OSOM Route Assessment



Project No: 220239 Project: Gelliondale Wind Farm							D	ate: 23 November 2022
Subject: Port Anthony – Traffic Assessment								
To: Adam Gray			Company	Company: Synergy Wind Pty Ltd				
From: Joshua Carroll Luke Smith			Phone:	Phone:			Email:	
	Attention		Company				Email/Fax	
\boxtimes								
	Urgent	\boxtimes	For your review		Reply ASAP		Please comment	Original in mail
Attachments:								

Synergy Pty Ltd is proposing to develop the Gelliondale Wind Farm (the Project) in the Wellington Shire Council local government area (LGA) in south-east Victoria, 8km east of Welshpool and 3km west of Alberton.

The Project is proposed to consist of up to 13 wind turbine generators (WTGs) with a maximum tip height of up to 210m above ground level.

The following memo details an assessment of the proposed key OSOM routes from Port Anthony to the Project site. It includes commentary and suggestions regarding the major locations and potential problem areas that have been identified along the routes assessed.

One (1) route has been assessed to provide access from the Port to the Project site for all WTG and tower componentry. A summary of the OSOM route from Port Anthony is as follows:

- Barry Road (Port Anthony) Barry Road / South Gippsland Highway (Agnes);
- South Gippsland Highway (Agnes) Old Alberton Road West (Gelliondale);
- Old Alberton Road West (Gelliondale) Proposed Site Access 5 (Gelliondale).

An assessment of the route using aerials from MetroMap was conducted prior to the site visits undertaken on Tuesday 10th May 2022. This preliminary assessment was used to identify potential problem areas that could be seen from aerial views such as bridges, road bends and intersections. These locations were then inspected during the site visits, with additional locations such as culverts and overhead structures recorded as they were identified.

When undertaking the assessment, the following assumptions were considered regarding key components of the wind farm and transportation methods:

- The trailer height for the drive train was assumed to be 1 metre high;
 - o Taken from average height of low-loader vehicles;
- Bridge clearances taken from the 'VicRoads Height Clearance under Overhead Structure' were taken as exact measurements.

Table 1-1 provides a breakdown for the turbine componentry specifications.

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Table 1-1 Turbine Componentry Specifications

Component	Length (m)	Width (m)	Height (m)	Weight (T)
Nacelles	18.3 m	4.18 m	4.35 m	87.8 T
Drive Train	77.6 m	2.87 m	2.89 m	105 T
Cooler Top	3.38 m	4.50 m	4.78 m	1.58 T
Hubs	4.70 m	4.40 m	4.10 m	70.0 T
Blades	85.0 m	4.45 m	3.90 m	33.0 T
Section 1 Towers	13.2 m	5.3 m	5.3 m	88.0 T
Section 2 Towers	19.3 m	5.0 m	5.0 m	90.0 T
Section 3 Towers	23.8 m	5.0 m	5.0 m	89.0 T
Section 4 Towers	19.8 m	5.0 m	5.0 m	84.0 T
Section 5 Towers	30.0 m	5.0 m	5.0 m	61.0 T

The following section provides the aerial images used to identify potential problem locations, photos taken from the site visit, and specific commentary and recommendations relating to each area. In total there were nine (9) potential problem locations identified from the preliminary desktop assessment, with three (3) additional locations identified during the site inspection.

This assessment contains a summary of the sites identified. For all sites along the OSOM routes that are either an intersection, roundabout, or require turning manoeuvres, swept path assessments have been undertaken as part of this assessment and can be observed in Appendix A.

OSOM Route Selection

Prior to undertaking the OSOM route site inspection, analysis was undertaken to identify the most appropriate route from Port Anthony. Factors considered in this analysis included:

- The number of problematic locations identified from aerial analysis;
- The severity of the problematic locations;
- The distance covered to travel to site;
- The existing road conditions along the proposed routes; and
- Routes previously used by other surrounding wind farms to minimise the number of potential road upgrades.

The following options were assessed.

