6	24.2	2.1	-72.1	35.4
57	2430	3.0	12.5	12.6	17.3	16.3	13.1	-2.4	-63.5	+	21.9
41	2683	2.1	11.6	11.6	16.2	15.0	11.3	-5.7	-72.7	+	20.7
54	2776	1.8	11.3	11.3	15.8	14.5	10.7	-6.9	-76.0	+	20.3
56	2787	1.8	11.3	11.3	15.7	14.4	10.6	-7.0	-76.4	+	20.2
35	3038	1.1	10.5	10.4	14.7	13.2	8.9	-10.2	-85.4	+	19.1
52	3100	0.9	10.3	10.2	14.5	12.9	8.5	-11.0	-87.6	+	18.9
32	3275	0.4	9.8	9.7	13.8	12.1	7.4	-13.2	+	+	18.2
38	3688	-0.7	8.7	8.5	12.3	10.3	4.9	-18.2	+	+	16.6
44	3869	-1.1	8.3	8.0	11.7	9.5	3.8	-20.3	+	+	16.0
25	4737	-2.5	6.8	6.0	9.2	6.2	-1.0	-30.3	+	+	13.6
Total A-Weighted Sound Pressure Level											39.1

* Includes the heights of noise sources and receptors.

+ indicates values below -88.0 dBA

Sound pressure levels and attenuations by frequency at VLR 4336

ID	X	Y	Z	Ground	LxN	Dist.	hm	Freq	Adiv	Agr	Abar	z	Aatm	Afol	Ahous	LtotN
Transformer	487208	5005295	70.65	66.45	58.9	587.1	5.97	32	66.37	-4.67	4.09	0.14	0.02	0	0	-6.91
Transformer	487208	5005295	70.65	66.45	78.1	587.1	5.97	63	66.37	-4.67	4.51	0.14	0.07	0	0	11.81
Transformer	487208	5005295	70.65	66.45	90.2	587.1	5.97	125	66.37	1.93	3.01	0.14	0.24	0	0	18.64
Transformer	487208	5005295	70.65	66.45	92.7	587.1	5.97	250	66.37	-0.21	5.27	0.14	0.61	0	0	20.65
Transformer	487208	5005295	70.65	66.45	98.1	587.1	5.97	500	66.37	-1.86	5.88	0.14	1.13	0	0	26.58
Transformer	487208	5005295	70.65	66.45	95.3	587.1	5.97	1000	66.37	-1.87	6.84	0.14	2.15	0	0	21.8
Transformer	487208	5005295	70.65	66.45	91.5	587.1	5.97	2000	66.37	-1.87	8.28	0.14	5.67	0	0	13.04
Transformer	487208	5005295	70.65	66.45	86.3	587.1	5.97	4000	66.37	-1.87	10.21	0.14	19.24	0	0	-7.65
Transformer	487208	5005295	70.65	66.45	77.2	587.1	5.97	8000	66.37	-1.87	12.55	0.14	68.62	0	0	-68.48
18	487011	5004960	202	70	78.8	857.75	68.39	32	69.67	-3	0	0	0.03	0	0	12.11
18	487011	5004960	202	70	88.5	857.75	68.39	63	69.67	-3	0	0	0.1	0	0	21.73
18	487011	5004960	202	70	94.1	857.75	68.39	125	69.67	1.7	0	0	0.35	0	0	22.38
18	487011	5004960	202	70	98.6	857.75	68.39	250	69.67	0.07	0	0	0.89	0	0	27.96
18	487011	5004960	202	70	98.8	857.75	68.39	500	69.67	-0.9	0	0	1.65	0	0	28.38
18	487011	5004960	202	70	99.8	857.75	68.39	1000	69.67	-0.9	0	0	3.14	0	0	27.9
18	487011	5004960	202	70	98.9	857.75	68.39	2000	69.67	-0.9	0	0	8.29	0	0	21.84
18	487011	5004960	202	70	93.9	857.75	68.39	4000	69.67	-0.9	0	0	28.11	0	0	-2.98
18	487011	5004960	202	70	82.1	857.75	68.39	8000	69.67	-0.9	0	0	100.26	0	0	-86.92
20	486785	5004255	202	70	78.8	1447.85	67.38	32	74.21	-3	0	0	0.05	0	0	7.54
20	486785	5004255	202	70	88.5	1447.85	67.38	63	74.21	-3	0	0	0.18	0	0	17.11
20	486785	5004255	202	70	94.1	1447.85	67.38	125	74.21	1.78	0	0	0.59	0	0	17.51
20	486785	5004255	202	70	98.6	1447.85	67.38	250	74.21	0.07	0	0	1.51	0	0	22.8
20	486785	5004255	202	70	98.8	1447.85	67.38	500	74.21	-0.9	0	0	2.79	0	0	22.69
20	486785	5004255	202	70	99.8	1447.85	67.38	1000	74.21	-0.9	0	0	5.3	0	0	21.19
20	486785	5004255	202	70	98.9	1447.85	67.38	2000	74.21	-0.9	0	0	13.99	0	0	11.59
20	486785	5004255	202	70	93.9	1447.85	67.38	4000	74.21	-0.9	0	0	47.45	0	0	-26.86
20	486785	5004255	202	70	82.1	1447.85	67.38	8000	74.21	-0.9	0	0	169.23	0	0	-160.44
21	486717	5003432	202	70	78.8	2146.69	67.03	32	77.64	-3	0	0	0.07	0	0	4.1
21	486717	5003432	202	70	88.5	2146.69	67.03	63	77.64	-3	0	0	0.26	0	0	13.6
21	486717	5003432	202	70	94.1	2146.69	67.03	125	77.64	1.78	0	0	0.88	0	0	13.8
21	486717	5003432	202	70	98.6	2146.69	67.03	250	77.64	0.07	0	0	2.24	0	0	18.65
21	486717	5003432	202	70	98.8	2146.69	67.03	500	77.64	-0.9	0	0	4.14	0	0	17.93
21	486717	5003432	202	70	99.8	2146.69	67.03	1000	77.64	-0.9	0	0	7.85	0	0	15.21
21	486717	5003432	202	70	98.9	2146.69	67.03	2000	77.64	-0.9	0	0	20.75	0	0	1.42
21	486717	5003432	202	70	93.9	2146.69	67.03	4000	77.64	-0.9	0	0	70.35	0	0	-53.18
21	486717	5003432	202	70	82.1	2146.69	67.03	8000	77.64	-0.9	0	0	250.91	0	0	-245.54
9	485446	5006565	202	70	78.8	2678.76	66.64	32	79.56	-3	0	0	0.09	0	0	2.16
9	485446	5006565	202	70	88.5	2678.76	66.64	63	79.56	-3	0	0	0.33	0	0	11.62
9	485446	5006565	202	70	94.1	2678.76	66.64	125	79.56	1.78	0	0	1.1	0	0	11.66

