DECIBEL - Main Result

Calculation: Optimazation_Noice_Vestas_03

ISO 9613-2 German (Interimsverfahren)

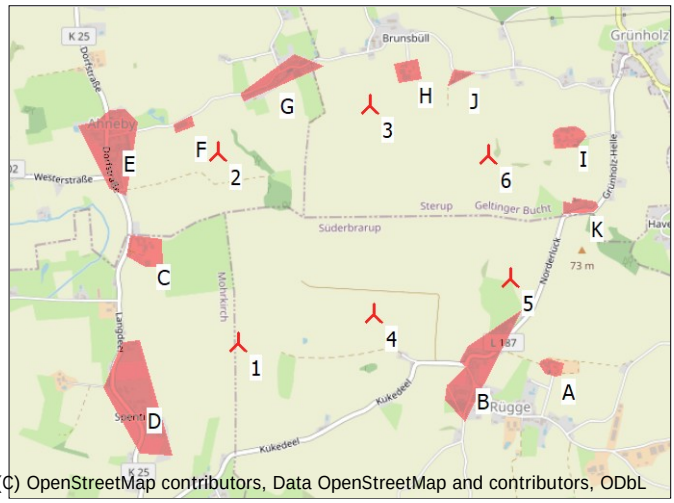
The calculation is based on the international norm "ISO 9613-2 Acoustics - Attenuation of sound during propagation outdoors"

Meteorological correction factor, C0: 0.0 dB

Die Immissionsrichtwerte entsprechend TA Lärm sind (Nacht / Tag):

Industriegebiet: 70 / 70 dB(A)
Kerngebiet, Dorf- und Mischgebiet: 45 / 60 dB(A)
Reines Wohngebiet: 35 / 50 dB(A)
Gewerbegebiet: 50 / 65 dB(A)
Allgemeines Wohngebiet, Kleinsiedlungsgebiet: 40 / 55 dB(A)
Kurgebiet, Krankenhaus, Pflegeanstalt: 35 / 45 dB(A)

All coordinates are in
UTM (north)-ETRS89 Zone: 32



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Scale 1:40,000

New WTG Noise sensitive area

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref	Uncertainty	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[dB(A)]	
1	547,816	6,060,703	60.0	01_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 0 VTL1 - - PO4-0S & PO4-0S VTL1- 12-2021	9.0	107.6	0.0	h
2	547,696	6,061,714	60.0	02_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 4 - - SO11 - 12-2021	12.0	99.2	0.0	h
3	548,500	6,061,972	60.0	03_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 4 - - SO11 - 12-2021	12.0	99.2	0.0	h
4	548,532	6,060,864	60.0	04_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 1 - - LO1 - 12-2021	9.0	104.9	0.0	h
5	549,254	6,061,058	60.0	05_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 4 - - SO11 - 12-2021	12.0	99.2	0.0	h
6	549,128	6,061,708	60.0	06_VESTAS V150-4.5 4500 150...	Yes	VESTAS	V150-4.5-4,500	4,500	150.0	125.0	USER	Level 2 - - LO2 - 12-2021	9.0	103.7	0.0	h

h) Generic octave distribution used

Calculation Results

Sound level

Noise sensitive area No.	Name	Easting	Northing	Z	Immission height	Demands Noise	Sound level From WTGs	Distance to noise demand	Demands fulfilled ? Noise
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
A	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (1)	549,421	6,060,629	53.8	5.0	45.0	40.0	280	Yes
B	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (2)	549,311	6,060,896	60.0	5.0	45.0	45.3	-9	No
C	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (3)	547,408	6,061,109	60.0	5.0	45.0	43.2	115	Yes
D	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (4)	547,331	6,060,571	70.0	5.0	45.0	44.0	55	Yes
E	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (5)	547,210	6,061,481	60.0	5.0	45.0	39.6	366	Yes
F	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (6)	547,568	6,061,853	60.0	5.0	45.0	44.3	24	Yes
G	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (7)	547,830	6,061,989	60.0	5.0	45.0	41.9	136	Yes
H	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (8)	548,649	6,062,095	60.0	5.0	45.0	44.8	11	Yes
I	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (9)	549,481	6,061,756	51.1	5.0	45.0	43.6	61	Yes
J	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (10)	548,910	6,062,081	60.0	5.0	45.0	43.1	116	Yes
K	Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (12)	549,528	6,061,470	60.0	5.0	45.0	42.4	155	Yes