Figure 1-2 Port Anthony to Site – Option 1

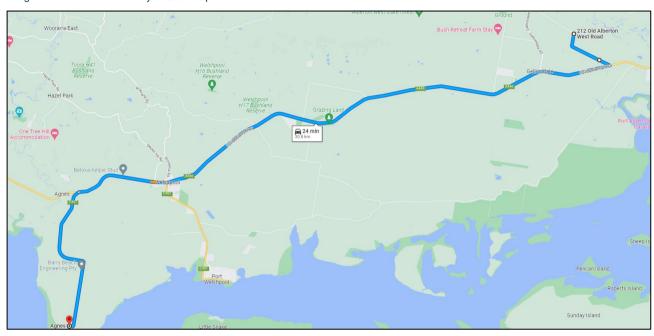
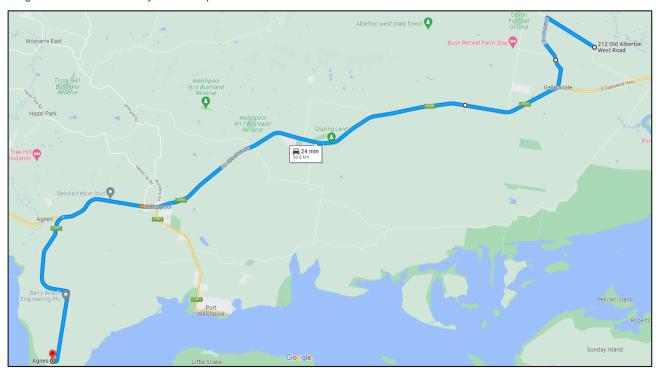


Figure 1-3 Port Anthony to Site – Option 2



V220239 - Gelliondale Wind Farm OSOM Route Assessment

In analysing the two options, the following can be concluded:

- Option 1 has a total of 10 problematic locations relating to turning manoeuvres;
- Option 2 has a total of 13 problematic locations relating to turning manoeuvres;
- Option 1 and Option 2 both travel an approximate distance of 30km; and
- The existing road conditions along the majority of Option 1 are better than those along Option 2.
 - Less distance travelled along local unsealed roads.

From this, it can be concluded Option 1 is the preferred route of choice from Port Anthony.

Site Access & Swept Path Assessment

During the site inspection, all site access locations and potential routes were assessed. From this inspection, the following observations were made:

South Gippsland Highway (A440) is suitable to act as the main service road for OSOM vehicles without
the need for major road upgrades. Road widening upgrades will likely be limited sites access areas to
allow for safe OSOM vehicle movements;

Following this, swept path assessments were undertaken for all problematic locations identified. A detailed drawing schedule can be found in Table 1-2.

Table 1-2 Drawing Schedule

LOCATION	DRAWING NUMBER
Barry Road – Entry / Exit Gates at Port Anthony	V220239-TR-SK-0001
Barry Road – North-East 90° corner	V220239-TR-SK-0002
Barry Road / South Gippsland Highway	V220239-TR-SK-0003
South Gippsland Highway / Site Access 1	V220239-TR-SK-0004
South Gippsland Highway / Site Access 4	V220239-TR-SK-0005
South Gippsland Highway / Site Access 6	V220239-TR-SK-0006
South Gippsland Hwy / Old Alberton West Road	V220239-TR-SK-0007
Old Alberton West Road / Site Access 7	V220239-TR-SK-0008
Old Alberton West Road – Southern 90° Corner	V220239-TR-SK-0009
Old Alberton West Road / Site Access 5	V220239-TR-SK-0010

From this analysis, key observations included:

- Large amounts of vegetation removal required to accommodate OSOM blade movements;
- Areas of fencing removal required to facilitate OSOM blade movements;
 - o May require additional liaison with landowners in the area;
- Westbound traffic on the South Gippsland Highway will need to be stopped to allow for OSOM movements into site; and
- Areas of infill required to support OSOM loads.

Further comments for each location can be found in the detailed assessment from Port Anthony. Figure 1-4 below outlines each of the Site Access locations.

Figure 1-4 Site Access Locations



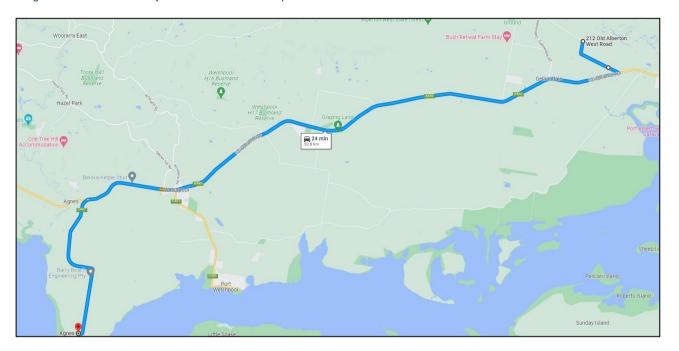
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Port Anthony to Site (Option 1)

A summary of the OSOM route from Port Anthony is as follows:

- Barry Road (Port Anthony) Barry Road / South Gippsland Highway (Agnes);
- South Gippsland Highway (Agnes) Old Alberton Road West (Gelliondale);
- Old Alberton Road West (Gelliondale) Proposed Site Access 5 (Gelliondale).