ID	X	Y	Z	Ground	LxN	Dist.	hm	Freq	Adiv	Agr	Abar	z	Aatm	Afol	Ahous	LtotN
9	485446	5006565	202	70	98.6	2678.76	66.64	250	79.56	0.07	0	0	2.79	0	0	16.17
9	485446	5006565	202	70	98.8	2678.76	66.64	500	79.56	-0.9	0	0	5.16	0	0	14.98
9	485446	5006565	202	70	99.8	2678.76	66.64	1000	79.56	-0.9	0	0	9.8	0	0	11.34
9	485446	5006565	202	70	98.9	2678.76	66.64	2000	79.56	-0.9	0	0	25.89	0	0	-5.65
9	485446	5006565	202	70	93.9	2678.76	66.64	4000	79.56	-0.9	0	0	87.78	0	0	-72.54
9	485446	5006565	202	70	82.1	2678.76	66.64	8000	79.56	-0.9	0	0	313.1	0	0	-309.66
23	487073	5002532	199.42	67.42	78.8	2848	66.07	32	80.09	-3	0	0	0.09	0	0	1.62
23	487073	5002532	199.42	67.42	88.5	2848	66.07	63	80.09	-3	0	0	0.35	0	0	11.06
23	487073	5002532	199.42	67.42	94.1	2848	66.07	125	80.09	1.78	0	0	1.17	0	0	11.06
23	487073	5002532	199.42	67.42	98.6	2848	66.07	250	80.09	0.07	0	0	2.97	0	0	15.46
23	487073	5002532	199.42	67.42	98.8	2848	66.07	500	80.09	-0.9	0	0	5.49	0	0	14.12
23	487073	5002532	199.42	67.42	99.8	2848	66.07	1000	80.09	-0.9	0	0	10.42	0	0	10.19
23	487073	5002532	199.42	67.42	98.9	2848	66.07	2000	80.09	-0.9	0	0	27.52	0	0	-7.81
23	487073	5002532	199.42	67.42	93.9	2848	66.07	4000	80.09	-0.9	0	0	93.33	0	0	-78.62
23	487073	5002532	199.42	67.42	82.1	2848	66.07	8000	80.09	-0.9	0	0	332.88	0	0	-329.97
27	490721	5004544	212	80	78.8	3021.39	69.97	32	80.6	-3	0	0	0.1	0	0	1.1
27	490721	5004544	212	80	88.5	3021.39	69.97	63	80.6	-3	0	0	0.37	0	0	10.53
27	490721	5004544	212	80	94.1	3021.39	69.97	125	80.6	1.74	0	0	1.24	0	0	10.51
27	490721	5004544	212	80	98.6	3021.39	69.97	250	80.6	0.03	0	0	3.15	0	0	14.81
27	490721	5004544	212	80	98.8	3021.39	69.97	500	80.6	-0.94	0	0	5.82	0	0	13.31
27	490721	5004544	212	80	99.8	3021.39	69.97	1000	80.6	-0.94	0	0	11.05	0	0	9.09
27	490721	5004544	212	80	98.9	3021.39	69.97	2000	80.6	-0.94	0	0	29.2	0	0	-9.96
27	490721	5004544	212	80	93.9	3021.39	69.97	4000	80.6	-0.94	0	0	99.01	0	0	-84.77
27	490721	5004544	212	80	82.1	3021.39	69.97	8000	80.6	-0.94	0	0	353.15	0	0	-350.71
7	484187	5005760	206.66	74.66	78.8	3641.77	68.88	32	82.23	-3	0	0	0.12	0	0	-0.54
7	484187	5005760	206.66	74.66	88.5	3641.77	68.88	63	82.23	-3	0	0	0.44	0	0	8.83
7	484187	5005760	206.66	74.66	94.1	3641.77	68.88	125	82.23	1.75	0	0	1.5	0	0	8.62
7	484187	5005760	206.66	74.66	98.6	3641.77	68.88	250	82.23	0.05	0	0	3.8	0	0	12.53
7	484187	5005760	206.66	74.66	98.8	3641.77	68.88	500	82.23	-0.93	0	0	7.02	0	0	10.48
7	484187	5005760	206.66	74.66	99.8	3641.77	68.88	1000	82.23	-0.93	0	0	13.32	0	0	5.18
7	484187	5005760	206.66	74.66	98.9	3641.77	68.88	2000	82.23	-0.93	0	0	35.19	0	0	-17.59
7	484187	5005760	206.66	74.66	93.9	3641.77	68.88	4000	82.23	-0.93	0	0	119.34	0	0	-106.74
7	484187	5005760	206.66	74.66	82.1	3641.77	68.88	8000	82.23	-0.93	0	0	425.66	0	0	-424.86
25	488426	5001668	202.61	70.61	78.8	3672.98	69.11	32	82.3	-3	0	0	0.12	0	0	-0.62
25	488426	5001668	202.61	70.61	88.5	3672.98	69.11	63	82.3	-3	0	0	0.45	0	0	8.75
25	488426	5001668	202.61	70.61	94.1	3672.98	69.11	125	82.3	1.75	0	0	1.51	0	0	8.54
25	488426	5001668	202.61	70.61	98.6	3672.98	69.11	250	82.3	0.04	0	0	3.83	0	0	12.43
25	488426	5001668	202.61	70.61	98.8	3672.98	69.11	500	82.3	-0.93	0	0	7.08	0	0	10.35
25	488426	5001668	202.61	70.61	99.8	3672.98	69.11	1000	82.3	-0.94	0	0	13.43	0	0	5
25	488426	5001668	202.61	70.61	98.9	3672.98	69.11	2000	82.3	-0.94	0	0	35.5	0	0	-17.96

