MAMMOET

Route Survey

Hitra

Vestas V-162

Statkraft

Rev.	Date	Change	Responsible	Checked
00	12-09-2025	First issue.	TBS-Mammoet	
01	30-09-2025	Maps inserted	TBS-Mammoet	
02	19-03-2026	Updated wording	TBS-Mammoet	

Introduction

The purpose of this survey is to determine the extend of required road modifications for safe transportation of turbine components from storage area in Kalvøya to Hitra Wind Park. The survey is based on an example turbine that represents the relevant dimensions that is evaluated for the project. The turbine specifications for a Vestas V-162 turbine is used.

This is a preliminary survey to determine the feasibility of the transport and the survey will need to be updated once the final turbine configuration has been selected.

This document describes observations on the Access Route and explains the transportation of the Key Components to the Site and serves as a first Evaluation of the transportability of the route, checked on the inspection date, taking into account the boundary conditions.

The Route Survey is based on an inspection dated as set out on the front page of this Schedule shall not be regarded as a conclusive statement on suitability of the Access Route. The Route Survey does furthermore not consider any route modifications other than such (if any) already set out in this document.

This Route Survey does not include any bridge analysis or studies on Site.

Project Data

Date of route survey:	Week 29 - 2025.
Responsible for route survey:	Thomas Simonsen, Mammoet.
Project name:	Hitra
Pick up point of components:	Storage area Kalvøya
Site location:	https://maps.app.goo.gl/6XiggZazMJdK1PXg8
Transport distance:	Approx 29Km
Turbine model:	Vestas V-162
Participants in the route survey:	Thomas Simonsen
Route survey measurements is based on:	See configuration on page 4

Report layout

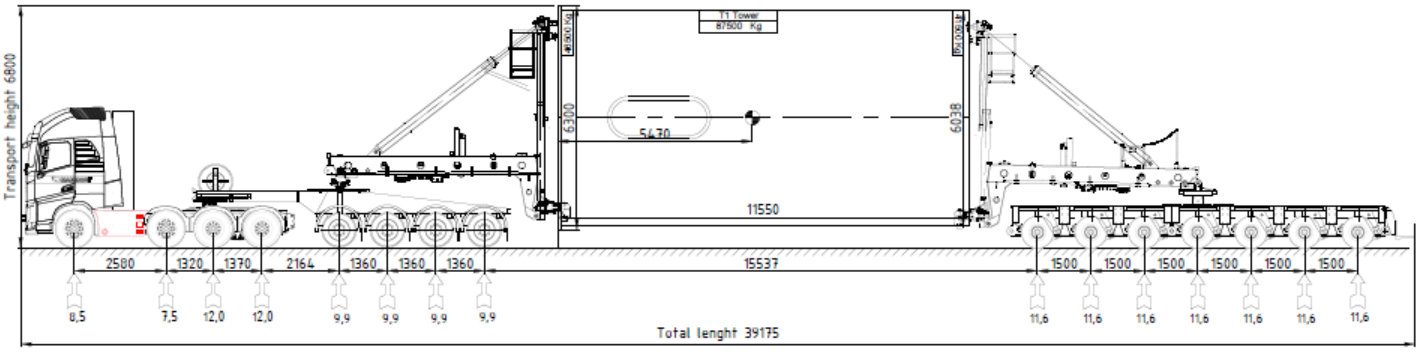
Google Maps links

All points in this route survey is marked with

In order to find the specific point in this survey simply just press the Google Maps icon.

Shapes & Figures

Yellow arrow:	Indication of forward driving.
Red arrow:	Indication of reverse driving.
Red box:	Indication of street furniture, sign etc. that must be removed.
Dotted red box:	Removable signs or street furniture.
Blue area:	Indication of area that must be made suitable to drive on.
Dotted blue line:	Over sail line, removal of embankment, rocks, mountain wall etc.
Green box/line:	Indication of tree cutting/trimming.
Dotted black or red arrow:	Measurements, meters.
Dotted black line:	Measurements from/to.
Dotted red line:	Indication of over head utility/power line.
Dotted purple arrow:	Parking ban.


Transport height 6800
T1 Tower
87500 Kg
6300
5470
6038
11550
15537
2580
1320
1370
2164
1360
1360
1360
1500
1500
1500
1500
1500
1500
8,5
7,5
12,0
12,0
9,9
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11,6
11,6
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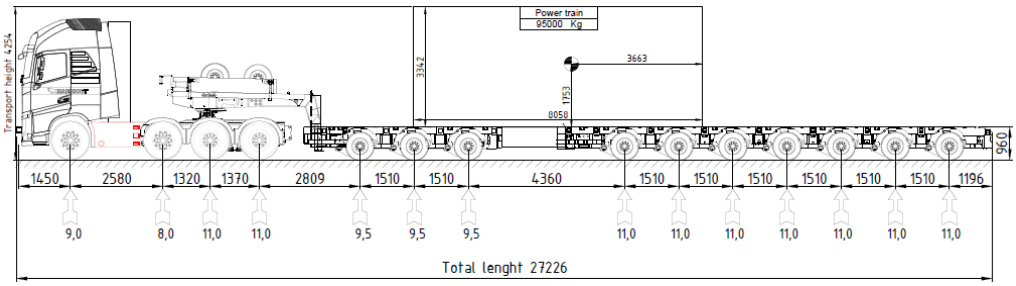
11,6
11,6
Total lenght 39175