Figure 1-5 Port Anthony to Site OSOM Route – Option 1



Site 1 - Barry Road / Port Anthony Exit

Figure 1-6 Site No. 1 – Aerial



ISSUES / COMMENTS:

Tight 90° degree corner on the exit of Port Anthony with narrow width gates limiting the turning manoeuvres in and out of the Port. Gates, vegetation and signage will require removal to allow OSOM movements. Infill required on north-western corner. Entryway is in the process of being updated – will seek clarification on design specifications. See V220239-TR-SK-0001 in Appendix A for swept path analysis.

Figure 1-7 Site No. 1 – Inspection Images



Site 2 - Barry Road - North-East 90° Corner

Figure 1-8 Site No. 2 – Aerial



ISSUES / COMMENTS:

Tight 90° degree corner on the north-eastern portion of Barry Road. Signage removal required on north-eastern shoulder to allow OSOM movements. Infill required on south-western corner. Fencing removal required on the eastern shoulder to facilitate OSOM blade movements. See V220239-TR-SK-0002 in Appendix A for swept path analysis.

Figure 1-9 Site No. 2 – Inspection Images



Site 3 - Barry Road / South Gippsland Highway

Figure 1-10 Site No. 3 – Aerial



ISSUES / COMMENTS:

OSOM vehicles required to cross onto the wrong side of the road and utilise the southbound exit lane from the South Gippsland Highway. Signage removal is required in centre median – see V220239-TR-SK-0003 in Appendix A for swept path analysis.

Figure 1-11 Site No. 3 – Inspection Images



Site 4 – South Gippsland Highway (Shady Creek Bridge, Welshpool)

Figure 1-12 Site No. 4 – Aerial



ISSUES / COMMENTS:

Small bridge, low to the ground and structurally sound. Minimal span width. No issue.

Figure 1-13 Site No. 4 – Inspection Images



Site 5 – South Gippsland Highway (Nine Mile Creek Bridge)

Figure 1-14 Site No. 5 – Aerial



ISSUES / COMMENTS:

Small bridge, low to the ground and structurally sound. Two strut supports with an approximate 5m span. No issue.

Figure 1-15 Site No. 5 – Inspection Images



Site 6 - South Gippsland Highway / Site Access 1

Figure 1-16 Site No. 6 – Aerial



ISSUES / COMMENTS:

Cattle underpass on the western side of the proposed Site Access 1. This structure will limit the manoeuvrability of OSOM vehicles. Proposed to alter access location further west to avoid the cattle underpass. Vegetation removal and infill required to facilitate OSOM blade movements and support OSOM loads. See V220239-TR-SK-0004 in Appendix A for swept path analysis.

Figure 1-17 Site No. 6 – Proposed New Site Access 1 Aerial



V220239 - Gelliondale Wind Farm OSOM Route Assessment

Figure 1-18 Site No. 6 – Inspection Images



Figure 1-19 Site No. 6 – Proposed New Site Access 1 Inspection



Site 7 - South Gippsland Highway / Site Access 4

Figure 1-20 Site No. 7 – Aerial



ISSUES / COMMENTS:

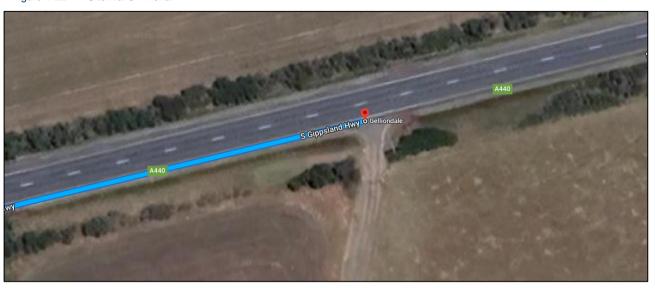
Natural swale drain on southern kerbside will require infill. Culvert drain present at proposed site access location. Culvert drain will require removal and replacement to facilitate OSOM movements. Total infill and vegetation impact can be observed in V220239-TR-SK-0005 in Appendix A for swept path analysis.

Figure 1-21 Site No. 7 – Inspection Images



Site 8 - South Gippsland Highway / Site Access 6

Figure 1-22 Site No. 8 – Aerial



ISSUES / COMMENTS:

Minimal vegetation removal required on western side of proposed access location. Vegetation removal required on the northern shoulder of the South Gippsland Highway to facilitate OSOM blade movements. See V220239-TR-SK-0005 in Appendix A for swept path analysis.