ID	X	Y	Z	Ground	LxN	Dist.	hm	Freq	Adiv	Agr	Abar	z	Aatm	Afol	Ahous	LtotN
25	488426	5001668	202.61	70.61	93.9	3672.98	69.11	4000	82.3	-0.94	0	0	120.36	0	0	-107.83
25	488426	5001668	202.61	70.61	82.1	3672.98	69.11	8000	82.3	-0.94	0	0	429.3	0	0	-428.57
12	484260	5004075	207	75	78.8	3738.48	67.68	32	82.45	-3	0	0	0.12	0	0	-0.77
12	484260	5004075	207	75	88.5	3738.48	67.68	63	82.45	-3	0	0	0.45	0	0	8.59
12	484260	5004075	207	75	94.1	3738.48	67.68	125	82.45	1.78	0	0	1.54	0	0	8.33
12	484260	5004075	207	75	98.6	3738.48	67.68	250	82.45	0.07	0	0	3.9	0	0	12.17
12	484260	5004075	207	75	98.8	3738.48	67.68	500	82.45	-0.9	0	0	7.21	0	0	10.04
12	484260	5004075	207	75	99.8	3738.48	67.68	1000	82.45	-0.9	0	0	13.67	0	0	4.57
12	484260	5004075	207	75	98.9	3738.48	67.68	2000	82.45	-0.9	0	0	36.13	0	0	-18.78
12	484260	5004075	207	75	93.9	3738.48	67.68	4000	82.45	-0.9	0	0	122.51	0	0	-110.16
12	484260	5004075	207	75	82.1	3738.48	67.68	8000	82.45	-0.9	0	0	436.96	0	0	-436.41
16	485706	5001932	202	70	78.8	3951.58	66.98	32	82.94	-3	0	0	0.13	0	0	-1.26
16	485706	5001932	202	70	88.5	3951.58	66.98	63	82.94	-3	0	0	0.48	0	0	8.08
16	485706	5001932	202	70	94.1	3951.58	66.98	125	82.94	1.78	0	0	1.62	0	0	7.76
16	485706	5001932	202	70	98.6	3951.58	66.98	250	82.94	0.07	0	0	4.12	0	0	11.47
16	485706	5001932	202	70	98.8	3951.58	66.98	500	82.94	-0.9	0	0	7.62	0	0	9.15
16	485706	5001932	202	70	99.8	3951.58	66.98	1000	82.94	-0.9	0	0	14.45	0	0	3.31
16	485706	5001932	202	70	98.9	3951.58	66.98	2000	82.94	-0.9	0	0	38.19	0	0	-21.32
16	485706	5001932	202	70	93.9	3951.58	66.98	4000	82.94	-0.9	0	0	129.49	0	0	-117.63
16	485706	5001932	202	70	82.1	3951.58	66.98	8000	82.94	-0.9	0	0	461.87	0	0	-461.8
5	484160	5007567	202	70	78.8	4294.45	66.74	32	83.66	-3.14	0	0	0.14	0	0	-1.86
5	484160	5007567	202	70	88.5	4294.45	66.74	63	83.66	-3.14	0	0	0.52	0	0	7.46
5	484160	5007567	202	70	94.1	4294.45	66.74	125	83.66	1.74	0	0	1.76	0	0	6.94
5	484160	5007567	202	70	98.6	4294.45	66.74	250	83.66	0.03	0	0	4.48	0	0	10.43
5	484160	5007567	202	70	98.8	4294.45	66.74	500	83.66	-0.94	0	0	8.28	0	0	7.8
5	484160	5007567	202	70	99.8	4294.45	66.74	1000	83.66	-0.94	0	0	15.71	0	0	1.38
5	484160	5007567	202	70	98.9	4294.45	66.74	2000	83.66	-0.94	0	0	41.5	0	0	-25.32
5	484160	5007567	202	70	93.9	4294.45	66.74	4000	83.66	-0.94	0	0	140.73	0	0	-129.55
5	484160	5007567	202	70	82.1	4294.45	66.74	8000	83.66	-0.94	0	0	501.94	0	0	-502.56
29	492423	5005472	207	75	78.8	4633.79	68.22	32	84.32	-3.35	0	0	0.15	0	0	-2.32
29	492423	5005472	207	75	88.5	4633.79	68.22	63	84.32	-3.35	0	0	0.56	0	0	6.97
29	492423	5005472	207	75	94.1	4633.79	68.22	125	84.32	1.64	0	0	1.9	0	0	6.23
29	492423	5005472	207	75	98.6	4633.79	68.22	250	84.32	-0.07	0	0	4.83	0	0	9.51
29	492423	5005472	207	75	98.8	4633.79	68.22	500	84.32	-1.04	0	0	8.93	0	0	6.59
29	492423	5005472	207	75	99.8	4633.79	68.22	1000	84.32	-1.04	0	0	16.95	0	0	-0.43
29	492423	5005472	207	75	98.9	4633.79	68.22	2000	84.32	-1.04	0	0	44.78	0	0	-29.16
29	492423	5005472	207	75	93.9	4633.79	68.22	4000	84.32	-1.04	0	0	151.85	0	0	-141.23
29	492423	5005472	207	75	82.1	4633.79	68.22	8000	84.32	-1.04	0	0	541.61	0	0	-542.79
28	492449	5003929	207	75	78.8	4849.13	65.79	32	84.71	-3.47	0	0	0.16	0	0	-2.6
28	492449	5003929	207	75	88.5	4849.13	65.79	63	84.71	-3.47	0	0	0.59	0	0	6.66

