External Road Dilapidation Report – Existing Condition

Uungula Wind Farm

Prepared for: Uungula Wind Farm Pty Ltd

Prepared By	Daniel Kyriacou and Joshua Waye
Released By	Josh Mason
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1.0	Issued to client

Daniel Kyriacou
Civil Engineer

STATEMENT OF LIMITATION

Data and conclusions of this report are the findings and opinions of icubed consulting and are not an expressed or implied representation, warranty or guarantee. This report has been prepared for Uungula Wind Farm Pty Ltd. icubed Consulting does not accept liability for any third party's use or reliance on this report.

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1 Introduction

The proposed Uungula Wind Farm is located approximately 15 km East of the township of Wellington in the Central Western Slopes Region of New South Wales (NSW). Uungula Wind Farm has been approved under Development Consent SSD 6687 in which Condition B31 stipulates that the proponent must undertake dilapidation surveys at these prescribed times:

- prior to construction, upgrading or decommissioning of works (i.e., the 'existing condition');
- on an annual basis during the construction works; and
- within 1 month of the completion of any construction, upgrading or decommissioning works.

Uungula Wind Farm Pty Ltd engaged icubed consulting pty ltd (icubed) to undertake the existing condition dilapidation survey of the public roads to be used by the Project's construction traffic. The roads that were surveyed by icubed are shown in Figure 1 and listed below:

- Twelve Mile Road – Goolma Road to Primary Site Entry;
- Uungula Road – Twelve Mile Road to 50m past Project Boundary;
- Wuuluman Road – Twelve Mile Road to Uungula Road; and
- Ilgingery Road – Uungula Road to 50m past Project Boundary.

All the surveyed roads are under the jurisdiction of Dubbo Regional Council (DRC).

The method used for this assessment was to drive the roads while video recording and then use this report to identify the notable condition issues. The video files have been issued in conjunction with this report. The method was approved by DRC as documented in Appendix A.

This existing condition dilapidation assessment was undertaken 21st October 2022.

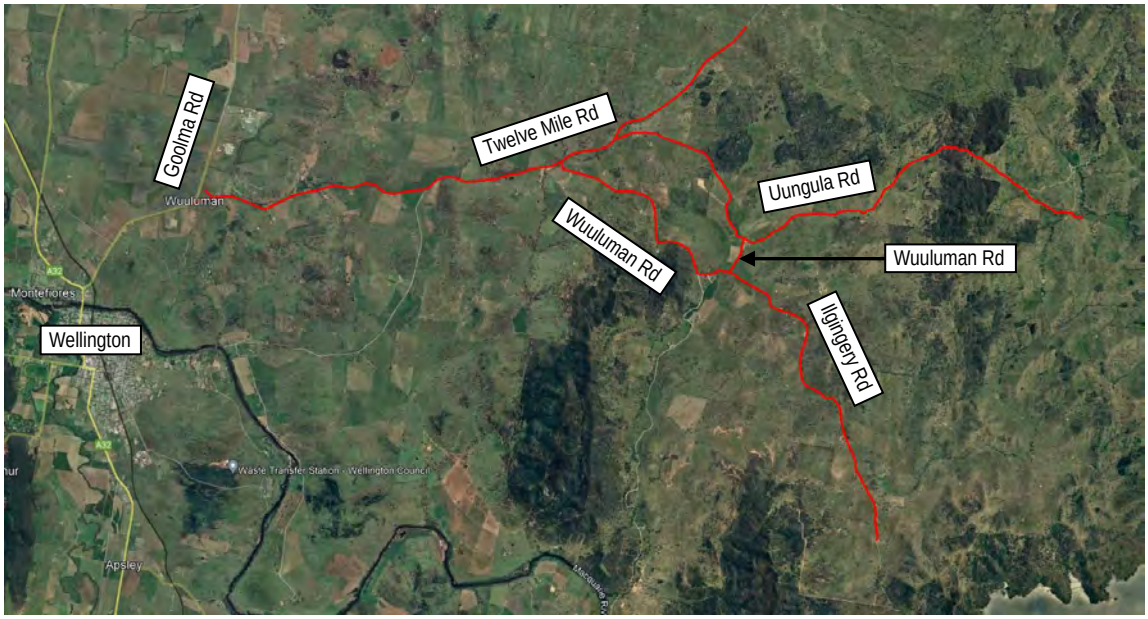

Figure 1 – Dilapidation survey routes

2 Dilapidation Assessment

This section will outline the findings of the dilapidation assessment.