Transport height 4254
Power train
95000 Kg
3342
3663
1753
8058
960
1450
2580
1320
1370
2809
1510
1510
4360
1510
1510
1510
1510
1510
1510
1196
9,0
8,0
11,0
11,0
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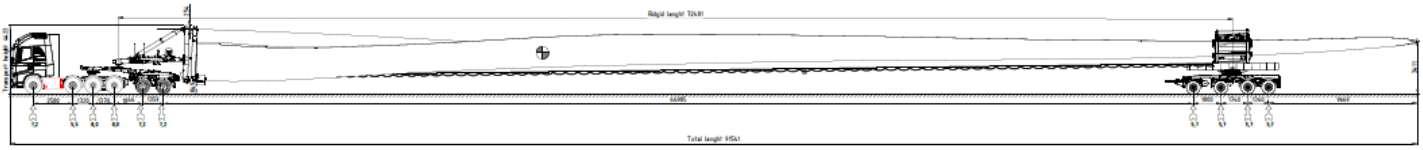
Total lenght 27226



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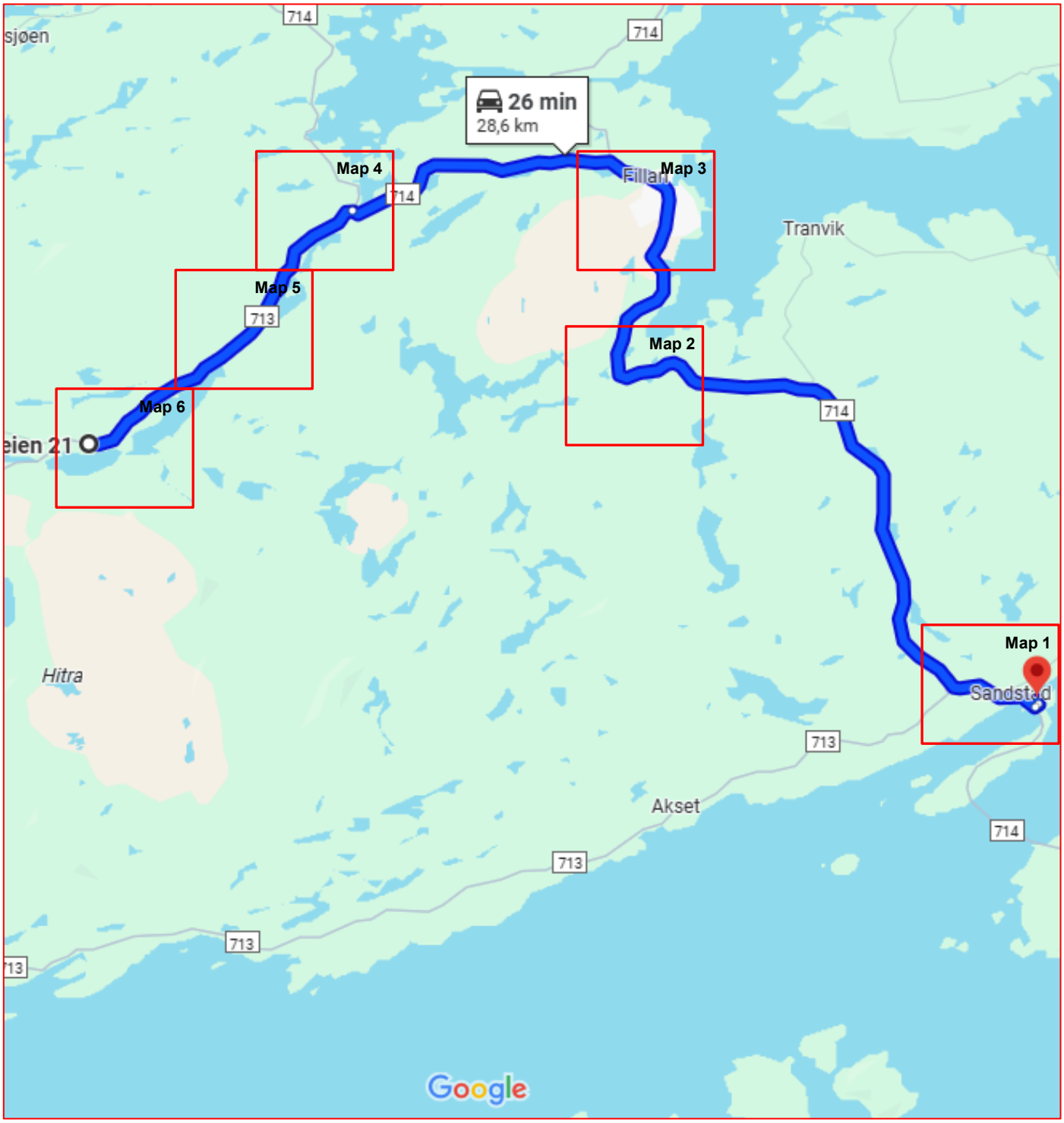
Route map from storage area Kalvøya to Hitra Wind park



