

Blueskin Energy Project

Route survey for the proposed Blueskin Energy Project

This primary route survey is based on transporting Gamesa G58 (or similar) Wind Turbines from either Port Chalmers or Dunedin wharfs to Porteous Road, Evansdale, Otago.



Turbine details -

Route study: June 2013

Client: Blueskin Resilient Communities Trust (BRCT)

Project name: Blueskin Energy Project

Location: Porteous Road, Evansdale, Otago

Quantity: 3 x Gamesa G58

- Nacelles x 3 7.09mL x 2.3mW x 3.07mH – 25500kgs
- Nose Cone x 3 2.6mL x 2.3mW x 2.33mH – 3500kgs
- Blade containers x 3 30.7mL x 3.25mW x 1.62mH – 16100kgs
- Foundation Ring x 3 3.62mL x 3.62mW x 2.08mH – 4587kgs
- Tower section #1 x 3 9.61mL x 3.23m dia x 3.03m dia – 17522kgs
- Tower section #2 x 3 19.19mL x 3.03m dia x 2.44m dia – 23380kgs
- Tower section #3 x 3 24.5mL x 2.44m dia x 2.17m dia – 20310kgs



Proposed route(s):**1st leg – Port Chalmers/Dunedin Wharf to Porteous Road**

Ex Port Chalmers

- SH88 Dunedin – Port Chalmers Road
- SH88 Anzac Ave
- Saint Andrew Street
- SH1 Cumberland Street
- SH1 Great King Street
- SH1 Pine Hill Road
- SH1 Dunedin Northern Motorway
- SH1 North to Porteous Road

Ex Dunedin Wharf

- Fyratt Street
- Cresswell Street
- Thomas Burns Street
- Wharf Street
- Strathallan Street
- Andersons Bay Road
- SH1 Andersons Bay Road
- SH1 Crawford Street
- SH1 Cumberland Street
- SH1 Great King Street
- SH1 Pine Hill Road
- SH1 Dunedin Northern Motorway
- SH1 North to Porteous Road

Swept paths have also been calculated and checked with no road improvements required from either Port to the SH1- Porteous Road intersection.

There is sufficient clearance to pass under all the bridges en route, in particular the Sawyers Bay Rail Overbridge on SH88 and the Watermans Creek Bridge on SH1 Dunedin Northern Motorway.

2nd leg – Porteous Road to site entrance

The following recommendations are calculated on the swept path required for the Blade pack which requires the greatest radius.

While the grade of Porteous Road is steep in sections it can be overcome by tendering a second push/pull tractor unit for the heavier loads.

Porteous Road will require the straight sections of the carriageway to have the water tables and shoulders widened to a minimum of 4.5m with a good cover of roading metal.

There are six tight bends on Porteous Road that require straightening and or widening work. Please refer to the attached drawings, DWG 524268 – 4.

Bend #1 –Exit SH1 onto Porteous Road

- o Extend culvert on the Northern side
- o Construct and form new pavement

Bend #2:

- o Remove trees and fence on the inside left
- o Open corner exit by excavating the embankment back approximately 1.5m on the right side
- o Widen shoulder and form new water table on right side

Bend #3:

- o General upgrade works will be sufficient for this mid left hand bend, i.e. reform the water tables, re metal and grade

Bend #4:

- o Clear trees on inside left of the corner
- o Remove stumps and fill with suitable material
- o Form new realigned carriageway

Bend #5:

- o Remove and set back fence on the outside of the corner
- o Clear vegetation
- o Excavate and form new wider metalled shoulder
- o Note - no work required on right side embankment

Bend #6:

- o Clear trees on the inside left of the corner
- o Remove stumps and fill with suitable material
- o Form new realigned carriageway



This report is based on an inspection on the date shown.

Yours faithfully

Mark McNeilly

Heavy Haulage Manager

Fulton Hogan Limited

P 03 4788200

F 03 4882411

E mark.mcneilly@fultonhogan.com