Distances (m)

	WTG					
NSA	1	2	3	4	5	6
A	1599	2038	1629	916	461	1115
B	1126	1675	1346	517	172	833
C	575	553	1317	1150	1847	1788
D	502	1081	1747	1235	1982	2091
E	986	447	1237	1458	2087	1867
F	1165	189	939	1381	1864	1566
G	1286	305	324	1313	1503	996
H	1622	1026	193	1236	1160	540
I	1970	1777	979	1302	734	357
J	1760	1268	425	1274	1079	430
K	1856	1848	1145	1139	448	467

DECIBEL - Detailed results

Calculation: Optimazation_Noice_Vestas_03 Noise calculation model: ISO 9613-2 German (Interimsverfahren) 10.0 m/s

Assumptions

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
(when calculated with ground attenuation, then Dc = Domega)

LWA,ref:	Sound pressure level at WTG
K:	Pure tone
Dc:	Directivity correction
Adiv:	the attenuation due to geometrical divergence
Aatm:	the attenuation due to atmospheric absorption
Agr:	the attenuation due to ground effect
Abar:	the attenuation due to a barrier
Amisc:	the attenuation due to miscellaneous other effects
Cmet:	Meteorological correction

Calculation Results

Noise sensitive area: A Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (1)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,607	1,612	31.33	31.33	107.6	0.00	75.15	4.12	-3.00	0.00	0.00	76.27
2	2,038	2,042	20.16	20.16	99.2	0.00	77.20	4.84	-3.00	0.00	0.00	79.04
3	1,629	1,634	22.78	22.78	99.2	0.00	75.26	4.15	-3.00	0.00	0.00	76.42
4	920	929	34.74	34.74	104.9	0.00	70.36	2.80	-3.00	0.00	0.00	70.15
5	461	478	35.88	35.88	99.2	0.00	64.59	1.72	-3.00	0.00	0.00	63.31
6	1,119	1,126	31.46	31.46	103.7	0.00	72.03	3.21	-3.00	0.00	0.00	72.24
Sum				39.96								

Noise sensitive area: B Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (2)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,507	1,512	32.06	32.06	107.6	0.00	74.59	3.94	-3.00	0.00	0.00	75.53
2	1,810	1,814	21.56	21.56	99.2	0.00	76.17	4.46	-3.00	0.00	0.00	77.63
3	1,347	1,352	24.93	24.93	99.2	0.00	73.62	3.65	-3.00	0.00	0.00	74.27
4	779	788	36.47	36.47	104.9	0.00	68.94	2.49	-3.00	0.00	0.00	68.42
5	172	210	43.85	43.85	99.2	0.00	57.44	0.91	-3.00	0.00	0.00	55.35
6	833	841	34.59	34.59	103.7	0.00	69.50	2.60	-3.00	0.00	0.00	69.11
Sum				45.27								

Noise sensitive area: C Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (3)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	575	588	42.20	42.20	107.6	0.00	66.38	2.01	-3.00	0.00	0.00	65.39
2	671	681	32.29	32.29	99.2	0.00	67.67	2.24	-3.00	0.00	0.00	66.90
3	1,392	1,397	24.56	24.56	99.2	0.00	73.90	3.73	-3.00	0.00	0.00	74.63
4	1,150	1,157	32.36	32.36	104.9	0.00	72.26	3.27	-3.00	0.00	0.00	72.53
5	1,847	1,851	21.32	21.32	99.2	0.00	76.35	4.52	-3.00	0.00	0.00	77.87
6	1,821	1,825	25.99	25.99	103.7	0.00	76.23	4.48	-3.00	0.00	0.00	77.71
Sum				43.19								