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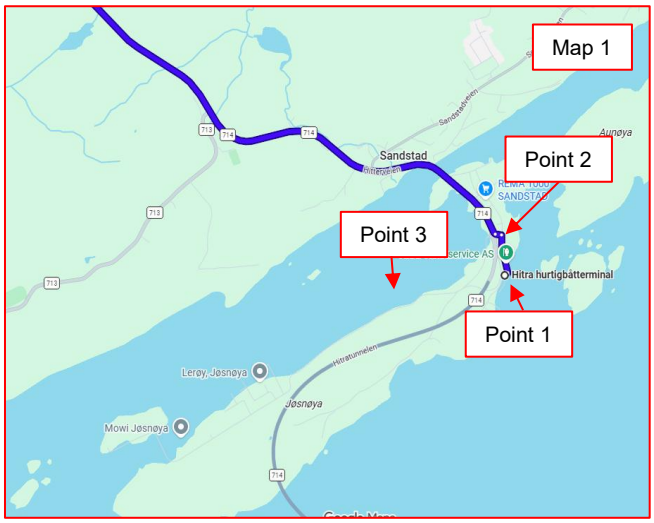
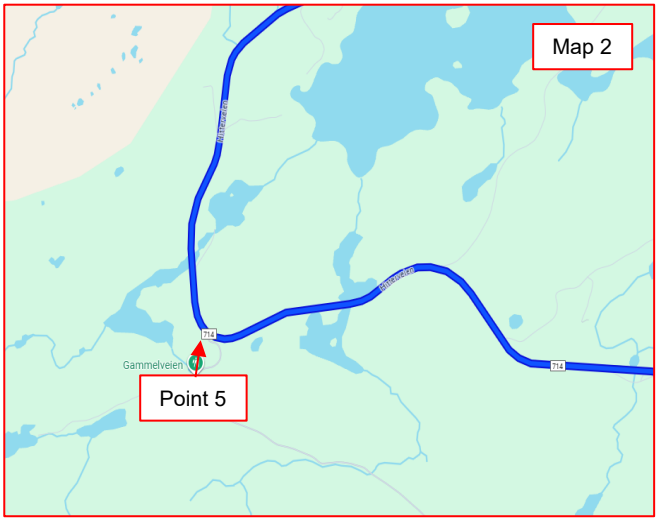
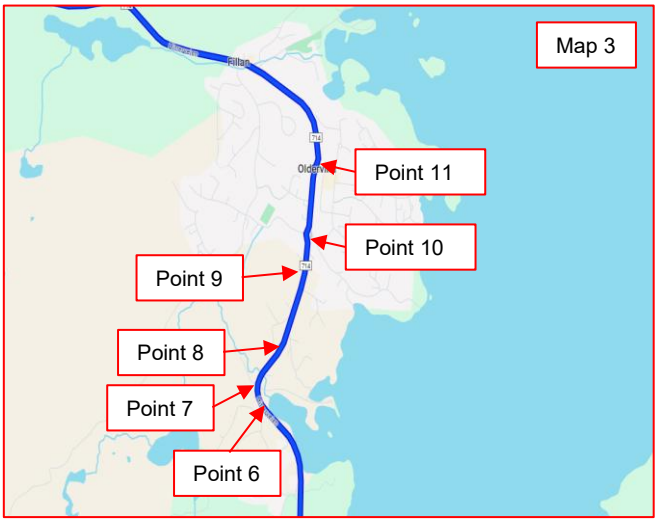
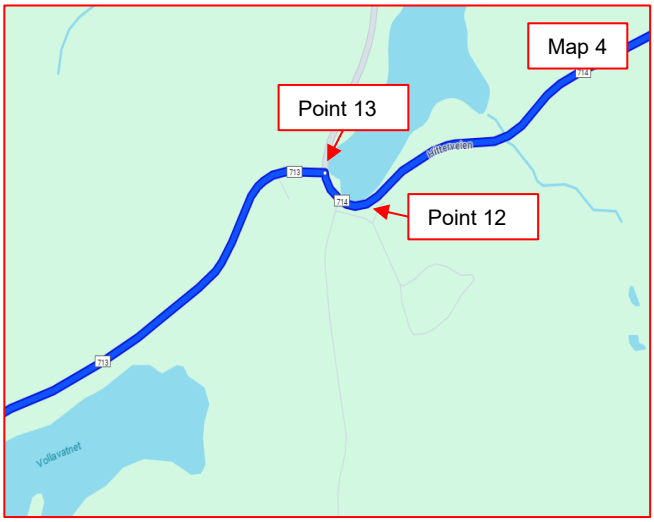
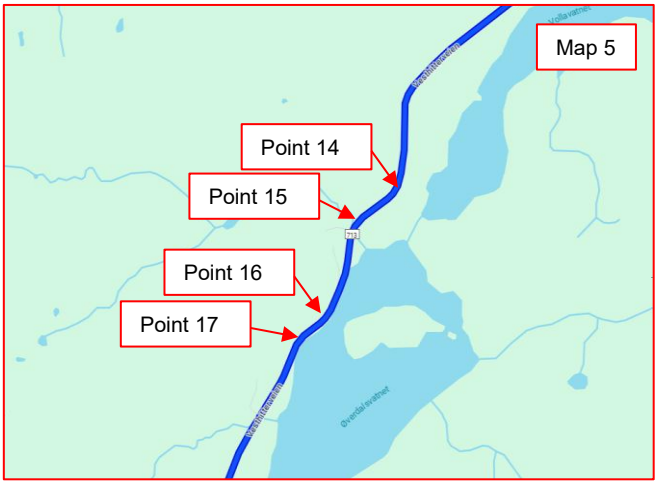
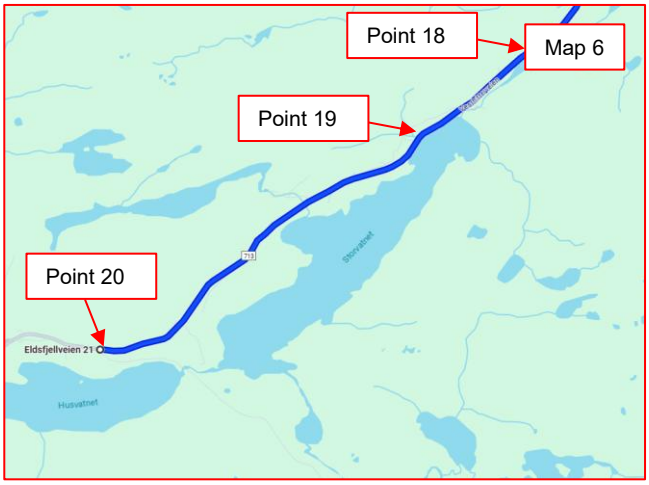

