

Project:

**18138\_Valsneset**

Description:

Limitation of Liability

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Calculated:

29/05/2019 02:59/3.3.255

## NORD2000 - Main Result

Calculation: 3 x V117, real case

### Assumptions

Weather stability	50.0 %
Relative humidity	15.0 °C
Air temperature	2.0 m
Height for air temperature	Night/Clear sky
Stability parameters	0.0100
Inverse Pasquill-Gifford length	0.0000
Temperature scale 1 *	
Terrain	
Elevation based on object	January
Height Contours: C:\PROJECTS\18138_Valsneset_5.mxd (S)	
Roughness based on line object	
Roughness lines - exported from Area object (Roughness): REGIONS_18138_Valsneset_5.mxd (S)	
Terrain type based on area object	
Area object (J): REGIONS_18138_Valsneset_181002_5.mxd (S)	
Months for calculation	
Wind speed criteria	
Uniform wind speed at 10 m a.g.l.	MCP LT - 86m no dir changed vs ERA - [Matrix] [30] used, 86.00m - MCP LT - 86m no dir changed vs ERA - [Matrix] FINAL
Wind speed distribution	0.0 ° - 330.0 ° - 30.0 °
Wind direction	4.0 m
Height above ground level for receiver	
Wind speed has been extrapolated to calculation height using	
EC profile power (P) = 0.00m	
No stability correction	
Version	5.022

All coordinates are in

UTM (north)-WGS84 Zone: 32



Scale 1:7,500

New WTG

### WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Setting	Noise data	
					Valid	Manufact.	Type-generator					Creator	Name
			[m]										
1	530,126	7,076,386	2.1	VESTAS V117-4.0/4.2 M...	Yes	VESTAS	V117-4.0/4.2 MW SW-4,000	4,000	117.0	86.0	Day	USER	0 - serrations - 2017-12
											Evening	USER	0 - serrations - 2017-12
											Night	USER	0 - serrations - 2017-12
2	530,486	7,076,376	3.0	VESTAS V117-4.0/4.2 M...	Yes	VESTAS	V117-4.0/4.2 MW SW-4,000	4,000	117.0	86.0	Day	USER	0 - serrations - 2017-12
											Evening	USER	0 - serrations - 2017-12
											Night	USER	0 - serrations - 2017-12
3	530,578	7,076,656	3.1	VESTAS V117-4.0/4.2 M...	Yes	VESTAS	V117-4.0/4.2 MW SW-4,000	4,000	117.0	86.0	Day	USER	0 - serrations - 2017-12
											Evening	USER	0 - serrations - 2017-12
											Night	USER	0 - serrations - 2017-12

### Calculation Results

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**18138\_Valsnesstet**

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## NORD2000 - Assumptions for NORD2000 calculation

**Calculation:** 3 x V117, real case

### Assumptions

#### Weather stability

Relative humidity

50.0 %

Air temperature

15.0 °C

Height for air temperature

2.0 m

Stability parameters

Night/Clear sky

Inverse Monin Obukhov length

0.0100

Temperature scale T\*

0.0500

#### Terrain

Elevation based on object

Height Contours: CONTOURLINE\_ONLINEDATA\_3.wpo (6)

Roughness based on line object

Roughness lines - exported from Area object (Roughness): REGIONS\_18138\_Valsnesstet\_5.w2r (5)

Terrain type based on area object

Area object (): REGIONS\_18138\_Valsnesstet\_181022\_0.w2r (6)

Month for calculation

January

#### Wind speed criteria

Uniform wind speed at 10 m agl.

Wind speed distribution

MCP LT - 86m no dir changed vs ERA - [Matrix] (38) used.86.00m - MCP LT - 86m no dir changed vs ERA - [Matrix] FINAL

Wind direction

0.0 ° - 330.0 ° - 30.0 °

Height above ground level for receiver

4.0 m

Wind speed has been extrapolated to calculation height using

IEC profile shear (z0 = 0.05m)