The defects observed along the roads include shoving, flushing, ravelling, crocodile cracking, longitudinal cracking, block cracking, depression, stripping, patching, edge drop-off, rutting and potholes. The "Australian Roads and Research Board (ARRB) 2020 Sealed Roads Best Practice Guide" and the ARRB "2020 Unsealed Roads Best Practice Guide" have been used to identify and define defect types. Section 5 of both guides provide comprehensive overviews and descriptions of typical defects.

The locations of these defects are identified in Section 2 in Table 1 - Table 4. The brackets identify which side of the road the defects are located, as per the following key:

- LHS – Left Hand Side
- RHS – Right Hand Side
- BS – Both Sides
- CR – Centre of Road

Note that the defects identified may not be presented in the images however, were identified within the specified chainage. In all instances the video survey takes precedence and should be used to identify the road condition.

2.1 Twelve Mile Road – Dilapidation Assessment

The Twelve Mile Road (12MR) assessment was conducted between chainage 0 – 13700, where chainage 0 is the intersection with Goolma Rd – see Figure 2. 12MR is a sealed road of varying width along the assessed chainage range. The seal along the route is predominately 4.5 m wide except for the initial 1.1 km where it is 8 m wide. The observed defects are listed in Table 1 below.

Figure 2 – Twelve Mile Road dilapidation survey route

Table 1 – Twelve Mile Road identified defects

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
1.0	0	600	Edge Break (BS) Pothole (LHS) Flushing (LHS)	
2.0	600	1000	Minor seal defects.	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
3.0	1000	1400	Edge Break (BS) Potholes (BS) Potholes Patched (BS) Ravelling/Fretting (RHS)	
4.0	1400	1700	Edge break (BS) Transverse Crack (RHS) Pothole (RHS) Ravelling/Fretting (LHS) Stripping (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
5.0	1700	1800	Pothole (LHS) Pothole Patched (BS) Ravelling/Fretting (LHS) Edge break (LHS) Drainage Issue	
6.0 (Image looking west)	1800	2000	Pothole (LHS) Ravelling/Fretting (LHS) Longitudinal Cracking (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
7.0 (Image looking west)	2000	2600	Edge break (BS) Ravelling/Fretting (BS) Pothole (RHS) Pothole (CR) Pothole Patched (BS)	
8.0	2600	3400	Pothole (RHS) Ravelling/Fretting (RHS) Stripping (RHS) Delamination (CR) Ponding issues	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
9.0	3400	4200	Ravelling/Fretting (BS) Delamination (RHS) Pothole (LHS) Depression (CR) Ponding issue Crocodile Cracking (LHS)	 

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
10.0	4200	4800	Ravelling/Fretting patched (LHS) Depression (RHS) Stripping (RHS)	
11.0	4800	5200	Pothole (BS) Stripping (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
12.0	5200	5300	Ravelling/Fretting (RHS) Pothole (RHS) Drainage Issue	
13.0	5300	5500	Ravelling/Fretting (RHS) Pothole (RHS) Pothole Patched (CR) Corrugation (RHS) Edge break (LHS) Stripping (CR)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
14.0 (Image looking west)	5500	5600	Pothole (CR) Ravelling/Fretting (CR)	
15.0	5700	6400	Ravelling/Fretting (RHS) Pothole (CR) Delamination (CR) Edge break (RHS) Stripping (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
16.0 (image looking west.)	6400	7100	Pothole (CR) Pothole (LHS) Stripping (LHS) Ravelling/Fretting (LHS) Edge break (BS)	
17.0	7100	7400	Pothole (LHS) Longitudinal Cracking (BS) Delamination (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
18.0	7400	8000	Pothole (RHS) Stripping (RHS) Longitudinal Crack (LHS) Edge break (LHS) Delamination (RHS)	
19.0	8000	8200	Potholes (BS) Potholes (CR) Ravelling/Fretting (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
20.0	8200	9000	Stripping (RHS) Pothole (LHS) Pothole Patched (RHS) Ravelling/Fretting Patched (RHS)	
21.0	9000	9300	Pothole (CR) Pothole (RHS) Ravelling/Fretting Patched (LHS) Stripping (CR) Stripping (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
22.0	9300	9500	Longitudinal Cracking (RHS) Longitudinal Cracking (CR) Pothole (CR)	
23.0	9500	9900	Longitudinal Cracking (RHS) Delamination (CR) Delamination (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
24.0	9900	10400	Ravelling/Fretting Patched (RHS) Longitudinal Cracking (RHS) Longitudinal Cracking (CR)	
25.0	10400	10600	Ravelling/Fretting Patched (RHS) Ravelling/Fretting Patched (CR) Pothole (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
26.0	10600	10700	Pothole Patched (BS) Pothole Patched (CR) Ravelling/Fretting Patched (RHS)	
27.0	10700	11300	Ravelling/Fretting Patched (LHS) Pothole Patched (RHS) Pothole (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
28.0	11300	11600	Pothole (RHS) Ravelling/Fretting (BS) Stripping (RHS) Delamination (BS) Edge break (LHS)	
29.0	11600	12000	Edge break (LHS) Pothole Patched (BS) Delamination Patched (BS) Delamination (CR) Pothole (BS) Ravelling/Fretting (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
30.0	12000	12200	Pothole (CR) Pothole Patched (CR) Pothole Patched (LHS) Ravelling/Fretting Patched (RHS) Ravelling/Fretting Patched (CR)	
31.0	12200	12500	Delamination (LHS) Pothole (CR) Ravelling/Fretting (LHS) Ravelling/Fretting (CR)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
32.0	12500	13000	Delamination (LHS) Pothole (RHS) Pothole (CR) Ravelling/Fretting Patched (CR)	
33.0	13000	13300	Delamination (CR) Delamination Patched (CR) Edge break (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
34.0	13300	13400	Pothole (CR) Ravelling/Fretting (CR)	
35.0	13400	13700	Ravelling/Fretting (CR) Stripping (RHS)	