Map 1
Point 2
Point 3
Point 1
Sandstad
Hitra hurtigbåtterminal
Lerøy, Jøsnøya
Mowi Jøsnøya
Jøsnøya


Map 2
Point 5
Gammelveien


Map 3
Point 11
Point 10
Point 9
Point 8
Point 7
Point 6


Map 4
Point 13
Point 12
Vollavatnet


Map 5
Point 14
Point 15
Point 16
Point 17

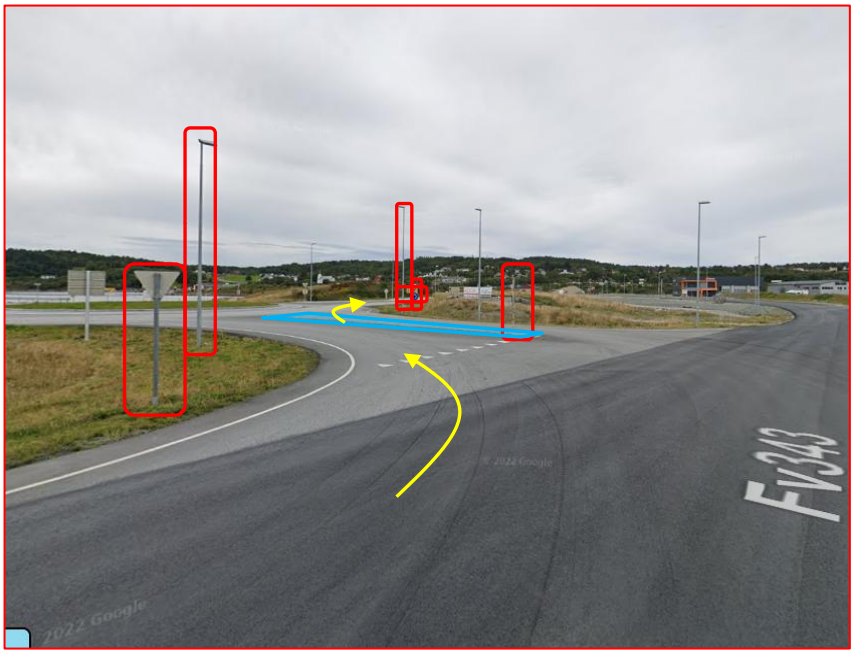

Point 18
Map 6
Point 19
Point 20
Eldsfjellveien 21
Husvatnet

Point 1. Hitra Kysthavn. Jesenøya

Actions or *Info*

- Turbine will arrive at Hitra Kysthavn.

Point 2. Hamneveien onto Route 714. Jesenøya.



- **Actions or *Info***
- 4 signs must be removable.
- 2 light poles must be removed.
- Traffic island must be approved to drive on.
- Curbstone must be ramped.

- See attached PDF file: Point 2.

Point 3. Route 714. Sandstad.

Actions or *Info*

- 3 light poles must be removed.

Point 4. Route 714. Hitterveien.

- **Actions or *Info***
- Rocks must be blasted away to allow over sail 3m from the white line.

- See attached PDF file: Point 4.

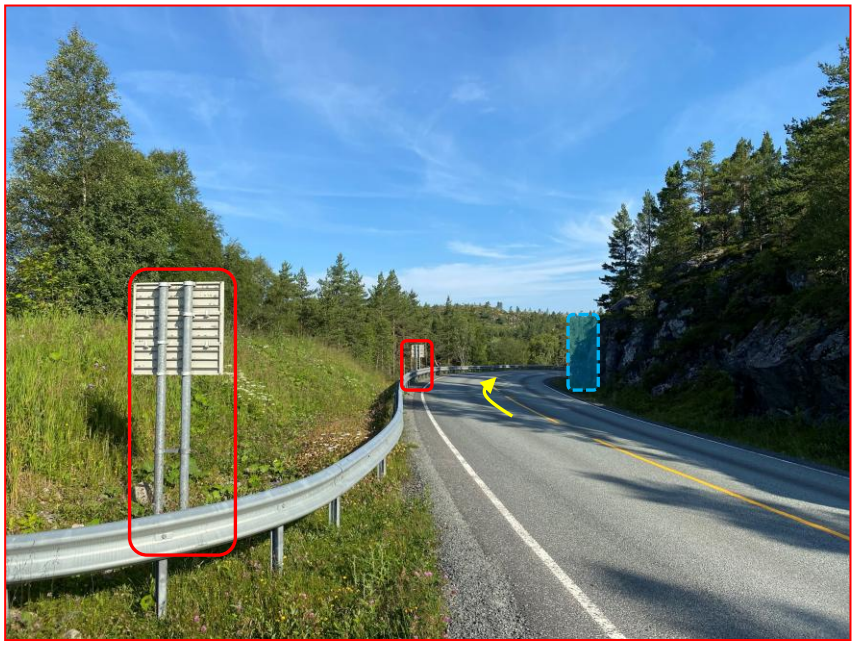
Point 5.1. Route 714. Fillan substation.

Actions or *Info*

- A: 8,52m
- 3 signs must be removable.

- See attached PDF file: Point 5.