ID	X	Y	Z	Ground	LxN	Dist.	hm	Freq	Adiv	Agr	Abar	z	Aatm	Afol	Ahous	LtotN
28	492449	5003929	207	75	94.1	4849.13	65.79	125	84.71	1.61	0	0	1.99	0	0	5.79
28	492449	5003929	207	75	98.6	4849.13	65.79	250	84.71	-0.1	0	0	5.06	0	0	8.93
28	492449	5003929	207	75	98.8	4849.13	65.79	500	84.71	-1.07	0	0	9.35	0	0	5.81
28	492449	5003929	207	75	99.8	4849.13	65.79	1000	84.71	-1.07	0	0	17.74	0	0	-1.58
28	492449	5003929	207	75	98.9	4849.13	65.79	2000	84.71	-1.07	0	0	46.86	0	0	-31.6
28	492449	5003929	207	75	93.9	4849.13	65.79	4000	84.71	-1.07	0	0	158.91	0	0	-148.64
28	492449	5003929	207	75	82.1	4849.13	65.79	8000	84.71	-1.07	0	0	566.78	0	0	-568.31
11	483354	5003162	207	75	78.8	4923.79	67.2	32	84.85	-3.5	0	0	0.16	0	0	-2.7
11	483354	5003162	207	75	88.5	4923.79	67.2	63	84.85	-3.5	0	0	0.6	0	0	6.56
11	483354	5003162	207	75	94.1	4923.79	67.2	125	84.85	1.63	0	0	2.02	0	0	5.6
11	483354	5003162	207	75	98.6	4923.79	67.2	250	84.85	-0.08	0	0	5.14	0	0	8.69
11	483354	5003162	207	75	98.8	4923.79	67.2	500	84.85	-1.05	0	0	9.49	0	0	5.51
11	483354	5003162	207	75	99.8	4923.79	67.2	1000	84.85	-1.05	0	0	18.01	0	0	-2
11	483354	5003162	207	75	98.9	4923.79	67.2	2000	84.85	-1.05	0	0	47.58	0	0	-32.48
11	483354	5003162	207	75	93.9	4923.79	67.2	4000	84.85	-1.05	0	0	161.35	0	0	-151.25
11	483354	5003162	207	75	82.1	4923.79	67.2	8000	84.85	-1.05	0	0	575.5	0	0	-577.2