Figure 1-23 Site No. 8 – Inspection Images



Site 9 - South Gippsland Highway / Old Alberton Road Intersection

Figure 1-24 Site No. 9 – Aerial



ISSUES / COMMENTS:

Cattle underpass on the western side of the intersection. This structure will limit the manoeuvrability of OSOM vehicles. Proposed to alter access location further west to avoid cattle underpass. Infill required on northern shoulder of South Gippsland Highway to support OSOM loads. See V220239-TR-SK-0007 in Appendix A for swept path analysis results.

Figure 1-25 Site No. 9 – Proposed New Access Aerial



Figure 1-26 Site No. 9 – Inspection Images



Site 10 - Old Alberton W Road / Site Access 7

Figure 1-27 Site No. 10 – Aerial



ISSUES / COMMENTS:

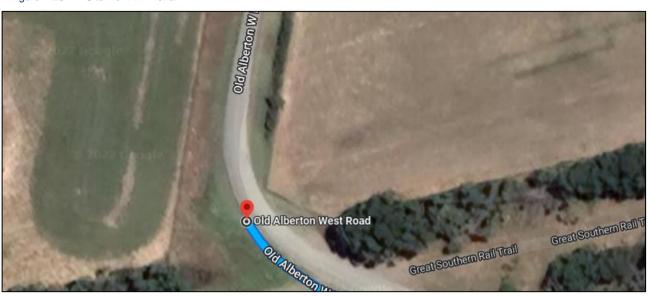
Vegetation removal in the vicinity of the proposed site access location. No issue. Infill required on the southern shoulder to support OSOM loads. See V220239-TR-SK-0008 in Appendix A for swept path analysis.

Figure 1-28 Site No. 10 – Inspection Images



Site 11 - Old Alberton W Road - Southern 90° Corner

Figure 1-29 Site No. 11 – Aerial



ISSUES / COMMENTS:

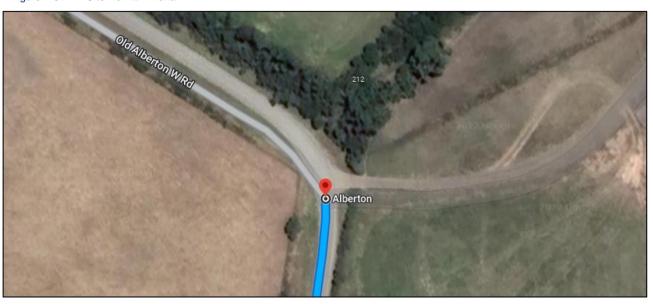
Signage on the south-western kerb will require removal. Fence on the north-eastern corner will require removal. Culverts present in southern portion of grassed off-road area will likely be impacted. Vegetation removal required on the north-eastern and south-western shoulders. See V220239-TR-SK-0009 in Appendix A for swept path analysis.