Noise sensitive area: D Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (4)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	502	515	43.54	43.54	107.6	0.00	65.24	1.82	-3.00	0.00	0.00	64.06
2	1,201	1,206	26.20	26.20	99.2	0.00	72.63	3.36	-3.00	0.00	0.00	72.99
3	1,825	1,828	21.47	21.47	99.2	0.00	76.24	4.49	-3.00	0.00	0.00	77.73
4	1,236	1,242	31.58	31.58	104.9	0.00	72.88	3.43	-3.00	0.00	0.00	73.31

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DECIBEL - Detailed results

Calculation: Optimazation_Noice_Vestas_03 Noise calculation model: ISO 9613-2 German (Interimsverfahren) 10.0 m/s

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WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
5	1,984	1,987	20.48	20.48	99.2	0.00	76.96	4.75	-3.00	0.00	0.00	78.71
6	2,126	2,129	24.15	24.15	103.7	0.00	77.57	4.97	-3.00	0.00	0.00	79.54
Sum				43.97								

Noise sensitive area: E Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (5)

Highest noise value

WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	986	993	36.72	36.72	107.6	0.00	70.94	2.93	-3.00	0.00	0.00	70.87
2	539	552	34.43	34.43	99.2	0.00	65.84	1.92	-3.00	0.00	0.00	64.76
3	1,380	1,385	24.66	24.66	99.2	0.00	73.83	3.71	-3.00	0.00	0.00	74.54
4	1,458	1,463	29.74	29.74	104.9	0.00	74.31	3.85	-3.00	0.00	0.00	75.16
5	2,087	2,090	19.88	19.88	99.2	0.00	77.40	4.91	-3.00	0.00	0.00	79.32
6	1,931	1,934	25.30	25.30	103.7	0.00	76.73	4.66	-3.00	0.00	0.00	78.39
Sum				39.61								

Noise sensitive area: F Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (6)

Highest noise value

WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,176	1,182	34.82	34.82	107.6	0.00	72.46	3.32	-3.00	0.00	0.00	72.77
2	189	224	43.25	43.25	99.2	0.00	57.99	0.96	-3.00	0.00	0.00	55.95
3	939	947	28.83	28.83	99.2	0.00	70.53	2.84	-3.00	0.00	0.00	70.36
4	1,381	1,386	30.35	30.35	104.9	0.00	73.83	3.71	-3.00	0.00	0.00	74.54
5	1,864	1,868	21.22	21.22	99.2	0.00	76.43	4.55	-3.00	0.00	0.00	77.98
6	1,566	1,571	27.73	27.73	103.7	0.00	74.92	4.04	-3.00	0.00	0.00	75.96
Sum				44.27								

Noise sensitive area: G Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (7)

Highest noise value

WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,286	1,292	33.84	33.84	107.6	0.00	73.22	3.53	-3.00	0.00	0.00	73.75
2	305	328	39.58	39.58	99.2	0.00	61.32	1.29	-3.00	0.00	0.00	59.61
3	670	681	32.30	32.30	99.2	0.00	67.66	2.23	-3.00	0.00	0.00	66.89
4	1,325	1,331	30.81	30.81	104.9	0.00	73.48	3.60	-3.00	0.00	0.00	74.09
5	1,701	1,705	22.28	22.28	99.2	0.00	75.64	4.28	-3.00	0.00	0.00	76.91
6	1,327	1,333	29.59	29.59	103.7	0.00	73.50	3.61	-3.00	0.00	0.00	74.10
Sum				41.90								

Noise sensitive area: H Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (8)