2.2 Wuuluman Road – Dilapidation Assessment

The Wuuluman Road assessment was conducted between chainage 0 – 6100, where chainage 0 is the intersection with Twelve Mile Rd and CH 6100 is the intersection with Uungula Road – see Figure 3. Wuuluman Road is unsealed except for a few short sealed sections as described below:

- CH 0 – 2450: unsealed, 4.5 – 5.5 m width;
- CH 2450 – 2490: sealed for 40 m with cattle grid in the middle, 4.5 – 5.5 m width;
- CH 2490 – 3400: unsealed, 4.5 – 5.5 m width;
- CH 3400 – 3800: sealed, 4.5 m width;
- CH 3800 – 4300: unsealed, 4.5 – 5.5 m width;
- CH 4300 – 4500: sealed, 4.5 m width, (CH 4500 is intersection with Yarragal Rd);
- CH 4500 – 4800: sealed, 5 m width;
- CH 4500 – 6100: unsealed, 4.5 – 5m width.

The observed defects are listed in Table 2 below.

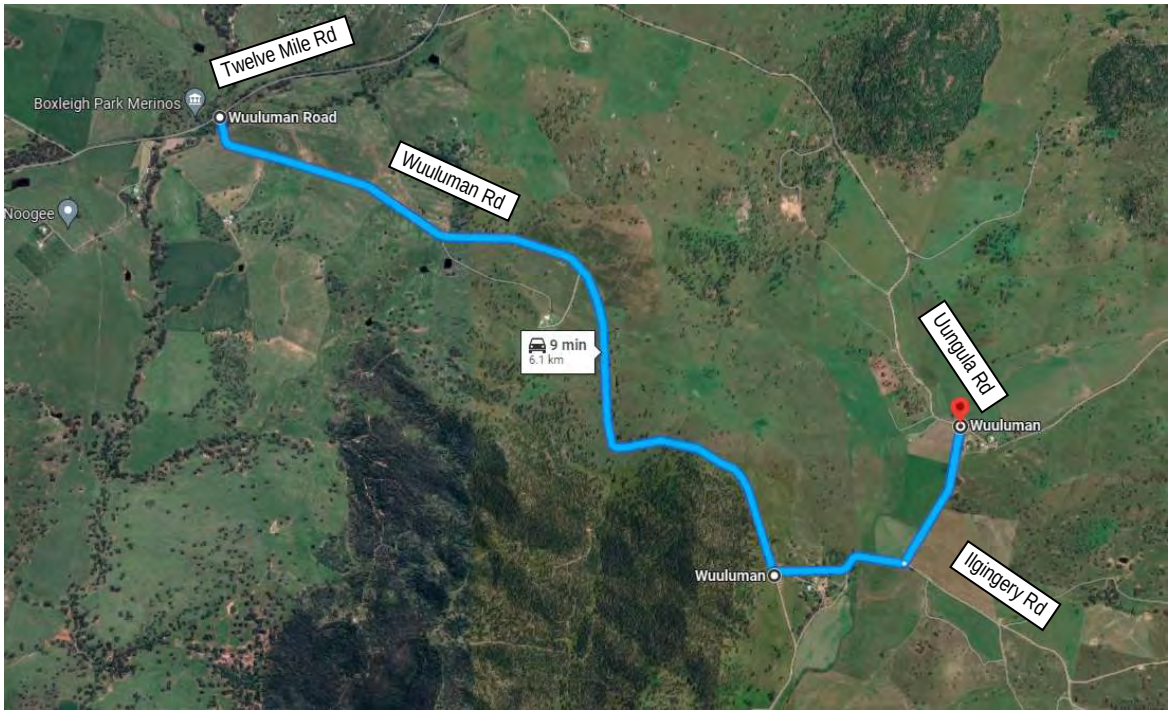

Figure 3 – Wuuluman Road dilapidation survey route

Table 2 – Wuuluman Road identified defects

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
1.0	0	500	Minor Defects	
2.0	500	700	Surface Scour (BS) Potholes (BS) Rutting (RHS) Drainage Issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
3.0	700	800	Rutting (BS) Soft Surface (BS)	
4.0	800	1000	Loss of material (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
5.0	1000	1200	Potholes (LHS) Rutting (CR) Soft Surface (CR) Surface Scour (BS)	
6.0	1200	1400	Rough Surface (CR)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
7.0	1400	1900	Rutting (CR) Rutting (BS) Loose material	
8.0	1900	2100	Pothole (BS) Surface Scour (RHS) Soft Surface (BS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
9.0	2100	2200	Surface Scour (RHS) Rutting (RHS) Drainage issue	
10.0	2200	2400	Potholes (CR) Loose material (BS) Loose material (CR)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
11.0	2400	2500	Potholes (BS) Settlement (LHS) Drainage issue at sealed/unsealed interface.	