Limit. Value D/N:	40
Level D/N:	36.7026



APPENDIX E – TURBINE NOISE SPECIFICATIONS

This appendix contains the following supporting documentation for the Vestas V136 3.45 MW Turbine models:

- Acoustic emission specifications provided by Vestas [9]
- Sound power and tonality guarantee letter provided by Vestas
- IEC 61400-11 Ed 3 measurement test report summary for the V136 3.45 mode 0 (STE)

Frequency	Hub height wind speeds [m/s]																	
	3 m/s	3.5 m/s	4 m/s	4.5 m/s	5 m/s	5.5 m/s	6 m/s	6.5 m/s	7 m/s	7.5 m/s	8 m/s	8.5 m/s	9 m/s	9.5 m/s	10 m/s	10.5 m/s	11 m/s	11.5 m/s
8 Hz	29.9	29.6	29.3	30.4	31.6	33.4	35.2	36.9	38.6	40.4	42.1	43.4	44.6	44.7	44.9	45.1	45.3	45.4
16 Hz	49.5	49.3	49.1	50.2	51.3	53.1	54.8	56.5	58.1	59.8	61.5	62.6	63.8	63.9	64	64.2	64.5	64.6
31.5 Hz	63.3	63.3	63.2	64.4	65.6	67.2	68.9	70.6	72.2	73.8	75.4	76.5	77.6	77.7	77.7	77.9	78.0	78.1
63 Hz	78.6	78.9	79.1	79.8	80.5	81.5	82.4	83.5	84.5	85.5	86.5	87.2	87.9	88.0	88.0	88.0	88.0	88.1
125 Hz	83.4	83.3	83.2	84.0	84.8	86.0	87.1	88.3	89.5	90.7	91.8	92.6	93.3	93.4	93.4	93.4	93.5	93.5
250 Hz	86.5	86.3	86.1	86.9	87.7	89.0	90.3	91.5	92.8	94.1	95.5	96.4	97.3	97.4	97.4	97.6	97.7	97.9
500 Hz	82.0	82.4	82.8	84.3	85.8	87.6	89.5	91.4	93.3	94.9	96.6	97.7	98.9	99.0	99.0	98.9	98.9	98.9
1 kHz	86.9	87.2	87.5	88.4	89.4	90.7	92.1	93.6	95.2	96.6	97.9	98.9	99.8	99.9	99.9	99.9	99.8	99.8
2 kHz	83.2	83.6	84.1	85.4	86.8	88.4	90.1	91.9	93.7	95.2	96.8	97.9	98.9	99.0	99.0	99.0	99.0	98.9
4 kHz	77.0	77.2	77.3	78.4	79.5	81.1	82.7	84.3	86.0	87.5	89.0	90.1	91.1	91.2	91.3	91.4	91.4	91.5
8 kHz	66.0	65.7	65.4	65.3	65.2	65.7	66.3	67.0	67.7	68.8	69.8	70.6	71.5	71.6	71.7	72.0	72.4	72.6
A-wgt	92.2	92.4	92.5	93.5	94.5	96.0	97.4	99.0	100.5	102.0	103.4	104.4	105.4	105.5	105.5	105.5	105.5	105.5

Table 3: V136-3.45 MW, 3 – 11.5 m/s, expected 1/3 octave band performance, Mode 0 & Mode 0 (HWO) - (Blades with serrated trailing edge)