No stability correction

Version

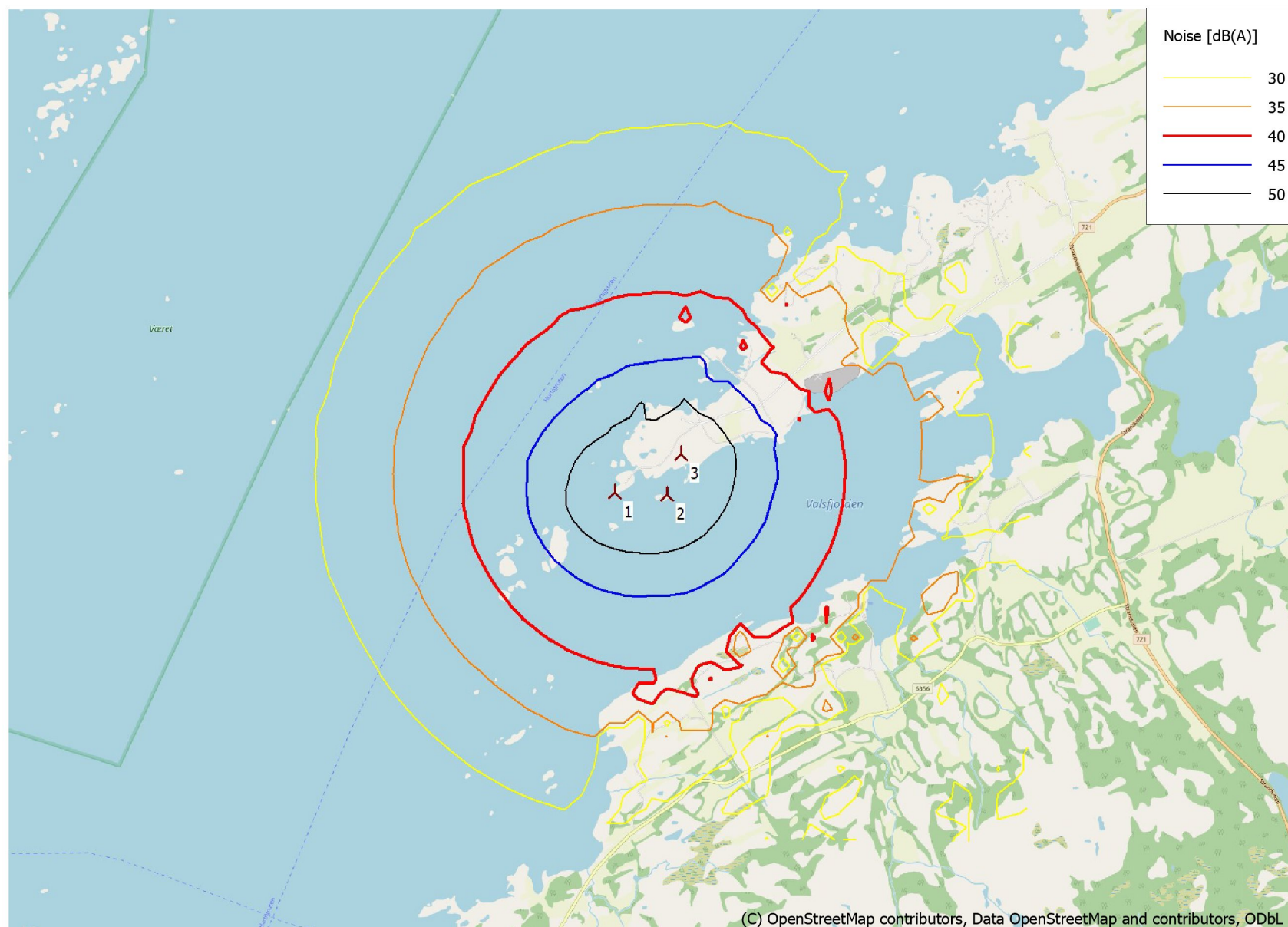
5.022

All coordinates are in

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### Setup for Lden calculation

Variant	Name	From hour	To hour	Hours	Penalty [dB]	Days per year
1	Day	7	19	12	0	365
2	Evening	19	23	4	5	365
3	Night	23	7	8	10	365



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**NORD2000 -  
Aggregated Lden  
Calculation:**  
3 x V117, real case