12.0	2500	3100	Rutting (RHS) Rough Surface Loose Material	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
13.0	3100	3300	Corrugation (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
14.0	3300	3400	Rough Surface (CR)	
15.0	3400	3800	Unsealed to sealed pavement Pothole (RHS) Delamination (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
16.0	3800	4300	Sealed to unsealed pavement Edge break (LHS) Corrugation (RHS) Surface Scour (RHS) Loose material (RHS)	 

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
17.0	4300	4800	Unsealed to sealed road. Cattle grid at transition. Pothole (RHS) Edge break (RHS)	
18.0	4800	4900	Sealed to unsealed road.	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
19.0	4900	5000	Corrugation (RHS) Surface scour (RHS) Drainage issue Cattle grid at fence line	
20.0	5000	5400	Pothole (CR) Surface scour (BS) Rutting (RHS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
				
22.0	5400	5700	Rough surface	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	Image
23.0	5700	6000	Corrugation (CR) Surface scour (RHS) Potholes (BS)	
24.0	6000	6100	Slippery Surface Pothole (RHS) Pothole (CR) Rutting (BS) Drainage issue	

2.3 Uungula Road – Dilapidation Assessment

The Uungula Road assessment was conducted between chainage 0 – 11800, where chainage 0 is the intersection with Twelve Mile Rd – see Figure 4. Uungula Road is unsealed except for a few short sealed sections as described below:

- CH 0 – 100: sealed, 3.5 m width;
- CH 100 – 2500: unsealed, 4.5 – 5 m width until cattle grid;
- CH 2500 – 3700: unsealed, after cattle grid 4 – 5 m width;
- CH 3700 – 3725: RHS unsealed & LHS sealed for 25 m, 7.5 m road width;
- CH 3725 – 4300: unsealed, 4.5 m width;
- CH 4300 – 4700: sealed, 3.5 m width;
- CH 4700 – 11800: unsealed, 3.5 – 4.5 m width.

The observed defects are listed in Table 3 below.