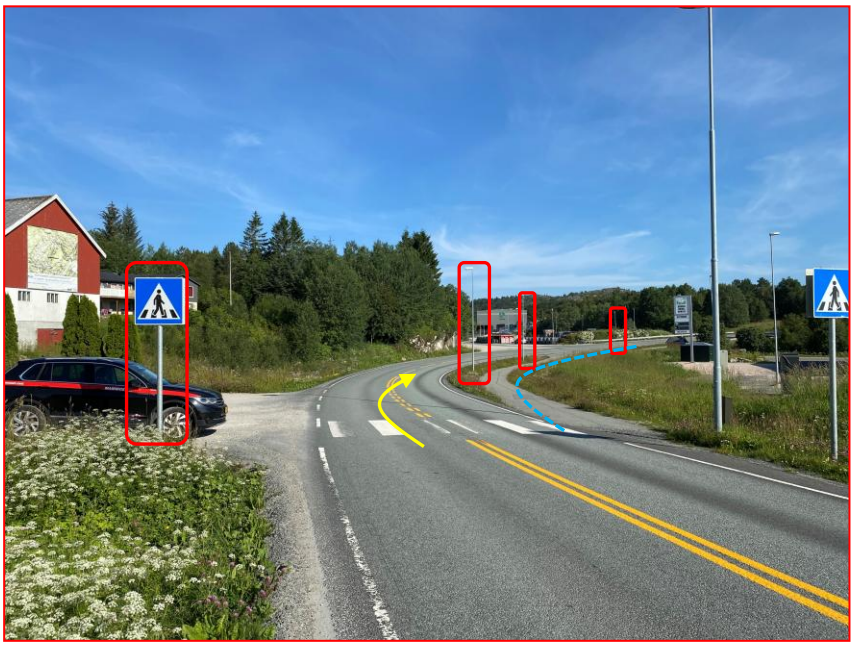
Point 5.2. Route 714. Fillan substation.



- **Actions or *Info***
- 2 signs must be removable.
- Rocks must be blasted away to allow over sail.

- See attached PDF file: Point 5.

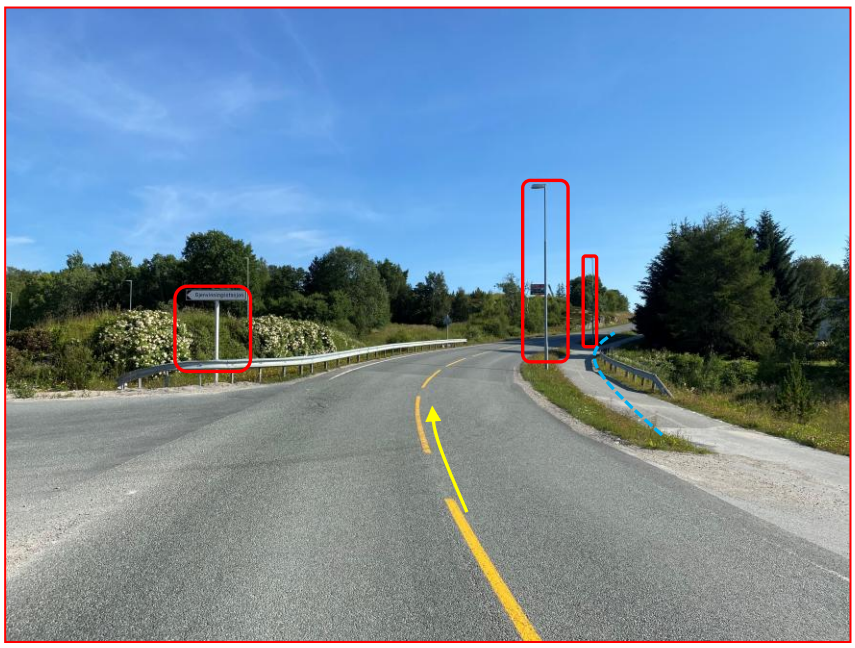
Point 6. Route 714. Fillan.



Actions or *Info*

- 1 sign must be removable.
- 3 light poles must be removed.

Point 7. Route 714. Fillan.



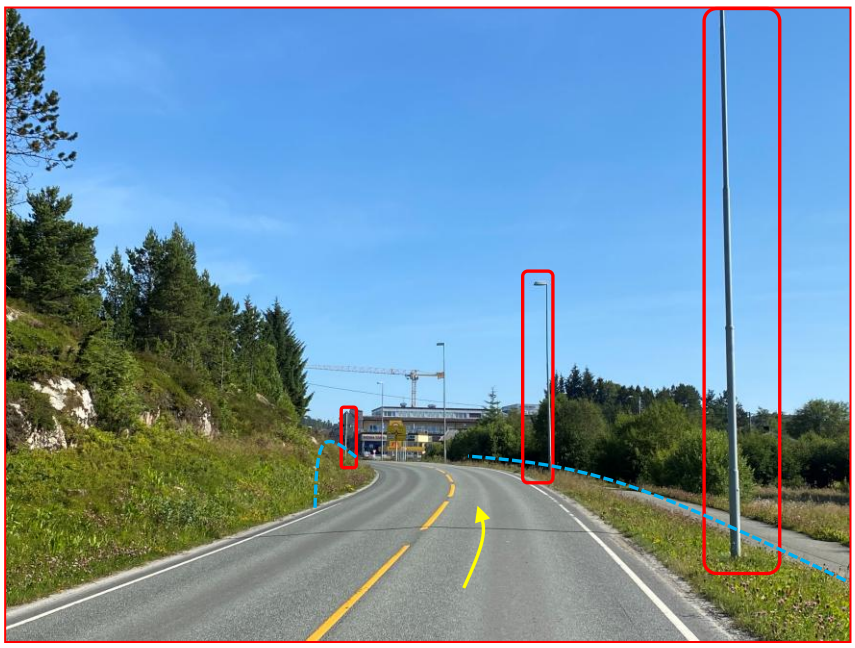
- **Actions or *Info***
- 1 sign must be removable.
- 2 light poles must be removed.

Point 8. Route 714. Fillan.

Actions or *Info*

- 4 light poles must be removed.

Point 9. Route 714. Fillan.



- **Actions or *Info***
- 1 sign must be removable.
- 2 light poles must be removed.

Point 10.1. Route 714. Fillan.

Actions or *Info*

- 2 signs must be removable.
- See attached PDF file: Point 10.

Point 10.2. Route 714. Fillan.