Figure 1-30 Site No. 11 – Inspection Images



Site 12 - Old Alberton W Road / Site Access 5

Figure 1-31 Site No. 12 – Aerial

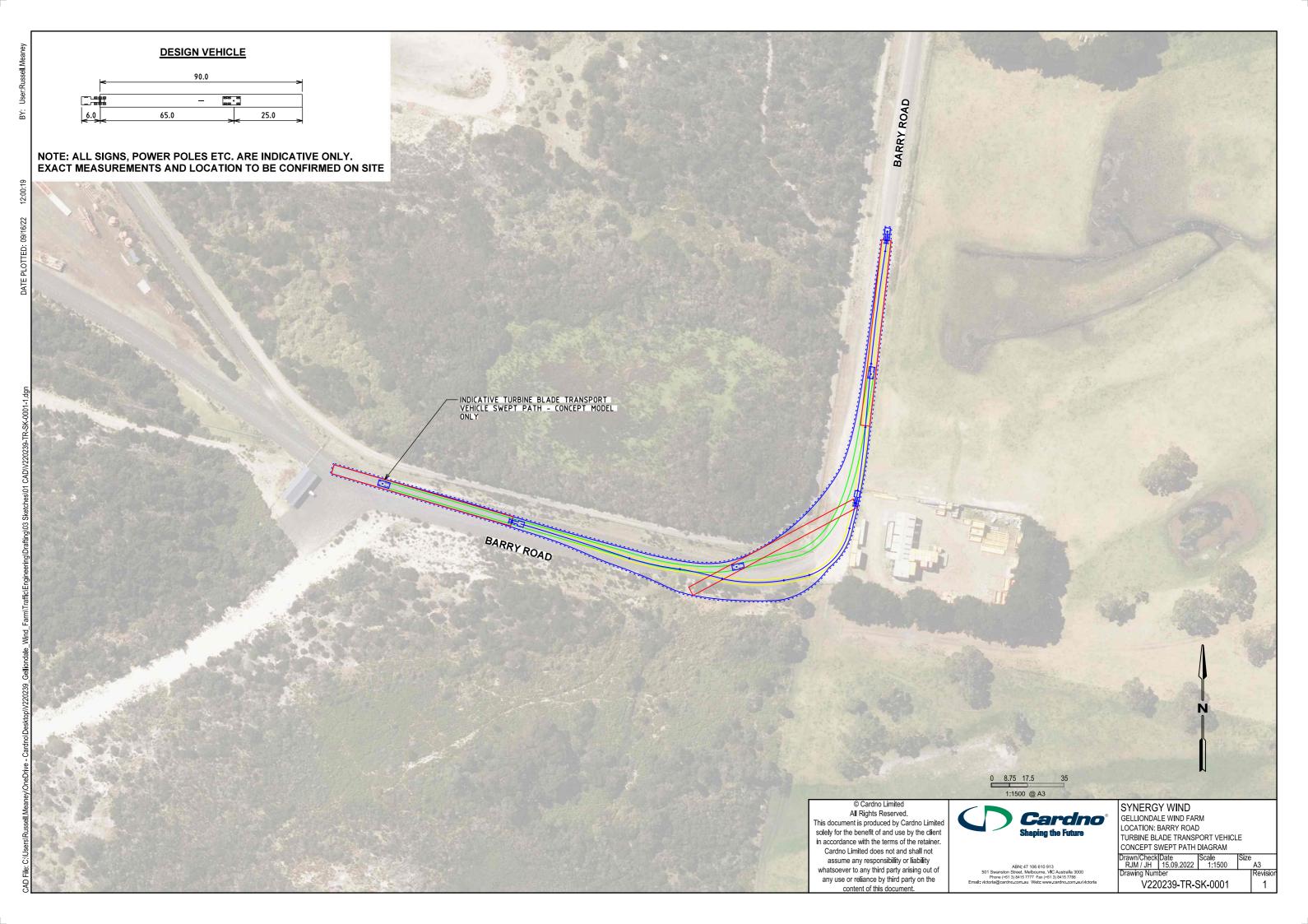


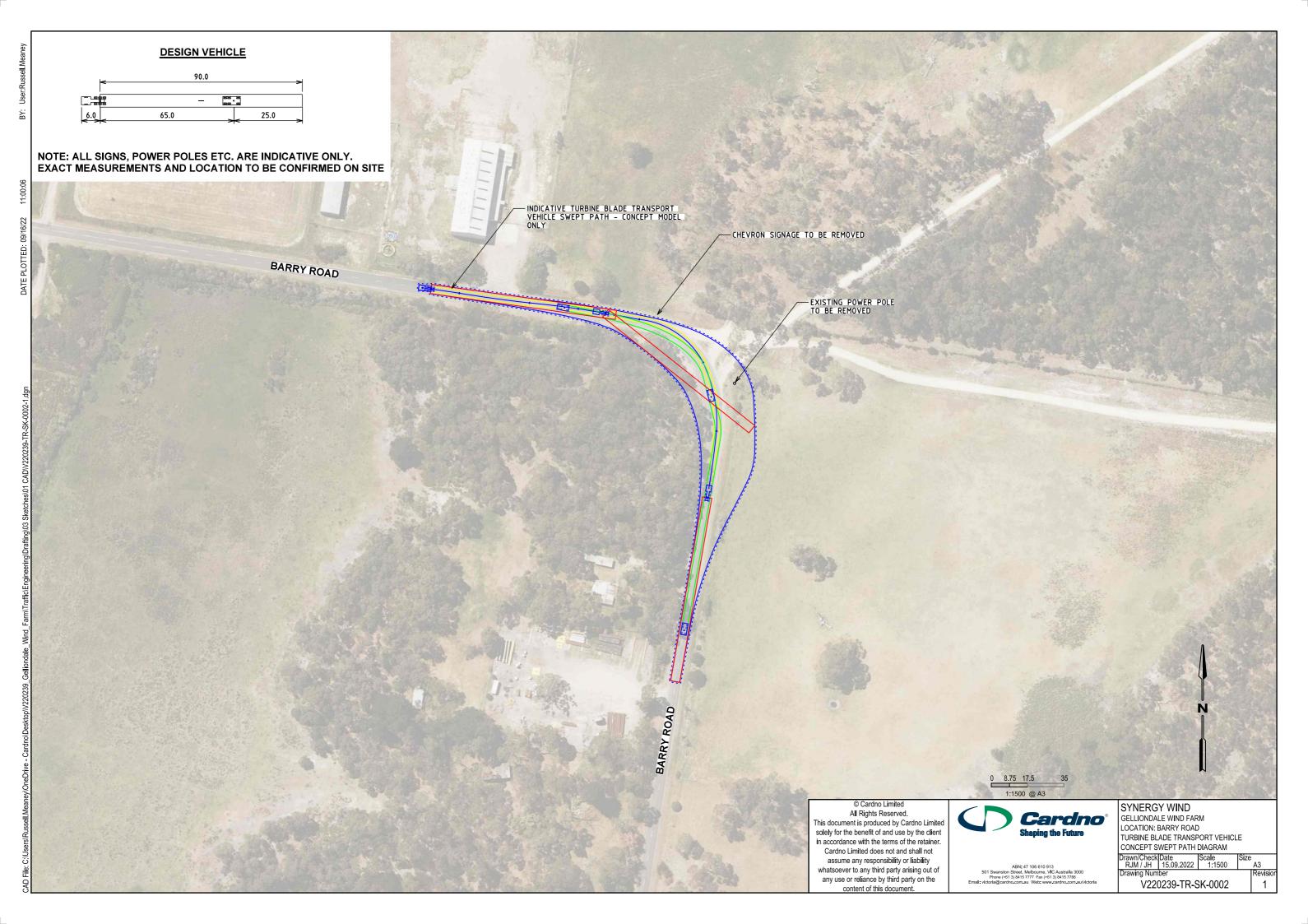
ISSUES / COMMENTS:

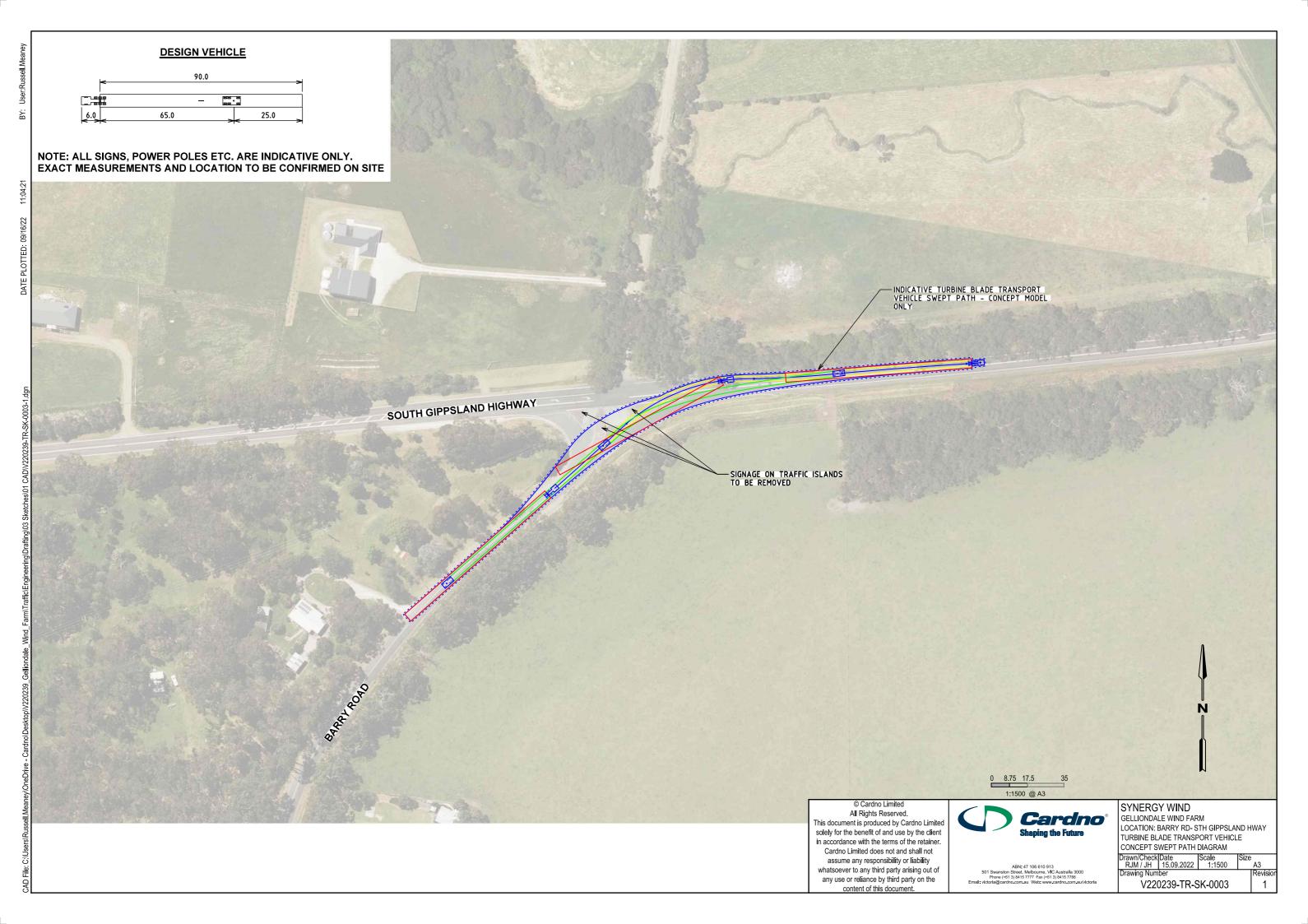
Natural swale drain on eastern kerbside will require infill. Culvert drain present at proposed site access location. Culvert drain will require removal and replacement to facilitate OSOM movements. Vegetation removal required on the eastern and western shoulders to facilitate OSOM blade movements. See V220239-TR-SK-0010 in Appendix A for swept path analysis.