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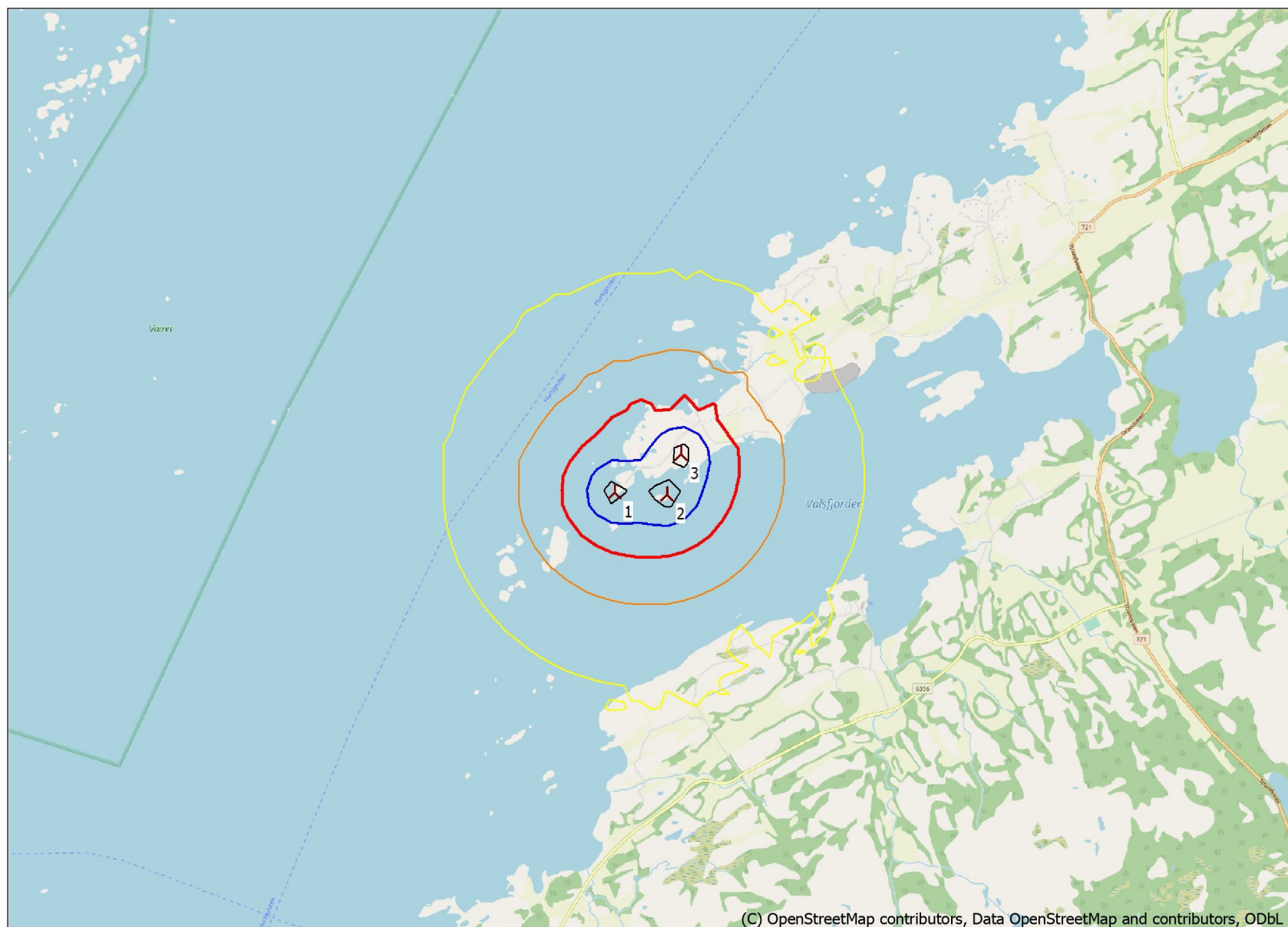
Calculated:

29/05/2019 02:59/3.3.255

New WTG

Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 32 East: 530,352 North: 7,076,516





0 500 1000 1500 2000 m

Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 32 East: 530,352 North: 7,076,516