- **Actions or *Info***
- 1 light pole must be removed.
- See attached PDF file: Point 10.

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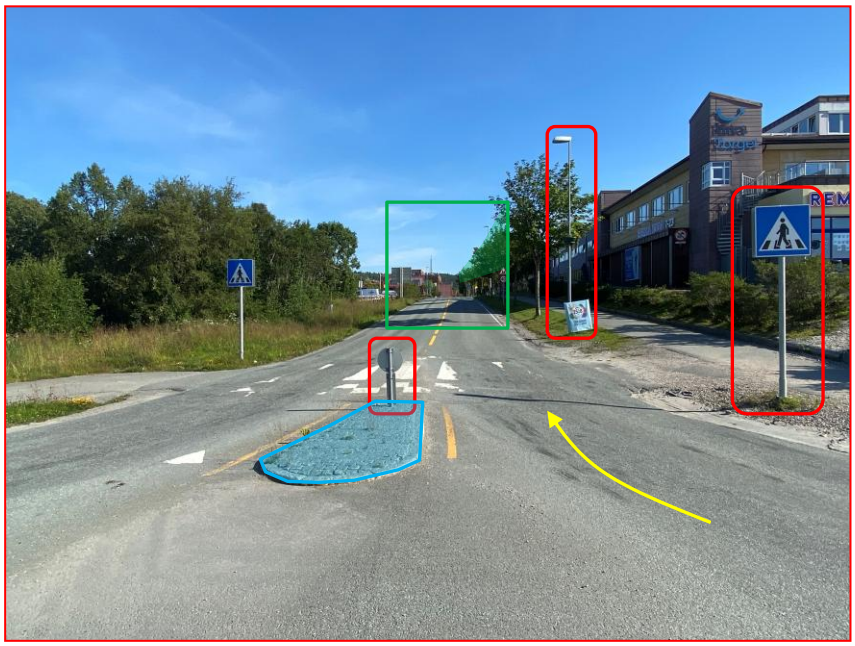
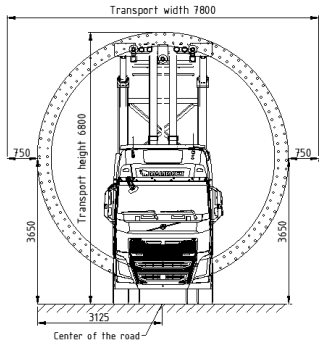
Point 10.3. Route 714. Fillan.



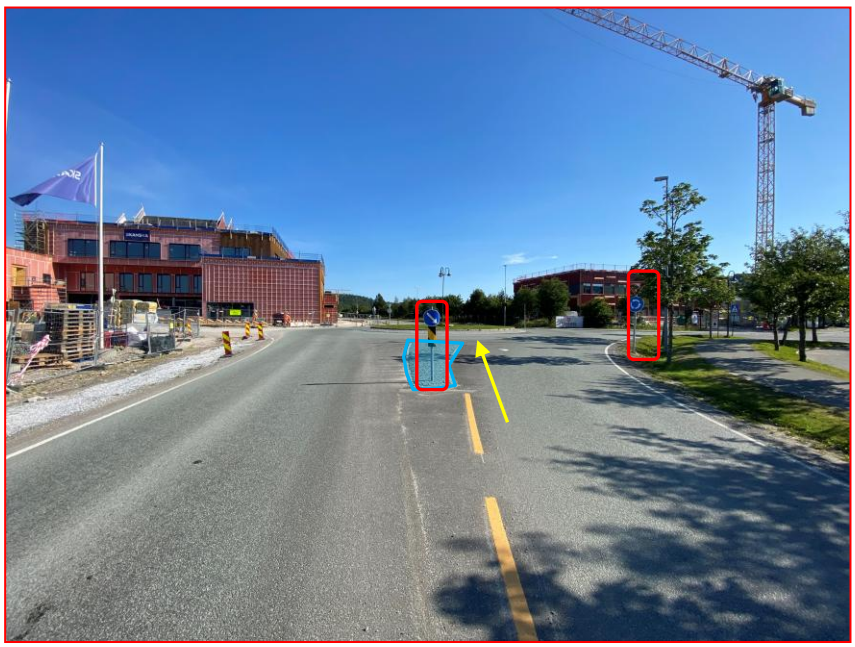
Actions or *Info*

- 2 signs must be removable.
- 1 light pole must be removed.
- Traffic island must be approved to drive on.
- Tree must be trimmed to give transport vindow as shown below.
- Approx 700m.

- See attached PDF file: Point 10.



Point 11.1. Route 714. Fillan.



- **Actions or *Info***
- 2 signs must be removable.
- Trafic island must be approved to drive on.

- See attached PDF file: Point 11.

Point 11.2. Route 714. Fillan.

Actions or *Info*

- 1 light pole must be removed.
- Center of roundabout must be in road level and be suitable to drive on.

- See attached PDF file: Point 11.

Point 11.3. Route 714. Fillan.

- **Actions or *Info***
- 1 sign must be removable.
- Traffic island must be approved to drive on.

- See attached PDF file: Point 11.

Point 12. Route 714 onto Route 713.

Actions or *Info*

- Bushes inside over sail area must not be higher than crash barrier.

Point 13.1. Route 714 onto Route 713.

- **Actions or *Info***
- 2 signs must be removable.
- Bushes inside over sail area must not be higher than crash barrier.