Frequency	Hub height wind speeds [m/s]																
	12 m/s	12.5 m/s	13 m/s	13.5 m/s	14 m/s	14.5 m/s	15 m/s	15.5 m/s	16 m/s	16.5 m/s	17 m/s	17.5 m/s	18 m/s	18.5 m/s	19 m/s	19.5 m/s	20 m/s
8 Hz	45.6	45.7	45.8	45.8	45.9	46	46	46.1	46.1	46.1	46.1	46.2	46.2	46.2	46.2	46.3	46.3
16 Hz	64.7	64.8	64.9	64.9	65	65	65	65	65.1	65.1	65.2	65.2	65.3	65.2	65.2	65.2	65.3
31.5 Hz	78.2	78.3	78.3	78.3	78.4	78.4	78.5	78.5	78.5	78.5	78.5	78.5	78.6	78.6	78.6	78.6	78.6
63 Hz	88.2	88.2	88.1	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.3	88.3	88.3	88.3	88.3
125 Hz	93.6	93.6	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.8	93.8	93.8	93.8	93.8	93.8
250 Hz	98.0	98.0	98.0	98.1	98.1	98.2	98.2	98.2	98.2	98.2	98.2	98.3	98.3	98.4	98.4	98.4	98.4
500 Hz	98.8	98.8	98.8	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.6	98.6	98.6	98.6	98.6
1 kHz	99.8	99.8	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2 kHz	98.9	98.9	98.8	98.8	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7
4 kHz	91.5	91.5	91.5	91.5	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6
8 kHz	72.8	73.0	73.1	73.3	73.4	73.5	73.5	73.5	73.6	73.7	73.8	73.9	74.0	74.0	74.0	74.0	74.0
A-wgt	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5

Table 4: V136-3.45 MW, 12 – 20 m/s, expected 1/3 octave band performance, Mode 0 & Mode 0 (HWO) - (Blades with serrated trailing edge)



Vestas
1417 NW Everett Street
Portland, Oregon, 97209
August 24, 2017

RE: Tonal Audibility Level Warranty and Maximum Sound Power Level.

Dear Sir/Madam:

With respect to the Nation Rise project, Vestas is willing to warrant that the tonal audibility of the V136 turbine will be within 3 dB, for the turbine configuration listed below, when determined according to the methods described in standard IEC 61400-11, Ed. 3, 2012.

Turbine Configuration	Maximum Rated Power Level	Maximum Sound Power Level
V136, Mode 0, with blade serrations	3.45 MW	105.7 dBA

Sincerely,

Miguel G. Gómez

Technical Bid Specialist

Resumé

For the Vestas wind turbine type V136-3.45MW, Mode 0, serial number 212512, the following acoustic data has been determined according to IEC 61400-11 Edition 3.0:

Wind speed Bin (hub height) [m/s]	Power [kW]	Apparent Sound Power level L_{WA} [dB]	Uncertainty U_{LWA} [dB]	Maximum Tonal Audibility ΔL_s [dB]	RPM [min ⁻¹]
7,5	1705	102,7	1,2	-0,8	10,4
8,0	2067	103,4	0,9	-2,2	10,8
8,5	2460	104,9	0,9	No relevant Tone	11,4
9,0	2849	105,5	0,9	No relevant Tone	11,7
9,5	3174	105,7	0,9	-2,9	11,7
10,0	3369	105,6	0,9	No relevant Tone	11,7
10,5	3434	105,5	0,9	-2,8	11,7
11,0	3449	105,3	0,9	No relevant Tone	11,7
11,5	3450	105,1	0,9	No relevant Tone	11,7
12,0	3450	105,2	1,0	-2,6	11,7
12,5	3450	105,2	1,0	-1,5	11,8
13,0	3450	105,2	1,0	-1,2	11,8
13,5	3450	105,1	0,9	-1,3	11,8
14,0	3450	104,5	1,0	No relevant Tone	11,7
14,5	3450	104,6	1,0	-2,2	11,7
15,0	3450	104,8	1,1	No relevant Tone	11,8
15,5	3450	104,3	1,1	-1,9	11,8

Wind speed at 10 m height V_{10} [m/s]	6	7	8	9	10
Apparent Sound Power Level	105,3	105,5	105,1	105,2	104,7
$L_{WA,10m}$ [dB re 1 pW]					
Uncertainty U_{LWA} [dB]	0,6	0,7	0,7	0,7	0,8

Third octave band spectra are found in Enclosure 1. The measurements were carried out on 31 May to 2 June 2017, at Østerild test site, Denmark. The results were obtained at a horizontal distance of 184 m from the turbine tower centre. The measured tonality is not directly applicable at larger distances.

The results in this report is based on the wind speed at hub height. Therefore, the results are directly applicable at all hub height configurations for this wind turbine.

APPENDIX F – COORDINATES OF TURBINES AND TRANSFORMER

Coordinates of turbines and transformer considered for the Project are listed below in UTM18-NAD83 projection.