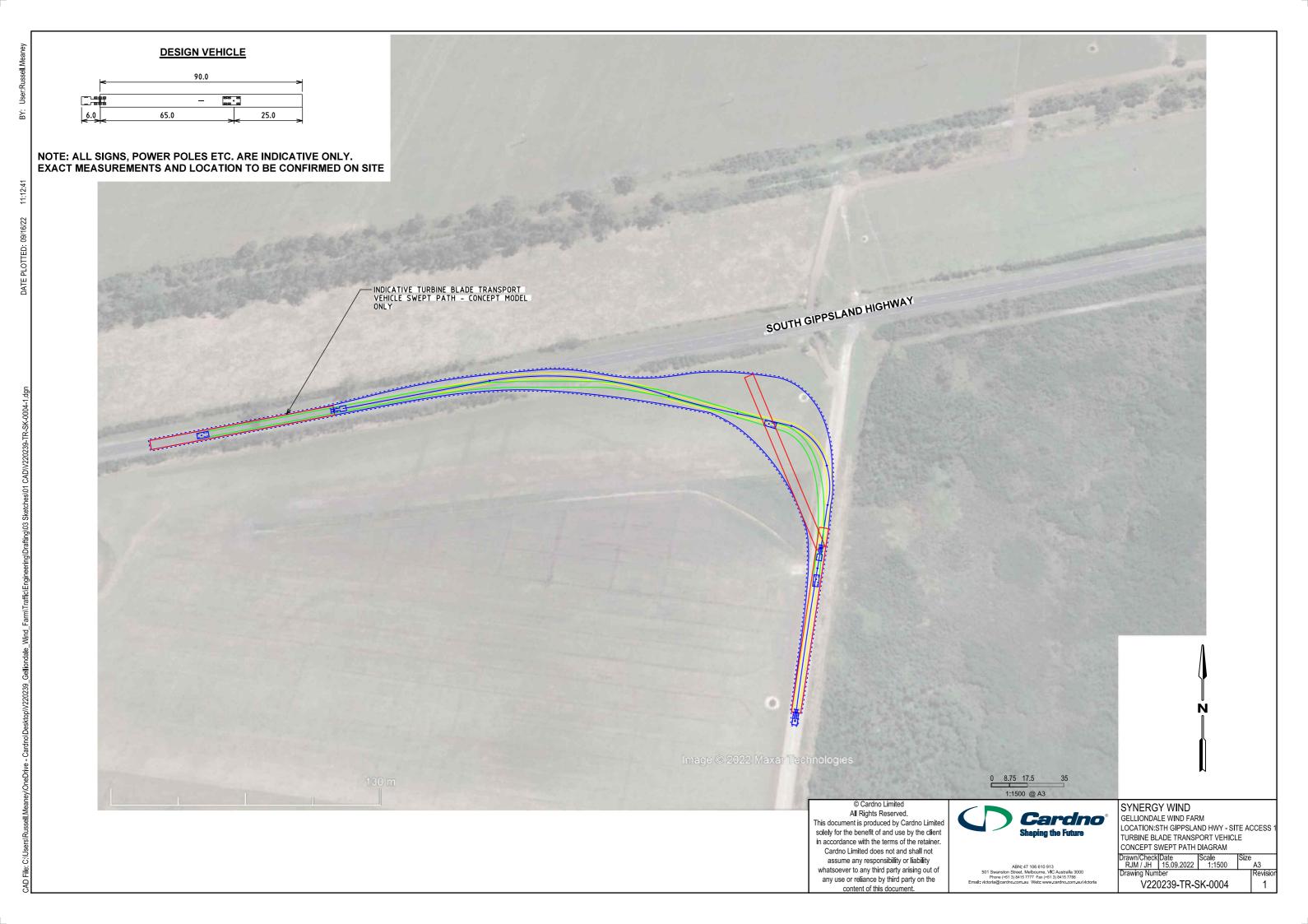
Figure 1-32 Site No. 12 – Inspection Images