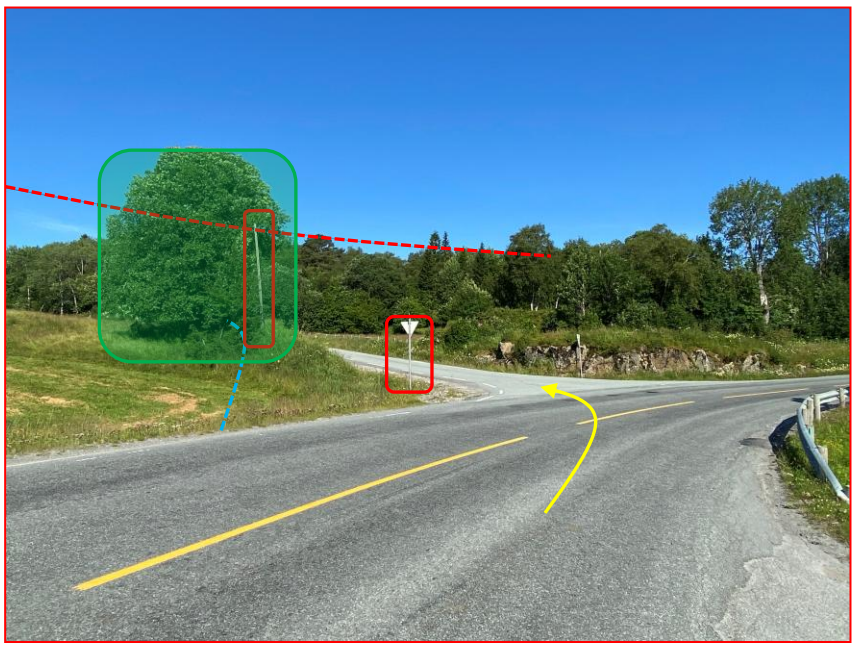
- See attached PDF file: Point 13.

Point 13.2. Route 714 onto Route 713.

Actions or *Info*

- Bus stop shelter must be removed.
- See attached PDF file: Point 13.

Point 13.3. Route 714 onto Route 713.



- **Actions or *Info***
- 1 sign must be removable.
- 1 powerline pole must be removed.
- Powerline must be removed.
- Tree must be removed.
- Over sail area must be in road level. (Embankment must be removed)
- See attached PDF file: Point 13.

Point 14. Route 713.

Actions or *Info*

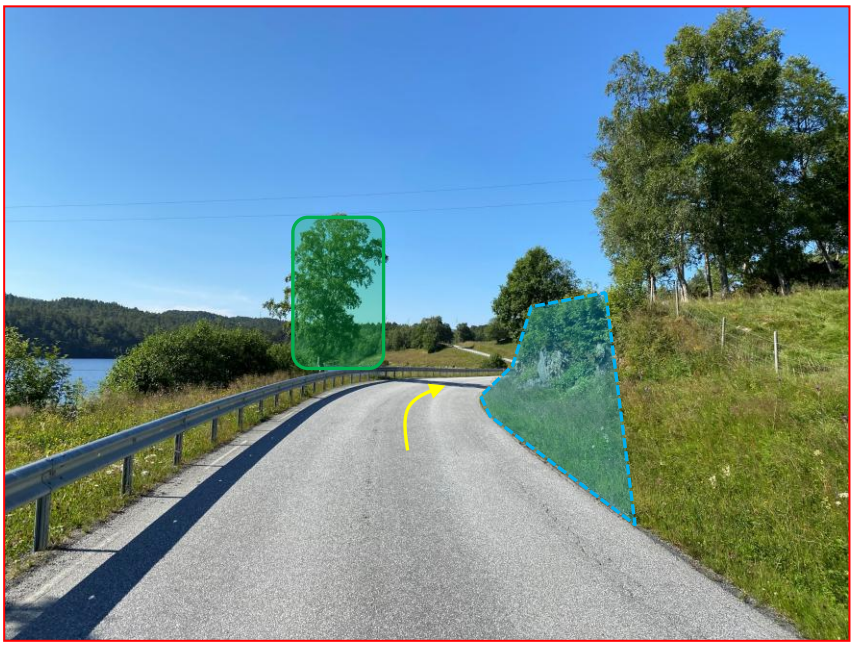
- Rocks must be blasted both sides of the road to allow over sail.

- See attached PDF file: Point 14.

Point 15. Route 713.

- **Actions or *Info***
- Trees must be removed to allow over sail.

Point 16. Route 713.

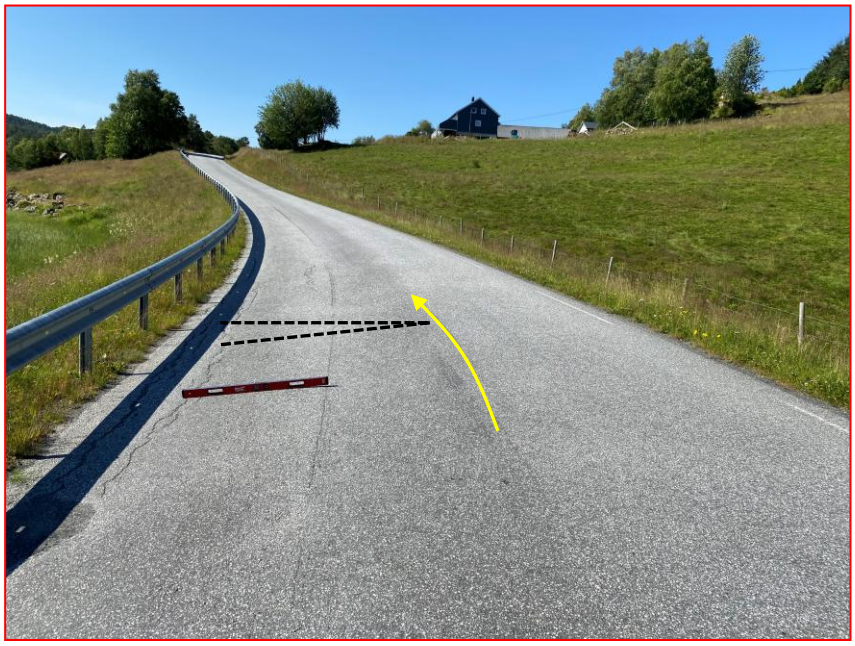


Actions or *Info*

- Tree must be removed to allow over sail.
- Rocks must be blasted to allow over sail.