Figure 4 – Uungula Road dilapidation survey route

Table 3 – Uungula Road identified defects

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
1.0	0	100	Sealed to unsealed pavement with concrete causeway transition. Pothole (LHS) Pothole (CR) Depression (RHS) Drainage issue	
2.0	100	550	Surface Scour (BS) Edge break (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
3.0	550	550	Erosion (RHS) Surface scour (RHS) Edge break (LHS) Local attempt to prevent further erosion.	
4.0	550	750	Rutting (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
5.0	750	800	Causeway Rutting (BS) Pothole (CR) Drainage Issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
6.0	800	1000	Surface Scour (LHS)	
7.0	1000	1200	Rutting (BS) Surface Scour (RHS) Soft Surface	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
8.0	1200	1600	Surface scour (RHS) for 400m	
9.0	1600	2200	Rutting (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
10.0	2200	2400	Rutting (CR) Rutting (BS)	
11.0	2400	2500	Surface Scour (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
12.0	2500	3500	Cattle grid Rutting minor (CR) Rutting (RHS)	
13.0	3500	3600	Rutting major (BS) Rocks in pavement Soft surface (LHS) Drainage issue.	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
				
14.0	3600	4300	Edge break (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
15.0	4300	4400	Surface scour at unsealed to sealed transition.	
16.0	4400	4500	Rutting (BS) Corrugation (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
17.0	4600	4700	Rutting (BS) Drainage issue	
18.0	4700	4700	Transition from sealed to unsealed	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
19.0	4700	4900	Cattlegrid Potholes Rutting (BS)	
20.0	4900	5200	Depression (CR) Rutting (BS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
21.0	5200	5600	Depression Rutting (BS)	
22.0	5600	6200	Surface scour (BS) Edge break (RHS) Rutting (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
23.0	6200	6500	Rutting Potholes (BS) Cattle grid	
24.0	6500	6600	Causeway	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
25.0	6600	6700	Corrugation (RHS)	
26.0	6700	7000	Surface scour (CR) Corrugation (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
27.0	7000	7600	Potholes (BS) Potholes (RHS) Rutting (RHS)	
28.0	7600	7700	Depression (CR) Rutting (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
29.0	7700	8200	Rutting (LHS) Drainage issue	
30.0	8200	8300	Causeway Surface scour around concrete transition Drainage issue Loose material on causeway	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
				
31.0	8300	8400	Cattle grid	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
32.0	8400	8800	Soft surface (LHS) Rutting (BS)	
33.0	8800	8900	Surface scour (BS) Pothole (CR)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
34.0	8900	9500	Pothole (CR) Rutting (BS)	
35.0	9500	9600	Surface scour (CR) Corrugation (RHS) Rutting (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
36.0	9600	9700	Causeway Soft Surface Rutting (BS) Drainage issue	
37.0	9700	9800	Corrugation (RHS) Edge break (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
38.0	9800	10300	Corrugation (RHS) Corrugation (CR) Surface scour (BS)	
39.0	10300	10500	Edge break (LHS) Depression (CR) Drainage issue Cattle grid	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
40.0	10500	10800	Rutting (LHS)	
41.0	10800	11100	Surface scour (CR) Rutting (BS) Pothole (LHS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
42.0	11100	11200	Rutting (BS) Pothole (BS) Drainage issue Cattle grid	
43.0	11200	11500	Surface scour (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
44.0	11500	11800	Soft surface Drainage issue	

2.4 Ilgingery Road – Dilapidation Assessment

The Ilgingery Road assessment was conducted between chainage 0 – 7300, where chainage 0 is the intersection with Wuuluman Road – see Figure 5. Ilgingery Road is unsealed with an approximate width of 3.5 m until the cattle grid at CH 6200, from this point the width is approximately 2.5 m. The observed defects are listed in Table 4 below.