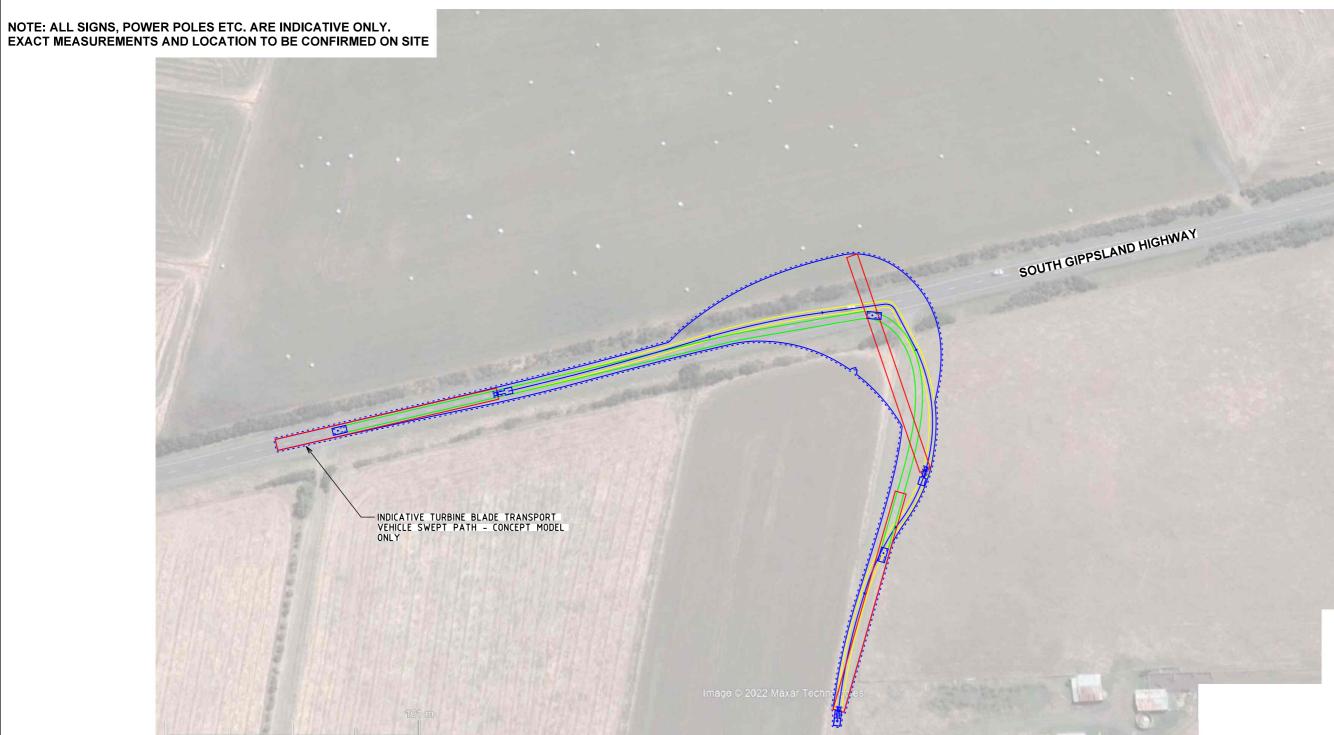








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SYNERGY WIND

GELLIONDALE WIND FARM

LOCATION:STH GIPPSLAND HWY - SITE ACCESS 6

TURBINE BLADE TRANSPORT VEHICLE

CONCEPT SWEPT PATH DIAGRAM