- See attached PDF file: Point 16.

Point 17. Route 713.



- **Actions or *Info***
- Road must be levelled up. Sideways camper 12,95%

Point 18. Route 713.

Actions or *Info*

- Severe road damage.

Point 19. Route 713.

- **Actions or *Info***
- Road must be levelled up.

Point 20. Site entrance. Straum.

- **Actions or *Info***
- Major road modifications are required at the site entrance.
- 1400m2 rocks must be blasted away and made suitable for driving.
- 1700m2 rocks must be blasted away to allow tip over sail, clearance 1m above road level.
- 2 poles with overhead cables must be removed.
- 400m2 over sail area must be in road level.

- See attached PDF file: Site entrance

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Cable overview

Measured in 30°

Nr	Height	High Voltage	Power Cable	Tele Cable - Wire	Google Link
Route 714					
1	8,09m		X		https://maps.app.goo.gl/Bn27VYHnRPJvazLJA
2	7,69m		X		https://maps.app.goo.gl/9c86k1RgFTh1BDqt8
3	9,68m	X			https://maps.app.goo.gl/W5jrUNcw1hyhzXg38
4	5,57m		X		https://maps.app.goo.gl/dzbQ9BCxfnCPuje26
5	10,82m	X			https://maps.app.goo.gl/1n3WjsxtdXH6Qjqh7
6	13,31m	X			https://maps.app.goo.gl/dzbQ9BCxfnCPuje26
7	8,59m	X			https://maps.app.goo.gl/t6FNDEsV8Nm7FfM97
8	12,53m	X			https://maps.app.goo.gl/wPaK94xKHCEBhC6h8
9	7,22m		X		https://maps.app.goo.gl/DLuN5v1EKKJSWVnf8
10	13,47m	X			https://maps.app.goo.gl/AgWyF786ZBnSXzna7
11	8,52m	X	Safety distance must be investigated		https://maps.app.goo.gl/FFcKr1G6UVYuX7XP6
12	6,22m		X		https://maps.app.goo.gl/wSpZhZMv1UNDK7pk9
13	9,86m	X			https://maps.app.goo.gl/SRahqNwq6eHkAfgc7
14	6,60m		X		https://maps.app.goo.gl/Q9v468mSntCbaVnYA
15	5,92m		X		https://maps.app.goo.gl/wjrR3GeYbRQ76Sni7
16	8,21m		X		https://maps.app.goo.gl/Ud7uM1AmsTX5WohW9
17	7,51m		X		https://maps.app.goo.gl/rDuSxx1vBaJURWV96
18	6,50m		X		https://maps.app.goo.gl/USbxridvoPx6m3cy5
19	9,57m		X		https://maps.app.goo.gl/2KjsMDvNoURXMCKv8
Route 713					
20	13,50	X			https://maps.app.goo.gl/214W6wxagLTSchQL8
21	15,68m	X			https://maps.app.goo.gl/TLYyCF5eck4hED9d9
22	16,51m	X			https://maps.app.goo.gl/nseJsS7Jjg2WXKgf9
23	13,51m	X			https://maps.app.goo.gl/hwiz9GpnbSZmj5Pc6
24	9,44m		X		https://maps.app.goo.gl/Sj9mTSUcG6dESvKs8

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Cable overview

Measured in 23°

Nr	Height	High Voltage	Power Cable	Tele Cable - Wire	Google Link
Route 713					
25	5,76m		X		https://maps.app.goo.gl/57W93XVSGtkmHo8G8
26	7,08m		X		https://maps.app.goo.gl/tzXkRyJT6U7CgQbw9
27	5,99m		X		https://maps.app.goo.gl/Kzkgpa7EyByNTzVU8
28	7,98m		X		https://maps.app.goo.gl/rAFSEY37dLFQotuz9
29	5,69m		X		https://maps.app.goo.gl/rAFSEY37dLFQotuz9
30	6,43m		X		https://maps.app.goo.gl/ZiYu7kvMqc8hJMTr7
31	5,94m		X		https://maps.app.goo.gl/X8dLoxo4XvxsyZpc9
32	6,69m		X		https://maps.app.goo.gl/TybcBpzWWcJuVgxD6

All cables below 7,30m must be raised or removed.

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Conclusion

The route is suitable for transport of Vestas V162 main components for Hitra Wind Park if the road modifications described in the document are carried out.

- Point 4: It is possible to drive through with a V162 blade without blasting the rocks away but, but with a safety margin of less than 1 meter. It should be up to the appointed hauler to determine what they are comfortable with.
- Point 5: The level of voltage of the powerlines and its required safety clearance must be investigated, to determine if the towers can pass without modifications. The tower consider in the survey are 6,30 meters in diameter, resulting in a transport height of 6,80 meters in total.
- As shown in point 17, Route 713 have several areas with severe sideways camper. Point 17 is not the only location sideways camper issues on the surveyed route.
- 32 cables were measured along the transport route, whereof 13 cables must be raised or removed and one cable must be investigated further to determine if the transport height of 7,50 meters is in compliance with the required safety clearance.
- Route 713: The two locations mentioned in the report regarding sideways camper cannot be considered as a snagging list, but merely to highlight a general issue on route 713.
- Due to sideways camper issues along the transport route, it´s highly recommended that all large diameter tower transports are executed with hydraulic suspension, due to its increased stability..
- This report is subject to final approval from road authorities and possible third-party landowners.