Figure 5 – Ilgingery Road dilapidation survey route

Table 4 – Ilgingery Road identified defects

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
1.0	0	100	Cattle grid	
2.0	100	200	Concrete causeway Pothole (LHS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
3.0	200	500	Ravelling	
4.0	500	600	Cattle grid	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
5.0	600	700	Pothole (LHS) Depression Drainage issue	
6.0	700	1000	Soft surface Rutting (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
7.0	1000	1300	Rutting (BS)	
8.0	1300	1600	Pothole (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
9.0	1600	1800	Cattle grid	
10.0	1800	2000	Edge break (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
11.0	2000	2300	Corrugation (BS) Surface scour (BS)	
12.0	2300	2500	Poorly graded pavement material	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
13.0	2500	2600	Pothole (LHS) Surface scour (RHS)	
14.0	2600	2800	Poorly graded pavement materialMinor rutting (LHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
15.0	2800	3000	Pothole (BS) Rutting (LHS)	
16.0	3000	3300	Pothole (BS) Edge break (LHS) Poorly graded pavement material	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
17.0	3300	3400	Poorly graded pavement material	
18.0	3400	3800	Pothole (LHS) Corrugation (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
19.0	3800	3900	Cattle grid	
20.0	3900	4200	Edge break (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
21.0	4200	4400	Surface scour (CR)	
22.0	4400	4700	Rutting (RHS) Pothole (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
23.0	4700	4800	Poorly graded pavement material	
24.0	4800	4900	Rutting (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
25.0	4900	5100	Rutting (RHS) Surface scour (LHS)	
26.0	5000	5100	Rutting (RHS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
27.0	5100	5200	Pothole (CR) Rutting (RHS)	
28.0	5200	5200	Pothole (RHS) Cattle grid	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
29.0	5200	5600	Surface scour (RHS) Edge break (RHS)	
30.0	5600	5700	Depression Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
31.0	5700	5800	Corrugation (CR)	
32.0	5800	6200	Rutting (BS)	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
33.0	6200	6500	Pothole (BS) Cattle grid	
34.0	6500	6600	Rutting (BS) Rutting (CR) Soft surface Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
35.0	6600	6700	Drainage issue	
36.0	6700	7100	Rutting (BS) Drainage issue	

Defect ID	Start Ch	End Ch	Defect Type (and side of road)	
37.0	7100	7100	Cattle grid (LHS) Grass in the middle of the road	
38.0	7100	7300	Drainage issue	

3 Conclusion

As per the requirements of Condition B31 of this Project's Development Consent, this report has been prepared to present an accurate representation of the existing condition of the Dubbo Regional Council roads: Twelve Mile Road, Wuuluman Road, Uungula Road and Ilgingery Road, which will be used by the construction traffic for the proposed Uungula Wind Farm. The assessment was undertaken on 21st October 2022 and identified many defects along each road– refer to Section 2 of this report for a list of the identified issues. Refer to video surveys for full and complete dilapidation survey.

Appendix A – Dilapidation Assessment Method Approval

Email thread shown overleaf

Daniel Kyriacou

From: Joshua Mason
Sent: Thursday, 3 November 2022 10:16 AM
To: Daniel Kyriacou
Subject: FW: 19-142 | Uungula Wind Farm - Dilapidation Survey of existing roads

Regards,

Joshua Mason
BEng (Hons) CPEng NER RPEQ
Associate I Civil & Environmental Engineer
icubed consulting
p | (07) 3870 8888
m | 0449 636 855
w | www.icubed.com.au

From: Peter James <Peter.James@dubbo.nsw.gov.au>
Sent: Thursday, 6 October 2022 10:26 AM
To: Joshua Mason <joshua.mason@icubed.com.au>
Subject: RE: 19-142 | Uungula Wind Farm - Dilapidation Survey of existing roads

Thanks Josh,

I'm happy with that, the images are quite good.

PJ

DUBBO REGIONAL COUNCIL

Peter James
Senior Transport Asset Specialist
Infrastructure Delivery | Dubbo Regional Council
P 02 6840 6409
Peter.James@dubbo.nsw.gov.au
http://dubbo.nsw.gov.au

We acknowledge the Wiradjuri people, the traditional custodians of the land. We pay respects to Elders past, present and emerging of the Wiradjuri Nation.

From: Joshua Mason <joshua.mason@icubed.com.au>
Sent: Thursday, 6 October 2022 11:18 AM
To: Peter James <Peter.James@dubbo.nsw.gov.au>
Cc: 19-142 - Uungula Wind Farm <19-142UungulaWindFarm@icubed.com.au>; Antoni Mrdjen <Antoni.Mrdjen@cwprenewables.com>; matthew flower <matthew.flower@cwprenewables.com>
Subject: RE: 19-142 | Uungula Wind Farm - Dilapidation Survey of existing roads

Thanks Pete,

We'll proceed on this basis. Below are examples (taken from a different project) of the quality we receive from the GoPro, the "stills" are screenshot when watching the video. We just use the standard GoPro "Hero," we've found this to be a suitable method, especially when viewing videos taken at different times. I'd add that there is some level of surveyor discretion required when completing the works, they will have to stop the car and take photos of individual items at times.