New WTG

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**NORD2000 -  
Lday**

**Calculation:**

3 x V117, real case

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Niels Jernes Vej 10

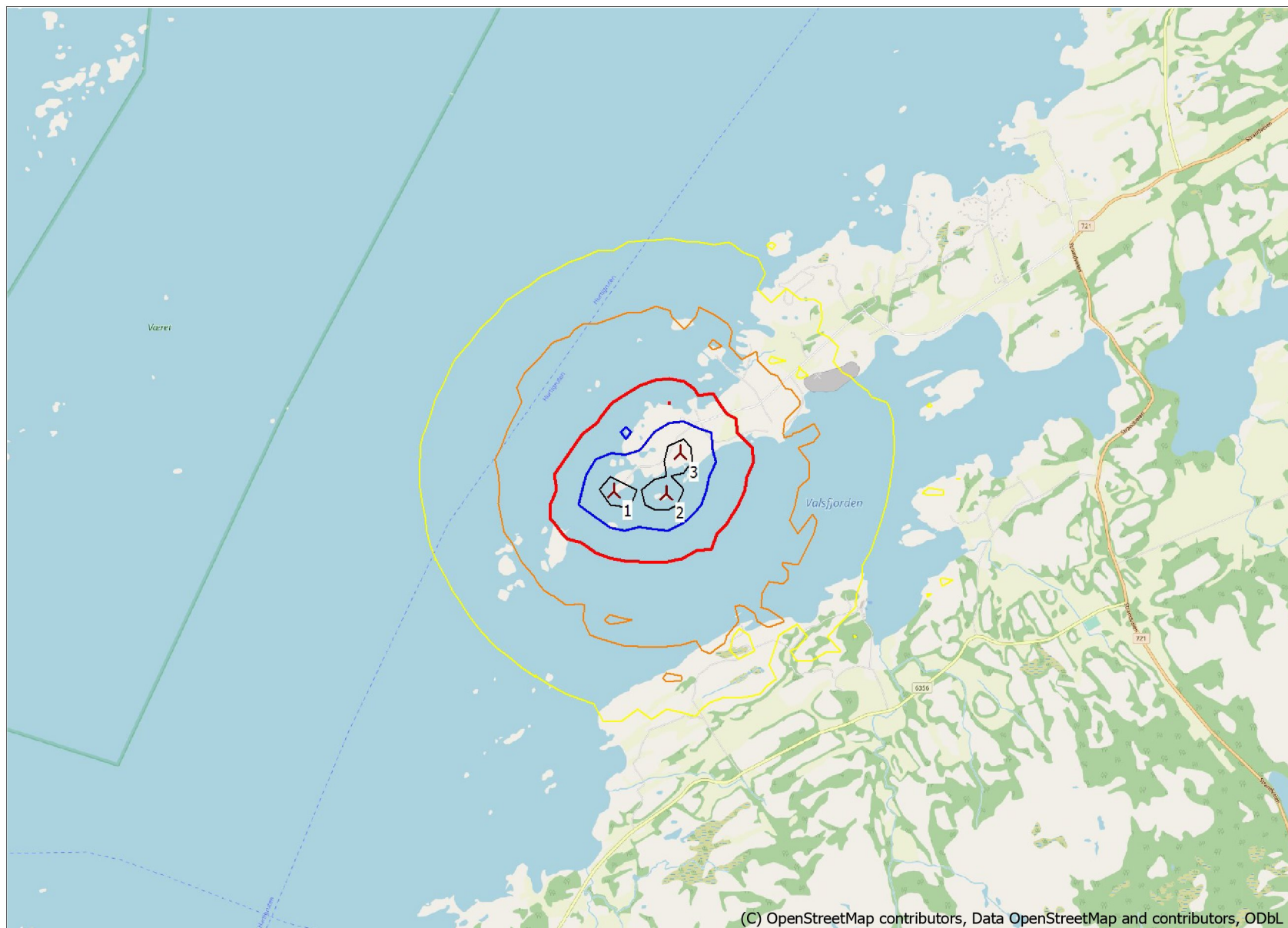
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Calculated:

29/05/2019 02:59/3.3.255



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

0 500 1000 1500 2000 m

Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 32 East: 530,352 North: 7,076,516

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**NORD2000 -  
Levening**

**Calculation:**

3 x V117, real case

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0 500 1000 1500 2000 m

Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 32 East: 530,352 North: 7,076,516

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**NORD2000 -  
Knight  
Calculation:**  
3 x V117, real case

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