Highest noise value

WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,622	1,627	31.23	31.23	107.6	0.00	75.23	4.14	-3.00	0.00	0.00	76.37
2	1,026	1,033	27.90	27.90	99.2	0.00	71.28	3.02	-3.00	0.00	0.00	71.30
3	193	228	43.08	43.08	99.2	0.00	58.14	0.97	-3.00	0.00	0.00	56.12
4	1,236	1,242	31.58	31.58	104.9	0.00	72.88	3.43	-3.00	0.00	0.00	73.31
5	1,200	1,206	26.20	26.20	99.2	0.00	72.63	3.36	-3.00	0.00	0.00	72.99
6	615	627	37.65	37.65	103.7	0.00	66.94	2.10	-3.00	0.00	0.00	66.04
Sum				44.76								

Noise sensitive area: I Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (9)

Highest noise value

WTG

No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,970	1,975	28.96	28.96	107.6	0.00	76.91	4.73	-3.00	0.00	0.00	78.64
2	1,785	1,790	21.72	21.72	99.2	0.00	76.06	4.42	-3.00	0.00	0.00	77.48

To be continued on next page...

DECIBEL - Detailed results

Calculation: Optimazation_Noice_Vestas_03 Noise calculation model: ISO 9613-2 German (Interimsverfahren) 10.0 m/s

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WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
3	1,005	1,012	28.11	28.11	99.2	0.00	71.11	2.97	-3.00	0.00	0.00	71.08
4	1,302	1,308	31.00	31.00	104.9	0.00	73.33	3.56	-3.00	0.00	0.00	73.90
5	734	744	31.37	31.37	99.2	0.00	68.44	2.38	-3.00	0.00	0.00	67.82
6	357	379	42.69	42.69	103.7	0.00	62.56	1.44	-3.00	0.00	0.00	61.01
Sum				43.58								

Noise sensitive area: J Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (10)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,760	1,764	30.28	30.28	107.6	0.00	75.93	4.38	-3.00	0.00	0.00	77.31
2	1,268	1,274	25.59	25.59	99.2	0.00	73.10	3.50	-3.00	0.00	0.00	73.60
3	425	442	36.67	36.67	99.2	0.00	63.90	1.62	-3.00	0.00	0.00	62.52
4	1,274	1,280	31.24	31.24	104.9	0.00	73.14	3.51	-3.00	0.00	0.00	73.65
5	1,079	1,085	27.36	27.36	99.2	0.00	71.71	3.12	-3.00	0.00	0.00	71.84
6	431	448	41.04	41.04	103.7	0.00	64.02	1.64	-3.00	0.00	0.00	62.66
Sum				43.15								

Noise sensitive area: K Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (12)

Highest noise value

WTG No.	Distance [m]	Sound distance [m]	From WTGs [dB(A)]	WTG + Uncertainty margin [dB]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	1,877	1,880	29.54	29.54	107.6	0.00	76.48	4.57	-3.00	0.00	0.00	78.06
2	1,848	1,852	21.31	21.31	99.2	0.00	76.35	4.53	-3.00	0.00	0.00	77.88
3	1,145	1,151	26.72	26.72	99.2	0.00	72.22	3.26	-3.00	0.00	0.00	72.48
4	1,166	1,172	32.22	32.22	104.9	0.00	72.38	3.30	-3.00	0.00	0.00	72.68
5	494	509	35.26	35.26	99.2	0.00	65.13	1.80	-3.00	0.00	0.00	63.93
6	467	482	40.31	40.31	103.7	0.00	64.66	1.73	-3.00	0.00	0.00	63.39
Sum				42.37								