80	D Rutting, Delamination, Edge Break LHS Flushing RHS	

600-700	S Rutting, Delamination, Ravelling (either end of bridge) BS Crocodile Cracking (north end of bridge) MOR	
2100	VD Rutting, Surface Rutting, Depression, M Potholes, Delamination LHS	

Regards,

Joshua Mason
BEng (Hons) CPEng NER RPEQ
Associate I Civil & Environmental Engineer

icubed consulting
p | (07) 3870 8888
m | 0449 636 855
w | www.icubed.com.au

From 10th October 2022 visit us
at our new Brisbane HQ in
5 Gardner Close, Milton

From: Peter James <Peter.James@dubbo.nsw.gov.au>
Sent: Thursday, 6 October 2022 10:08 AM
To: Joshua Mason <joshua.mason@icubed.com.au>
Subject: RE: 19-142 | Uungula Wind Farm - Dilapidation Survey of existing roads

Hi Josh,

Yes, that method looks acceptable as long as it has capacity to provide a still image (pause?) at any particular location and that the resolution is high enough to clearly show the condition.

I'm very interested in the camera that you plan to use, we are looking for something similar to record all of our roads, we don't need video images instead we need to capture a single image every 50m on each road, this is a precondition for disaster relief funding, do you know if your camera has that capacity?

We have heard of the 'Garmin Verb' camera, it can capture an image using pre-set GPS distances but unfortunately it seems to be unavailable for purchase now?

PJ

DUBBO REGIONAL COUNCIL

Peter James
Senior Transport Asset Specialist
Infrastructure Delivery | Dubbo Regional Council
P 02 6840 6409
Peter.James@dubbo.nsw.gov.au
http://dubbo.nsw.gov.au

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We acknowledge the Wiradjuri people, the traditional custodians of the land. We pay respects to Elders past, present and emerging of the Wiradjuri Nation.

From: Joshua Mason <joshua.mason@icubed.com.au>
Sent: Thursday, 6 October 2022 10:45 AM
To: Peter James <Peter.James@dubbo.nsw.gov.au>
Cc: Mark Johnston <Mark.Johnston@dubbo.nsw.gov.au>; Chris Godfrey <Chris.Godfrey@dubbo.nsw.gov.au>; 19-142 - Uungula Wind Farm <19-142UungulaWindFarm@icubed.com.au>; Antoni Mrdjen <Antoni.Mrdjen@cwprenewables.com>; matthew flower <matthew.flower@cwprenewables.com>
Subject: 19-142 | Uungula Wind Farm - Dilapidation Survey of existing roads

Hi Peter,

I'm looking to confirm that DRC are accepting of the proposed dilapidation survey strategy and reporting for the Uungula Wind Farm to fulfill condition B31 of the Project's Development Consent (image 1 below). Can DRC please review the methodology below and provide in-principle acceptance so we can undertake the "existing condition" survey?

The roads and areas of road to be surveyed can be seen in the attached .kmz and include.

- Twelve Mile Road – Goolma Road to Primary Site Entry
- Uungula Road – Twelve Mile Road to 50m past Project Boundary
- Wuuluman Road – Twelve Mile Road to Uungula Road
- Ilgingery Road – Uungula Road to 50m past Project Boundary

Work is proposed to be completed through a bi-directional video survey undertaken using a GoPro mounted to a dashboard. Following the video survey a report and register will be compiled and submitted to DRC. Timing of surveys to be as per condition B31.

Image 1

Road Maintenance

B31. The Applicant must:

(a) undertake an independent dilapidation survey to assess the:
- existing condition of Twelve Mile Road on the transport route, and the sections of Uungula Road, Wuuluman Road and Ilgingery Road described in condition B29, prior to construction, upgrading or decommissioning works; and
- condition of Twelve Mile Road on the transport route, and the sections of Uungula Road, Wuuluman Road and Ilgingery Road described in condition B29:
  - within 1 month of the completion of any construction, upgrading or decommissioning works;
  - on an annual basis during construction works;
  - rehabilitate and/or make good any development-related damage

(b) repair Twelve Mile Road, on the transport route, and the sections of Uungula Road, Wuuluman Road and Ilgingery Road described in condition B29, if dilapidation surveys identify that the road has been damaged during construction, upgrading or decommissioning works;

in consultation with the relevant roads authority, to the satisfaction of the Planning Secretary.

Regards,

Joshua Mason
BEng (Hons) CPEng NER RPEQ
Associate I Civil & Environmental Engineer

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m | 0449 636 855
w | www.icubed.com.au

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