ID	Easting [m]	Northing [m]	Broadband PWL [dBA]	Base Elevation [m]
1	480621	5007611	105.8	69
2	480992	5007313	105.8	71
4	482870	5006768	105.8	80
5	484160	5007567	105.8	70
6	481950	5004643	105.8	77
7	484187	5005760	105.8	75
9	485446	5006565	105.8	70
10	483097	5003468	105.8	75
11	483354	5003162	105.8	75
12	484260	5004075	105.8	74
16	485706	5001932	105.8	70
18	487011	5004960	105.8	67
20	486785	5004255	105.8	69
21	486717	5003432	105.8	70
23	487073	5002532	105.8	69
25	488426	5001668	105.8	71
27	490721	5004544	105.8	80
28	492449	5003929	105.8	75
29	492423	5005472	105.8	75
32	488724	5000105	105.8	74
35	490094	5000515	105.8	74
38	490750	5001244	105.8	73
41	491182	5000208	105.8	75
43	494279	5001837	105.8	88
44	487121	4996303	105.8	69
46	487994	4993166	105.8	85
47	490614	4998234	105.8	78
48	491382	4997145	105.8	82
52	488444	4995522	105.8	76
54	488115	4998329	105.8	70
56	491538	4994880	105.8	89
57	492803	4996220	105.8	86
58	485047	4999775	105.8	70
Transformer	487208	5005295	101.7	66

Coordinates of the City Lights Solar Farm inverters and transformer are listed below in UTM18-NAD83 projection.

ID	Description	Easting [m]	Northing [m]	Source Height [m]	Elevation [m]
INV1	2x 800 kW inverters	482007	5000863	2	80
INV2	2x 800 kW inverters (louver)	482238	5000842	2	80
INV3	2x 800 kW inverters (louver)	482275	5000842	2	80
INV4	1x 800 kW inverter	481980	5000700	2	80
INV5	2x 800 kW inverters	482215	5000670	2	80
INV6	2x 800 kW inverters	482255	5000674	2	80
INV7	2x 800 kW Inverters (louver)	482246	5000429	2	80
INV TR1	1.6 MVA transformer	482012	5000863	2	80
INV TR2	1.6 MVA transformer	482244	5000842	2	80
INV TR3	1.6 MVA transformer	482270	5000842	2	80
INV TR4	0.8 MVA transformer	481986	5000700	2	80
INV TR5	1.6 MVA transformer	482221	5000670	2	80
INV TR6	1.6 MVA transformer	482249	5000674	2	80
INV TR7	1.6 MVA transformer	482241	5000429	2	80
LR	Line Reactor	482426	5000306	7.4	80
Transformer	10 MVA step up Transformer	482359	5000299	2.5	80



APPENDIX G – TRANSFORMER DRAWING AND ACOUSTIC MEASUREMENT REPORT

This Appendix contains a sample preliminary technical drawing of the proposed Project transformer and a summary of the acoustic measurement test report (in ONAF2 mode) completed by the manufacturer.

The drawing and dimensions are presented as informative only and were not used as part of the calculation in this report.



POWER TRANSFORMERS

TEST DEPARTMENT

TEST REPORT

PAGE 43

Purchaser: EDP RENEWABLES, NORTH AMERICA LLC

Serial No.: G4086-01

Rating: 69.000/92.000/115.000 MVA

Date: 05/17/2019

SOUND LEVEL TEST

ONAF2

Taps Positions: HV: NOM LV: NOM
Test Voltage: 34.500 kV

Height (H): 4.2 m
Length (Lm): 36.2 m
Surface (S): 187.8 m^2

Test Performed according to IEEE C57.12.90

Table with 3 columns: Pos., dB(A), and rows for Amb. Before (A, B, C, D)

Table with 3 columns: Pos., dB(A), and rows for Amb. After (A, B, C, D)

Average Amb 67 dB(A)

Amb + Trans 73 dB(A)

k factor 2.20

Measurements at 1/3 of the High

Table with 6 columns: Pos., Meas. dB(A), Corr. dB(A), Pos., Meas. dB(A), Corr. dB(A) for 35 positions

Measurements at 2/3 of the High

Table with 6 columns: Pos., Meas. dB(A), Corr. dB(A), Pos., Meas. dB(A), Corr. dB(A) for 35 positions

Guaranteed: 74 dB(A)

Avg. Sound Pressure Level (Lp): 69 dB(A)

Sound Power Level (Lw): 92 dB(A)