DECIBEL - Assumptions for noise calculation

Calculation: Optimazation_Noice_Vestas_03

Noise calculation model:
ISO 9613-2 German (Interimsverfahren)
Wind speed (at hubheight):
Highest noise value
Ground attenuation:
Fixed values, Agr: -3.0, Dc: 0.0
Meteorological coefficient, C0:
Selected option: Fixed value: 0.0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
WTG catalogue
Height above ground level, when no value in NSA object:
5.0 m; Allow override of model height with height from NSA object
Uncertainty margin:
Uncertainty added to source noise level of the WTGs in the calculation
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0.0 dB(A)
Octave data required
Frequency dependent air absorption

63	125	250	500	1,000	2,000	4,000	8,000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0.10	0.40	1.00	1.90	3.70	9.70	32.80	117.00

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTG: VESTAS V150-4.5 4500 150.0 !O!
Noise: Level 0 VTL1 - - PO4-0S & PO4-0S VTL1- 12-2021

Source	Source/Date	Creator	Edited
Manufacturer	12/3/2021	USER	8/30/2022 2:53 PM

Based on Document no.: 0067-7057.V04.

Status	Wind speed (hh) [m/s]	LwA,ref [dB(A)]	Pure tones		Octave data 63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	9.0	107.6	No	Generic data	87.3	95.7	99.9	102.1	101.6	99.6	95.6	84.7

WTG: VESTAS V150-4.5 4500 150.0 !O!
Noise: Level 4 - - SO11 - 12-2021

Source	Source/Date	Creator	Edited
Manufacturer	12/3/2021	USER	8/30/2022 3:02 PM

Based on Document no.: 0067-7057.V04.

Status	Wind speed (hh) [m/s]	LwA,ref [dB(A)]	Pure tones		Octave data 63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	12.0	99.2	No	Generic data	78.9	87.3	91.5	93.7	93.2	91.2	87.2	76.3

WTG: VESTAS V150-4.5 4500 150.0 !O!
Noise: Level 1 - - LO1 - 12-2021

Source	Source/Date	Creator	Edited
Manufacturer	12/3/2021	USER	8/30/2022 2:53 PM

Based on Document no.: 0067-7057.V04.

Status	Wind speed (hh) [m/s]	LwA,ref [dB(A)]	Pure tones		Octave data 63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	9.0	104.9	No	Generic data	84.6	93.0	97.2	99.4	98.9	96.9	92.9	82.0

DECIBEL - Assumptions for noise calculation

Calculation: Optimazation_Noice_Vestas_03

WTG: VESTAS V150-4.5 4500 150.0 !O!
Noise: Level 2 - - LO2 - 12-2021

Source	Source/Date	Creator	Edited
Manufacturer	12/3/2021	USER	8/30/2022 2:54 PM

Based on Document no.: 0067-7057.V04.

Status	Wind speed (hh) [m/s]	LwA,ref [dB(A)]	Pure tones		Octave data 63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	9.0	103.7	No	Generic data	83.4	91.8	96.0	98.2	97.7	95.7	91.7	80.8

Noise sensitive area: A Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (1)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: B Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (2)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: C Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (3)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: D Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (4)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: E Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (5)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: F Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (6)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: G Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (7)
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

DECIBEL - Assumptions for noise calculation

Calculation: Optimazation_Noice_Vestas_03

Noise sensitive area: H Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (8)

Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: I Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (9)

Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: J Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (10)