Results: Accepted

Test Engineer signature

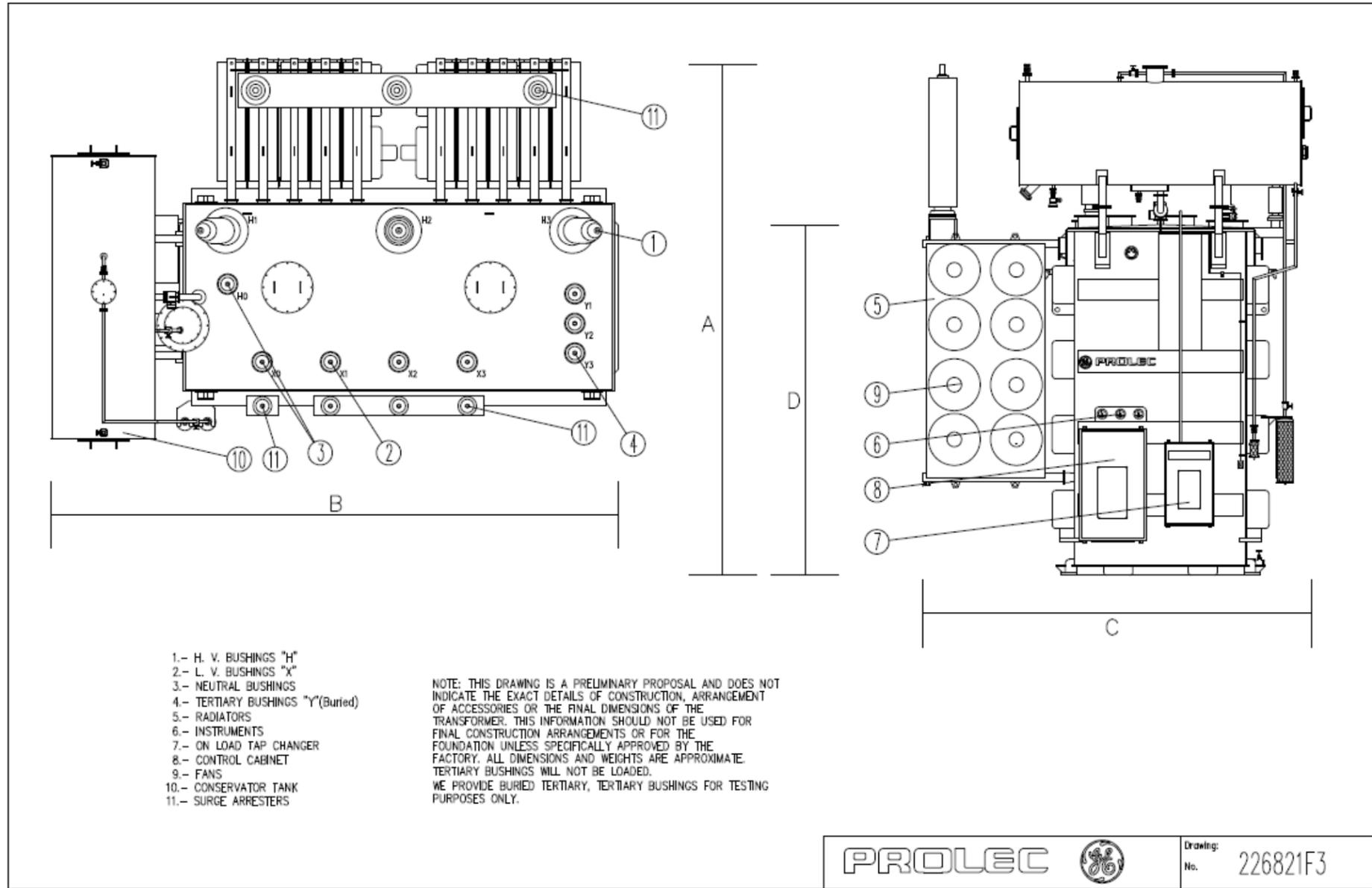
Design Engineer signature

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GE ENERGY
GE PROLEC

Bldv. Carlos Salinas de Gortari km 9.25

Apodaca N.L., 66600, Mexico



MECHANICAL DATA
Not for Construction Purposes

Outline Dwg No: 226821F3

Dimensions (Approximate)		Ft. (Mts.)
Height	(A)	26.3 (8.02)
Width	(B)	35.3 (10.75)
Depth	(C)	18.5 (5.63)
Height over Cover	(D)	16.1 (4.90)
Untanking (Plus slings)	(E)	28.2 (8.61)
Shipping Dimensions: Ft WxDxH		24.9 x 12.3 x 16.1
Masses (Approximate)		pounds (Kg)
Core and Coils		238,190 (108,040)
Tank and Fittings		87,350 (39,620)
Liquid 18,570 Gal		139,540 (63,290)
Total Mass		465,080 (210,950)
Shipping without OIL		303,240 (137,550)
Shipping with OIL		-



ABOUT DNV GL

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organizations to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas and energy industries. We also provide certification services to customers across a wide range of industries. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. Operating in more than 100 countries, our professionals are dedicated to helping customers make the world safer, smarter and greener.