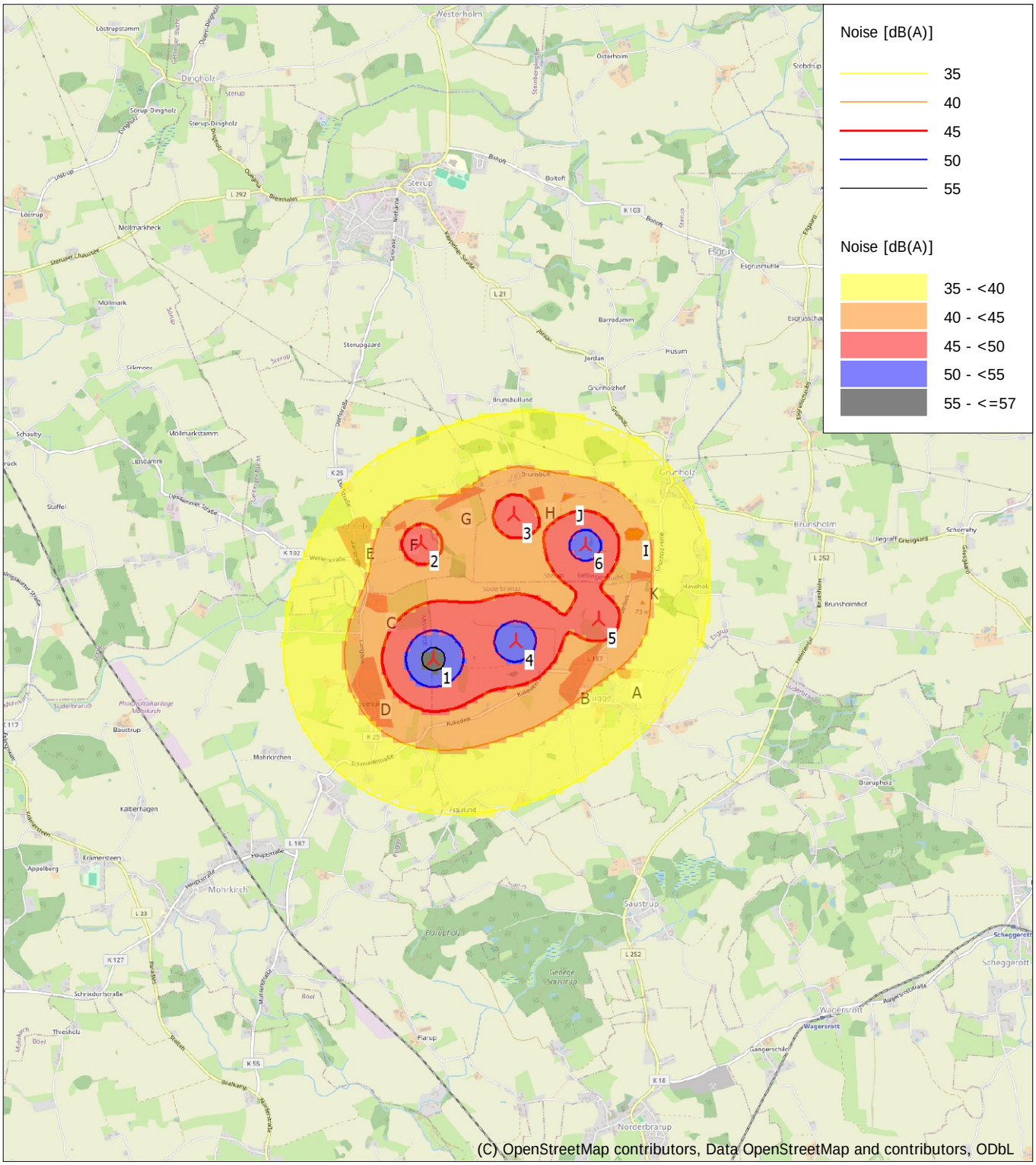
Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

Noise sensitive area: K Noise sensitive area: German TA Lärm - Rural villages, Mixed areas (12)

Predefined calculation standard: Rural villages, Mixed areas
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model
No temporal binning
Noise demand: 45.0 dB(A)
No distance demand

DECIBEL - Map Highest noise value

Calculation: Optimazation_Noice_Vestas_03



0 500 1000 1500 2000 m

Map: EMD OpenStreetMap , Print scale 1:50,000, Map center UTM (north)-ETRS89 Zone: 32 East: 548,475 North: 6,061,337

New WTG Noise sensitive area

Noise calculation model: ISO 9613-2 German (Interimsverfahren). Wind speed: Highest noise value
Height above sea level from active line object